

**No. 17-15245**

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IN THE UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT

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CACHIL DEHE BAND OF WINTUN INDIANS OF THE COLUSA  
INDIAN COMMUNITY, a federally recognized Indian Tribe,  
Plaintiff-Appellant,

v.

KENNETH LEE SALAZAR, Secretary of the Interior, *et al.*,  
Defendants-Appellees.

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APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE  
EASTERN DISTRICT OF CALIFORNIA (No. 2:12-cv-03021-TLN-AC)

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**OPENING BRIEF OF APPELLANT CACHIL DEHE BAND OF  
WINTUN INDIANS OF THE COLUSA INDIAN COMMUNITY**

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## **CERTIFICATION OF NON-CORPORATE STATUS**

Plaintiff/Appellant Cachil Dehe Band of Wintun Indians of the Colusa Indian Community ("Colusa") is an Indian Tribe maintaining government-to-government relations with the United States. The Colusa Indian Community Council ("CICC") is the tribe's governing body. Neither is a corporation.

## **STATEMENT OF JURISDICTION**

The District Court had jurisdiction over this action pursuant to 5 U.S.C.A. § 701 *et seq.*, 28 U.S.C. §§ 1331, 1362, and 28 U.S.C. § 2201, in that Colusa sought judicial review of federal agency actions that allegedly violated 25 U.S.C. §§ 5108 (formerly § 465) and 2710(d)(7)(A)(ii), 42 U.S.C. § 4321 ("NEPA"), and applicable departmental/agency regulations and procedures. The United States consented to suit under 5 U.S.C. § 702 and 28 U.S.C. § 2409a, and the agency actions sought to be reviewed were final for the Department of the Interior under 25 C.F.R. §§ 2.6(c) and 151.12(b).

This Court has jurisdiction over this appeal pursuant to 28 U.S.C. § 1291, in that Colusa is appealing from an order granting defendants' motions for summary judgment and denying Colusa's motion for summary judgment, and entering final judgment thereon.

The District Court's order denying Colusa's motion for summary judgment

and granting defendants' motions for summary judgment was filed on September 24, 2015, and final judgment was entered thereon on September 24, 2015. Colusa moved for reconsideration pursuant to F.R.Civ.P. Rule 59(e) on October 22, 2015. The District Court denied Colusa's motion for reconsideration on January 23, 2017. Colusa filed its notice of appeal pursuant to FRAP 4 on February 9, 2017.

## INTRODUCTION

This Court should reverse two distinct but nonetheless interrelated final actions by defendants Secretary of the Interior ("Secretary"), Assistant Secretary of the Interior – Indian Affairs ("AS-IA") and officials within the U.S. Bureau of Indian Affairs ("BIA") (collectively, "DOI" or "federal defendants") because the actions were arbitrary and capricious and thus contrary to law.

The two actions at issue are: first, federal defendants' decision to accept into federal trust status for the Estom Yumeka Maidu Tribe of the Enterprise Rancheria ("Enterprise")<sup>1</sup> a 40-acre parcel of land near Olivehurst in Yuba County, California ("Yuba Parcel"), already owned by Yuba County Entertainment LLC and located 50+ miles from Enterprise's existing federal trust land in Butte County (Part 151

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<sup>1</sup> Enterprise intervened as a defendant.



Record of Decision, or "151 ROD"<sup>2</sup>); second, federal defendants' decision to exempt the Yuba Parcel from the Indian Gaming Regulatory Act's general prohibition against gaming on land taken into federal trust after October 17, 1988, based on a so-called "two-part determination" made by defendant AS-IA under 25 U.S.C. § 2719(b)(1)(A) ("Part 292 ROD").

Colusa contends that defendants' final actions violated the Indian Reorganization Act, 25 U.S.C. § 5108<sup>3</sup> ("IRA"), the Indian Gaming Regulatory Act, 25 U.S.C. § 2701, *et seq.* ("IGRA"), and in particular § 2719, the National Environmental Policy Act, 42 U.S.C. § 4321, *et seq.* ("NEPA"), DOI's trust responsibility to Colusa, and other federal statutes and DOI's/BIA's own regulations, and thus were arbitrary and capricious and otherwise contrary to law.

The federal defendants' actions were based on a Final Environmental Impact Statement ("FEIS") prepared by a consultant to Enterprise that had a clear financial interest in DOI's acceptance of the Yuba Parcel into federal trust and allowing Enterprise to conduct gaming on the land. In addition, the FEIS was based on stale data and assumptions about impacts on Colusa that the consultant admitted were based on nothing more than pure guesswork. Moreover, the actions

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<sup>2</sup> "ROD" stands for "Record of Decision."

<sup>3</sup> Formerly 25 U.S.C. § 465.

were taken after federal defendants rejected Colusa's request for consultation under 25 U.S.C. § 2719(b)(1)(A), ostensibly based on an arbitrary change to the definition of "nearby Tribe" made relatively late in the fee-to-trust process, and which had the effect of depriving Colusa of the right to mandatory consultation with the BIA about the impact of the actions on Colusa.

Had federal defendants actually consulted with Colusa as required by IGRA, and had federal defendants taken the "hard look" at the impacts that Enterprise's proposed casino development would have on local communities and nearby Indian tribes – including Colusa – as required by NEPA, DOI's own regulations, and DOI guidance, federal defendants could only have concluded that approving Enterprise's request to build a casino/hotel on the Yuba Parcel would have a devastating impact on Colusa's government and the health, safety and welfare of the Colusa Indian Reservation community.

Subsequent to entry of the District Court's judgment in this action, two California Courts of Appeal have reached conflicting conclusions about whether California's Governor has the authority to concur in DOI "two-part determinations" such as the one at issue in this action. Compare *United Auburn Indian Community v. Brown*, 4 Cal.App.5th 36 (2016), *review granted*, 212 Cal.Rptr.3d 62 (Jan. 25, 2017) (upholding Governor's authority to concur in DOI's

two-part determination on Enterprise's application to allow gaming on the Yuba Parcel), with *Stand Up for California! v. Brown*, 6 Cal.App.5th 686 (2016), review granted, 390 P.3d 781, 215 Cal.Rptr.3d 2 (Mem) (Mar. 22, 2017) (holding that the Governor lacked authority to concur in DOI's two-part determination on the North Fork Rancheria's application to have off-Reservation land taken into trust for gaming). The California Supreme Court has granted petitions to review both of those decisions. This Court is requested to take judicial notice of the California Supreme Court's orders granting review in those actions.

For the reasons set forth below, this Court should reverse the District Court's judgment, and remand both actions to DOI for further consideration that includes consultation with Colusa and all other tribes that contend that they would be directly and adversely impacted by one or both of the challenged actions. Meanwhile, because a decision by the California Supreme Court to the effect that the Governor lacked authority under California law to concur in the Enterprise "two-part determination" would cause the failure of a mandatory condition precedent to the validity of that determination even if DOI otherwise had complied with IGRA's and NEPA's requirements, further proceedings in this appeal should be ordered stayed until the California Supreme Court issues its decision in *United Auburn v. Brown*.

## REQUEST FOR ORAL ARGUMENT

Pursuant to Federal Rule of Appellate Procedure 34(a), counsel for Plaintiff-Appellant respectfully requests oral argument. We believe that oral argument will assist the Court in deciding this appeal, which involves a number of important legal issues. Oral Argument will enable the parties to address these issues adequately and respond to the Court's questions and concerns.

### ISSUES PRESENTED

1. Whether, under *de novo* review, the District Court erred in affirming federal defendants' actions as not arbitrary and capricious, and thus contrary to law, in that:

A. Enterprise's statement of purpose and need for acquiring land was artificially limited to constructing and operating a casino on the Yuba Parcel, and thus the FEIS failed to choose and analyze a reasonable range of alternatives to study;

B. The FEIS used a combination of stale data and admittedly pure guesswork so as to ensure that the purported purpose and need of the project could be met only by allowing Enterprise to build a large casino that would enjoy a competitive advantage over Colusa's and other nearby tribes' casinos whose markets would be cannibalized by the Enterprise casino;

C. The FEIS failed to take the requisite "hard look" at the negative environmental and socio-economic impacts of Enterprise's preferred alternative (a large casino on the Yuba Parcel), including impacts implicating the federal Clean Air Act, the Clean Water Act and the Endangered Species Act;

D. The FEIS was prepared by a private consulting firm that failed to certify under oath that it did not have a conflict of interest, when in fact such a conflict existed.

Colusa raised these issues in its complaint and motions for provisional relief, summary judgment and reconsideration (ECF 1, 8, 102).

2. Whether, under *de novo* review, Federal defendants violated IGRA by arbitrarily and capriciously refusing to consult with Colusa about the devastating impact that approving Enterprise's application to conduct gaming on the Yuba Parcel would have on the ability of Colusa's government to continue providing vital governmental programs and services to Colusa's members and the Colusa Indian Reservation.

3. Whether the District Court abused its discretion in striking the Declaration and Summary of Report of Alan Meister ("Meister Dec. and Report), ECF 106, and thus failing to consider it in determining the sufficiency of the FEIS's analysis of the impact on Colusa's government of approving Enterprise's

application to conduct gaming on the Yuba Parcel, even though was not part of the Administrative Record.

4. Whether this Court should exercise its inherent authority to stay further proceedings in this appeal until the California Supreme Court determines whether California's Governor had the authority under California law to concur in DOI's two-part determination to accept the Yuba Parcel into federal trust for gaming.

#### **STATEMENT REGARDING ADDENDUM**

Per Circuit Rule 28-2.7, Colusa files its separate Addendum to this Opening Brief.

#### **STATEMENT OF THE CASE**

25 U.S.C. § 5108 (formerly § 465) authorizes the Secretary to acquire land in trust for Indian tribes and individual Indians. Enterprise's application to have the Yuba Parcel taken into federal trust was made pursuant to DOI's fee-to-trust regulations set forth at 25 C.F.R. Part 151.

The Indian Gaming Regulatory Act generally prohibits gaming on lands acquired in trust for the benefit of an Indian tribe after October 17, 1988 unless one of a small number of enumerated exceptions applies. 25 U.S.C. § 2719. Thus, unless one of the other exceptions to the general prohibition applied, Enterprise could conduct gaming on the Yuba Parcel only if,

the Secretary, after consultation with the Indian tribe and appropriate State, and local officials, including officials of other nearby Indian tribes, determines that a gaming establishment on newly acquired lands would be in the best interest of the Indian tribe and its members and would not be detrimental to the surrounding community, but only if the Governor of the State in which the gaming activity is to be conducted concurs in the Secretary's determination[.]

25 U.S.C. § 2719(b)(1)(A). This process is known as a "Two-Part" or "Secretarial" Determination. 25 CFR Part 292, § 292.13, *et seq.*

Because the Yuba Parcel is nearly 54 road miles from Enterprise's Reservation, never was part of or contiguous with any Indian lands over which Enterprise already exercised governmental authority,<sup>4</sup> and was not already in trust on October 17, 1988, Enterprise's ability to conduct gaming on the land was contingent upon federal defendants making a Two-Part Determination through the consultation process described in 25 U.S.C. §2719(b)(1)(A) and in 25 C.F.R. Part 292, § 292.13 *et seq.*,<sup>5</sup> and in having California's Governor validly concur in that

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<sup>4</sup> *I.e.*, the 40-acre parcel of trust land in Butte County known as "Enterprise No. 1."

<sup>5</sup> Pursuant to 25 CFR 151.11, the Yuba Parcel is an "off-reservation" acquisition because it is not within or contiguous to the boundaries of Enterprise No. 1. The Administrative Record is replete with references to the Yuba Parcel as off-reservation. Neither of the RODs proclaims the Yuba Parcel as a reservation pursuant to 25 U.S.C. § 5110 (formerly § 467), the sole authority for deeming trust land to be an Indian reservation.

determination.

## SUMMARY OF RELEVANT FACTS

### A. The Cachil Dehe Band of the Colusa Indian Community

The Cachil Dehe Band of Wintun Indians of the Colusa Indian Community is a small federally-recognized Indian tribe exercising governmental authority over the Colusa Indian Reservation in sparsely-populated Colusa County, California, the population of which would be insufficient to support a viable casino.

Fernandez Decl., ECF 8-2, pp. 2-5. The Reservation's governing body, the Colusa Indian Community Council ("CICC"), depends upon the income from its modest casino and hotel business to fund most of the governmental programs and services provided to its members and other Reservation residents, including health care, education, housing, environmental and other social services, in many cases for the first time because the federal, state, and local governments have long neglected their Indian citizens. Pullen Decl., ECF 8-3, at pp. 3-5; Meister Decl., ECF 106, Exh. 1 at 2.<sup>6</sup> Through the income from its casino, the Tribe has provided a broad array of essential government services, including services directly related to the environment, and to the Reservation community. Pullen Decl., *supra*.

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<sup>6</sup> The District Court's striking of the Meister Declaration and Summary of Report is discussed in Section III, *infra*.



## **B. The Enterprise Rancheria**

Intervening defendant Enterprise is the federally-recognized tribe for which federal defendants have accepted the Yuba Parcel into trust for construction and operation of a casino and hotel. The Enterprise Rancheria originally consisted of two 40-acre Butte County parcels purchased by the federal government in 1915 for the Indian families then residing on the land. The parcels commonly are referred to as "Enterprise No. 1" and "Enterprise No. 2." In 1964, the four descendants of the individuals for whom Enterprise No. 2 was purchased agreed that the federal government could sell Enterprise No. 2 to the State of California for inundation by Lake Oroville; thereafter the statute authorizing the sale terminated federal supervision of the land and recipients of the proceeds of the voluntary sale to the State. H. Rep. 88-1569, Colusa RJN Exh. 1 at 2, ECF 10-1; 151 ROD, ARN 0030214. Enterprise first organized as a tribe under a constitution ratified in 1994. Enterprise owns numerous parcels of land in Butte County in fee simple, including a 63-acre parcel near Oroville that Enterprise purchased with HUD funds in 2006. ARN 0022969

The Yuba Parcel is located in the heart of the area from which Colusa's casino draws many its patrons and employees. The Yuba Parcel is situated between the Colusa Indian Reservation and the Sacramento Metropolitan Area,

from which Colusa's casino also draws a significant number of patrons. Fernandez Decl., pp. 2-5; ECF 8-2.

**C. The Enterprise Applications to Have the Yuba Parcel Taken into Trust and for a Two-Part Determination to Permit Gaming on the Land**

In 1998, the voters of Yuba County approved "Measure R," approving an automobile racetrack and entertainment development zone southeast of Yuba City and Marysville. ARN 0022909. The auto racing magnate Gerald Forsythe of Illinois, the owner of Forsythe Racing, purchased the land set aside by the voters for a racetrack and entertainment venue. ARN 0022910. Although the SleepTrain Amphitheater was constructed in the zoned area, no racetrack has been built.

In mid-2001, Forsythe established Yuba County Entertainment LLC ("Enterprise's Developer"), a Delaware limited liability company, the sole member of which is his racing corporation, and commissioned a study by The Innovation Group to determine whether a casino on the site would be more lucrative than the voter-approved racetrack. ARN 0000389. That study found that a Marysville casino would be profitable by "cannibalizing" the casino business of several nearby tribes, including Colusa. *Id.* at 0000428. The crux of the 2001 study – that cannibalization of other Indian tribal governments' casinos would provide more than half of the gaming revenues at a Yuba County casino – remained unchanged

through the last economic report included in the FEIS; that report was prepared by Gaming Market Advisors ("GMA") for Enterprise's Developer and Analytical Environmental Services ("AES") in June 2006,<sup>7</sup> and estimated that \$76.8 Million out of \$132 Million in expected gaming revenues would come from cannibalizing the income of other tribal casinos. ARN 24810-812.

The initial application by Enterprise to take the Enterprise's Developer land into trust was made in August 2002, but did not discuss any exception to the general prohibition against gaming on lands acquired in trust after October 17, 1988 (ARN 0000753), which may have been because Enterprise's Developer and Enterprise were seeking to have the land declared eligible for gaming either as "restored lands" or by legislation. ARN 0002403.

Initially, Enterprise directed AES to prepare an Environmental Assessment ("EA"). ARN 0001036. Despite the fact that the EA purportedly found no significant environmental impacts, *e.g.*, ARN 0001551, the BIA apparently required that Enterprise produce an Environmental Impact Statement ("EIS") in support of its application, even though in 2004 Enterprise's Developer opposed preparing an EIS and offered to indemnify the United States for any litigation

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<sup>7</sup> ARN 0024684 (AES "in conjunction with [Enterprise's Developer] is assisting the Enterprise Rancheria with their Land in Trust Process ... AES engaged Gaming Market Advisors").

costs that might result. ARN 0002401, 0002340.

Soon afterward, the AS-IA Carl Artman announced a policy that DOI would not approve any applications for off-reservation casinos located more than a "commutable" distance from a tribe's existing reservation. ARN 0011771. Because Enterprise's reservation is over 50 miles by road from the Yuba Parcel, DOI's "Commutability Policy" put the application into suspension for the remainder of the Bush Administration. Colusa never received notice about or was consulted in connection with either Enterprise's original or updated application, even though Colusa's Reservation is located closer to the Yuba Parcel than either Enterprise's business office in Oroville or Enterprise's gaming-eligible trust land. Fernandez Decl., ECF 8-2; Pullen Decl., ECF. 8-3.

In September 2008, DOI revised 25 C.F.R. Part 292 to shrink to 25 miles the radius within which it would consult with "nearby" Indian tribes and local governments concerning "two-part determinations." 73 Fed. Reg 29354. While the published regulations explained the purpose of shrinking the mandatory consultation radius for non-tribal governments, no explanation was given for excluding consultation with Indian tribes farther than 25 miles from a proposed off-reservation casino from consultation. *Id.* at 29357.

In June 2010, then-Secretary Salazar instructed AS-IA Echo Hawk to

review DOI's policies for approving applications for off-reservation casinos. ARN 0028181. One year later, on June 13, 2011, Echo Hawk repealed Artman's "Commutability Policy." ARN 0028770. Only two weeks later, federal defendants circulated a draft of the 292 ROD under which the Enterprise two-part determination application would be approved. ARN 0028780-0028807.

In order to gain the support of elected officials for their off-reservation casino, Enterprise negotiated a Memorandum of Understanding ("MOU") with Yuba County in 2002, and later negotiated an MOU with the City of Marysville. ARN 0000922; ARN 002755. The Yuba County MOU provides for direct payments to that County beginning at \$800,000 and rising to \$5,000,000 per year, to be adjusted for inflation. ARN 0000924. In exchange, the casino's backers received a letter supporting their casino plans from the County's Board of Supervisors. ARN 0000909. Marysville was the only other local government that expressed support for putting the land into trust status for Enterprise's off-reservation casino. ARN 0002757.

As of 2011, Yuba County and Marysville accounted for all six of the "local governmental" letters in support of the Enterprise off-reservation casino. ARN 0030248. In 2005, however, the BIA acknowledged internally that, "considerable opposition from the local community exists." ARN 0002403. In late 2005, an

advisory measure placed on the ballot by the Yuba County Board of Supervisors asked whether a casino should be built on the Yuba Parcel. It was defeated by a vote of 52.1% against, 47.9% in favor, with opposition highest in the nearby community of Olivehurst. ARN 0022911; ARN 0028777.

Notwithstanding this democratic expression of opposition, federal defendants characterized the fact that Yuba County and Marysville "continued to engage in a relationship with the Tribe" as evidence of "strong local support" for Enterprise's off-reservation casino project. ARN 0029817; ARN 0029989 (demand by House Conferees that DOI support its claim of "strong local support"). In 2009, the Yuba County Board of Supervisors, after noting the 2005 vote against the casino and the fact that "[l]egitimate concerns exist regarding the social and economic impacts as a result of a gaming facility being located in Yuba County," affirmed that Yuba County would "honor the agreement [with Enterprise] and the provisions contained therein." ARN 0022911-912.

Notice of Availability of the draft EIS was published in March 2008. ARN 0015274. When Colusa learned from other sources – not directly from Enterprise or federal defendants – that federal defendants were considering granting Enterprise's fee-to-trust ("FTT") application, Colusa requested consultation with federal defendants as required by law and defendants' own policies, but to no

avail. Mitchum Letter to Morris (2009) ARN 0026979. Colusa brought the environmental shortcomings and economic dangers to the attention of its BIA "trustee" in oral and written comments. Notice of Availability of the final EIS was published in August, 2010. ARN 0028249.

On September 1, 2011, federal defendants issued a Record of Decision ("292 ROD") pursuant to 25 U.S.C. § 2719 and 25 C.F.R. Part 292, finding that the proposed Enterprise casino on the Yuba Parcel would be in the best interest of Enterprise and "would not be detrimental to the surrounding community." ARN 0029815. On August 30, 2012, the Governor of California concurred in the 2011 Part 292 determination, and simultaneously announced execution of a Class III gaming compact that would require Enterprise to pay significant amounts directly to the State. ARN 0029207. On November 21, 2012, federal defendants issued a second Record of Decision ("151 ROD") pursuant to 25 U.S.C. § 5108 and 25 C.F.R. Part 151, finding that Enterprise had need of the land. ARN 0030166.

On December 3, 2012, federal defendants published a Federal Register notice of their decision to take title to a parcel in trust for Enterprise. 77 Fed. Reg. 71612 (2012). That notice contained an incorrect legal description of the land to be taken into trust, causing federal defendants to publish a Federal Register notice on January 2, 2013 that changed the metes and bounds of the parcel to describe a

40-acre parcel, rather than the 80-acre parcel described in the first notice. 78 Fed. Reg. 114 (2013).

Colusa filed its action on December 14, 2012. ECF 1 in Case No. 2:12cv-12-1604, seeking to overturn federal defendants' decisions to accept the Yuba Parcel into trust and to allow Enterprise to conduct gaming on the land. On January 23, 2013, actions originally filed in the District of Columbia by the United Auburn Indian Community ("UAIC") and Citizens for a Better Way ("CBW") and transferred to the Eastern District of California were consolidated with Colusa's action as Case No. 2:12-cv-3021. ECF 40. Colusa, UAIC, and CBW joined in seeking temporary injunctive relief against defendants' acceptance of the Yuba Parcel into trust before resolution of the merits of the consolidated actions.

ECF 8. On January 11, 2013, Enterprise sought leave to intervene as a defendant, ECF 17, which leave the District Court granted on February 12, 2013. ECF 64.

The Yuba Parcel was accepted into federal trust on May 16, 2013. ECF 168, p. 2.

The District Court ordered the parties to file cross-motions for summary judgment, but filing of the motions was delayed due to federal defendants' considerable difficulty in assembling a complete and correct Administrative



Record.<sup>8</sup> The District Court took the respective motions under submission without oral argument, and issued its ruling and judgment on September 24, 2015. ECF 168; ECF 169. Colusa moved for reconsideration pursuant to F.R.Civ.P. Rule 59(e) on October 22, 2015 (ECF 170); the motion was denied on January 23, 2017, ECF 183 and Colusa filed its notice of appeal on February 9, 2017. ECF 184.

### STANDARD OF REVIEW

The District Court's grant of summary judgment is reviewed *de novo*. *Lands Council v. Powell*, 395 F.3d 1019, 1026 (9th Cir. 2005). Under the APA, the agency action may be reversed only if the action is arbitrary, capricious, an abuse of discretion, or otherwise contrary to law. 5 U.S.C. § 706(2). "An agency's action is arbitrary and capricious if the agency fails to consider an important aspect of a problem, if the agency offers an explanation for the decision that is contrary to the evidence, if the agency's decision is so implausible that it could not be ascribed to a difference in view or be the product of agency expertise, *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983), or if the agency's decision is contrary to the governing law. 5 U.S.C. § 706(2).

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<sup>8</sup> Federal defendants did not submit the "final" Administrative Record to the District Court on compact disk until May 23, 2014, and repaginated the documents in the format "EN\_AR\_NEW\_#".

This Court reviews for abuse of discretion the District Court's order striking the report of Colusa's expert economist Alan Meister offered to demonstrate absence from the FEIS of a data-based analysis of the likely impacts of federal defendants' actions on Colusa. *Southwest Center for Biological Diversity v. U.S. Forest Service*, 100 F.3d 1443 (9th Cir. 1996).

### SUMMARY OF ARGUMENT

Federal defendants acceptance of the Yuba Parcel into federal trust status for the benefit of Enterprise pursuant to 25 U.S.C. § 5108, and permitting the operation of gaming on the Yuba Parcel based upon a so-called "Two-Part Determination" purportedly made under 25 U.S.C. § 2719(b)(1)(A),<sup>9</sup> violated, *inter alia*, 42 U.S.C. § 4321, *et seq.* (NEPA), 25 U.S.C.A. § 2719(b)(1)(A) (IGRA), and applicable DOI/BIA regulations and procedures, and thus were arbitrary, capricious, and contrary to law. Specifically, the FEIS upon which the actions were based violated NEPA by relying on a statement of purpose and need that was arbitrarily limited by Enterprise as the action's proponent; failing to choose and analyze a reasonable range of alternatives to study, and using a combination of stale data and pure guesswork so as to predetermine the ultimate

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<sup>9</sup> This section is part of the Indian Gaming Regulatory Act of 1988, 25 U.S.C. § 2701, *et seq.* ("IGRA").

conclusion that only a large casino on the Yuba Parcel could satisfy the purported purpose and need for which the Yuba Parcel was to be acquired; and failing to take the requisite "hard look" at Enterprise's preferred alternative's potential negative impacts on the environment, including impacts implicating the federal Clean Air Act, the federal Clean Water Act and the federal Endangered Species Act, as well as the potential negative socio-economic impacts on, *inter alia*, Colusa.

The consulting firm that prepared the Enterprise FEIS failed to certify under oath that it had no conflict of interest, when it actually had a clear conflict of interest, in that its contract with Enterprise provided that if the Yuba Parcel were accepted into trust for a casino, the firm would be engaged to perform the work needed to obtain any required permits. Moreover, federal defendants failed to exercise required oversight of preparation of the FEIS.

The Secretary's Two-Part Determination was fatally flawed by federal defendants' arbitrary and capricious refusal to consult with Colusa about, and thus failure to consider, the actual impacts on Colusa that would result from approving Enterprise's application to have the Yuba Parcel taken into trust for gaming, despite defendants' awareness that Colusa would be impacted and despite Colusa having requested consultation.

The Meister Declaration and Summary of Report demonstrates, based on actual data from Colusa, rather than what the FEIS conceded was the completely unsubstantiated speculation of one of Enterprise's consultants, that operation of a large casino on the Yuba Parcel would result in a 77% decline in Colusa's casino revenues and a 90%+ decline in Colusa's governmental revenues. Although a court reviewing agency action under the APA ordinarily is limited to the Administrative Record, and may not consider evidence outside the Administrative Record for the purpose of substituting its own judgment for that of the agency, the Meister Declaration and Summary of Report should have been and may be considered solely for the limited purpose of determining whether the FEIS adequately addressed the potential adverse impacts on Colusa of allowing Enterprise to build and operate a large casino on the Yuba Parcel. The District Court abused its discretion by granting defendants' motion to strike the Meister Declaration and Summary of Report. A reviewing court has discretion to consider such evidence to the extent that such evidence demonstrates that the District Court abused its discretion by striking and refusing to consider and thus demonstrated that federal defendants failed to verify the FEIS's assumptions and conclusions about those impacts.

In addition to the foregoing issues, Colusa urges the Court, in the interest of

judicial economy and potential avoidance of a multiplicity of actions, to exercise its inherent authority to stay further proceedings in this appeal pending the California Supreme Court's issuance of a decision in *United Auburn Indian Community v. Brown*, 387 P.3d 741, 212 Cal.Rptr.3d 620 (Mem) (2017). In that appeal, the California Supreme Court will decide whether the Governor's concurrence in that Determination was valid as a matter of California law. Invalidation of that concurrence would necessitate this Court's determination whether the invalidity of the Governor's concurrence in the Enterprise Two-Part Determination invalidates that Determination, and what effect, if any, such invalidity would have on the decision to permit gaming on the land, and even whether to accept title to the Yuba Parcel into trust.

## ARGUMENT

### **I. THE FEIS UPON WHICH THE ACTIONS WERE BASED VIOLATED NEPA, AND THEREFORE FEDERAL DEFENDANTS' ACTIONS BASED ON THE FEIS WERE ARBITRARY AND CAPRICIOUS**

Because the FEIS was fundamentally flawed in violation of NEPA, this Court should reverse the federal defendants' actions based on the FEIS because they were arbitrary and capricious. 5 U.S.C. § 706(2). See *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); 5 U.S.C. § 706(2).

**A. Federal Defendants Violated NEPA by Uncritically Accepting the Artificially Limited Purpose and Need Statement and Alternatives Prepared by Enterprise.**

The Purpose and Need section of an EIS is critical because it drives the development of the range of alternatives. Enterprise submitted an unduly narrow Purpose and Need section that the federal defendants accepted without employing the required skepticism. As a result, the defendants failed to consider a number of obvious alternatives to Enterprise's preferred location for its casino, rendering their approval of and reliance upon the FEIS arbitrary and capricious. This Court should reverse that decision in its *de novo* review of the District Court's denial of Colusa's motion for summary judgment and grant of defendants' respective motions for summary judgment. *Lands Council v. Powell*, 395 F.3d 1019, 1026 (9th Cir. 2005).

"The existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Alaska Wilderness Recreation & Tourism v. Morrison*, 67 F.3d 723, 729 (9th Cir. 1995) (citation omitted). The federal defendants were required to "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 CFR 1502.14. Thus, federal defendants' failure to consider viable but unexamined alternative sites rendered approval of the FEIS arbitrary and capricious.

The alternatives analysis is the "heart" of an FEIS. 40 CFR 1502.14; *Ctr. for Biological Diversity v. DOI*, 623 F.3d 633, 642 (9th Cir. 2010). NEPA requires study of "enough alternatives 'to permit a reasoned choice." *Pacific Coast Fed'n of Fishermen's Ass'ns v. Blank*, 693 F.3d 1084, 1100 (9th Cir. 2012). Because the choice of alternatives to be analyzed is to be based on the Purpose and Need statement, the FEIS must not be drafted too narrowly. *Nat'l Parks & Conservation Ass'n v. BLM*, 606 F.3d 1058, 1070-72 (9th Cir. 2010). The Council on Environmental Quality's ("CEQ's") regulations require that an FEIS "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. "[T]he statutory objectives of the project serve as a guide by which to determine the reasonableness of objectives outlined in an FEIS." *Westlands Water Dist. v. U.S. Dep't of Interior*, 376 F.3d 853, 866 (9th Cir. 2004).

In *Simmons v. U.S. Army Corps of Eng'rs*, 120 F.3d 664, 666, 669 (7th Cir.1997), the Seventh Circuit required the Army Corps of Engineers to "exercise a degree of skepticism in dealing with self-serving statements from a prime beneficiary of the project," and to look more broadly at the general purpose of the project rather than the alternatives identified by the applicant to meet its narrow goals, rather than "contriv[ing] a purpose so slender as to define competing

'reasonable alternatives' out of consideration (and even out of existence)."

As admitted in both the 292 and 151 RODs, Congress in IGRA intended to confine tribal casinos to pre-1988 Indian lands except under extremely limited circumstances. 25 USC § 2719; ARN 0029813 (292 ROD); ARN 0030173 (151 ROD); *compare* 25 U.S.C. § 2701(4) (finding that "a principal goal of Federal Indian policy is to promote tribal economic development, tribal self-sufficiency, and strong tribal government"). Rather than draft a Statement of Purpose and Need addressing IGRA's congressionally mandated purposes, or Enterprise's general needs, the FEIS's statement of Purpose and Need is narrowly drafted to suit a single objective: construction on the Yuba Parcel of as large a casino as possible, essentially unchanged in configuration from the one Enterprise first proposed in 2002. ARN 0002823 ("Alternative A is unchanged from the EA"); *e.g., compare* ARN 0023333 & 0023339 (FEIS) *with* ARN 0001046 & 0001050 (EA).

Here, Enterprise tailored its Purpose and Need Statement to allow for only one conclusion that federal defendants never questioned: that Enterprise's needs could be met only by taking into trust the Yuba Parcel that Enterprise's Developer already owned, and allowing Enterprise to build and operate a casino large and profitable enough to persuade Enterprise's Developer to finance it. In turn, this



foreclosed any serious consideration of any other alternatives, including building a casino on Enterprise's existing gaming-eligible Butte County trust land or land in Butte County that Enterprise already owned in fee or could acquire and have accepted into trust for gaming.

Federal defendants were required to "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 CFR 1502.14. The FEIS, however, did neither. Instead, it posited illusory alternatives, only one of which was not on the land already owned by YCE that would be sold to Enterprise. Just as the statement of Purpose and Need was tailored to require only one type of development (a large casino and hotel), the identified alternatives also stacked the deck in favor of Alternative A (the Yuba Parcel), undermining NEPA's action-guiding purpose.

Because only Alternative A (a large casino on the Yuba Parcel) would meet the statement of Purpose and Need, Alternatives C and E thereby automatically were disfavored as not meeting the project's Purpose and Need. Because the Purpose and Need required generating revenue, the larger the casino, the better it would fulfill the Purpose and Need. As a result, Alternatives B and D were discarded because, although they would meet the "need" to build a casino, they were assumed to be smaller and therefore less profitable than would a larger

casino. ARN 0023393. The reasoning behind making Alternative D a small casino is obscured by general statements about lower profits of an Oroville casino and the high expense of construction, but those effects are not quantified in either the FEIS or Appendix M. *Id.*

Neither the FEIS nor its appendices or the Administrative Record disclose *any* data to demonstrate that other potential sources of financing actually were approached to fund a casino on a site other than the one on which Enterprise's Developer was willing to provide financing, notwithstanding the fact that the purported lack of investors/financiers was the reason given for rejecting all other alternatives in the EA (ARN 0001072), and one of the reasons for not selecting the strawman of Alternative D in the FEIS. ARN 0023393.

Because only Alternative A included a large casino on the Yuba Parcel already owned by Enterprise's Developer, the FEIS did not propose any other alternative casino locations for serious consideration. Such alternatives should have included purchase of a possible site on lands in Enterprise's home county of Butte, such as the Highway 99 Alternative rejected without analysis in the EA and FEIS and repeated in the RODs. ARN 0001072 & 0023392; ARN 0030174-175. While there was at least mention of the Highway 99 Alternative, the FEIS completely ignored the most logical alternative: the 63-acre parcel of

commercially-zoned land adjacent to the City of Oroville that Enterprise bought in 2006, while the Draft EIS was still under development. ARN 0022969.

Additionally, given Enterprise's desire to replace the 40-acre Enterprise No. 2 that the descendants of the original beneficiaries agreed could be sold to the State, and the abundance of federal land surrounding the present Enterprise Rancheria, the FEIS could and should have analyzed the feasibility of a land exchange with the federal government. The FEIS, therefore, completely failed to address a suitable range of alternatives by restricting itself to only two locations. The only alternative in another location, Alternative D, would have been a smaller casino. Being smaller, Alternative D would not meet the revenue-maximizing purpose of the overly narrow Statement of Purpose and Need, and thus was discarded.

Federal defendants' failure to consider any of these viable options rendered their approval of and reliance upon the FEIS arbitrary and capricious. This Court should reverse that decision in its *de novo* review of the District Court's denial of Colusa's motion for summary judgment and grant of defendants' respective motions for summary judgment.

**B. Federal Defendants Violated NEPA by Approving an FEIS That Relied on a Combination of Stale Data, Missing Data, and Admittedly Pure Guesswork to Tailor the FEIS So as to Ensure That the Purported Purpose and Need of the Project Could Be Met Only by Allowing Enterprise to Build a Large Casino Close to a Major Metropolitan Area So That it Could Cannibalize the Markets of Colusa's and Other Nearby Tribal Casinos.**

Federal defendants further violated NEPA by approving an FEIS that was based on stale data, missing material data, and outright guesswork.

Reliance on stale data in an FEIS may render approval of such an FEIS arbitrary and capricious. See *Lands Council v. Powell*, 395 F.3d 1019, 1031 (9th Cir. 2005) (six-year-old data was "suspect"); *N. Plains Res. Council v. Surface Transp. Bd.*, 668 F.3d 1067, 1085–86 (9th Cir. 2011) (faulting an EIS for relying on stale data). The Enterprise FEIS was issued in August, 2010, by which date much of the biological information set forth in the various Appendices already was several years old (and compiled prior to the recently-ended drought), and in some cases nearly ten years old. See, e.g., Appendix D (2008) (ARN 0023963, *et seq.*); Appendix E (2000),<sup>10</sup> EN AR NEW 0024127; Appendix G (2006) (EN AR NEW 0024274); Appendix H (2007) (EN AR NEW 0024398); Appendix J (2006) (EN AR NEW 0024636); Appendix L (2003) (EN AR NEW 0024675); Appendix M

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<sup>10</sup> A negative declaration for a wastewater treatment facility for an automobile racetrack and entertainment complex, not including a large casino operating 24/7/365.

(2006) (EN AR NEW 0024680, 0030171).

FEIS Appendix M, which purports to analyze the projected socio-economic impacts of Enterprise's preferred alternative for a large casino on the Yuba Parcel, not only relied on stale data,<sup>11</sup> but relied on no data whatsoever in reaching conclusions of the rates at which a large Enterprise casino on the Yuba Parcel would "cannibalize" (the FEIS's term) the revenues of other tribal casinos, including Colusa's. ARN 0024812. Instead, the conclusions were based on what the FEIS, in Exhibit M, freely conceded was nothing more than pure speculation that, "Colusa likely focuses its marketing efforts on different markets" from other local tribal casinos[.]" (ARN 0024811); *compare* Fernandez Dec. in Support of Colusa's Motion for TRO, ECF 8-2 at ¶5, and,

[w]ithout knowing specific operating margins, it is not possible to quantify the exact bottom line impact to each tribe. . . . While GMA cannot estimate the actual impact on each tribe, a substantial discount can be given to the estimates of revenues that will be cannibalized from each casino.<sup>12</sup>

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<sup>11</sup> Enterprise's consultants performed the purported cannibalization analyses well before the economic downturn that began in earnest in 2008, and made rosy assumptions about projected levels of economic activity in 2009. When Appendix M was prepared, the data in the document already were at least several, and in many cases more than six, years old. ARN 0030171.

<sup>12</sup> The FEIS's "discounting" of other tribes' declines in gaming revenues rests on assumptions about the number of so-called participation games operated

ARN 0024811.

By contrast, Alan Meister had full access to information about Colusa's gaming and governmental revenues and operating expenses, and thus did not have to guess about the devastating impact that an Enterprise casino on the Yuba Parcel would have on Colusa's casino revenues and workforce, Colusa's governmental revenues, workforce and budget, and thus on the quality of life and the environment of the Colusa Reservation community and Colusa County as a whole. (Meister Decl. and Summary Report, ECF 106, Exh. 1 at 2). Had federal defendants consulted with Colusa, the FEIS would have had the benefit of the only actual – and thus reliable – evidence of the impact that Enterprise's casino would have had not only on Colusa's casino, but also its government.

The FEIS was not updated to consider the impact of the recession (or higher gas prices) on either the potential profits from the Enterprise casino or the impacts on nearby tribes, whether in terms of their gross gaming revenues or the net gaming revenues available to their respective governments to fund vital programs and services to their Reservations that are unavailable from other sources.

However, in their zeal to approve Enterprise's application, federal defendants

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by those tribes, and the terms under which the games are operated. ARN 0024811. The FEIS contained no empirical basis for those assumptions.

relied upon the downturn to support the proposed Enterprise casino as a source of jobs in the area of the Yuba Parcel. *E.g.*, ARN 0029796. These actions were arbitrary and capricious, and warrant reversal.

**C. Because the FEIS Failed to Take NEPA's Requisite "Hard Look" at the Negative Environmental and Socio-Economic Impacts of Enterprise's Preferred Alternative (The Yuba Parcel), Federal Defendants' Actions in Reliance on the FEIS Were Arbitrary and Capricious.**

NEPA required that defendants take a "hard look" at the potential impacts of the proposed casino, including "considering all foreseeable direct and indirect impacts" and a "discussion of adverse impacts that does not improperly minimize negative side effects." *N. Alaska Env'tl. Ctr. v. Kempthorne*, 457 F.3d 969, 975 (9th Cir. 2006) (citations and internal quotation marks omitted). Moreover, DOI had the primary responsibility to develop the facts on its own initiative.

*Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1092 (9th Cir. 2006).

Defendants did none of these things.

While purely economic impacts themselves are not considered environmental impacts, the environmental and socioeconomic impacts caused by the economic impacts of the proposed project must be considered. *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 106–07 (1983). Federal defendants relied on nothing more than unsubstantiated guesses about declines in

casino revenues, and thus it took no look at all, and neither did the District Court. Instead, federal defendants simply accepted at face value guesswork from Enterprise's consultant.

By contrast, Meister had access to the actual financial information about Colusa's casino and government, and he found that the planned Enterprise casino on the Yuba Parcel would cause Colusa's gross gaming revenues to decline by 77%, and Colusa's net gaming revenues available to Colusa's government to decline by 90%. Meister also found that there would be a 50% decrease in the funds from which the Colusa sponsors grants to Colusa County and other local agencies outside of its reservation pursuant to the terms of its Class III gaming compact with the State of California. *Id.* Declines of the magnitude found by Meister would impact Colusa's government's ability to provide environmental and other programs and services to the Reservation community, something that the FEIS simply did not address, but which DOI would have learned had it insisted on at least some substantiation, rather than unquestioningly accepting the FEIS's admitted guesswork. In short, the Meister Declaration and Summary Report demonstrates the gaping analytical void in the FEIS, and renders DOI's reliance on



it arbitrary and capricious.<sup>13</sup>

Under NEPA, DOI must analyze the impact of its activities on the State's ability to meet its goals under the State Implementation Plan under the Clean Air Act, 42 U.S.C. § 7401, *et seq.*, to clean up the air in the relevant area. *See, e.g.*, 40 CFR 1502.16(c) & 1508.27(b)(10). The FEIS merely asserted that the emissions from Enterprise's proposed casino would conform to California's state plan, but did not give any figures that would support that assertion. ARN 0023623. Based on FEIS Table 4.4-3, (ARN 0023621) however, it appears that NO<sub>x</sub> emissions may exceed EPA's *de minimis* threshold for both ozone and PM<sub>2.5</sub> emissions and require offsets or other actions by DOI to conform to the California State Implementation Plan. 40 CFR 93.158; ARN 0023623.

The FEIS briefly acknowledged that six fish species of concern, of which five are listed under the Endangered Species Act, may exist in the vicinity of the Yuba Parcel. ARN 0023459. Acknowledging that the nearby rivers are essential

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<sup>13</sup> Colusa could not have been expected to include in public comments proprietary information about its marketing, business strategies, profit margins and revenues, and the effect on those of an Enterprise casino on the Yuba Parcel. Had Colusa been consulted by federal defendants, it could and would have commissioned Meister's report, which cost tens of thousands of dollars, as part of that process. Colusa's trustee should not have required Colusa to incur that cost simply to qualifying for consultation, when Appendix M was prepared prior to the radius for consultation being reduced from 50 to 25 miles.

to survival of the listed species, NMFS and FWS have designated critical habitat for all of them. 58 Fed. Reg. 33212 (1993); 59 Fed. Reg. 65256 (1994); 65 Fed. Reg. 7764 (2000); 70 Fed. Reg. 52488 (2005); 74 Fed. Reg. 52300 (2009). All but one of the critical habitat designations preceded publication of the draft EIS, and the latest one preceded issuance of the FEIS. Critical habitat for all five fish species includes the Sacramento River, and several include the nearby Feather, Yuba, and Bear Rivers. The FEIS acknowledged that natural and artificial waterways surround both the Yuba Parcel and the wastewater treatment plant property, but it does not explain how they are connected to one another or to the nearby rivers.

The FEIS excused its failure to consider the effect on the six fish species on the ground that they "do not have the potential to occur within the study area, as the only aquatic habitats within the study area are agricultural irrigation ditches and canals or receive water supply from these ditches or canals." ARN 0023459. The danger posed to fish species, particularly the anadromous species that migrate in nearby rivers, by canals and ditches is significant enough, however, that screening their points of diversion from, and their drains into, rivers is a major component of the federal government's recovery strategy for the listed fish species. *See, e.g.*, 70 Fed. Reg. 37160 (2005); 65 Fed. Reg. 42422 (2000); NMFS, Fish

Screening Criteria for Anadromous Salmonids (1997)<sup>14</sup>. The FEIS does not discuss whether any of the local canals and ditches are screened.

**D. Federal Defendants Violated NEPA by Arbitrarily and Capriciously Failing to Exercise Sufficient Independent Oversight Over Preparation of the FEIS, and Relying on a Contractor with a Clear Conflict of Interest.**

Council on Environmental Quality regulations and DOI policy both recognize that a project proponent (in this case, Enterprise and Enterprise's Developer) may pay a contractor to prepare an FEIS for the agency, but only if the federal agency chooses the contractor and the contractor certifies under penalty of perjury that it has no conflict of interest, which certification must be part of the administrative record. 40 CFR 1506.5; BIA NEPA Guidebook at 39-40 & Appendix 11, RJN Exh.6. Enterprise as the project's proponent – not DOI – chose AES as its contractor, and AES prepared the EA, the draft EIS, and the FEIS pursuant to a "consulting agreement" with Enterprise, and later under a "third-party agreement" with Enterprise and the BIA. ARN 0002396.

In addition to the preparation of an FEIS, Enterprise's agreement with AES provided that AES would, for a fee, "assist with obtaining permit approvals necessary to construct the project." *Id.* But because no permit approvals would be

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<sup>14</sup> Available at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=75315>.

required unless Enterprise's application were to be approved, AES had a financial incentive to slant the FEIS in favor of what Enterprise was proposing, rather than exercising the degree of skepticism required by NEPA even of a third-party contractor, that would maximize the likelihood of decisions favorable to Enterprise, thus creating a clear conflict of interest within the meaning of NEPA. 40 CFR 1506.5(c). See *Davis v. Mineta*, 302 F.3d 1104, 1112-13 (10th Cir 2002). Federal defendants' failure to ensure that the environmental contractor (AES) certify under penalty of perjury to the absence of a conflict of interest, and DOI's failure to require a sufficiently broad analysis of alternatives and unquestioned acceptance of pure guesswork as to the impacts on Colusa of Enterprise's proposed casino demonstrate that federal defendants failed to exercise sufficient supervision of the contractor. If for no other reason than that, the decisions set forth in the RODs should be vacated and the FEIS should be remanded to the BIA. *Utahns for Better Transp. v. DOT*, 305 F.3d 1152, 1184-85 (10th Cir. 2002), *modified in part on rehearing*, 319 F.3d 1207 (10th Cir. 2003).

As a further demonstration of the lack of truly independent BIA involvement and oversight in preparing the FEIS, the BIA's Pacific Regional Office provides guidance that it will "generally review environmental documents for thoroughness and accuracy," and requires that three bound copies of an EA or

FEIS accompany a tribal application, despite the fact that NEPA review is to be initiated by the BIA only *after* it deems the tribal application complete. Pacific Regional Office Land Acquisition Requirements at 3 & 4 (2010), RJN Exh. 7. ECF 10-8.

This lack of active BIA supervision over the process of preparing an FEIS is arbitrary and capricious, because it leaves to the applicant tribe and its contractor, rather than the agency whose decision is sought, the in-depth analysis that is supposed to ensure that "agency decisionmakers have before them and take into proper account all possible approaches to a particular project." *Alaska Wilderness Recreation and Tourism Ass'n v. Morrison*, 67 F.3d 723, 729 (9th Cir. 1995) (quoting *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228 (9th Cir.1988)); *Utahns for Better Transp. v. DOT*, *supra*.

## **II. FEDERAL DEFENDANTS' DECISION TO TAKE OFF-RESERVATION LAND IN YUBA COUNTY INTO TRUST FOR ENTERPRISE'S CASINO VIOLATED 25 U.S.C. § 2719(b)(1)(A), AND THUS WAS ARBITRARY AND CAPRICIOUS**

### **A. Defendants Arbitrarily and Capriciously Failed to Consult with Colusa as Required by IGRA and DOI Regulations, and Failed to Find Detriment to Colusa Despite Clear Evidence of Detriment in the Record.**

Before taking newly acquired land into trust for gaming purposes, federal defendants are required to "consult[]" with the Indian tribe and appropriate State

and local officials, including officials of other nearby Indian tribes," to evaluate the detriment to the surrounding community of the proposed casino. 25 U.S.C. § 2719(b)(1)(A). By letter dated June 23, 2009, Colusa requested in writing that BIA consult concerning the impacts on tribe of the proposed fee to trust acquisition pursuant to 25 CFR Part 292.2. ARN 0026981.

Federal defendants refused the request, and instead simply offered Colusa the opportunity to submit comments demonstrating how Colusa would be adversely impacted by a casino on the Yuba Parcel. ARN 0030289.<sup>15</sup> The significant, adverse impacts on Colusa of Enterprise's proposed Yuba Parcel Casino should have been obvious to DOI (and AES) as early as 2002, when Colusa was identified as the nearest competitor, ARN 0000395, 0000400, and certainly from the 2006 Appendix M to the FEIS. Yet, both the 151 ROD (ARN 0030167, *et seq.*) and the 292 ROD (AR 0029749, *et seq.*) simply ignored Colusa, finding United Auburn Indian Community to be the only "nearby Indian tribe" because Colusa was more than 25 miles from the Yuba Parcel. 151 ROD at 40, ECF 10-3); 292 ROD at 64, ECF 10-2. Treating Colusa's June 23, 2009 letter as something other than a request for formal consultation was inconsistent with the

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<sup>15</sup> Federal defendants erroneously excluded this letter from the Administrative Record, but later supplied it in the District Court as ECF 113.

trust obligation owed to Colusa by DOI (*see Seminole Nation v. United States*, 316 U.S. 286, 297 (1942)), just as it was inconsistent with DOI's trust obligation to Colusa for DOI to deliberately give Enterprise a significant competitive advantage over Colusa. ARN 0000395, 0000400.

**B. Defendants' Limitation of "Nearby Indian Tribe" to Tribes Within a 25-Mile Radius of a Proposed Acquisition Was Itself Arbitrary and Capricious Because it Was Not Based on a Reasoned Analysis and Violates the Intent of Indian Gaming Regulatory Act.**

Federal defendants' rigid adherence to a 25-mile radius to identify "nearby" tribes was arbitrary, capricious and violative of its trust obligation to treat all of its beneficiaries fairly, given that it knew from the EA, DEIS and FEIS that multiple tribal casinos in the Sacramento Valley draw patrons from more than 100 miles away, and that allowing Enterprise to build a casino on the Yuba Parcel would give Enterprise a significant competitive advantage over tribes that already had dedicated substantial resources to building casinos on their remote existing reservations.

During the first decade following passage of the Indian Gaming Regulatory Act, federal defendants interpreted "nearby" to include all Indian tribes within 100 miles of a proposed gaming establishment, but in 1997 reduced that radius to 50 miles. 73 Fed. Reg. 29354, 29357 (1997) (discussing DOI's history of

consultation with Indian tribes and other governments). In 2000, DOI proposed to codify the 50-mile threshold, and maintained the use of that threshold until May 2008. 65 Fed. Reg. 55471, 55473 (2000); Office of Indian Gaming, Checklist for Gaming Acquisitions at 7 (2007) RJN Exh. 4. In 2008, DOI promulgated regulations implementing 25 USC § 2719 and reduced the consultation threshold for "nearby" tribes to 25 miles, but provided that local governments, including tribes, could rebut the presumption that they were not entitled to consultation as "nearby" governments under 25 § U.S.C. 2719(b)(1)(A) by showing that their "governmental functions, infrastructure or services will be directly, immediately and significantly impacted by the proposed gaming establishment." 25 CFR Part 292.2 (definition of "surrounding community"); 73 Fed. Reg 29354, 29357 (2008). Thus, DOI admitted that the meaning of "nearby Indian tribes" must be understood in light of the effects of a proposed acquisition, not mere arbitrary distance, and that while a uniform standard might be desirable, a one-size-fits-all approach was inapt. Thus, rigid adherence to that standard in light of the BIA's knowledge about tribes in the Sacramento Valley was arbitrary and capricious.

Given that the purpose of consultation under IGRA is to determine whether "a gaming establishment on newly acquired lands . . . would not be detrimental to the surrounding community," and that "community" is defined to include state,



local, and tribal officials, it follows that IGRA requires DOI to consult with those tribes, cities, and towns that DOI has reason to believe would be adversely affected by a new off-reservation casino, not just those either playing host to the casino or those within an arbitrary 25-mile radius. 25 USC § 2719(b)(1)(A).

In its 2008 rulemaking, DOI admitted that, "the purpose of consulting with nearby Indian tribes is to determine whether a proposed gaming establishment will have detrimental impacts on a nearby Indian tribe that is part of the surrounding community." 73 Fed. Reg. at 29356. As demonstrated by the discussion of "cannibalization" in the FEIS (Appendix M, which pre-dated the DEIS and shrinking of the radius for consultation) and in Enterprise's original application, a 25-mile radius for consultation is far too small when it excludes the very tribes that the FEIS admitted would be adversely impacted by a new casino authorized by a two-part determination. FEIS Appendix M, ARN 0024689; *see also*, ARN 0000394.

Because DOI did not supply a reasoned independent judgment in choosing the 25-mile radius when it knew or reasonably should have known from the EA, the DEIS and the FEIS that tribal casinos in rural areas (such as the Sacramento Valley) must attract patrons from farther away than 25 miles, DOI's imposition of that smaller radius was arbitrary and capricious. *Motor Veh. Mfrs. Ass'n v. State*

*Farm Ins.*, 463 U.S. 29 (1983).

Even if the 2008 regulation itself did not violate the APA, federal defendants' implementation of it with regard to Colusa was arbitrary and capricious. As noted above, Enterprise's application materials and the FEIS prepared at its behest frankly acknowledged that Colusa's casino would be the Yuba Parcel casino's nearest competitor, and that the Enterprise casino would "cannibalize" other tribal casinos, including Colusa's. ARN 0024811; *see*, ARN 0000394. Despite the fact that DOI policy until 2008 was to consult with tribes within 50 miles of the newly acquired lands, during the decade-long process of reviewing the application to have the Yuba Parcel taken into trust for Enterprise as the site of a casino, federal defendants entirely failed to consult with even those nearby Indian tribes that Enterprise's initial application in 2002 identified as direct competitors – including Colusa. ARN 0000412.

The failure/refusal to consult with Colusa was particularly egregious, because as early as 2002, Enterprise's first market study stated that, "The closest competitor to the proposed Marysville casino is the Colusa Casino located less than 25 miles away on Highway 45 in Colusa County, approximately an hour's drive north of Sacramento." AR 0000408 [underlining added]. AES began preparing the EA for Enterprise in 2002, and completed and published the final

version in July 2004. 70 Fed. Reg. 29363 (2005). Thus, federal defendants, through Enterprise's consultant, were well aware of Colusa and its casino.

The BIA never contacted Colusa about Enterprise's application, despite DOI's rule at the time that all tribes within 50 miles were to be consulted. Pullen Decl., ECF. 8-3 at ¶8; 73 Fed. Reg. at 29357; Checklist for Gaming Acquisitions at 7 (2007), RJN Exh. 4. Although the DEIS was completed and federal defendants published its notice of availability in early 2008, Colusa was only informed of the DEIS and the opportunity to comment a year later and by another tribe, not the BIA.

Colusa immediately requested that BIA consult pursuant to the new regulations, to which BIA responded that the Tribe could submit comments, but did not offer to consult, even though federal defendants' Answer admits that federal defendants knew that gaming on the Yuba Parcel may have impacts on others. Federal defendants' Answer, ECF Doc. 63, at ¶ 32.

As interpreted by the BIA, "[c]onsultation does not mean merely the right of tribal officials, as members of the general public, to be consulted, or to provide comments, under the Administrative Procedure Act or other Federal law of general applicability." BIA Government-to-Government Consultation Policy (2000), RJN Exh. 5 at 2, ECF 10-2. As BIA admits, "[w]ithout early consultation, the Bureau

may develop proposals based on an incomplete and anecdotal understanding of the issues that surround a particular matter. As a result, Bureau proposals often create severe unintended consequences for tribal governments." *Id* at 3.

That is exactly what happened in this case: Colusa was not consulted about the numerous persistent errors of fact and methodology in the FEIS and supporting documents that were incorporated into the RODs, "creating severe unintended consequences" for Colusa. *Id*. Because federal defendants found that Enterprise's proposed casino would not have a detrimental impact on Colusa as part of the "surrounding community," despite the clear evidence in the record that the Enterprise casino would cannibalize Colusa's casino of at least \$4.3 Million per year even using the flawed, guess-based "analysis" in Appendix M, it has "offered an explanation that runs counter to the evidence before the agency," and must be rejected. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, *supra*, at 43.

**C. Federal Defendants Failed to Adequately Analyze Enterprise's Need for Land Pursuant to 25 CFR Part 151.**

When the FEIS was issued, Enterprise already had 40 acres of gaming-eligible (*i.e.*, pre-IGRA) trust land at Enterprise No. 1, 63 acres of commercially zoned fee land near Oroville acquired for housing and economic development, and

numerous other parcels of fee land purchased with HUD funds to house tribal members. Thus, Enterprise already had replaced the 40 acres of Enterprise No. 2 that the descendants of the original occupants agreed could be sold to the State for inundation by Lake Oroville.<sup>16</sup> ARN 0022969.

25 CFR Part 151.10(b) requires that DOI find that the tribe has a "need" for the land, but the 151 ROD did not find that Enterprise had a "need" for the Yuba Parcel, on which not a single tribal member would reside, so much as a "desire" for it. *E.g.*, ARN 0030214. The FEIS analysis did not find that Enterprise could

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<sup>16</sup> Enterprise has described the sale of Enterprise No. 2 as a "taking," *id.*, but the legislative history of Pub. L. 88-453 describes the sale as voluntary: "[t]he descendants of the Indians for whom the Enterprise Rancheria was established have agreed to the proposed sale of the rancheria and the distribution of the proceeds therefrom among the four named beneficiaries." H. Rep. 88-1569, RJN Exh. 1 at 2, ECF 10-1; 151 ROD, ARN 0030214. Pub. L. 88-453, as approved on August 20, 1964, provided in its entirety:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior may sell and convey Enterprise Rancheria numbered 2, comprising 40.64 acres of land, more or less, described as lot 3, section 1, township 19 north, range 5 east, Mount Diablo base and meridian, to the State of California for a negotiated price which in the opinion of the Secretary reflects its fair market value, and the proceeds from the sale shall be distributed to Henry B. Martin, Stanley Martin, Ralph G. Martin, and Vera Martin Kiras." *See also.*, H.Rep. 1589, 88th Cong. 2nd Sess.

not generate tribal income at a location other than the Yuba Parcel, just that anything other than a large casino on the Yuba Parcel would be less profitable, making a mere \$18 Million in annual revenues. *E.g.*, ARN 0002742. ARN 0030214; ARN 0022969.

Immediately after using the tribe's need for land for housing as a "need" to take title to the Yuba Parcel in trust for Enterprise, DOI acknowledged that the land to be acquired will be used solely for gaming, not housing. ARN 0030214. In its Amended and Restated Application, Enterprise admitted that the tribe had purchased 63 acres of land in Butte County with funds granted by HUD, and that the tribe had not applied to have it taken into trust. ARN 0022969-970. What neither the FEIS nor the 151 ROD mentioned was that Enterprise also owns more than 10 other parcels in and around Oroville, near Enterprise's existing gaming-eligible trust land (Enterprise No. 1) in Butte County, not near the Yuba Parcel. 62 Fed. Reg. 52348 (1997) (notice of award of \$2.3 Million to Enterprise for Indian housing). Economic development is one of the purposes authorized under the HUD grants that funded the purchases by Enterprise. *See*, 24 CFR 1000.10.

The RODs simply ignored the fact that Enterprise now owns far more land than it agreed that the United States could sell to California for creation of Lake Oroville, and that the additional land – which Enterprise could have sought to be

accepted into federal trust – is dedicated to housing and economic development purposes, one of the primary justifications for acquiring the Yuba Parcel for Enterprise. 151 ROD, ARN 30214. Federal defendants' inconsistency in rationales is arbitrary and capricious in light of the requirement that it present a reasoned decision based on the facts before it. *Motor Veh. Mfrs. Ass'n v. State Farm Ins.*, *supra*, 463 U.S. at 43.

Moreover, the discussion of Enterprise's need for housing purportedly addressed by taking title to a parcel that will not be used for housing does not address the fact that pursuant to Enterprise's own Constitution, many of its members would not be eligible for tribal benefits paid for with non-federal funds. Enterprise 2003 Const., ARN 0001569. The income from the off-reservation casino would be non-federal income, and thus Enterprise could, consistent with its Constitution, deny *per capita* payments and other benefits derived from the casino, such as housing (or even employment), to a large number of individuals whom Enterprise identifies as tribal members, but who are literally second-class tribal citizens, an issue steadfastly ignored by all defendants.

Neither the 151 ROD nor the 292 ROD addressed the fact that Public Law 88-453 apparently terminated the federal "supervisory responsibilities over Enterprise Rancheria No. 2 and its inhabitants." RJN Exh. 1 at 2, ECF 10-1.

Although Enterprise was not terminated pursuant to the California Rancheria Act of August 18, 1958, which authorized the termination of the federal trust relationship with many California Indian tribes, Congress seems to have intended that Public Law 88-453 be "consistent with" that act with regard to the descendants of Nancy Martin and the residents of Enterprise Rancheria No. 2. *Id.* at 3. Despite the apparent termination of one-half of the tribe in 1965 and the enrollment of second-class citizens in 2003, the RODs do not explain how they could determine how many Enterprise members actually are Indians recognized by DOI, and thus quantify the actual extent of Enterprise's need for the off-reservation casino on the Yuba Parcel. Without such quantification, federal defendants had no basis for correlating the benefits to Enterprise from a casino on the Yuba Parcel to Enterprise's unmet need for tribal housing. *See, e.g.*, ARN 0029207.

**D. Federal Defendants' Mis-Description of the Yuba Parcel Was Arbitrary and Capricious.**

On December 3, 2012, the AS-IA announced he had made "a final agency determination to acquire approximately 40 acres of land in trust for gaming purposes" for Enterprise nearly two weeks earlier. 77 Fed. Reg. 71612. However, the legal description published in the Register was incorrect, not only by



describing an 80-acre parcel rather than a 40-acre parcel, but also by making it impossible to determine *which* 40 acres within the 80 acres described actually would be taken into trust. Without knowing which 40 acres would be taken into trust, there would be no way to know whether the acquisition would include or exclude riparian habitat and have other environmental consequences.

Moreover, use of an inaccurate legal description of the land to be taken into trust contradicted federal defendants' policy to ensure that legal descriptions are precise and accurate throughout the fee-to-trust process. DOI's own regulations require that it closely examine title to proposed trust acquisitions. 25 CFR Part 151.13. DOI guidance, which effectively has the force of law, requires that the Office of Indian Gaming "will review the description to verify that the description accurately describes the subject property, and that it is consistent throughout the application." 2011 Fee-to-Trust Handbook, RJN Exh. 2 at 65 (underlining added); *see*, ARN 0000524. The fact that despite a decade of supposedly searching inquiry and "hard looks," federal defendants still did not know exactly what piece of land they would be taking into trust amply demonstrates how far-removed federal defendants were from assuring the accuracy of the entire application, including the FEIS and both RODs.

**III. THE DISTRICT COURT ABUSED ITS DISCRETION IN EXCLUDING THE MEISTER DECLARATION AND SUMMARY REPORT, WHICH DEMONSTRATED THAT FEDERAL DEFENDANTS HAD IGNORED A FUNDAMENTAL AREA OF INQUIRY INTO THE SOCIOECONOMIC IMPACTS OF THE PROPOSED ACCEPTANCE OF THE YUBA PARCEL INTO TRUST**

The District Court granted defendants' motion to strike the Meister Declaration and Summary Report because it was not part of the Administrative Record and was created after defendants had made the decisions to take the Yuba Parcel into trust and allow Enterprise to conduct gaming on the land. That ruling is reviewable for abuse of discretion. *Southwest Center for Biological Diversity v. U.S. Forest Service, supra.*

Generally, review of an agency's FEIS and a decision based thereon "is limited to the administrative record and may only be expanded beyond the record to explain agency decisions," not to determine the correctness of the agency's decision. *Northwest Env'tl. Advocates v. Nat'l Marine Fisheries Serv.*, 460 F.3d 1125, 1144 (9th Cir. 2006). However, the Court should not "straightjacket" itself with the administrative record if it is clear that the record does not contain a defensible basis for the agency's decision. *Asarco, Inc. v. U.S. Env'tl. Prot. Agency*, 616 F.2d 1153, 1160 (9th Cir. 1980) ("The court cannot adequately discharge its duty to engage in a 'substantial inquiry' if it is required to take the

agency's word that it considered all relevant matters"). The Court may consider extra-record material to "ascertain[] whether the agency considered all the relevant factors or fully explicated its course of conduct or grounds of decision." *Id*; see also *Suffolk Cty. v. Sec'y of Interior*, 562 F.2d 1368, 1385 (2d Cir. 1977).

The common formulation of the arbitrary and capricious standard holds that an agency's decision must not have,

relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

*Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto. Ins. Co.*, *supra*; *McFarland v. Kempthorne*, 545 F.3d 1106, 1110 (9th Cir. 2008).

"[D]eference accorded an agency's scientific or technical expertise is not unlimited," and it "is not owed when the agency has completely failed to address some factor consideration of which was essential to [making an] informed decision." *National Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 798-99 (9th Cir. 2005). That is exactly what happened in this case, and Colusa proffered the Meister Declaration and Summary Report not to persuade the District Court to substitute its judgment for the agency's, but to demonstrate that

federal defendants had "failed to consider an important aspect of the problem," and that their decision was "so implausible that it could not be ascribed to a difference in view or the product of agency expertise,"

As defendants must acknowledge, "[i]naccurate economic information may defeat the purpose of an FEIS by 'impairing the agency's consideration of the adverse environmental effects' and by 'skewing the public's evaluation' of the proposed agency action." *Natural Res. Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 811 (9th Cir. 2005). In this case, federal defendants' failure to properly analyze the effects on other Indian tribal governments (not just speculation about the negative impacts on gross gaming revenue of their casinos) fatally skewed federal defendants' decision-making. Federal defendants simply could not have made an informed assessment of the socio-economic environmental impacts of the proposed Yuba Parcel casino on other tribes, their members, and reservations based on the formulaic and unsubstantiated guesstimates of a consultant hired by Enterprise's consultant. Moreover, DOI could not make the finding required by IGRA of no detriment to other tribes without the same analysis of economic impacts and their consequent social and environmental dislocation on its other trust beneficiaries.

Unlike the facts in *Northwest Env'tl. Advocates v. Nat'l Marine Fisheries*

*Serv.*, *supra*, in which the Ninth Circuit considered whether an FEIS analyzing the impacts of a port was faulty due to a failure to analyze the effect on other ports, in this case, DOI neither obtained nor considered expert opinion on the question of the negative impacts on Colusa and DOI's other tribal trust beneficiaries, nor did it find that such a review would result in greater benefits overall. Instead, neither Enterprise nor DOI made a fact-based determination; rather, DOI and Enterprise's contractor simply relied on an admitted guess about the extent to which cannibalization by the proposed Enterprise casino on the Yuba Parcel would diminish the gaming revenues of other tribal casinos, and that such cannibalization would not put other tribal casinos out of business. Appendix M, ARN 0024680.

Thus, the Meister Declaration and Summary Report was – and remains – "necessary to determine 'whether the agency has considered all relevant factors and has explained its decision,' and 'to explain ... complex subject matter.'"

*Southwest Ctr. for Biological Diversity v. U.S. Forest Serv.*, *supra*; *Lands Council*, *supra*, 395 F.3d at 1030. NEPA and particularly IGRA require that DOI consider and analyze the harm that its decisions may cause to Colusa and other tribes in both their proprietary and governmental capacities.

DOI has a fiduciary responsibility to promote the well-being of all of its beneficiaries, including Colusa and other nearby tribes, not just to deliberately

sacrifice their well-being in order to maximize the profits of Enterprise and Enterprise's Developer. The conflict between the Appendix M analysis in the FEIS and Dr. Meister's analysis of the impacts on Colusa does not represent a mere difference of opinion in which a federal agency is entitled to rely upon its own experts, because the FEIS is devoid of any fact-based analysis – expert or otherwise – of the likely negative impacts on Colusa. Rather, it is proof of DOI's utter failure to consider a core matter within its responsibility, the welfare of its other tribal beneficiaries. In short, by relying upon what is essentially a market analysis promoting the Enterprise Casino on the Yuba Parcel, DOI entirely failed to consider an important aspect of the problem committed to its care by Congress. *Motor Vehicle Mfrs. v. State Farm Ins.*, *supra*, 463 U.S. at 43; *National Wildlife Fed'n*, 422 F.3d at 798-99.

Federal defendants' duties to every Indian tribe and its members must be judged by "the most exacting fiduciary standards." *Seminole Nation v. United States*, 316 U.S. 286, 297 (1942). "The federal government owes a fiduciary obligation to *all Indian tribes as a class*." *Pit River Tribe v. U.S. Forest Serv.*, 469 F.3d 768, 788 (9th Cir. 2006) (emphasis added). That duty includes at least compliance with all applicable statutes as it affects the tribes and their members.

**IV. FURTHER PROCEEDINGS IN THIS APPEAL SHOULD BE STAYED PENDING THE CALIFORNIA SUPREME COURT'S DECISION IN *UNITED AUBURN INDIAN COMMUNITY v. BROWN***

25 U.S.C. § 2719(b)(1)(A) provides that before the Secretary lawfully may authorize gaming on land taken into trust after October 17, 1988 (and assuming one of the other exceptions does not apply), the Governor of the state in which the land is located must concur in the Secretary's Two-Part Determination. Thus, if California's Governor did not validly concur in the Enterprise Two-Part Determination, the Secretary could not validly authorize the land to be taken into trust for gaming. Because the 151 ROD is premised on the use of the land for a casino, if the Two-Part Determination is not valid, the basis for the 151 ROD also is undermined.

California's Governor Brown concurred in the Enterprise Two-Part Determination on August 30, 2012, ARN 00029207. The United Auburn Indian Community filed suit in the California Superior Court to challenge the Governor's authority to concur in the Enterprise Two-Part Determination. The Governor prevailed in the Superior Court and in United Auburn's appeal to the Court of Appeal for the Third Appellate District, *United Auburn Indian Community, et al., v. Brown*, 4 Cal.App.5th 36 (3d Dist., 2016), but the California Supreme Court has granted United Auburn's petition for review and the case currently is pending

before the California Supreme Court. *United Auburn Indian Community, v. Brown*, S238544, 212 Cal.Rptr.3d 620.

Governor Brown's concurrence in a Two-Part Determination for the North Fork Rancheria also was challenged in the Superior Court, where the State's demurrer was sustained. The California Court of Appeal for the Fifth Appellate District reversed the Superior Court's ruling, holding the Governor lacked the requisite authority to concur in a Two-Part Determination. *Stand Up for California! v. State of California*, 6 Cal.App.5th 686. The California Supreme Court has granted the Governor's petition to review that decision, 390 P.3d 781, 215 Cal.Rptr.3d 2 (Mem) (2017), but has deferred briefing in that action pending its decision in *United Auburn*.

If the California Supreme Court decides that California's Governor lacked the authority to concur in the Enterprise Two-Part Determination, the condition precedent to DOI's authority under 25 U.S.C. § 2719(b)(1)(A) to authorize gaming on the Yuba Parcel will have failed. There is no statutory or case law analyzing the legal significance of such a failure; thus, this Court either would have to order further briefing on that issue, or remand the case to the District Court for resolution. Therefore, considerations of judicial economy would best be served by deferring further activity in this appeal until the California Supreme Court has



resolved the question whether the Governor validly concurred in the Enterprise Two-Part Determination.

### CONCLUSION

For all of the reasons set forth above, the decision of the District Court should be reversed, and the two RODs should be vacated and remanded to the Department of the Interior for further consideration, including consultation with Colusa and other tribes that the FEIS, however flawed, identified as likely to be adversely impacted by DOI's decision to accept the Yuba Parcel into trust for Enterprise's casino. For reasons of judicial economy, further proceedings in this appeal should be stayed, or at least issuance of a final judgment deferred, pending issuance of the California Supreme Court's decision in *United Auburn Indian Community v. Brown*.

Respectfully submitted,

By: s/ George Forman  
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**STATEMENT OF RELATED CASE**

We are unaware of any related cases.

**Form 8. Certificate of Compliance Pursuant to 9th Circuit Rules 28-1.1(f), 29-2(c)(2) and (3), 32-1, 32-2 or 32-4 for Case Number 17-15245**

Note: This form must be signed by the attorney or unrepresented litigant *and attached to the end of the brief.*

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Signature of Attorney or Unrepresented Litigant

Date

("s/" plus typed name is acceptable for electronically-filed documents)

9th Circuit Case Number(s) 17-15245

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\*\*\*\*\*

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I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on (date) May 22, 2017.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

Signature (use "s/" format) s/ Rebecca Schmadeke

\*\*\*\*\*

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[Empty box for listing non-CM/ECF participants]

Signature (use "s/" format)

[Empty box for signature]

**No. 17-15245**

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IN THE UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT

—————  
CACHIL DEHE BAND OF WINTUN INDIANS OF THE COLUSA  
INDIAN COMMUNITY, a federally recognized Indian Tribe,  
Plaintiff-Appellant,

v.

KENNETH LEE SALAZAR, Secretary of the Interior, *et al.*,  
Defendants-Appellees.

—————  
APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE  
EASTERN DISTRICT OF CALIFORNIA (No. 2:12-cv-03021-TLN-AC)

—————  
**PLAINTIFF-APPELLANT'S REQUEST FOR JUDICIAL NOTICE**  
—————

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Pursuant to F.R.Ev. 201(b)(2) and (c)(2), Plaintiff-Appellant Cachil Dehe Band of Wintun Indians of the Colusa Indian Community ("Colusa") hereby requests that the Court take judicial notice of the following, true and correct copies of which are attached hereto:

1. **Exhibit 1.** The California Supreme Court's notice granting petition for review of *Stand Up for California! v. Brown*, 6 Cal.App.5th 686 (2016).
2. **Exhibit 2.** The California Supreme Court's notice granting petition for review of *United Auburn Indian Community v. Brown*, 4 Cal.App.5th 36 (2016).

Respectfully submitted,

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Wintun Indians of the Colusa Indian  
Community

# EXHIBIT 1

Stand Up for California! v. State, 390 P.3d 781 (2017)

215 Cal.Rptr.3d 2

390 P.3d 781  
Supreme Court of California  
**STAND UP FOR CALIFORNIA!**

v.  
STATE of California (North Fork Rancheria of  
Mono Indians)

S239630  
|  
March 22, 2017

Fifth Appellate District, F069302

**Opinion**

The application to appear pro hac vice is granted. The petitions for review are granted. Further action is this

matter is deferred pending consideration and disposition of a related issue in *United Auburn Indian Community of Auburn Rancheria v. Brown* (S238544) (see [Cal. rules of Court, rule 8.524 \(c\)](#)), or pending further order of the court. Submission of additional briefing, pursuant to [California Rules of Court, rule 8.528](#), is deferred pending further order of the court.

Votes: [Cantil-Sakauye, C.J.](#), [Werdegar](#), [Chin](#), [Corrigan](#), [Liu](#), [Cuéllar](#) and [Kruger, JJ.](#)

**All Citations**

390 P.3d 781, 215 Cal.Rptr.3d 2 (Mem)

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# EXHIBIT 2

United Auburn Indian Community of the Auburn Rancheria v. Brown, 387 P.3d 741 (2017)

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212 Cal.Rptr.3d 620

387 P.3d 741  
Supreme Court of California

UNITED AUBURN INDIAN COMMUNITY OF  
THE AUBURN RANCHERIA

v.  
BROWN

S238544  
|  
January 25, 2017

Third Appellate District, C075126

**Opinion**

Petition for review granted.

Votes: [Cantil-Sakauye, C.J.](#), [Werdegar](#), [Chin](#), [Corrigan](#),  
[Liu](#), [Cuéllar](#) and [Kruger, JJ.](#)

**All Citations**

387 P.3d 741, 212 Cal.Rptr.3d 620 (Mem)

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9th Circuit Case Number(s) 17-15245

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**No. 17-15245**

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IN THE UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT

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CACHIL DEHE BAND OF WINTUN INDIANS OF THE COLUSA  
INDIAN COMMUNITY, a federally recognized Indian Tribe,  
Plaintiff-Appellant,

v.

KENNETH LEE SALAZAR, Secretary of the Interior, *et al.*,  
Defendants-Appellees.

---

APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE  
EASTERN DISTRICT OF CALIFORNIA (No. 2:12-cv-03021-TLN-AC)

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**PLAINTIFF-APPELLANT'S ADDENDUM TO OPENING BRIEF**

**VOLUME 1**

---

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## **ADDENDUM**

### **CODE OF FEDERAL REGULATIONS**

#### **24 C.F.R. § 1000.10**

#### **§ 1000.10 What definitions apply in these regulations?**

**Effective: January 2, 2013**

Except as noted in a particular subpart, the following definitions apply in this part:

(a) The terms "Adjusted income," "Affordable housing," "Drug-related criminal activity," "Elderly families and near-elderly families," "Elderly person," "Grant beneficiary," "Indian," "Indian housing plan (IHP)," "Indian tribe," "Low-income family," "Near-elderly persons," "Nonprofit," "Recipient," "Secretary," "State," and "Tribally designated housing entity (TDHE)" are defined in section 4 of NAHASDA.

(b) In addition to the definitions set forth in paragraph (a) of this section, the following definitions apply to this part:

Affordable housing activities are those activities identified in section 202 of NAHASDA.

Annual Contributions Contract (ACC) means a contract under the 1937 Act between HUD and an IHA containing the terms and conditions under which HUD assists the IHA in providing decent, safe, and sanitary housing for low-income families.

Annual income has one of the following meanings, as determined by the Indian tribe:

(1) "Annual income" as defined for HUD's Section 8 programs in 24 CFR part 5, subpart F (except when determining the income of a homebuyer for an owner-occupied rehabilitation project, the value of the homeowner's principal residence may be excluded from the calculation of Net Family assets); or

(2) Annual income as reported under the Census long-form for the most recent available decennial Census. This definition includes:

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- (i) Wages, salaries, tips, commissions, etc.;
  - (ii) Self-employment income;
  - (iii) Farm self-employment income;
  - (iv) Interest, dividends, net rental income, or income from estates or trusts;
  - (v) Social security or railroad retirement;
  - (vi) Supplemental Security Income, Aid to Families with Dependent Children, or other public assistance or public welfare programs;
  - (vii) Retirement, survivor, or disability pensions; and
  - (viii) Any other sources of income received regularly, including Veterans' (VA) payments, unemployment compensation, and alimony; or
- (3) Adjusted gross income as defined for purposes of reporting under Internal Revenue Service (IRS) Form 1040 series for individual Federal annual income tax purposes.

Assistant Secretary means the Assistant Secretary for Public and Indian Housing.

Department or HUD means the Department of Housing and Urban Development.

Family includes, but is not limited to, a family with or without children, an elderly family, a near-elderly family, a disabled family, a single person, as determined by the Indian tribe.

Homebuyer payment means the payment of a family purchasing a home pursuant to a lease purchase agreement.

Homeless family means a family who is without safe, sanitary and affordable housing even though it may have temporary shelter provided by the community, or a family who is homeless as determined by the Indian tribe.

Housing related activities, for purposes of program income, means any facility, community building, infrastructure, business, program, or activity, including any

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community development or economic development activity, that:

(1) Is determined by the recipient to be beneficial to the provision of housing in an Indian area; and

(2) Would meet at least one of the following conditions:

(i) Would help an Indian tribe or its tribally designated housing entity to reduce the cost of construction of Indian housing;

(ii) Would make housing more affordable, energy efficient, accessible, or practicable in an Indian area;

(iii) Would otherwise advance the purposes of NAHASDA.

Housing related community development:

(1) Means any facility, community building, business, activity, or infrastructure that:

(i) Is owned by an Indian tribe or a tribally designated housing entity;

(ii) Is necessary to the provision of housing in an Indian area; and

(iii)(A) Would help an Indian tribe or tribally designated housing entity reduce the cost of construction of Indian housing;

(B) Would make housing more affordable, energy efficient, accessible, or practicable in an Indian area; or

(C) Would otherwise advance the purposes of NAHASDA.

(2) Does not include any activity conducted by any Indian tribe under the Indian Gaming Regulatory Act (25 U.S.C. 2701 et seq.)

IHBG means Indian Housing Block Grant.

Income means annual income as defined in this subpart.

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Indian area means the area within which an Indian tribe operates affordable housing programs or the area in which a TDHE, as authorized by one or more Indian tribes, operates affordable housing programs. Whenever the term "jurisdiction" is used in NAHASDA, it shall mean "Indian Area," except where specific reference is made to the jurisdiction of a court.

Indian Housing Authority (IHA) means an entity that:

(1) Is authorized to engage or assist in the development or operation of low-income housing for Indians under the 1937 Act; and

(2) Is established:

(i) By exercise of the power of self government of an Indian tribe independent of state law; or

(ii) By operation of state law providing specifically for housing authorities for Indians, including regional housing authorities in the State of Alaska.

Median income for an Indian area is the greater of:

(1) The median income for the counties, previous counties, or their equivalent in which the Indian area is located; or

(2) The median income for the United States.

NAHASDA means the Native American Housing Assistance and Self-Determination Act of 1996 (25 U.S.C. 4101 et seq.).

1937 Act means the United States Housing Act of 1937 (42 U.S.C. 1437 et seq.).

Office of Native American Programs (ONAP) means the office of HUD which has been delegated authority to administer programs under this part. An "Area ONAP" is an ONAP field office.

Outcomes are the intended results or consequences important to program beneficiaries, the IHBG recipient, and the tribe generally from carrying out the housing or housing-related activity as determined by the tribe (and/or its TDHE).

Person with Disabilities means a person who-

- (1) Has a disability as defined in section 223 of the Social Security Act;
- (2) Has a developmental disability as defined in section 102 of the Developmental Disabilities Assistance and Bill of Rights Act;
- (3) Has a physical, mental, or emotional impairment which-
  - (i) Is expected to be of long-continued and indefinite duration;
  - (ii) Substantially impedes his or her ability to live independently; and
  - (iii) Is of such a nature that such ability could be improved by more suitable housing conditions.
- (4) The term "person with disabilities" includes persons who have the disease of acquired immunodeficiency syndrome or any condition arising from the etiologic agent for acquired immunodeficiency syndrome.
- (5) Notwithstanding any other provision of law, no individual shall be considered a person with disabilities, for purposes of eligibility for housing assisted under this part, solely on the basis of any drug or alcohol dependence. The Secretary shall consult with Indian tribes and appropriate Federal agencies to implement this paragraph.
- (6) For purposes of this definition, the term "physical, mental or emotional impairment" includes, but is not limited to:
  - (i) Any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: Neurological, musculoskeletal, special sense organs, respiratory, including speech organs; cardiovascular; reproductive; digestive; genito-urinary; hemic and lymphatic; skin; and endocrine; or
  - (ii) Any mental or psychological condition, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities.
  - (iii) The term "physical, mental, or emotional impairment" includes, but is not

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limited to, such diseases and conditions as orthopedic, visual, speech, and hearing impairments, cerebral palsy, autism, epilepsy, muscular dystrophy, multiple sclerosis, cancer, heart disease, diabetes, Human Immunodeficiency Virus infection, mental retardation, and emotional illness.

Tribal program year means the fiscal year of the IHBG recipient.

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**25 C.F.R. § 2.6**  
**§ 2.6 Finality of decisions.**

(a) No decision, which at the time of its rendition is subject to appeal to a superior authority in the Department, shall be considered final so as to constitute Departmental action subject to judicial review under 5 U.S.C. 704, unless when an appeal is filed, the official to whom the appeal is made determines that public safety, protection of trust resources, or other public exigency requires that the decision be made effective immediately.

(b) Decisions made by officials of the Bureau of Indian Affairs shall be effective when the time for filing a notice of appeal has expired and no notice of appeal has been filed.

(c) Decisions made by the Assistant Secretary—Indian Affairs shall be final for the Department and effective immediately unless the Assistant Secretary—Indian Affairs provides otherwise in the decision.

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**25 C.F.R. § 151.10**  
**§ 151.10 On-reservation acquisitions.**

Upon receipt of a written request to have lands taken in trust, the Secretary will notify the state and local governments having regulatory jurisdiction over the land to be acquired, unless the acquisition is mandated by legislation. The notice will inform the state or local government that each will be given 30 days in which to provide written comments as to the acquisition's potential impacts on regulatory jurisdiction, real property taxes and special assessments. If the state or local government responds within a 30-day period, a copy of the comments will be provided to the applicant, who will be given a reasonable time in which to reply and/or request that the Secretary issue a decision. The Secretary will consider the following criteria in evaluating requests for the acquisition of land in trust status when the land is located within or contiguous to an Indian reservation, and the acquisition is not mandated:

- (a) The existence of statutory authority for the acquisition and any limitations contained in such authority;
- (b) The need of the individual Indian or the tribe for additional land;
- (c) The purposes for which the land will be used;
- (d) If the land is to be acquired for an individual Indian, the amount of trust or restricted land already owned by or for that individual and the degree to which he needs assistance in handling his affairs;
- (e) If the land to be acquired is in unrestricted fee status, the impact on the State and its political subdivisions resulting from the removal of the land from the tax rolls;
- (f) Jurisdictional problems and potential conflicts of land use which may arise; and
- (g) If the land to be acquired is in fee status, whether the Bureau of Indian Affairs is equipped to discharge the additional responsibilities resulting from the acquisition of the land in trust status.
- (h) The extent to which the applicant has provided information that allows the Secretary to comply with 516 DM 6, appendix 4, National Environmental Policy

**000008**

Act Revised Implementing Procedures, and 602 DM 2, Land Acquisitions:  
Hazardous Substances Determinations. (For copies, write to the Department of the  
Interior, Bureau of Indian Affairs, Branch of Environmental Services, 1849 C  
Street NW., Room 4525 MIB, Washington, DC 20240.)

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**25 C.F.R. § 151.12**  
**§ 151.12 Action on requests.**  
**Effective: December 13, 2013**

- (a) The Secretary shall review each request and may request any additional information or justification deemed necessary to reach a decision.
- (b) The Secretary's decision to approve or deny a request shall be in writing and state the reasons for the decision.
- (c) A decision made by the Secretary, or the Assistant Secretary-Indian Affairs pursuant to delegated authority, is a final agency action under 5 U.S.C. 704 upon issuance.
- (1) If the Secretary or Assistant Secretary denies the request, the Assistant Secretary shall promptly provide the applicant with the decision.
- (2) If the Secretary or Assistant Secretary approves the request, the Assistant Secretary shall:
- (i) Promptly provide the applicant with the decision;
  - (ii) Promptly publish in the Federal Register a notice of the decision to acquire land in trust under this part; and
  - (iii) Immediately acquire the land in trust under § 151.14 on or after the date such decision is issued and upon fulfillment of the requirements of § 151.13 and any other Departmental requirements.
- (d) A decision made by a Bureau of Indian Affairs official pursuant to delegated authority is not a final agency action of the Department under 5 U.S.C. 704 until administrative remedies are exhausted under part 2 of this chapter or until the time for filing a notice of appeal has expired and no administrative appeal has been filed.
- (1) If the official denies the request, the official shall promptly provide the applicant with the decision and notification of any right to file an administrative appeal under part 2 of this chapter.

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(2) If the official approves the request, the official shall:

(i) Promptly provide the applicant with the decision;

(ii) Promptly provide written notice of the decision and the right, if any, to file an administrative appeal of such decision pursuant to part 2 of this chapter, by mail or personal delivery to:

(A) Interested parties who have made themselves known, in writing, to the official prior to the decision being made; and

(B) The State and local governments having regulatory jurisdiction over the land to be acquired;

(iii) Promptly publish a notice in a newspaper of general circulation serving the affected area of the decision and the right, if any, of interested parties who did not make themselves known, in writing, to the official to file an administrative appeal of the decision under part 2 of this chapter; and

(iv) Immediately acquire the land in trust under § 151.14 upon expiration of the time for filing a notice of appeal or upon exhaustion of administrative remedies under part 2 of this title, and upon the fulfillment of the requirements of § 151.13 and any other Departmental requirements.

(3) The administrative appeal period under part 2 of this chapter begins on:

(i) The date of receipt of written notice by the applicant or interested parties entitled to notice under paragraphs (d)(1) and (d)(2)(ii) of this section;

(ii) The date of first publication of the notice for unknown interested parties under paragraph (d)(2)(iii) of this section.

(4) Any party who wishes to seek judicial review of an official's decision must first exhaust administrative remedies under 25 CFR part 2.

**25 C.F.R. § 151.13**  
**§ 151.13 Title review.**  
**Effective: May 16, 2016**

(a) If the Secretary determines that she will approve a request for the acquisition of land from unrestricted fee status to trust status, she shall require the applicant to furnish title evidence as follows:

(1) The deed or other conveyance instrument providing evidence of the applicant's title or, if the applicant does not yet have title, the deed providing evidence of the transferor's title and a written agreement or affidavit from the transferor, that title will be transferred to the United States on behalf of the applicant to complete the acquisition in trust; and

(2) Either:

(i) A current title insurance commitment; or

(ii) The policy of title insurance issued to the applicant or current owner and an abstract of title dating from the time the policy of title insurance was issued to the applicant or current owner to the present.

(3) The applicant may choose to provide title evidence meeting the title standards issued by the U.S. Department of Justice, in lieu of the evidence required by paragraph (a)(2) of this section.

(b) After reviewing submitted title evidence, the Secretary shall notify the applicant of any liens, encumbrances, or infirmities that the Secretary identified and may seek additional information from the applicant needed to address such issues. The Secretary may require the elimination of any such liens, encumbrances, or infirmities prior to taking final approval action on the acquisition, and she shall require elimination prior to such approval if she determines that the liens, encumbrances or infirmities make title to the land unmarketable.

**000012**

**25 C.F.R. § 292.2**  
**§ 292.2 How are key terms defined in this part?**  
**Effective: June 19, 2008**

For purposes of this part, all terms have the same meaning as set forth in the definitional section of IGRA, 25 U.S.C. 2703. In addition, the following terms have the meanings given in this section.

Appropriate State and local officials means the Governor of the State and local government officials within a 25-mile radius of the proposed gaming establishment.

BIA means Bureau of Indian Affairs.

Contiguous means two parcels of land having a common boundary notwithstanding the existence of non-navigable waters or a public road or right-of-way and includes parcels that touch at a point.

Former reservation means lands in Oklahoma that are within the exterior boundaries of the last reservation that was established by treaty, Executive Order, or Secretarial Order for an Oklahoma tribe.

IGRA means the Indian Gaming Regulatory Act of 1988, as amended and codified at 25 U.S.C. 2701-2721.

Indian tribe or tribe means any Indian tribe, band, nation, or other organized group or community of Indians that is recognized by the Secretary as having a government-to-government relationship with the United States and is eligible for the special programs and services provided by the United States to Indians because of their status as Indians, as evidenced by inclusion of the tribe on the list of recognized tribes published by the Secretary under 25 U.S.C. 479a-1.

Land claim means any claim by a tribe concerning the impairment of title or other real property interest or loss of possession that:

- (1) Arises under the United States Constitution, Federal common law, Federal statute or treaty;
- (2) Is in conflict with the right, or title or other real property interest claimed by an

individual or entity (private, public, or governmental); and

(3) Either accrued on or before October 17, 1988, or involves lands held in trust or restricted fee for the tribe prior to October 17, 1988.

Legislative termination means Federal legislation that specifically terminates or prohibits the government-to-government relationship with an Indian tribe or that otherwise specifically denies the tribe, or its members, access to or eligibility for government services.

Nearby Indian tribe means an Indian tribe with tribal Indian lands located within a 25-mile radius of the location of the proposed gaming establishment, or, if the tribe has no trust lands, within a 25-mile radius of its government headquarters.

Newly acquired lands means land that has been taken, or will be taken, in trust for the benefit of an Indian tribe by the United States after October 17, 1988.

Office of Indian Gaming means the office within the Office of the Assistant Secretary-Indian Affairs, within the Department of the Interior.

Regional Director means the official in charge of the BIA Regional Office responsible for BIA activities within the geographical area where the proposed gaming establishment is to be located.

Reservation means:

(1) Land set aside by the United States by final ratified treaty, agreement, Executive Order, Proclamation, Secretarial Order or Federal statute for the tribe, notwithstanding the issuance of any patent;

(2) Land of Indian colonies and rancherias (including rancherias restored by judicial action) set aside by the United States for the permanent settlement of the Indians as its homeland;

(3) Land acquired by the United States to reorganize adult Indians pursuant to statute; or

(4) Land acquired by a tribe through a grant from a sovereign, including pueblo lands, which is subject to a Federal restriction against alienation.

Secretarial Determination means a two-part determination that a gaming establishment on newly acquired lands:

- (1) Would be in the best interest of the Indian tribe and its members; and
- (2) Would not be detrimental to the surrounding community.

Secretary means the Secretary of the Interior or authorized representative.

Significant historical connection means the land is located within the boundaries of the tribe's last reservation under a ratified or unratified treaty, or a tribe can demonstrate by historical documentation the existence of the tribe's villages, burial grounds, occupancy or subsistence use in the vicinity of the land.

Surrounding community means local governments and nearby Indian tribes located within a 25-mile radius of the site of the proposed gaming establishment. A local government or nearby Indian tribe located beyond the 25-mile radius may petition for consultation if it can establish that its governmental functions, infrastructure or services will be directly, immediately and significantly impacted by the proposed gaming establishment.

**25 C.F.R. § 292.13**

**§ 292.13 When can a tribe conduct gaming activities on newly acquired lands that do not qualify under one of the exceptions in subpart B of this part?**

A tribe may conduct gaming on newly acquired lands that do not meet the criteria in subpart B of this part only after all of the following occur:

- (a) The tribe asks the Secretary in writing to make a Secretarial Determination that a gaming establishment on land subject to this part is in the best interest of the tribe and its members and not detrimental to the surrounding community;
- (b) The Secretary consults with the tribe and appropriate State and local officials, including officials of other nearby Indian tribes;
- (c) The Secretary makes a determination that a gaming establishment on newly acquired lands would be in the best interest of the tribe and its members and would not be detrimental to the surrounding community; and
- (d) The Governor of the State in which the gaming establishment is located concurs in the Secretary's Determination (25 U.S.C. 2719(b)(1)(A)).

**40 C.F.R. § 93.158**

**§ 93.158 Criteria for determining conformity of general Federal actions.**

**Effective: July 6, 2010**

(a) An action required under § 93.153 to have a conformity determination for a specific pollutant, will be determined to conform to the applicable SIP if, for each pollutant that exceeds the rates in § 93.153(b), or otherwise requires a conformity determination due to the total of direct and indirect emissions from the action, the action meets the requirements of paragraph (c) of this section, and meets any of the following requirements:

(1) For any criteria pollutant or precursor, the total of direct and indirect emissions from the action are specifically identified and accounted for in the applicable SIP's attainment or maintenance demonstration or reasonable further progress milestone or in a facility-wide emission budget included in a SIP in accordance with § 93.161;

(2) For precursors of ozone, nitrogen dioxide, or PM, the total of direct and indirect emissions from the action are fully offset within the same nonattainment or maintenance area (or nearby area of equal or higher classification provided the emissions from that area contribute to the violations, or have contributed to violations in the past, in the area with the Federal action) through a revision to the applicable SIP or a similarly enforceable measure that effects emissions reductions so that there is no net increase in emissions of that pollutant;

(3) For any directly-emitted criteria pollutant, the total of direct and indirect emissions from the action meets the requirements:

(i) Specified in paragraph (b) of this section, based on areawide air quality modeling analysis and local air quality modeling analysis; or

(ii) Meet the requirements of paragraph (a)(5) of this section and, for local air quality modeling analysis, the requirement of paragraph (b) of this section;

(4) For CO or directly emitted PM-

(i) Where the State agency primarily responsible for the applicable SIP determines that an areawide air quality modeling analysis is not needed, the total of direct and indirect emissions from the action meet the requirements specified in paragraph (b)

**000017**

of this section, based on local air quality modeling analysis; or

(ii) Where the State agency primarily responsible for the applicable SIP determines that an areawide air quality modeling analysis is appropriate and that a local air quality modeling analysis is not needed, the total of direct and indirect emissions from the action meet the requirements specified in paragraph (b) of this section, based on areawide modeling, or meet the requirements of paragraph (a)(5) of this section; or

(5) For ozone or nitrogen dioxide, and for purposes of paragraphs (a)(3)(ii) and (a)(4)(ii) of this section, each portion of the action or the action as a whole meets any of the following requirements:

(i) Where EPA has approved a revision to the applicable implementation plan after the area was designated as nonattainment and the State or Tribe makes a determination as provided in paragraph (a)(5)(i)(A) of this section or where the State or Tribe makes a commitment as provided in paragraph (a)(5)(i)(B) of this section:

(A) The total of direct and indirect emissions from the action (or portion thereof) is determined and documented by the State agency primarily responsible for the applicable SIP to result in a level of emissions which, together with all other emissions in the nonattainment (or maintenance) area, would not exceed the emissions budgets specified in the applicable SIP;

(B) The total of direct and indirect emissions from the action (or portion thereof) is determined by the State agency responsible for the applicable SIP to result in a level of emissions which, together with all other emissions in the nonattainment (or maintenance) area, would exceed an emissions budget specified in the applicable SIP and the State Governor or the Governor's designee for SIP actions makes a written commitment to EPA which includes the following:

(1) A specific schedule for adoption and submittal of a revision to the SIP which would achieve the needed emission reductions prior to the time emissions from the Federal action would occur;

(2) Identification of specific measures for incorporation into the SIP which would result in a level of emissions which, together with all other emissions in the nonattainment or maintenance area, would not exceed any emissions budget



specified in the applicable SIP;

(3) A demonstration that all existing applicable SIP requirements are being implemented in the area for the pollutants affected by the Federal action, and that local authority to implement additional requirements has been fully pursued;

(4) A determination that the responsible Federal agencies have required all reasonable mitigation measures associated with their action; and

(5) Written documentation including all air quality analyses supporting the conformity determination;

(C) Where a Federal agency made a conformity determination based on a State's or Tribe's commitment under paragraph (a)(5)(i)(B) of this section and the State has submitted a SIP or TIP to EPA covering the time period during which the emissions will occur or is scheduled to submit such a SIP or TIP within 18 months of the conformity determination, the State commitment is automatically deemed a call for a SIP or TIP revision by EPA under section 110(k)(5) of the Act, effective on the date of the Federal conformity determination and requiring response within 18 months or any shorter time within which the State or Tribe commits to revise the applicable SIP;

(D) Where a Federal agency made a conformity determination based on a State or tribal commitment under paragraph (a)(5)(i)(B) of this section and the State or Tribe has not submitted a SIP covering the time period when the emissions will occur or is not scheduled to submit such a SIP within 18 months of the conformity determination, the State or Tribe must, within 18 months, submit to EPA a revision to the existing SIP committing to include the emissions in the future SIP revision.

(ii) The action (or portion thereof), as determined by the MPO, is specifically included in a current transportation plan and transportation improvement program which have been found to conform to the applicable SIP under 40 CFR part 51, subpart T, or 40 CFR part 93, subpart A;

(iii) The action (or portion thereof) fully offsets its emissions within the same nonattainment or maintenance area (or nearby area of equal or higher classification provided the emissions from that area contribute to the violations, or have contributed to violation in the past, in the area with the Federal action) through a revision to the applicable SIP or an equally enforceable measure that effects

emissions reductions equal to or greater than the total of direct and indirect emissions from the action so that there is no net increase in emissions of that pollutant;

(iv) Where EPA has not approved a revision to the relevant SIP since the area was designated or reclassified, the total of direct and indirect emissions from the action for the future years (described in § 93.159(d)) do not increase emissions with respect to the baseline emissions:

(A) The baseline emissions reflect the historical activity levels that occurred in the geographic area affected by the proposed Federal action during:

(1) The most current calendar year with a complete emission inventory available before an area is designated unless EPA sets another year; or

(2) The emission budget in the applicable SIP;

(3) The year of the baseline inventory in the PM-10 applicable SIP;

(B) The baseline emissions are the total of direct and indirect emissions calculated for the future years (described in § 93.159(d)) using the historic activity levels (described in paragraph (a)(5)(iv)(A) of this section) and appropriate emission factors for the future years; or

(v) Where the action involves regional water and/or wastewater projects, such projects are sized to meet only the needs of population projections that are in the applicable SIP.

(b) The areawide and/or local air quality modeling analyses must:

(1) Meet the requirements in § 93.159; and

(2) Show that the action does not:

(i) Cause or contribute to any new violation of any standard in any area; or

(ii) Increase the frequency or severity of any existing violation of any standard in any area.

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(c) Notwithstanding any other requirements of this section, an action subject to this subpart may not be determined to conform to the applicable SIP unless the total of direct and indirect emissions from the action is in compliance or consistent with all relevant requirements and milestones contained in the applicable SIP, such as elements identified as part of the reasonable further progress schedules, assumptions specified in the attainment or maintenance demonstration, prohibitions, numerical emission limits, and work practice requirements.

(d) Any analyses required under this section must be completed, and any mitigation requirements necessary for a finding of conformity must be identified before the determination of conformity is made.

**40 C.F.R. § 1502.13**  
**§ 1502.13 Purpose and need.**

The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.

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**40 C.F.R. § 1502.14**

**§ 1502.14 Alternatives including the proposed action.**

This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (§ 1502.15) and the Environmental Consequences (§ 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
- (d) Include the alternative of no action.
- (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
- (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

**40 C.F.R. § 1502.16**  
**§ 1502.16 Environmental consequences.**

This section forms the scientific and analytic basis for the comparisons under § 1502.14 It shall consolidate the discussions of those elements required by sections 102(2)(C)(i), (ii), (iv), and (v) of NEPA which are within the scope of the statement and as much of section 102(2)(C)(iii) as is necessary to support the comparisons. The discussion will include the environmental impacts of the alternatives including the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented. This section should not duplicate discussions in § 1502.14 It shall include discussions of:

- (a) Direct effects and their significance (§ 1508.8).
- (b) Indirect effects and their significance (§ 1508.8).
- (c) Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned. (See § 1506.2(d))
- (d) The environmental effects of alternatives including the proposed action. The comparisons under § 1502.14 will be based on this discussion.
- (e) Energy requirements and conservation potential of various alternatives and mitigation measures.
- (f) Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.
- (g) Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures.
- (h) Means to mitigate adverse environmental impacts (if not fully covered under § 1502.14(f)).

**40 C.F.R. § 1506.5**  
**§ 1506.5 Agency responsibility.**

(a) Information. If an agency requires an applicant to submit environmental information for possible use by the agency in preparing an environmental impact statement, then the agency should assist the applicant by outlining the types of information required. The agency shall independently evaluate the information submitted and shall be responsible for its accuracy. If the agency chooses to use the information submitted by the applicant in the environmental impact statement, either directly or by reference, then the names of the persons responsible for the independent evaluation shall be included in the list of preparers (§ 1502.17). It is the intent of this paragraph that acceptable work not be redone, but that it be verified by the agency.

(b) Environmental assessments. If an agency permits an applicant to prepare an environmental assessment, the agency, besides fulfilling the requirements of paragraph (a) of this section, shall make its own evaluation of the environmental issues and take responsibility for the scope and content of the environmental assessment.

(c) Environmental impact statements. Except as provided in §§ 1506.2 and 1506.3 any environmental impact statement prepared pursuant to the requirements of NEPA shall be prepared directly by or by a contractor selected by the lead agency or where appropriate under § 1501.6(b), a cooperating agency. It is the intent of these regulations that the contractor be chosen solely by the lead agency, or by the lead agency in cooperation with cooperating agencies, or where appropriate by a cooperating agency to avoid any conflict of interest. Contractors shall execute a disclosure statement prepared by the lead agency, or where appropriate the cooperating agency, specifying that they have no financial or other interest in the outcome of the project. If the document is prepared by contract, the responsible Federal official shall furnish guidance and participate in the preparation and shall independently evaluate the statement prior to its approval and take responsibility for its scope and contents. Nothing in this section is intended to prohibit any agency from requesting any person to submit information to it or to prohibit any person from submitting information to any agency.

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**40 C.F.R. § 1508.27**  
**§ 1508.27 Significantly.**

Significantly as used in NEPA requires considerations of both context and intensity:

(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

(2) The degree to which the proposed action affects public health or safety.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be



avoided by terming an action temporary or by breaking it down into small component parts.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

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**UNITED STATES CODE ANNOTATED**

**5 U.S.C.A. § 701**

**§ 701. Application; definitions**

(a) This chapter applies, according to the provisions thereof, except to the extent that--

- (1) statutes preclude judicial review; or
- (2) agency action is committed to agency discretion by law.

(b) For the purpose of this chapter--

(1) “agency” means each authority of the Government of the United States, whether or not it is within or subject to review by another agency, but does not include--

- (A) the Congress;
  - (B) the courts of the United States;
  - (C) the governments of the territories or possessions of the United States;
  - (D) the government of the District of Columbia;
  - (E) agencies composed of representatives of the parties or of representatives of organizations of the parties to the disputes determined by them;
  - (F) courts martial and military commissions;
  - (G) military authority exercised in the field in time of war or in occupied territory;
- or

(H) functions conferred by sections 1738, 1739, 1743, and 1744 of title 12; subchapter II of chapter 471 of title 49; or sections 1884, 1891-1902, and former section 1641(b)(2), of title 50, appendix;1 and

(2) “person”, “rule”, “order”, “license”, “sanction”, “relief”, and “agency action” have the meanings given them by section 551 of this title.

**5 U.S.C.A. § 702**  
**§ 702. Right of review**

A person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof. An action in a court of the United States seeking relief other than money damages and stating a claim that an agency or an officer or employee thereof acted or failed to act in an official capacity or under color of legal authority shall not be dismissed nor relief therein be denied on the ground that it is against the United States or that the United States is an indispensable party. The United States may be named as a defendant in any such action, and a judgment or decree may be entered against the United States: Provided, That any mandatory or injunctive decree shall specify the Federal officer or officers (by name or by title), and their successors in office, personally responsible for compliance. Nothing herein (1) affects other limitations on judicial review or the power or duty of the court to dismiss any action or deny relief on any other appropriate legal or equitable ground; or (2) confers authority to grant relief if any other statute that grants consent to suit expressly or impliedly forbids the relief which is sought.

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**5 U.S.C.A. § 706**  
**§ 706. Scope of review**

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall--

- (1) compel agency action unlawfully withheld or unreasonably delayed; and
- (2) hold unlawful and set aside agency action, findings, and conclusions found to be--
  - (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;
  - (B) contrary to constitutional right, power, privilege, or immunity;
  - (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;
  - (D) without observance of procedure required by law;
  - (E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or
  - (F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or

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those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

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**25 U.S.C.A. § 2701**  
**§ 2701. Findings**

The Congress finds that--

(1) numerous Indian tribes have become engaged in or have licensed gaming activities on Indian lands as a means of generating tribal governmental revenue;

(2) Federal courts have held that section 81 of this title requires Secretarial review of management contracts dealing with Indian gaming, but does not provide standards for approval of such contracts;

(3) existing Federal law does not provide clear standards or regulations for the conduct of gaming on Indian lands;

(4) a principal goal of Federal Indian policy is to promote tribal economic development, tribal self-sufficiency, and strong tribal government; and

(5) Indian tribes have the exclusive right to regulate gaming activity on Indian lands if the gaming activity is not specifically prohibited by Federal law and is conducted within a State which does not, as a matter of criminal law and public policy, prohibit such gaming activity.

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**25 U.S.C.A. § 2710**  
**§ 2710. Tribal gaming ordinances**

(a) Jurisdiction over class I and class II gaming activity

(1) Class I gaming on Indian lands is within the exclusive jurisdiction of the Indian tribes and shall not be subject to the provisions of this chapter.

(2) Any class II gaming on Indian lands shall continue to be within the jurisdiction of the Indian tribes, but shall be subject to the provisions of this chapter.

(b) Regulation of class II gaming activity; net revenue allocation; audits; contracts

(1) An Indian tribe may engage in, or license and regulate, class II gaming on Indian lands within such tribe's jurisdiction, if--

(A) such Indian gaming is located within a State that permits such gaming for any purpose by any person, organization or entity (and such gaming is not otherwise specifically prohibited on Indian lands by Federal law), and

(B) the governing body of the Indian tribe adopts an ordinance or resolution which is approved by the Chairman.

A separate license issued by the Indian tribe shall be required for each place, facility, or location on Indian lands at which class II gaming is conducted.

(2) The Chairman shall approve any tribal ordinance or resolution concerning the conduct, or regulation of class II gaming on the Indian lands within the tribe's jurisdiction if such ordinance or resolution provides that--

(A) except as provided in paragraph (4), the Indian tribe will have the sole proprietary interest and responsibility for the conduct of any gaming activity;

(B) net revenues from any tribal gaming are not to be used for purposes other than--

(i) to fund tribal government operations or programs;

(ii) to provide for the general welfare of the Indian tribe and its members;

(iii) to promote tribal economic development;

(iv) to donate to charitable organizations; or

(v) to help fund operations of local government agencies;

(C) annual outside audits of the gaming, which may be encompassed within existing independent tribal audit systems, will be provided by the Indian tribe to the Commission;

(D) all contracts for supplies, services, or concessions for a contract amount in excess of \$25,000 annually (except contracts for professional legal or accounting services) relating to such gaming shall be subject to such independent audits;

(E) the construction and maintenance of the gaming facility, and the operation of that gaming is conducted in a manner which adequately protects the environment

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and the public health and safety; and

(F) there is an adequate system which--

(i) ensures that background investigations are conducted on the primary management officials and key employees of the gaming enterprise and that oversight of such officials and their management is conducted on an ongoing basis; and

(ii) includes--

(I) tribal licenses for primary management officials and key employees of the gaming enterprise with prompt notification to the Commission of the issuance of such licenses;

(II) a standard whereby any person whose prior activities, criminal record, if any, or reputation, habits and associations pose a threat to the public interest or to the effective regulation of gaming, or create or enhance the dangers of unsuitable, unfair, or illegal practices and methods and activities in the conduct of gaming shall not be eligible for employment; and

(III) notification by the Indian tribe to the Commission of the results of such background check before the issuance of any of such licenses.

(3) Net revenues from any class II gaming activities conducted or licensed by any Indian tribe may be used to make per capita payments to members of the Indian tribe only if--

(A) the Indian tribe has prepared a plan to allocate revenues to uses authorized by paragraph (2)(B);

(B) the plan is approved by the Secretary as adequate, particularly with respect to uses described in clause (i) or (iii) of paragraph (2)(B);

(C) the interests of minors and other legally incompetent persons who are entitled to receive any of the per capita payments are protected and preserved and the per capita payments are disbursed to the parents or legal guardian of such minors or legal incompetents in such amounts as may be necessary for the health, education, or welfare, of the minor or other legally incompetent person under a plan approved by the Secretary and the governing body of the Indian tribe; and

(D) the per capita payments are subject to Federal taxation and tribes notify members of such tax liability when payments are made.

(4)(A) A tribal ordinance or resolution may provide for the licensing or regulation of class II gaming activities owned by any person or entity other than the Indian tribe and conducted on Indian lands, only if the tribal licensing requirements include the requirements described in the subclauses of subparagraph (B)(i) and are at least as restrictive as those established by State law governing similar gaming within the jurisdiction of the State within which such Indian lands are located. No person or entity, other than the Indian tribe, shall be eligible to receive a tribal



license to own a class II gaming activity conducted on Indian lands within the jurisdiction of the Indian tribe if such person or entity would not be eligible to receive a State license to conduct the same activity within the jurisdiction of the State.

(B)(i) The provisions of subparagraph (A) of this paragraph and the provisions of subparagraphs (A) and (B) of paragraph (2) shall not bar the continued operation of an individually owned class II gaming operation that was operating on September 1, 1986, if--

(I) such gaming operation is licensed and regulated by an Indian tribe pursuant to an ordinance reviewed and approved by the Commission in accordance with section 2712 of this title,

(II) income to the Indian tribe from such gaming is used only for the purposes described in paragraph (2)(B) of this subsection,

(III) not less than 60 percent of the net revenues is income to the Indian tribe, and

(IV) the owner of such gaming operation pays an appropriate assessment to the National Indian Gaming Commission under section 2717(a)(1) of this title for regulation of such gaming.

(ii) The exemption from the application of this subsection provided under this subparagraph may not be transferred to any person or entity and shall remain in effect only so long as the gaming activity remains within the same nature and scope as operated on October 17, 1988.

(iii) Within sixty days of October 17, 1988, the Secretary shall prepare a list of each individually owned gaming operation to which clause (i) applies and shall publish such list in the Federal Register.

(c) Issuance of gaming license; certificate of self-regulation

(1) The Commission may consult with appropriate law enforcement officials concerning gaming licenses issued by an Indian tribe and shall have thirty days to notify the Indian tribe of any objections to issuance of such license.

(2) If, after the issuance of a gaming license by an Indian tribe, reliable information is received from the Commission indicating that a primary management official or key employee does not meet the standard established under subsection

(b)(2)(F)(ii)(II) of this section, the Indian tribe shall suspend such license and, after notice and hearing, may revoke such license.

(3) Any Indian tribe which operates a class II gaming activity and which--

(A) has continuously conducted such activity for a period of not less than three years, including at least one year after October 17, 1988; and

(B) has otherwise complied with the provisions of this section 1

may petition the Commission for a certificate of self-regulation.

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(4) The Commission shall issue a certificate of self-regulation if it determines from available information, and after a hearing if requested by the tribe, that the tribe has--

(A) conducted its gaming activity in a manner which--

(i) has resulted in an effective and honest accounting of all revenues;

(ii) has resulted in a reputation for safe, fair, and honest operation of the activity; and

(iii) has been generally free of evidence of criminal or dishonest activity;

(B) adopted and is implementing adequate systems for--

(i) accounting for all revenues from the activity;

(ii) investigation, licensing, and monitoring of all employees of the gaming activity; and

(iii) investigation, enforcement and prosecution of violations of its gaming ordinance and regulations; and

(C) conducted the operation on a fiscally and economically sound basis.

(5) During any year in which a tribe has a certificate for self-regulation--

(A) the tribe shall not be subject to the provisions of paragraphs (1), (2), (3), and (4) of section 2706 (b) of this title;

(B) the tribe shall continue to submit an annual independent audit as required by subsection (b)(2)(C) of this section and shall submit to the Commission a complete resume on all employees hired and licensed by the tribe subsequent to the issuance of a certificate of self-regulation; and

(C) the Commission may not assess a fee on such activity pursuant to section 2717 of this title in excess of one quarter of 1 per centum of the gross revenue.

(6) The Commission may, for just cause and after an opportunity for a hearing, remove a certificate of self-regulation by majority vote of its members.

(d) Class III gaming activities; authorization; revocation; Tribal-State compact

(1) Class III gaming activities shall be lawful on Indian lands only if such activities are--

(A) authorized by an ordinance or resolution that--

(i) is adopted by the governing body of the Indian tribe having jurisdiction over such lands,

(ii) meets the requirements of subsection (b) of this section, and

(iii) is approved by the Chairman,

(B) located in a State that permits such gaming for any purpose by any person, organization, or entity, and

(C) conducted in conformance with a Tribal-State compact entered into by the Indian tribe and the State under paragraph (3) that is in effect.

(2)(A) If any Indian tribe proposes to engage in, or to authorize any person or

entity to engage in, a class III gaming activity on Indian lands of the Indian tribe, the governing body of the Indian tribe shall adopt and submit to the Chairman an ordinance or resolution that meets the requirements of subsection (b) of this section.

(B) The Chairman shall approve any ordinance or resolution described in subparagraph (A), unless the Chairman specifically determines that--

(i) the ordinance or resolution was not adopted in compliance with the governing documents of the Indian tribe, or

(ii) the tribal governing body was significantly and unduly influenced in the adoption of such ordinance or resolution by any person identified in section 2711(e)(1)(D) of this title.

Upon the approval of such an ordinance or resolution, the Chairman shall publish in the Federal Register such ordinance or resolution and the order of approval.

(C) Effective with the publication under subparagraph (B) of an ordinance or resolution adopted by the governing body of an Indian tribe that has been approved by the Chairman under subparagraph (B), class III gaming activity on the Indian lands of the Indian tribe shall be fully subject to the terms and conditions of the Tribal-State compact entered into under paragraph (3) by the Indian tribe that is in effect.

(D)(i) The governing body of an Indian tribe, in its sole discretion and without the approval of the Chairman, may adopt an ordinance or resolution revoking any prior ordinance or resolution that authorized class III gaming on the Indian lands of the Indian tribe. Such revocation shall render class III gaming illegal on the Indian lands of such Indian tribe.

(ii) The Indian tribe shall submit any revocation ordinance or resolution described in clause (i) to the Chairman. The Chairman shall publish such ordinance or resolution in the Federal Register and the revocation provided by such ordinance or resolution shall take effect on the date of such publication.

(iii) Notwithstanding any other provision of this subsection--

(I) any person or entity operating a class III gaming activity pursuant to this paragraph on the date on which an ordinance or resolution described in clause (i) that revokes authorization for such class III gaming activity is published in the Federal Register may, during the 1-year period beginning on the date on which such revocation ordinance or resolution is published under clause (ii), continue to operate such activity in conformance with the Tribal-State compact entered into under paragraph (3) that is in effect, and

(II) any civil action that arises before, and any crime that is committed before, the close of such 1-year period shall not be affected by such revocation ordinance or

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resolution.

(3)(A) Any Indian tribe having jurisdiction over the Indian lands upon which a class III gaming activity is being conducted, or is to be conducted, shall request the State in which such lands are located to enter into negotiations for the purpose of entering into a Tribal-State compact governing the conduct of gaming activities. Upon receiving such a request, the State shall negotiate with the Indian tribe in good faith to enter into such a compact.

(B) Any State and any Indian tribe may enter into a Tribal-State compact governing gaming activities on the Indian lands of the Indian tribe, but such compact shall take effect only when notice of approval by the Secretary of such compact has been published by the Secretary in the Federal Register.

(C) Any Tribal-State compact negotiated under subparagraph (A) may include provisions relating to--

- (i) the application of the criminal and civil laws and regulations of the Indian tribe or the State that are directly related to, and necessary for, the licensing and regulation of such activity;
- (ii) the allocation of criminal and civil jurisdiction between the State and the Indian tribe necessary for the enforcement of such laws and regulations;
- (iii) the assessment by the State of such activities in such amounts as are necessary to defray the costs of regulating such activity;
- (iv) taxation by the Indian tribe of such activity in amounts comparable to amounts assessed by the State for comparable activities;
- (v) remedies for breach of contract;
- (vi) standards for the operation of such activity and maintenance of the gaming facility, including licensing; and
- (vii) any other subjects that are directly related to the operation of gaming activities.

(4) Except for any assessments that may be agreed to under paragraph (3)(C)(iii) of this subsection, nothing in this section shall be interpreted as conferring upon a State or any of its political subdivisions authority to impose any tax, fee, charge, or other assessment upon an Indian tribe or upon any other person or entity authorized by an Indian tribe to engage in a class III activity. No State may refuse to enter into the negotiations described in paragraph (3)(A) based upon the lack of authority in such State, or its political subdivisions, to impose such a tax, fee, charge, or other assessment.

(5) Nothing in this subsection shall impair the right of an Indian tribe to regulate class III gaming on its Indian lands concurrently with the State, except to the extent that such regulation is inconsistent with, or less stringent than, the State laws and regulations made applicable by any Tribal-State compact entered into by the Indian

tribe under paragraph (3) that is in effect.

(6) The provisions of section 1175 of Title 15 shall not apply to any gaming conducted under a Tribal-State compact that--

(A) is entered into under paragraph (3) by a State in which gambling devices are legal, and

(B) is in effect.

(7)(A) The United States district courts shall have jurisdiction over--

(i) any cause of action initiated by an Indian tribe arising from the failure of a State to enter into negotiations with the Indian tribe for the purpose of entering into a Tribal-State compact under paragraph (3) or to conduct such negotiations in good faith,

(ii) any cause of action initiated by a State or Indian tribe to enjoin a class III gaming activity located on Indian lands and conducted in violation of any Tribal-State compact entered into under paragraph (3) that is in effect, and

(iii) any cause of action initiated by the Secretary to enforce the procedures prescribed under subparagraph (B)(vii).

(B)(i) An Indian tribe may initiate a cause of action described in subparagraph (A)(i) only after the close of the 180-day period beginning on the date on which the Indian tribe requested the State to enter into negotiations under paragraph (3)(A).

(ii) In any action described in subparagraph (A)(i), upon the introduction of evidence by an Indian tribe that--

(I) a Tribal-State compact has not been entered into under paragraph (3), and

(II) the State did not respond to the request of the Indian tribe to negotiate such a compact or did not respond to such request in good faith,

the burden of proof shall be upon the State to prove that the State has negotiated with the Indian tribe in good faith to conclude a Tribal-State compact governing the conduct of gaming activities.

(iii) If, in any action described in subparagraph (A)(i), the court finds that the State has failed to negotiate in good faith with the Indian tribe to conclude a Tribal-State compact governing the conduct of gaming activities, the court shall order the State and the Indian Tribe<sup>2</sup> to conclude such a compact within a 60-day period. In determining in such an action whether a State has negotiated in good faith, the court--

(I) may take into account the public interest, public safety, criminality, financial integrity, and adverse economic impacts on existing gaming activities, and

(II) shall consider any demand by the State for direct taxation of the Indian tribe or of any Indian lands as evidence that the State has not negotiated in good faith.

(iv) If a State and an Indian tribe fail to conclude a Tribal-State compact governing

the conduct of gaming activities on the Indian lands subject to the jurisdiction of such Indian tribe within the 60-day period provided in the order of a court issued under clause (iii), the Indian tribe and the State shall each submit to a mediator appointed by the court a proposed compact that represents their last best offer for a compact. The mediator shall select from the two proposed compacts the one which best comports with the terms of this chapter and any other applicable Federal law and with the findings and order of the court.

(v) The mediator appointed by the court under clause (iv) shall submit to the State and the Indian tribe the compact selected by the mediator under clause (iv).

(vi) If a State consents to a proposed compact during the 60-day period beginning on the date on which the proposed compact is submitted by the mediator to the State under clause (v), the proposed compact shall be treated as a Tribal-State compact entered into under paragraph (3).

(vii) If the State does not consent during the 60-day period described in clause (vi) to a proposed compact submitted by a mediator under clause (v), the mediator shall notify the Secretary and the Secretary shall prescribe, in consultation with the Indian tribe, procedures--

(I) which are consistent with the proposed compact selected by the mediator under clause (iv), the provisions of this chapter, and the relevant provisions of the laws of the State, and

(II) under which class III gaming may be conducted on the Indian lands over which the Indian tribe has jurisdiction.

(8)(A) The Secretary is authorized to approve any Tribal-State compact entered into between an Indian tribe and a State governing gaming on Indian lands of such Indian tribe.

(B) The Secretary may disapprove a compact described in subparagraph (A) only if such compact violates--

(i) any provision of this chapter,

(ii) any other provision of Federal law that does not relate to jurisdiction over gaming on Indian lands, or

(iii) the trust obligations of the United States to Indians.

(C) If the Secretary does not approve or disapprove a compact described in subparagraph (A) before the date that is 45 days after the date on which the compact is submitted to the Secretary for approval, the compact shall be considered to have been approved by the Secretary, but only to the extent the compact is consistent with the provisions of this chapter.

(D) The Secretary shall publish in the Federal Register notice of any Tribal-State compact that is approved, or considered to have been approved, under this paragraph.



(9) An Indian tribe may enter into a management contract for the operation of a class III gaming activity if such contract has been submitted to, and approved by, the Chairman. The Chairman's review and approval of such contract shall be governed by the provisions of subsections (b), (c), (d), (f), (g), and (h) of section 2711 of this title.

(e) Approval of ordinances

For purposes of this section, by not later than the date that is 90 days after the date on which any tribal gaming ordinance or resolution is submitted to the Chairman, the Chairman shall approve such ordinance or resolution if it meets the requirements of this section. Any such ordinance or resolution not acted upon at the end of that 90-day period shall be considered to have been approved by the Chairman, but only to the extent such ordinance or resolution is consistent with the provisions of this chapter.

**25 U.S.C.A. § 2719**

**§ 2719. Gaming on lands acquired after October 17, 1988**

(a) Prohibition on lands acquired in trust by Secretary

Except as provided in subsection (b) of this section, gaming regulated by this chapter shall not be conducted on lands acquired by the Secretary in trust for the benefit of an Indian tribe after October 17, 1988, unless--

(1) such lands are located within or contiguous to the boundaries of the reservation of the Indian tribe on October 17, 1988; or

(2) the Indian tribe has no reservation on October 17, 1988, and--

(A) such lands are located in Oklahoma and--

(i) are within the boundaries of the Indian tribe's former reservation, as defined by the Secretary, or

(ii) are contiguous to other land held in trust or restricted status by the United States for the Indian tribe in Oklahoma; or

(B) such lands are located in a State other than Oklahoma and are within the Indian tribe's last recognized reservation within the State or States within which such Indian tribe is presently located.

(b) Exceptions

(1) Subsection (a) of this section will not apply when--

(A) the Secretary, after consultation with the Indian tribe and appropriate State and local officials, including officials of other nearby Indian tribes, determines that a gaming establishment on newly acquired lands would be in the best interest of the Indian tribe and its members, and would not be detrimental to the surrounding community, but only if the Governor of the State in which the gaming activity is to be conducted concurs in the Secretary's determination; or

(B) lands are taken into trust as part of--

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- (i) a settlement of a land claim,
- (ii) the initial reservation of an Indian tribe acknowledged by the Secretary under the Federal acknowledgment process, or
- (iii) the restoration of lands for an Indian tribe that is restored to Federal recognition.

(2) Subsection (a) of this section shall not apply to--

(A) any lands involved in the trust petition of the St. Croix Chippewa Indians of Wisconsin that is the subject of the action filed in the United States District Court for the District of Columbia entitled St. Croix Chippewa Indians of Wisconsin v. United States, Civ. No. 86-2278, or

(B) the interests of the Miccosukee Tribe of Indians of Florida in approximately 25 contiguous acres of land, more or less, in Dade County, Florida, located within one mile of the intersection of State Road Numbered 27 (also known as Krome Avenue) and the Tamiami Trail.

(3) Upon request of the governing body of the Miccosukee Tribe of Indians of Florida, the Secretary shall, notwithstanding any other provision of law, accept the transfer by such Tribe to the Secretary of the interests of such Tribe in the lands described in paragraph (2)(B) and the Secretary shall declare that such interests are held in trust by the Secretary for the benefit of such Tribe and that such interests are part of the reservation of such Tribe under sections 5108 and 5110 of this title, subject to any encumbrances and rights that are held at the time of such transfer by any person or entity other than such Tribe. The Secretary shall publish in the Federal Register the legal description of any lands that are declared held in trust by the Secretary under this paragraph.

(c) Authority of Secretary not affected

Nothing in this section shall affect or diminish the authority and responsibility of the Secretary to take land into trust.

(d) Application of Title 26

(1) The provisions of Title 26 (including sections 1441, 3402(q), 6041, and 6050I,

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and chapter 35 of such title) concerning the reporting and withholding of taxes with respect to the winnings from gaming or wagering operations shall apply to Indian gaming operations conducted pursuant to this chapter, or under a Tribal-State compact entered into under section 2710(d)(3) of this title that is in effect, in the same manner as such provisions apply to State gaming and wagering operations.

(2) The provisions of this subsection shall apply notwithstanding any other provision of law enacted before, on, or after October 17, 1988, unless such other provision of law specifically cites this subsection.

**25 U.S.C.A. § 5108**

**Formerly cited as 25 USCA §?465**

**§ 5108. Acquisition of lands, water rights or surface rights; appropriation; title to lands; tax exemption**

The Secretary of the Interior is authorized, in his discretion, to acquire, through purchase, relinquishment, gift, exchange, or assignment, any interest in lands, water rights, or surface rights to lands, within or without existing reservations, including trust or otherwise restricted allotments, whether the allottee be living or deceased, for the purpose of providing land for Indians.

For the acquisition of such lands, interests in lands, water rights, and surface rights, and for expenses incident to such acquisition, there is authorized to be appropriated, out of any funds in the Treasury not otherwise appropriated, a sum not to exceed \$2,000,000 in any one fiscal year: Provided, That no part of such funds shall be used to acquire additional land outside of the exterior boundaries of Navajo Indian Reservation for the Navajo Indians in Arizona, nor in New Mexico, in the event that legislation to define the exterior boundaries of the Navajo Indian Reservation in New Mexico, and for other purposes, or similar legislation, becomes law.

The unexpended balances of any appropriations made pursuant to this section shall remain available until expended.

Title to any lands or rights acquired pursuant to this Act or the Act of July 28, 1955 (69 Stat. 392), as amended (25 U.S.C. 608 et seq.) shall be taken in the name of the United States in trust for the Indian tribe or individual Indian for which the land is acquired, and such lands or rights shall be exempt from State and local taxation.

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**25 U.S.C.A. § 5110**  
**Formerly cited as 25 USCA §?467**  
**§ 5110. New Indian reservations**

The Secretary of the Interior is hereby authorized to proclaim new Indian reservations on lands acquired pursuant to any authority conferred by this Act, or to add such lands to existing reservations: Provided, That lands added to existing reservations shall be designated for the exclusive use of Indians entitled by enrollment or by tribal membership to residence at such reservations.

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**28 U.S.C.A. § 1291**  
**§ 1291. Final decisions of district courts**

The courts of appeals (other than the United States Court of Appeals for the Federal Circuit) shall have jurisdiction of appeals from all final decisions of the district courts of the United States, the United States District Court for the District of the Canal Zone, the District Court of Guam, and the District Court of the Virgin Islands, except where a direct review may be had in the Supreme Court. The jurisdiction of the United States Court of Appeals for the Federal Circuit shall be limited to the jurisdiction described in sections 1292(c) and (d) and 1295 of this title.

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**28 U.S.C.A. § 1331**  
**§ 1331. Federal question**

The district courts shall have original jurisdiction of all civil actions arising under the Constitution, laws, or treaties of the United States.

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**28 U.S.C.A. § 1362**  
**§ 1362. Indian tribes**

The district courts shall have original jurisdiction of all civil actions, brought by any Indian tribe or band with a governing body duly recognized by the Secretary of the Interior, wherein the matter in controversy arises under the Constitution, laws, or treaties of the United States.

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**28 U.S.C.A. § 2201**  
**§ 2201. Creation of remedy**

(a) In a case of actual controversy within its jurisdiction, except with respect to Federal taxes other than actions brought under section 7428 of the Internal Revenue Code of 1986, a proceeding under section 505 or 1146 of title 11, or in any civil action involving an antidumping or countervailing duty proceeding regarding a class or kind of merchandise of a free trade area country (as defined in section 516A(f)(10) of the Tariff Act of 1930), as determined by the administering authority, any court of the United States, upon the filing of an appropriate pleading, may declare the rights and other legal relations of any interested party seeking such declaration, whether or not further relief is or could be sought. Any such declaration shall have the force and effect of a final judgment or decree and shall be reviewable as such.

(b) For limitations on actions brought with respect to drug patents see section 505 or 512 of the Federal Food, Drug, and Cosmetic Act, or section 351 of the Public Health Service Act.

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**28 U.S.C.A. § 2409a**  
**§ 2409a. Real property quiet title actions**

(a) The United States may be named as a party defendant in a civil action under this section to adjudicate a disputed title to real property in which the United States claims an interest, other than a security interest or water rights. This section does not apply to trust or restricted Indian lands, nor does it apply to or affect actions which may be or could have been brought under sections 1346, 1347, 1491, or 2410 of this title, sections 7424, 7425, or 7426 of the Internal Revenue Code of 1986, as amended (26 U.S.C. 7424, 7425, and 7426), or section 208 of the Act of July 10, 1952 (43 U.S.C. 666).

(b) The United States shall not be disturbed in possession or control of any real property involved in any action under this section pending a final judgment or decree, the conclusion of any appeal therefrom, and sixty days; and if the final determination shall be adverse to the United States, the United States nevertheless may retain such possession or control of the real property or of any part thereof as it may elect, upon payment to the person determined to be entitled thereto of an amount which upon such election the district court in the same action shall determine to be just compensation for such possession or control.

(c) No preliminary injunction shall issue in any action brought under this section.

(d) The complaint shall set forth with particularity the nature of the right, title, or interest which the plaintiff claims in the real property, the circumstances under which it was acquired, and the right, title, or interest claimed by the United States.

(e) If the United States disclaims all interest in the real property or interest therein adverse to the plaintiff at any time prior to the actual commencement of the trial, which disclaimer is confirmed by order of the court, the jurisdiction of the district court shall cease unless it has jurisdiction of the civil action or suit on ground other than and independent of the authority conferred by section 1346(f) of this title.

(f) A civil action against the United States under this section shall be tried by the court without a jury.

(g) Any civil action under this section, except for an action brought by a State, shall be barred unless it is commenced within twelve years of the date upon which it accrued. Such action shall be deemed to have accrued on the date the plaintiff or his predecessor in interest knew or should have known of the claim of the United States.

(h) No civil action may be maintained under this section by a State with respect to defense facilities (including land) of the United States so long as the lands at issue are being used or required by the United States for national defense purposes as determined by the head of the Federal agency with jurisdiction over the lands

involved, if it is determined that the State action was brought more than twelve years after the State knew or should have known of the claims of the United States. Upon cessation of such use or requirement, the State may dispute title to such lands pursuant to the provisions of this section. The decision of the head of the Federal agency is not subject to judicial review.

(i) Any civil action brought by a State under this section with respect to lands, other than tide or submerged lands, on which the United States or its lessee or right-of-way or easement grantee has made substantial improvements or substantial investments or on which the United States has conducted substantial activities pursuant to a management plan such as range improvement, timber harvest, tree planting, mineral activities, farming, wildlife habitat improvement, or other similar activities, shall be barred unless the action is commenced within twelve years after the date the State received notice of the Federal claims to the lands.

(j) If a final determination in an action brought by a State under this section involving submerged or tide lands on which the United States or its lessee or right-of-way or easement grantee has made substantial improvements or substantial investments is adverse to the United States and it is determined that the State's action was brought more than twelve years after the State received notice of the Federal claim to the lands, the State shall take title to the lands subject to any existing lease, easement, or right-of-way. Any compensation due with respect to such lease, easement, or right-of-way shall be determined under existing law.

(k) Notice for the purposes of the accrual of an action brought by a State under this section shall be--

(1) by public communications with respect to the claimed lands which are sufficiently specific as to be reasonably calculated to put the claimant on notice of the Federal claim to the lands, or

(2) by the use, occupancy, or improvement of the claimed lands which, in the circumstances, is open and notorious.

(l) For purposes of this section, the term "tide or submerged lands" means "lands beneath navigable waters" as defined in section 2 of the Submerged Lands Act (43 U.S.C. 1301).

(m) Not less than one hundred and eighty days before bringing any action under this section, a State shall notify the head of the Federal agency with jurisdiction over the lands in question of the State's intention to file suit, the basis therefor, and a description of the lands included in the suit.

(n) Nothing in this section shall be construed to permit suits against the United States based upon adverse possession.

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**42 U.S.C.A. § 4321**

**§ 4321. Congressional declaration of purpose**

The purposes of this chapter are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

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**42 U.S.C.A. § 7401**

**§ 7401. Congressional findings and declaration of purpose**

(a) Findings

The Congress finds--

(1) that the predominant part of the Nation's population is located in its rapidly expanding metropolitan and other urban areas, which generally cross the boundary lines of local jurisdictions and often extend into two or more States;

(2) that the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation;

(3) that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source) and air pollution control at its source is the primary responsibility of States and local governments; and

(4) that Federal financial assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

(b) Declaration

The purposes of this subchapter are--

(1) to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;

(2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;

(3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and

(4) to encourage and assist the development and operation of regional air pollution prevention and control programs.

(c) Pollution prevention

A primary goal of this chapter is to encourage or otherwise promote reasonable Federal, State, and local governmental actions, consistent with the provisions of this chapter, for pollution prevention.

**STATUTES**

**PL 88-453, August 20, 1964, 78 Stat. 534  
UNITED STATES STATUTES AT LARGE  
88TH CONGRESS - 2ND SESSION  
Convening January 7, 1964**

An Act

To authorize the Secretary of the Interior to sell Enterprise Rancheria numbered 2 to the State of California, and to distribute the proceeds of the sale to Henry B. Martin, Stanley Martin, Ralph G. Martin, and Vera Martin Kiras.  
August 20, 1964

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substantial number of small businesses, small governments, or small organizations. The reasons for this conclusion are discussed in the June 30, 1992 proposal.

**List of Subjects in 40 CFR Part 180**

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: June 8, 1993.

Susan H. Wayland,  
Acting Assistant Administrator for  
Prevention, Pesticides and Toxic Substances.

Therefore, 40 CFR part 180 is amended as follows:

**PART 180—[AMENDED]**

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 346a and 371.

**§ 180.319 [Amended]**

2. In the table to § 180.319 *Interim tolerances* by removing the entry for silvex from the list.

**§ 180.340 [Removed]**

3. By removing § 180.340 *Silvex; tolerances for residues*.

[FR Doc. 93-14196 Filed 6-15-93; 8:45 am]  
BILLING CODE 6540-50-F

**FEDERAL COMMUNICATIONS COMMISSION**

**47 CFR Part 90**

[PR Docket No. 91-66; FCC 93-262]

**Private Land Mobile Radio Services; Secondary Fixed Operations in the 450-470 MHz Frequency Band**

AGENCY: Federal Communications Commission.

ACTION: Final rule; petition for reconsideration.

SUMMARY: In response to petitions for clarification received, this document clarifies frequency coordination procedures for secondary fixed operations in the 450-470 MHz band.  
EFFECTIVE DATE: June 16, 1993.

FOR FURTHER INFORMATION CONTACT: Eugene Thomson, Rules Branch, Land Mobile and Microwave Division, Private Radio Bureau, (202) 634-2443.

**SUPPLEMENTARY INFORMATION:**

Summary of Memorandum Opinion and Order

In response to petitions submitted by Forest Industries Telecommunications

(FIT) and the Manufacturers Radio Frequency Advisory Committee (MRFAC), this Memorandum Opinion and Order clarifies rules adopted in the Report and Order, PR Docket No. 91-66, 57 FR 24991, June 12, 1992, concerning the procedures frequency coordinators use when recommending frequencies in the 450-470 MHz band for secondary fixed use. It also denies the request by FIT that the Commission reconsider its decision to permit secondary fixed use of the frequencies in urban areas.

**Regulatory Flexibility Analysis**

A Final Regulatory Flexibility Analysis was prepared for the Report and Order in this proceeding. None of the rules adopted in this Memorandum Opinion and Order modify the effect this proceeding has on small businesses and it is, therefore, unnecessary for us to modify our Final Regulatory Flexibility Analysis.

**Paperwork Reduction Act Statement**

The action contained herein has been analyzed with respect to the Paperwork Reduction Act of 1980 and found to contain no new or modified form, information collecting and/or recordkeeping, labeling, disclosure, or record retention requirements, and will not increase burden hours imposed upon the public.

**List of Subjects in 47 CFR Part 90**

Radio, Secondary fixed.

**Amendatory Text**

Part 90 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

**PART 90—PRIVATE LAND MOBILE RADIO SERVICES**

1. The authority citation for part 90 continues to read:

Authority: Sections 4, 303, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, and 332, unless otherwise noted.

2. Section 90.251 is amended by revising paragraph (e) to read as follows:

§ 90.251 Assignment and use of the frequencies in the band 450-470 MHz for fixed operations.

(e) Coordination of assignable frequencies subject to the provisions of this section will be permitted by any certified frequency coordinator. If an applicant elects to obtain a frequency recommendation from the certified frequency coordinator for the service in which the applicant is eligible, the coordinator shall first attempt to recommend a frequency within the applicant's own radio service. If none

are available, the coordinator may then recommend a frequency allocated to another radio service. If an applicant elects to obtain a frequency recommendation from a certified coordinator of a service in which the applicant is not eligible, that coordinator may only recommend a frequency allocated to the service for which the coordinator is certified. If a coordinator recommends a frequency allocated to a service where the applicant is not eligible on a primary basis, or if a recommended frequency is shared by more than one radio service on a primary basis, then the coordinator must notify all coordinators certified to recommend that frequency on a primary basis. If any of these coordinators objects to a recommendation, they must notify the coordinator making the frequency recommendation of such objection within 10 working days, as calculated in accordance with § 1.4 of the Rules, from receipt of the notification. The recommending coordinator should attempt to resolve any objections raised by the notified coordinators and may not submit the application to the Commission prior to the expiration of this 10-day period.

Federal Communications Commission.  
Donna R. Searcy,  
Secretary.

[FR Doc. 93-14091 Filed 6-15-93; 8:45 am]  
BILLING CODE 6712-01-M

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Part 226**

[Docket No. 920783-3085]

**Designated Critical Habitat; Sacramento River Winter-Run Chinook Salmon**

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.  
ACTION: Final rule.

SUMMARY: NMFS is designating critical habitat for the Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha*) pursuant to the Endangered Species Act (ESA). The habitat for designation includes: The Sacramento River from Keswick Dam, Shasta County (River Mile 302) to Chipps Island (River Mile 0) at the westward margin of the Sacramento-San Joaquin Delta; all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait; all

waters of San Pablo Bay westward of the Carquinez Bridge; and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge. Maps are available on request (see ADDRESSES). In addition, the critical habitat designation identifies those physical and biological features of the habitat that are essential to the conservation of the species and that may require special management consideration or protection. The economic and other impacts resulting from this critical habitat designation, over and above those arising from the listing of the species under the ESA, are expected to be minimal. The designation of critical habitat provides explicit notice to Federal agencies and the public that these areas and features are vital to the conservation of the species.

**EFFECTIVE DATE:** July 16, 1993.

**ADDRESSES:** Requests for maps should be addressed to William W. Fox, Jr., Director, Office of Protected Resources, NMFS, 1335 East-West Highway, Silver Spring, MD 20910, or Gary Matlock, Acting Regional Director, Southwest Region, NMFS, 501 W. Ocean Blvd., suite 4200, Long Beach, CA 90802.

**FOR FURTHER INFORMATION CONTACT:** James H. Lecky, NMFS, Southwest Region, Protected Species Management Division, (310) 980-4015, or Margaret Lorenz, NMFS, Office of Protected Resources, (301) 713-2322.

**SUPPLEMENTARY INFORMATION:**

**Background**

Although winter-run chinook salmon are currently listed as threatened (55 FR 46515, November 5, 1990), NMFS published a proposed rule to reclassify the species as endangered on June 19, 1992 (57 FR 27416).

On August 14, 1992 (57 FR 36662), NMFS published a proposed rule to designate critical habitat for Sacramento River, California, winter-run chinook salmon. NMFS also completed an assessment that focused on identifying the economic consequences (costs and benefits) of implementing alternative water management strategies to achieve specific temperature and flow criteria for various alternative critical habitat designations (Final Report, Evaluation of Economic Impacts of Alternatives for Designation of Winter-run Chinook Salmon Critical Habitat in the Sacramento River, Hydrosphere Resource Consultants, July 1991). In addition, NMFS prepared an environmental assessment (EA), pursuant to the National Environmental Policy Act (NEPA), to evaluate both the

environmental and economic impacts of the proposed critical habitat designations.

NMFS is designating critical habitat for the Sacramento River winter-run chinook salmon as described in the proposed rule, excluding South San Francisco Bay. Because the area designated is consistent with the criteria established by the definition of critical habitat under section 3(5)(A) of the ESA. No significant new information regarding winter-run chinook salmon biology or Federal agency activities was received during the comment period.

**Comments and Responses**

State agencies, county governments, Federal agencies and other interested parties were notified and requested to comment on the proposed rule. Public hearings on the proposed rule were held November 16, 17, and 18, 1992, in Fresno, Sacramento, and Willows, California, respectively. Thirty-three individuals presented testimony at these hearings. During the 154-day comment period, NMFS received 27 written comments from government agencies, non-government organizations and individuals on the proposed rule. These comments are addressed below.

**Geographic Extent of Critical Habitat**

**Comments:** Several commenters recommended that the proposed geographic range of critical habitat for winter-run chinook salmon be revised. For example, five commenters recommended that NMFS include the open ocean habitat used by winter-run chinook salmon in the designation. One commenter recommended that only the McCloud and Pitt Rivers be designated as critical habitat for winter-run chinook. Another suggested that Clear Creek and Cottonwood Creek be included in the designation. One commenter recommended that the designation be expanded to include several tributaries of the San Joaquin River and portions of the Mokelumne River, Georgiana Slough, and other waterways in the Sacramento-San Joaquin Delta. Two others recommended that San Francisco Bay and San Pablo Bay not be included. Several commenters expressed concern that the definition of riparian zone in the critical habitat designation was too vague.

**Response:** Critical habitat is defined in section 3(5) of the ESA as the specific areas within the geographic area occupied by the species on which are found those physical or biological features that are essential to the conservation of the species and that may

require special management considerations or protection.

Although it is important, NMFS has not included the open ocean habitat used by winter-run chinook salmon because this area does not appear to be in need of special management consideration or protection. Degradation of this portion of the species habitat, and other factors associated with the open ocean, such as commercial and recreational fishing, do not appear to be significant factors in the decline of the species. In addition, existing laws appear adequate to protect these areas, and special management of this habitat is not considered necessary at this time. Also, during the comment period, NMFS did not receive any new information indicating that degradation of ocean habitat or other factors associated with the open ocean are significant factors in the decline of the species. However, NMFS will continue to monitor activities in the open ocean to determine if it needs to be included in the critical habitat designation, and will continue to consult under section 7 of the ESA to address Federal actions that may affect the species or result in takings in the open ocean.

Areas outside the current geographical area occupied by a species that are determined to be essential for its conservation also may be included in a critical habitat designation under section 3(5) of the ESA. Before construction of Shasta and Keswick Dams, winter-run chinook were reported to have spawned in the upper reaches of the McCloud, lower Pitt, and Little Sacramento Rivers. However, the geographic extent of spawning habitat on these rivers before construction of Shasta and Keswick dams is largely speculative or unknown. Significant hydropower development in the 1920's is thought to have significantly reduced any available habitat for winter-run spawning on the Pitt River. Construction of Shasta and Keswick Dams in the early 1940's completely blocked access by winter-run chinook to any spawning habitat above the dams, and construction of passage facilities is not practical. However, subsequent operations of these dams by the Bureau of Reclamation (Bureau) created new habitat below Keswick Dam due to the release of cold water from Shasta reservoir into the mainstem of the Sacramento River. This habitat did not exist before operation of Shasta/Keswick Dams, but is now essential to the continued existence of winter-run chinook salmon.

NMFS agrees that Clear Creek, Cottonwood Creek, and other tributaries of the Sacramento River deliver gravel



for spawning substrate for winter-run chinook salmon and that clean gravel is an essential physical feature for the conservation of the species. However, since these tributaries are not, in themselves, essential for the conservation of winter-run chinook salmon, NMFS has not included them in the critical habitat designation. But, agency actions that may destroy or modify critical habitat features, even if the actions occur outside the designated habitat area, are subject to section 7 of the ESA. NMFS will monitor activities that occur in these tributaries that may adversely impact winter-run chinook or essential habitat features to ensure that recovery of the species is not impeded.

Until 1984, a small number of winter-run chinook salmon returned annually to a tributary to the lower San Joaquin River in the upper Calaveras River and spawned below New Hogan Dam. Exceptionally low flows due to the operation of New Hogan Dam and the 1987-1992 drought appear to have eliminated this group. NMFS has determined that the San Joaquin River Basin is not essential for the conservation of the Sacramento River winter-run chinook salmon population. Therefore, the upper Calaveras River is not included in the critical habitat designation for Sacramento River winter-run chinook salmon.

The Sacramento-San Joaquin Delta contains less suitable habitat for winter-run chinook salmon than habitat that is found in the Sacramento River. It has been estimated that as much as 25 to 40 percent of juvenile winter-run chinook salmon may be diverted into the Delta at the Delta Cross Channel. Once diverted through the Cross Channel, juveniles are subject to adverse conditions that decrease their survival. For instance, diverted juveniles may be subject to a longer migration route where fish are exposed to predation, higher water temperatures, unscreened diversions, poor water quality, reduced availability of food, and entertainment in Delta pumps.

NMFS' goal is to minimize diversion of winter-run chinook salmon in the Cross Channel. However, NMFS included measures in its 1992 and 1993 biological opinions on the operation of the Central Valley Project and State Water Project to exclude winter-run chinook salmon from the central Delta. For these reasons, rivers and sloughs of the Delta are not essential for the conservation of winter-run chinook salmon and are not included in the critical habitat designation.

Water quality is an essential feature of winter-run chinook salmon habitat. For instance, dredging activities may

degrade habitat used by winter-run chinook salmon in San Francisco Bay and elsewhere. In the past, NMFS has evaluated dredging projects both in terms of their quantitative and qualitative impact on water quality. Currently, small scale dredging projects, typically of 100,000 cubic yards or less, are thought to have minor impact while larger projects are thought to have potentially significant impacts on water quality. Because juvenile winter-run chinook salmon may ingest prey organisms with high levels of contaminants (i.e., DDT, PCB's) during their outmigration through San Francisco Bay, dredging activities in the Bay will most likely continue to require special management considerations to conserve winter-run chinook. No new information on the effects of dredging on water quality was received during the comment period.

Also, NMFS wants to clarify that South San Francisco Bay is not included in the critical habitat designation because it is not considered an essential component of winter-run chinook salmon's migration corridor to the Pacific Ocean. However, all the waters of San Pablo Bay and San Francisco Bay north of the San Francisco/Oakland Bay Bridge are included in the critical habitat designation.

**Riparian zones.** In the Sacramento River, critical habitat includes the river water, river bottom, and the adjacent riparian zone. According to a 1983 report by the Dept. of Agriculture, riparian zones are those adjacent terrestrial areas that directly affect a freshwater aquatic ecosystem. A 1992 report by the U.S. Fish and Wildlife Service states that riparian streambanks are composed of natural, eroding substrates supporting vegetation that either overhangs or protrudes into the water and, consequently, provides shade and escape cover for salmonids and other wildlife. Riparian vegetation also increases river productivity which, in turn, provides prey for salmonids.

Riparian zones on the Sacramento River are considered essential for the conservation of winter-run chinook salmon because they provide important areas for fry and juvenile rearing. For example, studies of chinook salmon smolts in the middle reaches of the Sacramento River found higher densities in natural, eroding bank habitats with woody debris (Michny 1988). Because adverse modification of riparian zones along the Sacramento River may impede the recovery of winter-run chinook salmon, the "adjacent riparian zone" is included in the critical habitat designation for winter-run chinook. However, because

influences of riparian vegetation progressively decrease away from the water source (e.g., river), riparian areas cannot be defined by discrete boundary zones. Therefore, NMFS is limiting the "adjacent riparian zones" to only those areas above a streambank that provide cover and shade to the nearshore aquatic areas.

#### *Economic Impacts—Incremental Approach*

**Comments:** Nine commenters believe that NMFS improperly minimized the economic impacts by separating the designation of critical habitat from the listing process (i.e., incremental approach). These are concerned that by separating the costs associated with the various regulatory actions (e.g., listing, critical habitat designation, section 7), NMFS underestimated the real economic consequences of protection of winter-run chinook salmon as required by the ESA. Several commenters objected to NMFS' interpretation that the impact of critical habitat designation only duplicates the protection provided under section 7 of the ESA. Also, several commenters believe that using an incremental approach for critical habitat designation renders sections of the ESA meaningless and circumvents the intent of Congress.

**Response:** NMFS concludes that the economic impact of designating critical habitat will have only a small incremental increase in impacts above those resulting from the listing. The law is unambiguous in both its prohibition of the consideration of economics in the listing process and its requirement to analyze the economic impact of designating critical habitat. These disparate requirements for each determination lead to an incremental analysis in which only the economic impacts resulting from the designation of the critical habitat are considered.

NMFS disagrees with the assertion that the incremental approach to critical habitat designation renders designation meaningless. Critical habitat is important because it identifies habitat that is essential for the continued existence of a species and that may require special management measures. This facilitates and enhances Federal agencies' ability to comply with section 7 by ensuring they are aware of the habitat that should be considered in analyzing the effects of their activities on listed species and habitats essential to support them. In addition to aiding Federal agencies in determining when consultations are required pursuant to section 7(a)(2), critical habitat can aid an agency in fulfilling its broader obligation under section 7(a)(1) to use

its authority to carry out programs for the conservation of listed species.

Several commenters asserted that the incremental approach fails to take into account the substantial effect on non-Federal interests that will suffer the effects of designation to the extent they must receive Federal approvals or funds to conduct their activities. Whether or not critical habitat is designated, non-Federal interests must conduct their actions consistent with the requirements of the ESA. When a species is listed, non-Federal interests must comply with the prohibitions on takings under section 9 or associated regulations. If the activity is funded, permitted or authorized by a Federal agency, that agency must comply with the non-jeopardy mandate of section 7 of the ESA. In addition, once critical habitat is designated, the agency must avoid actions that destroy or adversely modify that critical habitat. However, given definitions under 50 CFR 402.02, any action that destroys or adversely modifies critical habitat is likely to jeopardize the continued existence of the species. Therefore, NMFS does not anticipate that the designation will result in additional requirements for non-Federal interests.

#### *Economic Impact Analysis*

*Comments:* Fifteen comments questioned the adequacy of NMFS' economic impact analysis (Hydrosphere 1991). Several commenters objected to NMFS' determination that the proposed designation would have only minimal economic impacts. There were several comments on the expected costs of the proposed designation. Commenters also expressed concern that the analysis entirely ignored impacts resulting from possible reduction in water supply to areas south of the Sacramento-San Joaquin Delta. Two commenters believe the analysis failed to evaluate the impact of dredging delays or curtailed dredging on the economy of the San Francisco Bay Area. One commenter stated that the analysis contained no justification for the apparent economic benefits and two commenters stated that the analysis overestimated the beneficial impacts of the proposed rule on hydropower usage. One commenter believed that the additional administrative impacts of the proposed designation for winter-run chinook salmon were underestimated.

*Response:* Under section 4(b)(2) of the ESA, the Secretary is required to designate critical habitat on the basis of the best scientific data available and after taking into account the economic impact, and other relevant impacts, of specifying any particular area as critical

habitat. An area may be excluded from a critical habitat designation if the overall benefits of exclusion outweigh the benefits of designation and the exclusion will not result in the extinction of the species.

NMFS has concluded, based on an assessment of the economic impacts of designating critical habitat for winter-run chinook salmon, that the designation is not likely to have any additional adverse impacts on Federal, state, or private actions beyond those that already occur as a result of listing a species under the ESA. Although many of the comments received on the economic impact of the proposed designation suggested that the designation will have major economic costs, these costs are attributable to the economic impacts resulting from the listing of the species and not from designating its critical habitat.

Currently, Federal agencies active within the range of the winter-run chinook salmon are required to consult with NMFS regarding projects and activities they permit, fund, or otherwise carry out that may affect the species since the species is listed as threatened under the ESA. Thus, even without this critical habitat designation, Federal agencies would be required to consult with NMFS, in most if not all situations, if winter-run chinook salmon habitat might be adversely affected since any action that is likely to affect the habitat of winter-run chinook salmon would also be expected to affect the species. For example, on February 12, 1993, NMFS issued a biological opinion to the Bureau and the California Department of Water Resources (DWR) addressing the effects of Central Valley Project and State Water Project activities on winter-run chinook salmon. The biological opinion concluded that the proposed operation of these projects would likely jeopardize the continued existence of winter-run chinook salmon. With respect to Shasta and Keswick Dams, NMFS identified a specific reasonable and prudent alternative to avoid jeopardy that requires the Bureau to maintain end-of-water-year (September 30) carryover storage in Shasta Reservoir of 1.9 million acre feet. The alternatives ensure that suitable water temperature conditions are maintained in the upper Sacramento River during winter-run chinook salmon spawning and incubation periods and implement protective measures in the Delta to limit loss of juvenile fish at pumping plants. NMFS recognizes the requirements could have significant economic impacts. However, these measures are clearly required as a result of the listing of winter-run chinook

salmon, not critical habitat designation, since critical habitat had not been designated at the time the biological opinion was issued.

Hydrosphere evaluated the economic impacts of implementing various water management alternatives (i.e., specific temperature and instream flow criteria within the geographically defined critical habitat) that NMFS believes would improve the critical habitat of winter-run chinook salmon and, therefore, benefit the species. NMFS is currently using these same general hydrologic attributes to determine whether proposed or existing actions are likely to result in jeopardy to winter-run chinook salmon. For this reason, it is difficult to separate the estimated costs of the critical habitat designation from the costs associated with listing the species and the resulting prohibition on taking. For the purpose of this analysis, costs associated with achieving the identified hydrologic attributes (e.g., minimum flow requirements and temperature goals) within the critical habitat designation were analyzed. The resulting changes in hydrology and associated economic costs or benefits were then estimated.

Although information was requested from relevant Federal agencies on the potential impacts of the proposed designations on their operations and management of systems over which they have direct control or regulatory authority, a few agencies, including the Bureau, could not provide the requested information. Therefore, without responses from all Federal agencies, some costs associated with alternative management measures had to be estimated or were not identified. Although NMFS recognizes that the Hydrosphere report may not be complete, the analysis was broader than the impacts of a critical habitat designation. Therefore, it is not necessary to revise or update the Hydrosphere report before final designation of critical habitat.

#### *Seasonal Designation*

*Comments:* One commenter recommended that critical habitat for winter-run chinook salmon be designated on a seasonal basis, suggesting that it could be based on the seasonal distribution of different winter-run chinook life history stages (e.g., breeding and rearing areas).

*Response:* A seasonal critical habitat designation for Sacramento river winter-run chinook salmon is not appropriate because it would not be practical or beneficial for the conservation of the species. Due to the life history of winter-run chinook salmon, either eggs, fry,

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juveniles, or adults are present almost year-round in the Sacramento River. Therefore, impacts to winter-run critical habitat need to be evaluated on a year-round basis.

#### Increase in 1992 Spawning Escapement

*Comment:* One commenter believes that designation of critical habitat is not justified and is no longer necessary because of the increase in the 1992 spawning escapement.

*Response:* The designation of critical habitat is a statutory requirement under section 4(a)(3) of the ESA. Improvements in spawning escapement do not affect this statutory requirement.

#### Impact of Critical Habitat Designation

*Comment:* Several commenters stated that designating critical habitat for winter-run chinook salmon was a "major rule" because the economic impacts will be greater than \$100 million and recommended that NMFS conduct a regulatory impact analysis under E.O. 12291 and under the Regulatory Flexibility Act. Two other commenters recommended that NMFS prepare an environmental impact statement (EIS) pursuant to the National Environmental Policy Act on the critical habitat designation because designation is a major Federal action and will have a significant impact on the environment.

*Response:* NMFS has concluded that the economic impacts of designating critical habitat for winter-run chinook salmon are minimal and the designation is not a major rule because these economic costs are not greater than \$100 million. Also, NMFS completed an Environmental Assessment pursuant to NEPA and concluded that this measure would not result in any significant adverse environmental impacts. Therefore, NMFS has determined that a regulatory impact analysis and/or an EIS are not necessary.

#### Recovery Plan

*Comment:* One commenter recommended that NMFS delay critical habitat designation for winter-run chinook salmon until a recovery plan is developed in order to allow for an adequate evaluation of the impacts of the critical habitat designation.

*Response:* In 1992, NMFS appointed a recovery team to develop a recovery plan for Sacramento River winter-run chinook salmon. The team will likely require a year to complete a draft recovery plan. NMFS does not have the authority to delay the designation of critical habitat. However, if new information becomes available from the Recovery Team or other sources, NMFS

may revise the designation as provided under section 4(A)(3)(b) of the ESA.

#### Public Health

*Comments:* Three commenters were concerned about the impacts of the critical habitat designation on public health. One commenter believed that critical habitat designation could restrict Butte County Mosquito Abatement District's ability to use pesticides to control disease-vectoring mosquitoes that use the back-waters of the Sacramento River as breeding grounds and harborage.

*Response:* Actions such as these that may adversely impact critical habitat may also adversely affect the species, and would be evaluated under section 7 or 10 of the ESA with or without critical habitat designation.

#### Notice of Proposed Rule

*Comments:* Two commenters stated that they were not provided with adequate notice of the proposed designation of critical habitat for winter-run chinook salmon.

*Response:* After NMFS became aware that some counties that may be affected by the winter-run chinook salmon critical habitat designation were not notified of the proposed rulemaking, NMFS extended the public comment period an additional 60 days.

#### Primary Constituent Elements

*Comments:* Two commenters recommended that "primary constituent elements" (e.g., water quality and quantity standards) specified in the proposed rule under "Need for Special Management Consideration or Protection" should be included as part of the regulatory requirements of the critical habitat designation for winter-run chinook salmon.

*Response:* The primary constituent elements that are described under the "Need for Special Management Considerations or Protection" discussed in the proposed rule are provided to inform the public and to provide general guidance to Federal agencies. The recommended temperature and flow criteria have not been included in the regulatory text describing critical habitat; rather, this discussion is to alert the public to recommendations that NMFS may make on a case-by-case basis as part of the section 7 consultation process. For instance, NMFS has required some of these criteria to be achieved through a biological opinion issued to the Bureau of Reclamation that includes requirements for reasonable and prudent alternatives to be implemented to achieve a likelihood of non-jeopardy to winter-run chinook

salmon. NMFS does not have the expertise to regulate water quality and quantity criteria for Federally-permitted water projects. Requiring Federal agencies to use their own expertise through the section 7 consultation process is a more effective method of obtaining adequate water quality and quantity standards.

#### Procedural Methodology

*Comments:* One commenter expressed concern that NMFS did not publish the standards it used to evaluate the economic impacts of winter-run chinook salmon critical habitat designation. This commenter recommended that NMFS publish the standards it will use to evaluate economic impacts such as direct or indirect job losses, regional or national analysis, short-term or long-term analysis.

*Response:* Due to the variety of habitats and human activities, NMFS analyzes economic impacts of particular actions on a case-by-case basis. The economic study conducted by NMFS does describe the accounting perspective in terms of both a state-wide and national perspective. The analysis also considers indirect impacts of specific management measures as well as direct impacts.

#### Water Quality Criteria and Standards—Decision 1630

*Comment:* A commenter suggested that conditions required by the critical habitat designation should take into consideration the new regulatory framework set forth by the State Water Resources Control Board's Decision 1630.

*Response:* Since the State Water Resources Control Board has not adopted Decision 1630 (which includes criteria for water quality and quantity standards), NMFS did not consider it in the critical habitat designation for winter-run chinook salmon.

#### Essential Habitat of the Sacramento River Winter-run Chinook Salmon

Physical and biological features that are essential for the conservation of winter-run chinook salmon, based on the best available information, include (1) access from the Pacific Ocean to appropriate spawning areas in the upper Sacramento River, (2) the availability of clean gravel for spawning substrate, (3) adequate river flows for successful spawning, incubation of eggs, fry development and emergence, and downstream transport of juveniles, (4) water temperatures between 42.5 and 57.5°F (5.8 and 14.1°C) for successful spawning, egg incubation, and fry

development, (5) habitat areas and adequate prey that are not contaminated, (6) riparian habitat that provides for successful juvenile development and survival, and (7) access downstream so that juveniles can migrate from the spawning grounds to San Francisco Bay and the Pacific Ocean.

#### Need for Special Management Considerations or Protection

In the identified habitat areas, NMFS has determined that certain physical and biological features may require special management considerations or protection. In particular, specific water temperature criteria, minimum instream flow criteria, and water quality standards represent physical features of the winter-run chinook salmon's habitat that are essential for the species' conservation and that may require special management. Similarly, biological features of the designated critical habitat that are considered vital for winter-run chinook salmon include unimpeded adult upstream migration routes, spawning habitat, egg incubation and fry emergence areas, rearing areas for juveniles, and unimpeded downstream migration routes for juveniles. Again, these habitat features may require special management.

Special considerations and protection for these and other habitat features will be evaluated during the section 7 process and in the development and implementation of a recovery plan for winter-run chinook salmon. If adequate protection cannot be provided through consultation or through the recovery planning process, separate management actions with binding requirements may be considered.

#### Activities That May Affect the Essential Habitat

A wide range of activities may affect the essential habitat requirements of winter-run chinook salmon. These activities include water management operations by the Bureau of Reclamation's Central Valley Project (e.g., Shasta and Keswick Dams, Red Bluff Diversion Dam, the Tehama-Colusa Canal, the Delta Cross Channel, and delta export facilities) that affect the Sacramento River and Delta, water management operations by the California Department of Water Resource's State Water Project (including export of water from the Sacramento-San Joaquin Delta) that affect both the Sacramento River and Delta, small and large water diversions by private entities such as the Anderson-Cottonwood Irrigation District and the Glenn-Colusa Irrigation District

that are located on the Sacramento River, bank restoration activities by the U.S. Army Corps of Engineers (Corps) in the Sacramento River and Sacramento-San Joaquin Delta, and Corps permitting activities that authorize dredging and other construction-related activities in the Sacramento River, Sacramento-San Joaquin Delta, and San Francisco Bay.

The Federal agencies that most likely will be affected by this critical habitat designation include the U.S. Bureau of Reclamation, the Corps, the U.S. Fish and Wildlife Service, the Federal Energy Regulatory Commission, the U.S. Navy, and NMFS. This designation will provide clear notification to these agencies, private entities, and the public of the existence of critical habitat for winter-run chinook salmon and the boundaries of the habitat and the protection provided for that habitat by the section 7 consultation process. This designation will also assist these agencies, and others as required, in evaluating the potential effects of their activities on the winter-run chinook salmon and its critical habitat, and in determining when consultation with NMFS would be appropriate.

#### Expected Impacts of Designation Critical Habitat

Under section 7 of the ESA, Federal agencies are required to ensure that their actions are not likely to jeopardize the continued existence of listed species or to result in the destruction or adverse modification of listed species' critical habitat. Also, takings of winter-run chinook salmon are prohibited under regulations issued when the species was listed as threatened.

This action identifies specific habitat areas that have been determined to be essential for the conservation of the winter-run chinook salmon and that may be in need of special management considerations or protection. Also, this designation requires Federal agencies to evaluate their activities with respect to the critical habitat of winter-run chinook salmon and to consult with NMFS pursuant to section 7 of the ESA before engaging in any action that may affect the critical habitat. Federal agencies must ensure that their activities are not likely to result in the destruction or adverse modification of this critical habitat.

Currently, Federal agencies active within the range of the winter-run chinook salmon are required to consult with NMFS regarding projects and activities they permit, fund or otherwise carry out that may affect the species since it is listed as threatened under the ESA. Even without this critical habitat designation, Federal agencies are

required to consult with NMFS, in most if not all situations, if winter-run chinook salmon habitat might be adversely affected since any action that is likely to affect the habitat of winter-run chinook salmon would also be expected to affect the species.

Designation of critical habitat for winter-run chinook salmon is not likely to have any additional direct adverse economic impacts on Federal, state, or private activities beyond those that already occur as a result of listing a species under the ESA. Following designation of critical habitat, Federal agencies will continue to engage in section 7 consultations to determine if the actions they authorize, fund, or carry out are likely to jeopardize the continued existence of winter-run chinook salmon. With the designation, they will also need to address explicitly impacts to the species' critical habitat as well. However, this is not expected to materially affect the scope of future consultations or result in greater economic impacts since the impacts to winter-run chinook salmon habitat are already considered in section 7 consultations.

Hydrosphere evaluated the economic impacts of implementing various special water management alternatives (i.e., specific temperature and instream flow criteria within the geographically defined critical habitat) that NMFS believes would improve the critical habitat of winter-run chinook salmon and, therefore, benefit the species. NMFS is currently using these same general hydrologic attributes to determine whether proposed or existing actions are likely to result in jeopardy to winter-run chinook salmon. For this reason, it is difficult to separate the estimated costs of the critical habitat designation from the costs associated with listing the species and the taking prohibition. However, for the purpose of this analysis, costs associated with achieving the identified hydrologic attributes (e.g., minimum flow requirements and temperature goals) within the critical habitat designation were analyzed. The resulting changes in hydrology and associated economic costs or benefits were then estimated.

Some actions that would improve winter-run habitat were not included in the analysis conducted by hydrosphere since they (e.g., the Shasta temperature control device) are already in the planning or financing stages and are expected to be implemented regardless of whether critical habitat for winter-run chinook salmon is designated.

An evaluation of costs associated with achieving specified hydrologic attributes, such as minimum flow

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requirements and temperature goals, within the designated critical habitat concluded that total economic benefits and costs would be about \$82.5 million and \$69.6 million, respectively, with an overall net economic benefit of \$12.9 million (hydrosphere 1991).

#### Critical Habitat; Essential Features

Based on available information, NMFS is designating critical habitat that is considered essential for the survival and recovery of the winter-run chinook salmon and that requires special management consideration or protection. The critical habitat designated by this rule includes areas that are currently used by winter-run chinook salmon including the Sacramento River, all waterways and bays westward of Chipps Island to San Francisco Bay, and San Francisco Bay.

Specific critical habitat includes (1) the Sacramento River from Keswick Dam, Shasta County (River Mile 302) to Chipps Island (River Mile 0) at the westward margin of the Sacramento-San Joaquin Delta, (2) all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, (3) all waters of San Pablo Bay westward of the Carquinez Bridge, and (4) all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge and north of the San Francisco-Oakland Bay Bridge.

Within the Sacramento River, this designation includes the river water, river bottom (including those areas and associated gravel used by winter-run chinook salmon as spawning substrate), and adjacent riparian zone used by fry and juveniles for rearing. Also, in the areas westward from Sherman Island to Chipps Island, it includes Kimball Island, Winter Island, and Browns Island. In the areas westward from Chipps Island, including San Francisco Bay to the Golden Gate Bridge, it includes the estuarine water column and essential foraging habitat and food resources used by winter-run chinook salmon as part of their juvenile outmigration or adult spawning migration. This designation does not include any estuarine sloughs within San Francisco Bay or San Pablo Bay.

Although it is important, critical habitat does not include the open ocean habitat used by winter-run chinook salmon because this area does not appear to be in need of special management consideration. Degradation of this portion of the species' habitat, and other factors associated with the open ocean such as commercial and recreational fishing, do not appear to be

significant factors in the decline of the species. In addition, existing laws appear adequate to protect these areas, and special management of this habitat is not considered necessary at this time. However, NMFS will continue to monitor activities in this area to determine if it needs to be included in the critical habitat designation.

NMFS has not included specific areas outside the current geographical area occupied by winter-run chinook salmon in this designation since these areas are not considered essential for conservation of the species. Although some may recommend removing dams (e.g., Shasta and Keswick) along the Sacramento River so that the former upriver habitat could once again be made available to winter-run chinook salmon, NMFS has concluded that proper management of the existing habitat is sufficient to provide for the survival and recovery of this species. However, if sufficient habitat is not maintained below Shasta Reservoir to satisfy the spawning and survival requirements of winter-run chinook salmon, the future existence of the species would be jeopardized.

#### Classification

The Assistant Administrator for Fisheries, NOAA, has determined that this is not a "major rule" requiring a regulatory impact analysis under E.O. 12291. The regulations are not likely to result in (1) an annual effect on the economy of \$100 million or more, (2) a major increase in costs or prices for consumers, individual industries, Federal, state, or local government agencies, or geographic regions, or (3) a significant adverse effect on competition, employment, investment, productivity, innovation, or on the ability of U.S.-based enterprises to compete with foreign-based enterprises in domestic or export markets.

The General Counsel of the Department of Commerce has certified that this rule will not have a significant economic impact on a substantial number of small entities as described in the Regulatory Flexibility Act. The designation of critical habitat only duplicates and reinforces the substantive protection resulting from listing; therefore, the economic and other impacts resulting from designation are expected to be minimal, and a regulatory flexibility analysis is not required.

This rule does not contain a collection-of-information requirement for purposes of the Paperwork Reduction Act.

This rule does not contain policies with federalism implications sufficient

to warrant preparation of a federalism assessment under E.O. 12612.

The Assistant Administrator determined that this designation is consistent to the maximum extent practicable with the approved Coastal Zone Management Program of the State of California. This determination was submitted for review by the responsible State agency under section 3.7 of the Coastal Zone Management Act. Because the State did not respond within the statutory time period, agreement with the determination is inferred.

NOAA Administrative Order 216-6 states that critical habitat designations under the ESA, generally, are categorically excluded from the requirement to prepare an environmental assessment or an environmental impact statement. However, in order to more clearly evaluate the minimal impacts of the critical habitat designation, NMFS prepared an environmental assessment; copies are available on request (see ADDRESSES).

#### List of Subjects in 50 CFR Part 226

Endangered and threatened species.

Dated: June 9, 1993.

Nancy Foster,

Acting Assistant Administrator for Fisheries.

For the reasons set forth in the preamble, 50 CFR part 226 is amended as follows:

#### PART 226—DESIGNATED CRITICAL HABITAT

1. The authority citation for part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

2. Subpart C, which was reserved, is added to part 226 to read as follows:

Subpart C—Critical Habitat for Fish

Sec.  
226.21 Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha*).

Subpart C—Critical Habitat for Fish

§ 226.21 Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha*).

The following waterways, bottom and water of the waterways and adjacent riparian zones: The Sacramento River from Keswick Dam, Shasta County (River Mile 302) to Chipps Island (River Mile 0) at the westward margin of the Sacramento-San Joaquin Delta, all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge.

and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge.

[FR Doc. 93-14133 Filed 6-15-93; 8:45 am] BILLING CODE 9010-22-M

**50 CFR Part 227**

[Docket No. 920780-2180]

**Sea Turtle Conservation; Shrimp Trawling Requirements**

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Turtle excluder device exemption.

**SUMMARY:** NMFS will continue to allow 30-minute tow times as an alternative to the requirement to use turtle excluder devices (TEDs) by shrimp trawlers in a small area off the coast of North Carolina for 30 days. NMFS will monitor the situation to ensure there is adequate protection for sea turtles in this area when tow-time limits are allowed in lieu of TEDs and to determine whether algal concentrations continue to make TED use impracticable.

**EFFECTIVE DATES:** This rule is effective from June 11, 1993 through July 12, 1993.

**ADDRESSES:** Comments on the collection-of-information requirement in this action should be directed to the Office of Protected Resources, NMFS, 1335 East-West Highway, Silver Spring, MD 20910; Attention: Phil Williams, and to the Office of Information and Regulatory Affairs, OMB, Washington, DC 20503, Attention: Desk Officer for NOAA.

**FOR FURTHER INFORMATION CONTACT:** Phil Williams, NMFS National Sea Turtle Coordinator (301/713-2322) or Charles A. Oravetz, Chief, Protected Species Program, Southeast Region, NMFS, (813/893-3366).

**SUPPLEMENTARY INFORMATION:**

**Background**

In regulations published April 15, 1993 (58 FR 19361), and on May 17, 1993 (58 FR 28793), NMFS allowed limited tow times as an alternative to the requirement to use TEDs by shrimp trawlers in a small area off the coast of North Carolina. This area seasonally exhibits high concentrations of brown algae, *Diclyoptera* spp., and a red alga, *Halymenia* sp. Shrimp live within the alga, which shrimpers harvest. Use of TEDs under these conditions is impractical because they clog or exclude a large portion of the alga. Limiting tow

times to 30 minutes allows fishermen to harvest shrimp efficiently and maintains adequate protection for sea turtles that may be nesting in this area. NMFS will continue to monitor the situation to ensure there is adequate protection for sea turtles in this area when tow-time limits are allowed in lieu of TEDs and to determine whether algal concentrations continue to make TED use impracticable.

The Assistant Administrator for Fisheries, NOAA (Assistant Administrator), has determined that immediate action is necessary to conserve sea turtles pursuant to the regulations at 50 CFR 227.72(e)(6). The Assistant Administrator has also determined that incidental takings of sea turtles during shrimp trawling are unauthorized unless these takings are consistent with the applicable biological opinions and associated incidental take statements described in the previous TED exemption published at 58 FR 28793 (May 17, 1993).

**Recent Events**

The North Carolina sea turtle stranding network reported that nine sea turtles stranded in the North Carolina Restricted Area during the previous exemption period: Eight loggerheads and one green turtle. None of the turtles were nesting females, although it is nesting season. Recent aerial surveys have shown as many as 80 loggerhead turtles in offshore waters adjacent to the restricted area. This number of strandings compares with five loggerheads and one leatherback, which stranded during May 1992.

In addition, the marine mammal stranding network reported seven bottlenose dolphins stranded in the restricted area during this time. The majority of the turtle and dolphin strandings occurred near Topsail Island, in the southern portion of the restricted area.

The cause of the strandings is not certain as both shrimp trawlers and gillnet vessels have been operating in and near the restricted area. The North Carolina Division of Marine Fisheries (NCDMF), which monitors fishing activity in the restricted area, reported that, at most, one shrimp trawler was fishing at any given time. NCDMF reported compliance by trawlers observed in the restricted area with the 30-minute tow-time requirement. Residents in the restricted area reported to NMFS greater shrimping activity (zero to six trawlers fishing at any given time), though some of the vessels may have been trawling outside the restricted area. This difference in reported fishing activity is to be

expected since NCDMF personnel were only able to observe fishing for 1 to 2 hours daily.

NCDMF also reported that a coastal gillnet fishery for finfish is operating in the region. North Carolina does not regulate gillnet fishing in its waters and no estimate of activity is available. Several of the bottlenose dolphins stranded on beaches had net marks characteristic of gillnet interactions.

Consultation under section 7 of the Endangered Species Act (ESA) has been reinitiated for the continuation of this TED exemption because the strandings of eight sea turtles may represent incidental takings in the restricted area in excess of those authorized for the previous exemption (April 1, 1993). As a condition to continuing the TED exemption in the North Carolina Restricted Area, NMFS will place observers on shrimp trawlers in this area on a weekly basis during the sea turtle nesting season to monitor any incidental capture of turtles and to monitor environmental conditions. NMFS may impose more stringent conservation measures, including the use of TEDs, if it is determined that turtles are not adequately protected in the restricted area.

NMFS has determined that the environmental conditions in the restricted area continue to render TED use impracticable. Therefore, the Assistant Administrator extends the authorization to use restricted tow times previously issued on May 12, 1993 (58 FR 28793, May 17, 1993), as an alternative to the requirement to use TEDs in the North Carolina restricted area. Specifically, all shrimp trawlers in the North Carolina restricted area are authorized, as an alternative to the otherwise required use of TEDs, to limit tow times to 30 minutes for 30 days.

This action provides shrimpers in the North Carolina restricted area with immediate relief from having to comply with the TED-use requirement while comments are being received on a proposed rule, published at 58 FR 30007 (May 25, 1993), that would amend 50 CFR parts 217 and 227 to provide permanent relief. The tow-time limit and other requirements imposed by this action will provide adequate protection for endangered and threatened sea turtles in the North Carolina restricted area.

**Sea Turtle Conservation Measures**

The sea turtle conservation measures published at 58 FR 28793 (May 17, 1993) are extended here for another 30 days. The owner or operator of a shrimp trawler trawling in the North Carolina restricted area must register with the

**§ 1607.5 Compensation.**

(a) While serving on the governing body of a recipient, no attorney member shall receive compensation from that recipient, but any member may receive a reasonable per diem expense payment or reimbursement for actual expenses for normal travel and other reasonable out-of-pocket expenses in accordance with written policies adopted by the recipient.

(b) Pursuant to a waiver granted under § 1607.6(c)(1), a recipient may adopt policies that would permit partners or associates of attorney members to participate in any compensated private attorney involvement activities supported by the recipient.

(c) A recipient may adopt policies that permit attorney members, subject to terms and conditions applicable to other attorneys in the service area:

(1) To accept referrals of fee-generating cases under part 1609 of these regulations;

(2) To participate in any uncompensated private attorney involvement activities supported by the recipient;

(3) To seek and accept attorneys' fees awarded by a court or administrative body or included in a settlement in cases undertaken pursuant to §§ 1607.5(c)(1) and (2); and

(4) To receive reimbursement from the recipient for out-of-pocket expenses incurred by the attorney member as part of the activities undertaken pursuant to § 1607.5(c)(2).

**§ 1607.6 Waiver.**

(a) Upon application, the president shall waive the requirements of this part to permit a recipient that was funded under § 222(a)(3) of the Economic Opportunity Act of 1964 and, on July 25, 1974, had a majority of persons who were not attorneys on its governing body, to continue such nonattorney majority.

(b) Upon application, the president may waive any of the requirements of this part which are not mandated by applicable law if a recipient demonstrates that it cannot comply with them because of: (1) The nature of the population, legal community or area served; or (2) Special circumstances, including but not limited to, conflicting requirements of the recipient's other major funding source(s) or State law.

(c) A recipient seeking a waiver under § 1607.6(b)(1) shall demonstrate that it has made diligent efforts to comply with the requirements of this part.

(d) As a condition of granting a waiver under § 1607.6(b)(2) of any of the requirements imposed upon governing bodies by § 1607.3, the president shall

require that a recipient have a policy body with a membership composed and appointed in the manner prescribed by § 1607.3. Such policy body shall be subject to the meeting requirements of § 1607.4(a) and its attorney members shall be subject to the restrictions on compensation contained in § 1607.5. The policy body shall have such specific powers and responsibilities as the President determines are necessary to enable it to formulate and enforce policy with respect to the services provided under the recipient's LSC grant or contract.

Dated: December 13, 1994.

**Victor M. Fortuno,**

*General Counsel.*

[FR Doc. 94-31043 Filed 12-16-94; 8:45 am]

BILLING CODE 7050-01-P

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**

RIN 1018-AB66

**Endangered and Threatened Wildlife and Plants; Critical Habitat Determination for the Delta Smelt**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The Fish and Wildlife Service (Service) designates critical habitat for the threatened delta smelt (*Hypomesus transpacificus*) pursuant to the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*). This final rule designates critical habitat for the delta smelt in the following geographic areas—areas of all water and all submerged lands below ordinary high water and the entire water column bounded by and contained in Suisun Bay (including the contiguous Grizzly and Honker Bays); the length of Goodyear, Suisun, Cutoff, First Mallard (Spring Branch), and Montezuma sloughs; and the existing contiguous waters contained within the Delta, as defined in section 12220 of the California Water Code. Critical habitat designation for the delta smelt will provide additional protection under section 7 of the Act with regard to activities that require Federal agency action.

**EFFECTIVE DATE:** January 18, 1995.

**ADDRESSES:** The complete file for this rule is available for inspection, by appointment, during normal business hours at U.S. Fish and Wildlife Service, Sacramento Field Office, 2800 Cottage

Way, Room E-1803, Sacramento, California 95825-1846.

**FOR FURTHER INFORMATION CONTACT:** Joel A. Medlin, Sacramento Field Office (see ADDRESSES section) at (916) 978-4613.

**SUPPLEMENTARY INFORMATION:****Background**

Historically, the delta smelt is thought to have occurred from Suisun Bay upstream to the City of Sacramento on the Sacramento River and the City of Mossdale on the San Joaquin River (Moyle *et al.* 1992). The delta smelt is a euryhaline species (tolerant of a wide salinity range) that spawns in fresh water and has been collected from estuarine waters up to 14 grams per liter (equivalent to ppt) salinity (Moyle *et al.* 1992). For a large part of its annual life span, this species is associated with the freshwater edge of the mixing zone (zone of mixing or entrapment at the saltwater-freshwater interface), where the salinity is approximately 2 ppt (Ganssle 1966, Moyle *et al.* 1992, Sweetnam and Stevens 1993).

Shortly before spawning, adult delta smelt migrate upstream from the highly productive brackish-water habitat associated with the mixing zone to disperse widely into river channels and tidally-influenced backwater sloughs (Radtke 1966, Moyle 1976, Wang 1991).

Delta smelt spawn in shallow, fresh or slightly brackish water upstream of the mixing zone (Wang 1991), mostly in tidally-influenced backwater sloughs and channel edgewater (Moyle 1976; Wang 1986, 1991; Moyle *et al.* 1992). Although delta smelt spawning behavior has not been observed in the wild (Moyle *et al.* 1992), the adhesive eggs are thought to attach to substrates such as cattails and tules, tree roots, and submerged branches (Moyle 1976, Wang 1991). In the Delta, spawning is known to occur in the Sacramento River and in Barker, Lindsey, Cache, Georgiana, Prospect, Beaver, Hog, and Sycamore sloughs (Wang 1991; Dale Sweetnam, pers. comm., 1993). Delta smelt also spawn north of Suisun Bay in Montezuma and Suisun sloughs and their tributaries (Lesa Meng, pers. comm., 1993; Dale Sweetnam, pers. comm., 1993).

The spawning season varies from year to year and may occur from late winter (December) to early summer (July and August). Moyle (1976) collected gravid adults from December to April, although ripe delta smelt were most common in February and March. In 1989 and 1990, Wang (1991) estimated that spawning had taken place from mid-February to late June or early July, with the peak spawning period occurring in late April

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and early May. In 1993, a wet year, spawning may have occurred as early as January and extended into June (Dale Sweetnam, pers. comm., 1994). Peak spawning occurred in April of that year. In 1994, a critically dry year, peak spawning occurred at the end of April, and may have begun as early as late February or early March (Dale Sweetnam, pers. comm., 1994).

In the laboratory, delta smelt eggs hatch in 10 to 14 days (Randy Mager, University of California, pers. comm., 1993). Laboratory observations indicate that delta smelt are broadcast spawners that spawn in a current, usually at night, distributing their eggs over a local area (Lindberg 1992, Mager 1993). Eggs attach singly to the substrate, and few eggs were found on vertical plants (Lindberg 1993). Lindberg (1993) found that yolk-sac fry were positively phototactic and negatively buoyant. After hatching, larvae are transported downstream toward the mixing zone where they are retained by the vertical circulation of fresh and salt waters (Stevens *et al.* 1990). The pelagic larvae feed on phytoplankton until day 4, begin to feed on rotifers on day 6 and *Artemis nauplii* on day 14 (Mager 1992). Juveniles feed exclusively on zooplankton. When the mixing zone is located in a broad geographic area with extensive shallow-water habitat within the euphotic zone (depths less than 4 meters), high densities of phytoplankton and zooplankton are produced (Arthur and Ball 1978, 1979, 1980), and larval and juvenile fish, including delta smelt, grow rapidly (Moyle *et al.* 1992, Sweetnam and Stevens 1993). When given the opportunity, delta smelt remain in Suisun Bay even after the 2 ppt isohaline has retreated upstream (Herbold 1994). In general, estuaries are among the most productive ecosystems in the world (Goldman and Horne 1983). Estuarine environments produce an abundance of fish as a result of plentiful food and shallow, protective habitat for young.

When the mixing zone is contained within Suisun Bay, young delta smelt are dispersed widely throughout a large expanse of shallow-water and marsh habitat. Dispersal in areas downstream from the State and Federal water pumps and in-Delta agricultural diversions protects young delta smelt from entrainment and distributes them among the extensive, protective, and highly productive shoal regions of Suisun Bay. In contrast, when located upstream, the mixing zone becomes confined in the deep river channels, which are smaller in total surface area, contain fewer shoal areas, have swifter, more turbulent water currents, and lack

high zooplankton productivity. Vulnerability to entrainment in the State and Federal pumping facilities and in-Delta diversions increases.

Erkkila *et al.* (1950) collected young delta smelt near Sherman Island, at the confluence of the Sacramento and San Joaquin Rivers, in July and August of 1948. In studies by the California Department of Fish and Game, California Department of Water Resources (DWR), and the Bureau, larval and juvenile delta smelt were collected from Roe Island in Suisun Bay north to the confluence of the Sacramento and Feather Rivers and east to Medford Island on the San Joaquin River (Wang 1991). These studies were conducted during the months of April through mid-July in 1989 and 1990. Through these distribution surveys, Wang (1991) was able to document the movement of juvenile delta smelt from the Delta to Suisun Bay in late June and early July. In 1990, young delta smelt were taken at the Tracy Pumping Plant at the end of February (Wang 1991).

The delta smelt is adapted to living in the highly productive Sacramento-San Joaquin River Estuary (Estuary) where salinity varies spatially and temporally according to tidal cycles and the amount of freshwater inflow. Despite this tremendously variable environment, the historical Estuary probably offered relatively constant suitable habitat conditions to delta smelt, which could move upstream or downstream with the mixing zone (Peter Moyle, University of California, pers. comm., 1993). Since the 1850's, however, the amount and extent of suitable habitat for the delta smelt has declined dramatically. The advent in 1853 of hydraulic mining in the Sacramento and San Joaquin Rivers led to increased siltation and alteration of the circulation patterns of the Estuary (Nichols *et al.* 1986, Monroe and Kelly 1992). The reclamation of Merritt Island for agricultural purposes in the same year marked the beginning of the present-day cumulative loss of 94 percent of the Estuary's tidal marshes (Nichols *et al.* 1986, Monroe and Kelly 1992).

In addition to this degradation and loss of estuarine habitat, the delta smelt has been increasingly subject to entrainment, upstream or reverse flows of waters in the Delta and San Joaquin River, and constriction of habitat in the less productive, deep-water river channels of the Delta (Moyle *et al.* 1992). These adverse conditions are primarily a result of the steadily increasing proportion of water diverted from the Delta by the Federal and State water projects (Monroe and Kelly 1992). Water delivery through the Federal

Central Valley Project (CVP) began in water year 1940. The State Water Project (SWP) began delivering water in 1968. However, the proportion of fresh water being diverted has increased since 1983 and has remained at high levels (Moyle *et al.* 1992). A relationship has been found between the number of juvenile delta smelt salvaged at the State and Federal pumps and both the percent of inflow diverted and total Delta outflow (California Department of Water Resources and Bureau of Reclamation 1994). The high proportion of fresh water exported has exacerbated the already harsh environmental conditions experienced by the delta smelt during the recent 6-year drought (1987-1992). The March 5, 1993 (58 FR 12854), final rule listing the delta smelt as a threatened species describes in detail the factors that have led to this species' decline.

#### Previous Service Action

In the January 6, 1989 (54 FR 554), Animal Notice of Review, the Service included the delta smelt as a category 1 candidate species. Category 1 includes species for which data in the Service's possession are sufficient to support proposals for listing. On June 29, 1990, the Service received a petition dated June 26, 1990, from Dr. Don C. Erman, President-Elect of the California-Nevada Chapter of the American Fisheries Society, to list the delta smelt as an endangered species and designate its critical habitat. The Service made a 90-day finding that substantial information had been presented indicating that the petitioned action may be warranted and announced this decision in the *Federal Register* on December 24, 1990 (55 FR 52852). On October 3, 1991 (56 FR 50075), the Service published a proposal to list the delta smelt as a threatened species and to designate critical habitat. This proposed rule constituted the 12-month petition finding in accordance with section 4(b)(3)(B) of the Act.

Critical habitat was proposed for areas of all water and all submerged lands below ordinary high water and the entire water column bounded by and contained within Suisun Bay (including the contiguous Grizzly and Honker Bays), the length of Montezuma Slough, portions of the Sacramento River, portions of the Sacramento-San Joaquin Delta, portions of the San Joaquin River, and the contiguous water bodies in between (a complex of bays, dead-end sloughs, channels typically less than four meters deep, marshlands, etc.), contained in the State of California. The public comment period opened on the date of publication of the proposed rule

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(October 3, 1991) and closed on January 31, 1992.

On December 19, 1991 (56 FR 65877), the Service published a notice of public hearing on the proposed rule to be held in three locations in California. Public hearings were conducted on January 9, 1992, in Sacramento; on January 14, 1992, in Santa Monica; and on January 16, 1992, in Visalia.

The final rule listing the delta smelt as a threatened species was published on March 5, 1993 (58 FR 12854). In the final rule, the Service postponed the decision on critical habitat designation. At that time, the economic analysis necessary to determine critical habitat was still in progress. On March 16, 1993 (58 FR 14199), the Service reopened the public comment period until April 30, 1993, to allow the Service to consider any economic or biological information that previously had not been submitted.

#### Revisions to the October 3, 1991, Critical Habitat Proposal

The Service published a revision to the October 3, 1991, proposed rule to designate critical habitat for the delta smelt on January 6, 1994 (59 FR 852). The revision was based primarily on information gathered by the California Department of Fish and Game (Dale Sweetnam, California Department of Fish and Game, pers. comm., 1993) and the University of California, Davis (Lesa Meng, U.S. Fish and Wildlife Service pers. comm., 1993). This information showed that in 1993, delta smelt spawned in the Sacramento River, at least as far upstream as the City of Sacramento and in tidally-influenced shallow freshwater sloughs (Dale Sweetnam, pers. comm., 1993). In 1991, when delta smelt had all but disappeared from Suisun Marsh, relatively large numbers of delta smelt were caught in Suisun Slough, as far upstream as Suisun City (Lesa Meng, pers. comm., 1993). The revised rule proposed to expand the geographic extent of critical habitat to include additional areas now known to constitute important spawning habitat.

In addition, in an April 23, 1993, letter received during the public comment period, the Environmental Protection Agency (EPA) requested that new scientific information presented in its draft proposed Bay/Delta water quality standards be considered in the Service's designation of critical habitat. The water quality standards were to apply to the surface waters of the Sacramento River, San Joaquin River, and San Francisco Bay and Delta of the State of California (Bay/Delta) pursuant to section 303 of the Clean Water Act (CWA). As a result of EPA's analysis

respecting the number of days that low-salinity water was historically located at three locations in the Estuary, the Service refined the description of the constituent elements for the delta smelt. The proposed critical habitat was revised therefore to encompass upstream spawning habitats and to better define constituent elements necessary to protect those areas essential to the recovery of the species. Comment on the revised proposal and its draft economic analysis was solicited.

On the same date that the Service published its revised critical habitat rule, the Service proposed the Sacramento splittail (*Pogonichthys macrolepidotus*) as a threatened species and EPA published its proposed rule to establish water quality standards for surface waters of the Sacramento River, San Joaquin River, and San Francisco Bay and Delta pursuant to section 303 of the CWA. Those water quality standards are meant to protect the estuary as a whole, and therefore contain more than the salinity criterion. EPA's water quality proposal also includes salmon smolt survival criteria to protect fish migration and cold freshwater habitat designated uses in the estuary in its January 6, 1994, rule, along with proposed striped bass spawning criteria.

Designation of critical habitat at this time is part of a coordinated effort between the Service, EPA, National Marine Fisheries Service (NMFS), and the Bureau of Reclamation (Bureau) (collectively, "Club Fed") to protect and recover the delta smelt and the Estuary ecosystem.

#### Relationship Between Fish and Wildlife Service and EPA Actions

The Service and EPA recognized that their proposed regulatory actions (e.g., delta smelt critical habitat and EPA's water quality standards) overlapped biologically and economically. As such, both agencies worked closely to provide a comprehensive, ecosystem-based approach for the protection of the fish and wildlife resources of the Estuary. This coordination has resulted in regulatory actions that are integrated in both substance and timing.

Biologically, the critical habitat designation for the delta smelt and the salinity criteria within EPA's water quality standards are directly related. Specifically, salinities of 2 ppt in Suisun Bay were identified as a primary constituent element in the October 3, 1991, critical habitat proposal. Subsequent scientific publications indicate that salinities associated with the distribution of delta smelt may

provide the best basis for setting standards for many species that are affected by freshwater discharge from the Estuary (Moyle *et al* 1992, San Francisco Estuary Project 1993). Favorable conditions from February through June are important to the abundance and reproductive success of almost all species that live in or migrate through the upper Estuary. Because EPA's water quality standards address the location of 2 ppt salinities from February to June, its standards will address certain critical habitat (water quality) requirements for delta smelt.

In the text of the January 6, 1994, proposed rule to designate critical habitat for the delta smelt, the Service identified specific salinity criteria required to maintain habitat for delta smelt through its entire life cycle. These criteria had been determined in coordination with EPA in preparation of its proposed water quality standards. Subsequent to publication of the critical habitat proposed rule, the Service received many comments objecting to the specificity of the salinity criteria. During numerous discussions with interested parties (and in the following response to comments), Service staff have explained that the detailed discussion within the text of the proposed rule was meant to clearly describe the need for including a water quality criterion specific to salinity as one primary constituent element. The actual regulation that was proposed for publication in the Code of Federal Regulations, however, was much less specific as to allow broad flexibility in implementation of the provisions of the Act. Therefore, to clarify the Service's intent to preserve the flexibility inherent in implementation of the section 7 regulations, the following discussion of the primary constituent elements necessary to define delta smelt critical habitat, is general in scope. However, the Service has coordinated carefully and extensively with EPA to ensure that EPA's final rule promulgating Water Quality Standards for Surface Waters of the Sacramento River, San Joaquin River, and San Francisco Bay and Delta of the State of California affords sufficient protection to further the recovery of the delta smelt. EPA's final rule is published in this same Federal Register, in a separate part. In its proposed rule, EPA requested that specific comments be submitted on several issues, including the possibility of modifying the Sacramento River Index for the purposes of developing the salinity criteria, alternative approaches to the averaging period used in its proposed salinity criteria, and

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evaluation of the merits of the use of different forms of confidence intervals with the proposed criteria. In developing this final rule, the Service has considered all such comments. These issues also were discussed with EPA in regard to the development of its water quality standards and the Service's section 7 consultation with EPA on promulgation of these standards.

Section 7 of the Act requires that all Federal agencies ensure that their actions do not jeopardize the continued existence of listed species or adversely modify designated critical habitat. EPA's action in promulgating water quality standards must comply with the section 7 consultation requirement.

#### Definition of Critical Habitat

Critical habitat is defined in section 3(5)(A) of the Act as "(i) the specific areas within the geographical area occupied by the species at the time it is listed \* \* \* on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed \* \* \* upon a determination \* \* \* that such areas are essential for the conservation of the species." The term "conservation", as defined in section 3(3) of the Act, means " \* \* \* to use and the use of all methods and procedures which are necessary to bring an endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." With recovery, no protection from the Act is necessary. Therefore, areas designated as critical habitat must contain those physical or biological features essential to recover a species to the point that it no longer requires protection under the Act and can be removed from the list of endangered and threatened species. Section 3(c) further states that in most cases the entire range of a species should not be encompassed within critical habitat. Areas outside the present geographic range may be included as critical habitat if a species' present range would be inadequate to ensure conservation of the species.

#### Role in Species Conservation

Use of the term "conservation" in the definition of critical habitat indicates that its designation should identify areas that may be needed for a species' recovery and delisting.

The designation of critical habitat will not, in itself, lead to recovery, but is one

of several measures available to contribute to a species' recovery. Critical habitat helps focus conservation activities by identifying areas that contain essential habitat features (primary constituent elements) regardless of whether or not they are currently occupied by the listed species, thus alerting the public to the importance of an area in the conservation of a listed species. Critical habitat also identifies areas that may require special management or protection. Critical habitat receives protection under section 7 of the Act with regard to actions carried out, funded, or authorized by Federal agencies. Section 7 requires that Federal agencies consult on actions that may affect critical habitat to ensure that their actions are not likely to destroy or adversely modify critical habitat. This additional protection to a species' habitat may actually shorten the time needed to achieve recovery. Aside from this added protection provided by section 7, the Act does not provide other direct forms of protection to lands designated as critical habitat.

Designating critical habitat does not create a management plan, establish numerical population goals, prescribe specific management actions (inside or out of critical habitat), nor does it have a direct effect on areas not designated as critical habitat. Specific management recommendations for critical habitat are more appropriately addressed in recovery plans, management plans, and section 7 consultations.

Critical habitat identifies specific areas essential to the conservation of a species. Areas with one or more essential features but not currently containing all of the features and areas having the capability to provide essential features in the future, may be required for the long-term recovery of the species. This may be so particularly in certain portions of its range. However, not all areas containing all features of a listed species' habitat are necessarily essential to the species' recovery. Areas not included in critical habitat that contain one or more of the essential elements are still important to a species' conservation and may be addressed under other facets of the Act and other conservation laws and regulations. All designated areas also may be of considerable value in maintaining ecosystem integrity and supporting other species.

Designation of critical habitat may be reevaluated and revised, at any time, when new information indicates that changes are warranted. The Service may revise critical habitat if management plans, recovery plans, or other

conservation strategies are developed and fully implemented, reducing the need for the additional protection provided by critical habitat designation. For example, after the draft Delta Native Fishes Recovery Plan (Recovery Plan) is finalized or the State promulgates more protective water quality standards for the Estuary than are currently in place, land and water management agencies may provide increased protection for the delta smelt. If these protection measures are implemented, the Service may revise its critical habitat designation.

#### Primary Constituent Elements

In determining which areas to designate as critical habitat, the Service considers those physical and biological features that are essential to a species' conservation (50 CFR 424.12(b)). The Service is required to list the known primary constituent elements together with a description of any critical habitat that is proposed. Such physical and biological features (i.e., primary constituent elements) include, but are not limited to, the following:

- (1) Space for individual and population growth, and for normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and
- (5) Generally, habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

The primary constituent elements essential to the conservation of the delta smelt are physical habitat, water, river flow, and salinity concentrations required to maintain delta smelt habitat for spawning, larval and juvenile transport, rearing, and adult migration.

The primary constituent elements are organized by habitat conditions required for each life stage. The specific geographic areas and seasons identified for each habitat condition represent the maximum possible range of each of these conditions. Depending on the water-year type (i.e., wet, above normal, normal, below normal, dry, critically dry), each of the habitat conditions specified below requires fluctuation (within-year and between-year) in the placement of the 2 ppt isohaline (a line drawn to connect all points of equal salinity) around three historical reference points. These three historical reference points are the Sacramento-San Joaquin River confluence, the upstream

limit of Suisun Bay at Chipps Island, and in the middle of Suisun Bay at Roe Island. The actual number of days that the 2 ppt isohaline is maintained at the three points varies according to water-year type.

In addition, to maintain habitat conditions necessary to achieve recovery of the delta smelt, the number of days at each reference point must simulate a level of water project development equivalent to that which historically existed in 1968. A 1968 level of development represents a period of time before Delta outflow was affected by the SWP and the delta smelt was abundant. This year (1968) falls within the time period identified by the Delta Native Fishes Recovery Team as having had appropriate hydrologic conditions that would allow recovery of the delta smelt. Additionally, on June 15, 1994, the Regional Director signed an Interagency Statement of Principles among the Service, NMFS, and EPA (Plenert, Fullerton, and Seraydarian, *in litt.* 1994) stating, in part, despite the effects of the water projects that were operating at that time, the Estuary ecosystem and its anadromous and resident fisheries were relatively healthy during the years between 1960 and 1970.

Further, to maintain suitable habitat conditions for recovery of the delta smelt, the naturally-occurring variability found in healthy estuarine ecosystems must be preserved for the following reasons—(1) temporal and spatial variability of the 2 ppt isohaline will be the most effective deterrent to further invasion of newly introduced species and continued competition by those that are already established, (2) placement of the 2 ppt isohaline in Suisun Bay will produce the high phytoplankton and zooplankton densities that characterize most healthy estuarine ecosystems, and (3) variability is needed to simulate natural processes and historical conditions.

The primary constituent elements for the delta smelt are:

**Spawning Habitat**—Delta smelt adults seek shallow, fresh or slightly brackish backwater sloughs and edgewaters for spawning. To ensure egg hatching and larval viability, spawning areas also must provide suitable water quality (i.e., low concentrations of pollutants) and substrates for egg attachment (e.g., submerged tree roots and branches and emergent vegetation). Specific areas that have been identified as important delta smelt spawning habitat include Barker, Lindsey, Cache, Prospect, Georgiana, Beaver, Hog, and Sycamore sloughs and the Sacramento River in the Delta, and tributaries of northern Suisun Bay. The

spawning season varies from year to year and may start as early as December and extend until July.

**Larval and Juvenile Transport**—To ensure that delta smelt larvae are transported from the area where they are hatched to shallow, productive rearing or nursery habitat, the Sacramento and San Joaquin Rivers and their tributary channels must be protected from physical disturbance (e.g., sand and gravel mining, diking, dredging, and levee or bank protection and maintenance) and flow disruption (e.g., water diversions that result in entrainment and in-channel barriers or tidal gates). Adequate river flow is necessary to transport larvae from upstream spawning areas to rearing habitat in Suisun Bay. Additionally, river flow must be adequate to prevent interception of larval transport by the State and Federal water projects and smaller agricultural diversions in the Delta. To ensure that suitable rearing habitat is available in Suisun Bay, the 2 ppt isohaline must be located westward of the Sacramento-San Joaquin River confluence during the period when larvae or juveniles are being transported, according to the historical salinity conditions which vary according to water-year type. Reverse flows that maintain larvae upstream in deep-channel regions of low productivity and expose them to entrainment interfere with these transport requirements. Suitable water quality must be provided so that maturation is not impaired by pollutant concentrations. The specific geographic area important for larval transport is confined to waters contained within the legal boundary of the Delta, Suisun Bay, and Montezuma Slough and its tributaries. The specific season when habitat conditions identified above are important for successful larval transport varies from year to year, depending on when peak spawning occurs and on the water-year type. The Service identified situations in the biological opinion for the delta smelt (1994) where additional flows might be required in the July–August period to protect delta smelt that were present in the south and central Delta from being entrained in the State and Federal project pumps, and to avoid jeopardy to the species. The long-term biological opinion on CVP–SWP operations will identify situations where additional flows may be required after the February through June period identified by EPA for its water quality standards to protect delta smelt in the south and central Delta.

**Rearing Habitat**—Maintenance of the 2 ppt isohaline according to the historical salinity conditions described

above and suitable water quality (low concentrations of pollutants) within the Estuary is necessary to provide delta smelt larvae and juveniles a shallow, protective, food-rich environment in which to mature to adulthood. This placement of the 2 ppt isohaline also serves to protect larval, juvenile, and adult delta smelt from entrainment in the State and Federal water projects. An area extending eastward from Carquinez Strait, including Suisun Bay, Grizzly Bay, Honker Bay, Montezuma Slough and its tributary sloughs, up the Sacramento River to its confluence with Three Mile Slough, and south along the San Joaquin River including Big Break, defines the specific geographic area critical to the maintenance of suitable rearing habitat. Three Mile Slough represents the approximate location of the most upstream extent of tidal excursion when the historical salinity conditions described above are implemented. Protection of rearing habitat conditions may be required from the beginning of February through the summer.

**Adult Migration**—Adult delta smelt must be provided unrestricted access to suitable spawning habitat in a period that may extend from December to July. Adequate flow and suitable water quality may need to be maintained to attract migrating adults in the Sacramento and San Joaquin River channels and their associated tributaries, including Cache and Montezuma sloughs and their tributaries. These areas also should be protected from physical disturbance and flow disruption during migratory periods.

To conserve the delta smelt, this final rule designates critical habitat in an area encompassing the specific habitat conditions required by each life stage identified above. Accordingly, critical habitat is designated in the following geographic area—areas of all water and all submerged lands below ordinary high water and the entire water column bounded by and contained in Suisun Bay (including the contiguous Grizzly and Honker Bays); the length of Goodyear, Suisun, Cutoff, First Mallard (Spring Branch), and Montezuma sloughs; and the existing contiguous waters contained within the Delta. Thus, critical habitat for the delta smelt is contained within Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties, California. The "Regulation Promulgation" section provides a precise metes and bounds description of critical habitat designated for the delta smelt.

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**Effects of Critical Habitat Designation**

Section 4(b)(8) of the Act requires for any proposed or final regulation that designates critical habitat a brief description and evaluation of those activities (public or private) that may adversely modify such habitat or may be affected by such designation. At the time of preparation of the revised proposed rule, the Service identified the following list of proposed or ongoing actions whose effects likely would jeopardize the delta smelt and adversely modify or destroy its critical habitat—Central Valley Project operations, State Water Project operations, deep water navigation channel dredging, reoperation of Folsom Dam, Oroville Dam, and Auburn Dam, Central Valley and State Water Project Wheeling Purchase Agreement, San Joaquin Valley Drainage Program, Central Valley Project water contract renewals, petition by the Bureau for a change in diversion point, South Delta Water Management, South Delta Temporary Barriers Project, Stanislaus-Calaveras River Basin Water Use Program, Phases 3 and 4 of the Suisun Marsh Project, North Delta Water Management Project, West Delta Water Management Project, Delta Wetlands Water Storage Project, Los Banos Grandes Reservoir, Los Vaqueros Reservoir, Kern Water Bank, full operation of four State Water Project pumps, entrainment of fish and thermal pollution by industry (e.g., power generation facilities), urban or agricultural nonpoint contaminant discharges, in-Delta and Suisun Marsh water diversion, Phase 2 of the Coastal Aqueduct, and the Delta Levee Subvention Program. Since publication of the revised proposed rule, the Service has determined through section 7 consultations that the South Delta Temporary Barriers Project, deep water navigation channel dredging, Los Vaqueros Reservoir Project, and Phase 2 of the Coastal Aqueduct Project will not jeopardize the delta smelt.

The proposed rule to revise the critical habitat designation did not identify any proposed actions that might jeopardize the delta smelt without adversely affecting critical habitat. In the revised proposed rule, the Service did identify (based on section 7 consultation experiences) five activities that, depending on the season of construction and scale of the project, might result in the destruction or adverse modification of critical habitat without necessarily jeopardizing the continued existence of the delta smelt. These activities were:

(1) Sand and gravel extraction in river channels or marshes;

(2) Diking wetlands for conversion to farmland and dredging to maintain these dikes;

(3) Levee maintenance and bank-protection activities, such as riprapping, removal of vegetation, and placement of dredged materials on levees of banks;

(4) Operation of the Montezuma Slough Control Structure; and

(5) Bridge and marina construction. Construction and implementation of each of these five actions requires authorization by the Army Corps of Engineers (Corps) pursuant to section 10 of the Rivers and Harbors Act of 1899 and section 404 of the CWA and therefore are considered Federal actions. In a section 7 consultation with the Bureau and the California Department of Fish and Game, California Department of Water Resources (DWR), the Service reviewed the operation of the Montezuma Slough Control Structure for effects on delta smelt. As a result, DWR and the Bureau sponsored an investigation of the effects of the operation of the Structure on delta smelt, and DWR committed to operate the gates only as required to meet existing Suisun Marsh salinity standards. When not operating, the gates on the Structure will remain in the raised position. The effect of gate operation on delta smelt is currently being studied, and the Service will make a determination on the Structure's operations in the near future. As to the other actions, the Service will consult with the Corps as these actions arise.

On February 4, 1994, subsequent to the publication of the January 6, 1994, revised proposed rule to designate critical habitat, the Service transmitted to the Bureau a jeopardy biological opinion on the combined operation of the Federal and State Water Projects on the delta smelt through February 1995. In the 1994 biological opinion, the Service determined that the proposed operation of the Federal and State Water Projects likely would jeopardize the continued existence of the delta smelt and would destroy or adversely modify proposed critical habitat. This one-year opinion did not recommend a reasonable and prudent alternative that distinguished between the number of days of compliance with the 2 ppt criteria to avoid jeopardy and the number of days of compliance that would have been required to avoid destruction or adverse modification of proposed critical habitat. The Service acknowledges that such a distinction may be appropriate in future biological opinions.

Any possible revisions to the biological opinion will recognize three major initiatives that will shape the

dynamics of future estuarine conditions for delta smelt. First, in accordance with a Framework Agreement (1994) between the Governor's Water Policy Council of the State of California (Council) and Club Fed, the State Board will seek agreement with DWR and the U.S. Department of the Interior to operate the SWP and CVP to make an equitable contribution to meeting the revised water quality standards beginning calendar year 1995. The Board will seek this agreement while they are working on a water rights decision to allocate responsibility among water rights holders in the Bay-Delta watershed. Second, section 7(a)(1) of the Act imposes an affirmative obligation on Federal agencies to carry out programs for the conservation (recovery) of listed species. With the forthcoming issuance of a Delta Native Fishes Recovery Plan, currently in preparation, the Service expects that local, State, and Federal agencies will fulfill their responsibilities by assisting in the completion of tasks and objectives in the plan. Third, and related to number two, the scheduled renewal of water contracts (i.e., reopened or expired Federal Energy Regulatory Commission (FERC) licenses, expired CVP water contracts) will provide an additional opportunity under sections 7(a)(1) and 7(a)(2) of the Act to implement Recovery Plan objectives and meet EPA's water quality standards. Collectively, these initiatives likely will result in a phased improvement to water quality based habitat requirements for the delta smelt. Accordingly, the Service anticipates that adverse modification or destruction of critical habitat will be avoided by operation of the CVP, SWP, and other water management facilities with implementation of the above described initiatives.

**Consideration of Economic and Other Factors**

Section 4(b)(2) of the Act requires the Service to consider economic and other relevant impacts of specifying any particular area to be included within the critical habitat boundary. EPA, in coordination with the Service, included an analysis of the effects of designation of critical habitat for the delta smelt in its draft Regulatory Impact Assessment (RIA) for its proposed water quality standards. A summary of that analysis was provided in the revised proposed rule designating critical habitat for the delta smelt (59 FR 852).

The Service stated in the revised proposed rule that if the final economic analysis substantially differed from the draft analysis summarized in the revised proposed rule, a revised analysis would

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be made available for public comment. No opportunity for public comment was afforded because the results of the final economic analysis do not substantially differ from the results of the draft analysis.

EPA's economic analysis assumes that the economic impact of restricting activities associated with construction and implementation of major water projects would be attributable to the jeopardy standard imposed by listing the delta smelt as a threatened species, as opposed to designation of critical habitat. Specifically, the impacts of designating critical habitat are in addition to the economic and other impacts attributable to (1) listing of the species, (2) economic effects resulting from conservation actions taken by other Federal agencies under section 7(a)(1) of the Act, and (3) regulatory actions required by other laws.

Section 9 of the Act and Service regulations prohibit the taking of delta smelt without express authorization from the Service. Under Service regulations, "take" may include significant habitat modification or degradation that actually kills or injures protected species. In addition, Federal agencies must consult with the Service to ensure that their actions are not likely to jeopardize the continued existence of the listed species. An action could jeopardize the existence of a listed species if it destroys or modifies its habitat. This is so regardless of whether that habitat has been designated as critical habitat. Therefore, the direct economic and other impacts resulting from designation of critical habitat are relatively small because the Act provides substantial protection to habitat through listing of the species itself. In general, designation of critical habitat supplements the protection afforded a listed species.

The RIA concluded that economic costs attributable to the designation of critical habitat for the delta smelt would be relatively small. In the revised proposed rule, the Service determined that economic costs would be attributable to five actions (i.e., sand and gravel extraction, diking wetlands, levee maintenance and bank protection activities, operation of the Montezuma Slough Control Structure, and bridge and marine construction). In the final RIA prepared by EPA (EPA 1994), the economic costs attributable to designation were from the same five actions.

#### Economic Impacts Attributable Directly to Critical Habitat Designation

A synopsis of the economic impacts associated with the five activities identified by the Service includes:

**Sand and Gravel Operations**—Four aggregate operators in the delta may be affected by the designation of critical habitat. Two of the aggregate operations in the Delta are located in San Joaquin County, which has a total of eleven aggregate sites. The estimated value of aggregate production for San Joaquin County in 1986 was \$13 million. The four aggregate operations in the Delta that could be affected by the regulation produced a small percentage of California's aggregate in 1992, which had a total value of \$473 million. The economic impacts on the aggregate production industry resulting from the designation of critical habitat likely will be minor, given the relatively small amount of sand and gravel production occurring in the Delta.

In many cases, minor changes to the timing of extraction to avoid sensitive biological periods will minimize the economic effects on mining activities. Mitigation in the form of habitat replacement might be required for operations that may result in the destruction or adverse modification of critical habitat. Costs to restore 1 acre of wetlands range between \$10,000 to \$50,000. Mitigation costs could be reduced if low-cost lands were acquired, and levees were breached to flood areas. For some tracts of land, the costs associated with restoring wetlands may exceed the value derived from the agricultural activity, in which case the cost attributable to critical habitat would be the loss in agricultural income.

**Diking and Dredging for Agricultural Operations**—Though designation of critical habitat for the delta smelt may require implementation of best management practices and a 3:1 ratio of permanently destroyed habitat in proposed project areas, the economic impacts of restricting diking and dredging operations are expected to be minimal. For example, the regulatory costs (i.e., with critical habitat designated) associated with converting the Little Holland Tract in the Delta to agricultural uses with critical habitat designated would be the cost to replace 440 acres of habitat at a 3:1 ratio (EPA 1994). The expense of replacing habitat would likely exceed the economic returns from agricultural production on this tract, which was historically planted for corn. Foregone income from future agricultural production on the

1,300 arable acre tract would amount to \$65,000 per year.

**Levee Maintenance**—Between 1981–1991, local agencies maintained 536.6 miles of levee in the Delta, spending an average of \$1.24 million per mile (EPA 1994). Approximately 41% of the costs were financed through State subventions. The costs of levee maintenance are not expected to increase significantly due to this critical habitat designation because Federal regulatory agencies currently have timing and construction restrictions that generally avoid adverse effects to the delta smelt.

**Montezuma Slough Control Structure Operations**—The economic impacts associated with the operation of the Montezuma Slough Control Structure could not be estimated by the time this final rule was published. In response to a biological opinion issued by the USFWS to DWR and the Bureau on the Structure's operation, an investigation of the effects of the Structure on delta smelt is being conducted, and will be completed in the near future. The Structure's operations may be modified once the study is completed. The gates at this structure are currently operated from November to March in accordance with current State salinity standards to maintain low-salinity water in Suisun Marsh, but remain open the remainder of the year.

**Bridge and Marina Construction**—The use of best management practices, time restrictions, and other construction restrictions similar to those for levee maintenance and sand and gravel operations should preclude any substantial impact from designation of delta smelt critical habitat on bridge and marina construction.

#### Water Costs Attributed to EPA's Salinity Standards

EPA's economic analysis evaluated the costs associated with implementing its water quality standards for the Bay/Delta. Since the Service identifies water quality (salinity) as a primary constituent element essential to conserve the delta smelt, an analysis of the water costs associated with implementing the salinity standards is included in this final rule. Though the water costs associated with the water quality standards are attributable to EPA, the Service includes this discussion to make clear the approximate cost of implementing the salinity standards alone.

The water costs associated with the salinity standards and fish migration standards are reported in EPA's final RIA (EPA 1994). EPA reports the water costs as the sum of costs associated with

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the salinity standards and fish migration standards. However, depending on hydrologic conditions, approximately 35% to 73% of the water costs in the EPA economic analysis can be attributed to the salinity criteria alone, apart from the fish migration criteria (EPA 1994).

The overall estimated water supply impacts of both the salinity and fish migration water quality standards (change in total exports) over those associated with existing D-1485 State salinity standards and water quality requirements for winter-run chinook salmon under a NMFS biological opinion are 376 thousand acre-feet (taf) per year on average, and 577 taf during critically dry periods. However, the State's implementation plan for EPA's water quality standards will substantially affect the magnitude and distribution of the costs associated with implementing the water quality standards. A more detailed discussion of the water costs associated with different implementation scenarios appears in the final RIA (EPA 1994).

#### National Economic Costs

Actions taken to preserve and recover threatened and endangered species may result in the re-allocation of resources within the regional and national economy. National economic costs, best described as efficiency costs, include changes in the consumer and producer surplus, and related employment impacts. These measures capture the net social gains and losses resulting from the resource allocation.

The national economic cost of the five activities evaluated above (sand and gravel extraction, diking wetlands, levee maintenance and bank protection activities, operation of the Montezuma Slough Control Structure, and bridge and marina construction) is minimal since the overall economic cost of those activities in the region is minimal.

EPA's economic analysis used the above described measures to estimate the costs and benefits of the water quality standards. Therefore, the results of EPA's economic analysis is identical to an analysis done for national economic costs.

#### Benefits of Critical Habitat Designation

Conservation of the delta smelt with designation of its critical habitat will result in a wide range of benefits. Section 2(a)(3) of the Act recognizes that fish, wildlife, and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people. EPA (1994) categorizes the benefits of promulgating water quality standards

and designating critical habitat as use, nonuse, and other benefits. A more detailed description of these uses are contained in the final RIA (EPA 1994).

Several use and nonuse benefits can be attributed to designating critical habitat for the delta smelt, apart from benefits attributable to EPA's water quality standards. Generally, the designation of critical habitat will prevent the further decline of estuarine health. Benefits include:

- (1) Reduced need in the future to list fish and wildlife species currently in decline;
- (2) Increased biological production of commercially important species, such as waterfowl and salmon;
- (3) Increased protection to a wide variety of estuarine species, several of which are unique to the Estuary (e.g., winter-run chinook salmon, Estuary population of longfin smelt, and Sacramento splittail);
- (4) Curtailed establishment of newly introduced exotic species and deterred explosion of the current population of already established exotic species;
- (5) Increased recreational fishing and hunting opportunities;
- (6) Increased opportunities for wildlife observation resulting from restoration of riparian and tidal marsh habitat and ecosystem health; and
- (7) Improved commercial fishery harvest as a result of increased populations of fish.

EPA (1994) assigned a monetary value to several of the use benefits. The economic benefits of EPA's standards are broader than protection of the delta smelt, since EPA's standards are expected to positively affect all components of the food web. The total economic benefit of EPA's water quality standards and the designation of critical habitat for the delta smelt are reported as follows. The ecological benefits of improved estuarine conditions are expected to generate at least \$2.1 million or more in net economic benefits to commercial and recreational fisheries (particular salmon fisheries), and will have an associated employment gain of approximately 145 full-time equivalent jobs (EPA 1994). Benefits to the ocean sport fishery for salmon is estimated at about \$708,000 annually (EPA 1994). This increase would result in positive employment effects on sport fishing-related industry, adding approximately 70 jobs in this area. Annual benefits to the striped bass sport fishing industry is estimated to be \$57,500 annually (EPA 1994).

An important avoided cost is associated with further declines in the recreational and commercial fisheries industry of the Bay/Delta, which is

valued at \$200 million annually (EPA 1994). Other avoided costs include government costs associated with crop deficiency payments, agricultural drainage costs, and costs associated with the potential reduction in property value.

#### Summary of the Exclusion Process

In order to determine the specific extent of designation of critical habitat pursuant to section 4(b)(2) of the Act, the Service must analyze:

- (1) The benefits of excluding an area as critical habitat,
- (2) The benefits of including an area, and
- (3) The effects of exclusions on the probability of species extinction.

This process consists of (1) estimating the benefits of retaining or excluding land and water areas contained within Suisun Bay or river reaches within the Delta and Montezuma, Goodyear, Suisun, Cutoff, and First Mallard (Spring Branch) sloughs; (2) weighing those benefits; and (3) determining if exclusion of an area or areas from critical habitat will lead to the extinction of the species. If the exclusion of an area or areas from critical habitat will result in eventual species extinction, then the exclusion would be prohibited under the Act.

#### Extinction

Critical habitat consists of areas with habitat characteristics that are essential to the conservation of a listed species. However, the exclusion process focuses upon a threshold for species extinction. Conservation (recovery) and extinction are separate standards. Recovery and extinction are at opposite ends of a continuum, with the likelihood of a species' continued survival increasing the closer the species is to the recovery end of the continuum. It may be more difficult to predict the point at which extinction would be inevitable than to determine where recovery may occur.

The analysis to determine whether extinction will occur will be different for each species, depending on many variables, including a species' geographic range. The exclusion analysis also may be related to a number of factors, such as the number of individuals, amount of habitat, condition of the habitat, and reproductive success. Extinction of an annual species, like the delta smelt, most likely would occur when rearing habitat conditions are poor enough for two consecutive years that some minimum number of fish fail to survive to reproduce. Habitat conditions could become poor enough if pumping at Federal and State water project facilities

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and private diversions significantly reduce outflow from the Delta. If a sufficient number of delta smelt were entrained in Federal and State water project facilities and private diversions so that a minimal number survived to reproduce, the population could decline. Extinction could result. The focus of the exclusionary analysis was on those factors that pertain to these issues and included consideration of habitat condition, functioning of the Estuary ecosystem, and proximity of the delta smelt population to the Federal and State pumps during various life stages.

#### Criteria and Decision

In evaluating the designation of critical habitat to determine whether or not to exclude areas because of concerns over economic effects, the Service used the following process:

- (1) Based upon the criteria described in this document, the geographical area essential to the conservation of the species was identified; and
- (2) An economic analysis was conducted to ascertain the anticipated economic consequences of designating areas as critical habitat, using agricultural and urban sectors as the primary level of economic analysis.
- (3) The Service balanced the costs and other impacts of designation with the benefits of designation.

#### Exclusion

Using the above described process, the Service has determined that no exclusions to critical habitat are appropriate. The entire geographic area designated as critical habitat is essential to conserve the delta smelt. Delta smelt are restricted to a limited geographic area, and retaining land and water areas contained within Suisun Bay and river reaches within the Delta and Montezuma, Goodyear, Suisun, Cutoff, and First Mallard (Spring Branch) sloughs is necessary to recover this annual species. These areas provide habitat necessary for each life stage of the species.

The economic consequences of designating the entire area as critical habitat are relatively small. Most economic costs can be avoided by project proponents by using timing and construction restrictions, and by using best management practices. Designation of critical habitat will reduce the need in the future to list fish and wildlife species currently in decline, and will improve the overall health of the Estuary. The benefits of designating the entire area outweigh the benefits of excluding any of the area from the designation.

#### Available Conservation Measures

The purpose of the Act, as stated in section 2(b), is to provide a means to conserve the ecosystems upon which endangered and threatened species depend and to provide a program for the conservation of listed species. Section 2(c)(1) of the Act declares that " \* \* \* all Federal departments and agencies shall seek to conserve endangered and threatened species and shall utilize their authorities in furtherance of the purposes of this Act.

The Act mandates the conservation of listed species through different mechanisms, such as: Section 7 (requiring Federal agencies to further the purposes of the Act by carrying out conservation programs and insuring that Federal actions will not likely jeopardize the continued existence of the listed species or result in the destruction or adverse modification of critical habitat); section 9 (wildlife research permits and habitat conservation planning on non-Federal lands); section 6 (cooperative State and Federal grants), land acquisition, and research. Other Federal laws also require conservation of endangered and threatened species, such as the National Forest Management Act and the National Environmental Policy Act, and various other State and Federal laws and regulations.

Critical habitat is not intended as a management or conservation plan. Critical habitat is primarily intended to identify the habitat that meets the criteria for the primary constituent elements. However, there are benefits that result from the designation. Designation will help retain recovery options and reduce the near-term risk until a long-term conservation plan is implemented.

Designation of critical habitat does not offer specific direction for managing delta smelt habitat. That type of direction, as well as any change in direction, will come through the administration of other facets of the Act (e.g., section 7, section 10 HCP process, and recovery planning).

#### Recovery Planning

Recovery planning under section 4(f) of the Act is the "umbrella" that eventually guides all the Act's activities and promotes a species' conservation and eventual delisting. Recovery plans provide guidance, which may include population goals and identification of areas in need of protection or special management. Recovery plans usually include management recommendations for areas proposed or designated as critical habitat.

The delta smelt and six other fish species that depend on the Estuary for a significant segment of their life history are included in the Sacramento-San Joaquin Delta Native Fishes Recovery Plan. The recovery plan is currently in draft form. The recovery plan will include recovery criteria based on population abundance and geographic distribution. Designation of critical habitat, along with the biological opinion evaluating the effects of the Federal and State water projects on the delta smelt, is consistent with the plan's objective to recover these fish species.

#### Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to destroy or adversely modify critical habitat. This Federal responsibility accompanies, and is in addition to, the requirement in section 7(a)(2) of the Act that Federal agencies ensure that their actions do not jeopardize the continued existence of any listed species.

Jeopardy is defined at 50 CFR 402.02 as any action that would be expected to appreciably reduce the likelihood of both the survival and recovery of a species. Destruction or adverse modification of critical habitat defined at 50 CFR 402.02 as a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. The regulations also clearly state that such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.

Survival and recovery, mentioned in both the definition of adverse modification and jeopardy, are directly related. Survival may be viewed as a linear continuum between recovery and extinction of the species. The closer one is to recovery, the greater the certainty in the species continued survival. The terms "survival and recovery" are, thus, related by the degree of certainty that the species will persist over a given period of time. Survival relates to viability. Factors that influence a species' viability include population numbers, distribution throughout the range, stochasticity, expected duration, and reproductive success. A species may be considered recovered when there is a high degree of certainty for the species' continued viability.

The Act's definition of critical habitat indicates that the purpose of critical habitat is to contribute to a species' conservation, which by definition equates to recovery. Section 7

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prohibitions against the destruction or adverse modification of critical habitat apply to actions that would impair survival and recovery of a listed species, thus providing a regulatory means of ensuring that Federal actions within critical habitat are considered in relation to the goals and recommendations of a recovery plan. As a result of the link between critical habitat and recovery, the prohibition against destruction or adverse modification of the critical habitat should provide for the protection of the critical habitat's ability to contribute to a species' recovery.

Federal actions that may affect the delta smelt or its critical habitat include those authorized, carried out, or funded by the Corps, Department of the Navy, the Bureau, NMFS, FERC, the Service, and EPA. The Corps funds projects and issues permits for water pumping and diversion facilities, levee construction or repair, bank protection activities, deep-water navigation channel dredging and dredge spoil disposal projects, sand and gravel extraction, marina and bridge construction, diking of wetlands for conversion to farmland, and tidal gate or barrier installation. The Corps also develops permits pursuant to section 404 of the CWA to the Department of the Navy so the Navy may dredge deep-water ship channels and dispose of dredge materials in Suisun Bay, San Pablo Bay, and San Francisco Bay. The Corps also conducts such activities for the Navy.

The Bureau and DWR construct, operate, and manage water export facilities. EPA reviews State water quality standards and promulgates replacement standards, pursuant to the CWA, if the State standards are found to be inadequate. FERC licenses water storage facilities on tributaries to the Sacramento-San Joaquin Delta. In 1991, EPA disapproved portions of the State Board's Water Quality Control Plan for Salinity for the Estuary. Accordingly, EPA has prepared proposed and finalized replacement standards for those portions of the State's salinity standards that were disapproved. Measures to protect the federally listed winter-run chinook salmon, for which NMFS has jurisdiction under the Act, also may affect the delta smelt and may require consultation with the Service.

The Service and the Bureau are jointly responsible for implementing the Central Valley Project Improvement Act (CVPIA). Activities under the CVPIA include, but are not limited to, management of a portion of the CVP water supply dedicated for fish and wildlife protection, restoration, and enhancement, acquisition of additional

water supplies for the same purposes, and screening unscreened diversions in the Sacramento-San Joaquin watershed. Both the Bureau and Service activities under the CVPIA may affect delta smelt or its critical habitat, requiring consultation with the Service.

Under section 4 of the Act, listing of the delta smelt provided a requirement for the development of a recovery plan. The Service convened the Delta Native Fishes Recovery Team to prepare a Recovery Plan for declining native fishes in the Estuary. The Recovery Plan, currently in draft form, will develop a framework for Federal, State, and private entities to coordinate activities and cooperate with each other in conservation efforts. The plan will set recovery priorities and estimate the costs of various tasks necessary to accomplish recovery goals. Site-specific management actions necessary to achieve survival and recovery of the delta smelt and other fishes native to the Estuary ecosystem also will be described in this plan.

#### Summary of Comments and Recommendations

Designation of critical habitat for the delta smelt was first proposed on October 3, 1991 (56 FR 50075), as part of the proposed rule to list the species. During the 4-month comment period following publication of the proposal, the Service received 360 written and oral comments from 348 individuals. Of the forty-four people who commented specifically on critical habitat, thirty-four opposed and ten supported the designation.

On March 16, 1993 (58 FR 14199), the Service published a notice that the public comment period on the original proposed critical habitat designation for the delta smelt was reopened until April 30, 1993, to allow the Service to consider any information that previously had not been submitted. In response, the Service received seven letters—two in support of critical habitat designation as proposed, four in opposition, and a letter from EPA requesting that the Service consider the biological and hydrological information described in EPA's draft proposed rule to promulgate Bay/Delta water quality standards.

On January 6, 1994 (59 FR 852), the Service revised the geographical area and refined the primary constituent elements described in the original critical habitat proposal. The public comment period for the revised proposed critical habitat designation was open from January 6, 1994, to March 7, 1994, and later extended to March 11, 1994 (59 FR 3829). During the

65-day comment period, the Service received written comments from forty-three parties on both the critical habitat designation and EPA's proposed water quality standards for the Bay/Delta. Thirty-two commenters were opposed to critical habitat designation, nine supported the decision, and two expressed no preference. Several commenters either referenced or supported the comments of the California Urban Water Agencies (CUWA).

Four joint public hearings were held to solicit comments on the revised proposed critical habitat designation, the proposed threatened status for the Sacramento splittail, and the proposed water quality standards developed by EPA. A total of 125 people presented oral testimony and submitted written comments at the hearings, primarily on delta smelt critical habitat and Bay/Delta water quality standard issues. The Service received comments from elected officials, interested persons, municipal and agricultural water districts and associations, environmental organizations, business and industry owners and managers, fishing enthusiasts, farmers, agricultural commissions and dairy interests, biologists, county and municipal officials, power agency representatives, hospital and school district representatives, and building industry spokespeople.

At the February 23, 1994, hearing in Fresno, thirty-eight people presented oral testimony—thirty-six people opposed and two supported critical habitat designation. Nineteen people testified at the February 24, 1994, Sacramento meeting—fifteen people were opposed to the designation, three were in support, and one person was neutral.

Twelve people testified at the February 25, 1994, hearing in San Francisco—nine people supported and three opposed the critical habitat designation. At the February 28, 1994, hearing in Irvine, fifty-six people presented oral and written comments (fifty-one people testified and five submitted only written comments)—fifty of the fifty-six commenters opposed critical habitat, five were neutral, and one supported the designation.

Comments addressing the issue of available scientific information used to revise the proposed rule were addressed in the revised proposed rule of January 6, 1994 (59 FR 852). The Service addressed EPA's comments, as well as comments provided by the State. All other comments are addressed below in this final rule. Because EPA can better respond to comments regarding the

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economic analysis and the assumptions used to develop its Bay/Delta water quality standards, the Service refers to EPA's "Response to Comments" document for responses to comments specific to those issues. However, the Service will respond to any comments regarding the relationship between EPA's water quality standards and the biological requirements of the delta smelt in this section, and to comments regarding the economic analysis as it is associated with the critical habitat designation.

Comments are part of the administrative record and are available for public review. Written comments and oral statements presented at the public hearings and received during the comment periods are covered in the following summary. Comments of a similar nature or point are grouped into a number of general issues. These issues, and the Service's response to each, are discussed below.

#### *Estuarine Standard Issues*

*Comment 1:* One commenter thought the Service should not adopt EPA's Bay/Delta water quality standards as part of the designation of critical habitat for the delta smelt. The commenter asserted that because the Service had not described the biological relevance of the standards, adopting the standards would be "throwing water at the problem". Another commenter thought EPA's criteria were developed to serve non-habitat purposes, reasoning that their purpose was to remove organisms from risk of mortality at the pumps. Another commenter thought flow, rather than salinity or the location of the entrapment zone, was a more appropriate parameter to protect the western Delta and Suisun Marsh. A commenter at the public hearings believed the Service should not have selected such a strict standard of salinity (2 ppt) for the delta smelt's critical habitat.

*Service Response:* The Service does not adopt EPA's water quality standards in the designation of critical habitat for the delta smelt. The Service identifies water quality (salinity) as a primary constituent element to protect and recover the delta smelt. This point is described in detail in comment 27, below, and is clarified in the section entitled "Primary Constituent Elements" in this final rule.

The Service has considered and discussed the biological relevance of EPA's water quality standards. The biological relevance of providing ample estuarine habitat for the delta smelt was first discussed in the original proposed designation of critical habitat for the

delta smelt in 1991. The biological significance of salinity in the Estuary was again discussed in the sections entitled "Revisions to the October 3, 1991, Critical Habitat Proposal", "Habitat Requirements", and "Primary Constituent Elements" in the January 6, 1994, revised proposed designation of critical habitat. These sections discuss the habitat requirements of the delta smelt, the need for temporal and spatial variability of low-salinity waters in the Estuary, and the identification of primary constituent elements essential for the recovery of the smelt.

As the above cited discussions illustrate, EPA's water quality standards were developed to mimic historical habitat conditions and were not developed to simply serve non-habitat purposes. The standards may incidentally serve "non-habitat" purposes by removing organisms from risk of mortality at the pumps. This topic is discussed in this final rule in the "Primary Constituent Element" section for larval and juvenile transport.

Requiring flows to maintain salinity at critical locations in the Delta will not be "throwing water at the problem." The Service has used the best scientific data available to prescribe conditions that will facilitate the recovery of the delta smelt, relying on scientific evidence and testimony presented during the State Board's 1992 hearing process, as well as information from the Service and the panel of scientists who participated in the San Francisco Estuary Project (SFEPP).

In accordance with the Act and its regulations, the Service may refer to either flow or salinity as water quality criteria when critical habitat is designated for the delta smelt. Because the Act is flexible, the Service may accomplish recovery in a variety of ways, so long as listed species are recovered. With critical habitat defined, the Service must identify the physical and biological features essential to the conservation of the species, and which may require special management considerations or protection. A primary constituent element may include either water quality or water quantity. Special management considerations include "any methods or procedures useful in protecting physical and biological features of the environment for the conservation of a listed species." (50 CFR 424.12(b); 424.02(j)).

Based on the best available information, the Service concludes that the criteria are necessary to protect and recover the delta smelt. Delta smelt are associated with the freshwater edge of the mixing zone, where the salinity is approximately 2 ppt (Ganssle 1966,

Moyle *et al.* 1992, Sweetnam and Stevens 1993). In most years, the majority of the delta smelt population lives at salinities of less than 2 ppt for most of the year (Moyle 1976, Ganssle 1966).

*Comment 2:* Although several water purveyors agreed with EPA that there is a relationship between the average position of the 2 ppt isohaline and the health of the Estuary, they believed that the Roe Island criterion was too protective and should be abolished. However, another commenter thought the water quality standards as proposed by EPA were not protective enough of the delta smelt (addressed in comment 7). Several commenters thought that requiring compliance at Roe Island may (1) reduce the within-year variability in hydrology in Suisun Bay, thus having an adverse impact on the biology of the Estuary; (2) place the entrapment zone too far downstream of Suisun Bay, thereby pushing phytoplankton and delta smelt out past Carquinez Strait into San Pablo Bay; and (3) either greatly benefit or adversely affect native and introduced estuarine species by enhancing or adversely affecting habitat quantity and quality.

*Service Response:* To the extent feasible, maintenance of near-historical water quality conditions at Roe Island is essential to recovery of the delta smelt. Not only is it important to maintain low-salinity conditions at critical locations in the Estuary depending on the life-stage of the delta smelt, but also to simulate year-to-year natural spring storm cycles so that natural processes and historical conditions can be mimicked in the Estuary. The water quality standards developed by EPA, including criteria at Roe Island, Chipps Island, and the Sacramento-San Joaquin River confluence, were developed to provide both within-year and between-year variability in salinity levels, characteristic of the Estuary in the late 1960's and early 1970's. This variability does not currently occur frequently enough in the Estuary to maintain estuarine processes, because the construction of water conveyance facilities in the Central Valley and Delta as well as the operation of diversions and upstream dams, have reduced and dampened annual fluctuations in Delta outflow.

A low-salinity reference point at Roe Island will provide within-year and year-to-year variability essential to maintenance of a healthy Estuary. Requiring salinity be maintained intermittently at Roe Island also will provide flows to carry juvenile fish from the Delta downstream to Suisun Bay, and will maximize nutrient inputs from

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Suisun Marsh and the shallows of Suisun Bay into the mixing zone. Providing periodic low-salinity water at Roe Island will significantly increase the total area of medium to low-salinity nursery habitat available for delta smelt. Spring storm events are also beneficial to aquatic resources of the Estuary, providing areas of flooded vegetation for the spawning of some estuarine species.

Moreover, the 2 ppt isohaline is needed sporadically at Roe Island to mimic seasonal variability of Delta flow to deter the invasion of introduced species. The lack of seasonal and yearly variability of Delta outflows has contributed to the invasions of introduced species. Because variable salinity is one of the dominant features of an estuary, ensuring natural variability in the Estuary can only benefit native estuarine species.

Providing low-salinity water at the Roe Island historical reference point will not put the mixing zone too far downstream into the Carquinez Strait. Conversely, completely abolishing the Roe Island reference point and relying exclusively on the Chipps Island and Sacramento-San Joaquin River confluence locations may leave an important area in the western-most portion of Suisun Bay (which is included in critical habitat) outside the mixing zone (CCCWA/EDF 1987). The western portion of Suisun Bay is important habitat for the delta smelt. Delta smelt were most abundant at the Western Suisun Bay and Carquinez Strait sampling sites in the San Francisco Bay-Outflow Study in the years 1980–1988 (Stevens *et al.* 1990). Apart from the ship channel, the southwestern portion of Suisun Bay contains expansive shoal areas that are less than 2 meters deep (Mortensen 1987). The best survival and growth of delta smelt larvae occur when optimum conditions in the mixing zone occupy a large area that includes extensive shoal regions containing suitable rearing substrates within the euphotic zone (depths less than 4 meters).

Moreover, because the Roe Island historic reference point was developed to mimic historical conditions in the Estuary, requiring periodic low-salinity waters at that location will not be an abnormal occurrence. Historically, delta smelt have been flushed out into the Carquinez Strait and into Suisun Bay in high flow years, similar to what occurred in 1983 and 1993. The delta smelt is adapted to living in the Estuary, where salinity varies spatially and temporally according to tidal cycles and the amount of freshwater inflow. Nonetheless, the historical Estuary probably offered relatively constant

suitable habitat conditions to delta smelt, which could move upstream or downstream with the entrapment zone (Peter Moyle, University of California, pers. comm., 1993).

The Service does not believe EPA's Roe Island salinity criteria would be detrimental to native estuarine species. A qualitative and graphic analysis of habitat preferences for Estuary species (including eggs and larvae, juveniles, adults and spawning adults life stages) presented by a commenter which predicted that EPA's salinity criteria at Roe Island would put some species at risk or greatly benefit others was overly broad and too simplistic. The commenter included introduced species (e.g., inland silverside *Menidia beryllina*, threadfin shad *Dorosoma petenese*) and marine species (e.g., several surperches, English sole *Parophrys vetulus*) in the analysis. Its analysis did not give any preference to species having protected status, or to species that rely solely on estuarine habitat. Freshwater, marine and estuarine-dependent species were treated equally. The analysis described habitat in terms of salinity alone, when other measures of habitat, such as temperature, turbidity, and depth, are important for some estuarine-dependent species. Since the quantity of habitat available for a species was described only by river kilometer, complex bathymetry was ignored in the investigation. The Service does not intend to benefit or recover species outside the Estuary, nor does it intend to protect introduced estuarine species. To comply with the Act, the Service must promote the recovery of the delta smelt. Impeding the establishment and success of introduced species, and providing suitable habitat for delta smelt, are significant and complementary components to recovering the species. The Service does not foresee a significant decline in other native estuarine species due to critical habitat designation for the delta smelt. The Service expects the opposite to occur and has evaluated the impacts of EPA's water quality standards through section 7 consultations.

*Comment 3:* One commenter thought the Roe Island criteria would not benefit the delta smelt because the relationship between the 2 ppt isohaline location and the abundance indices of delta smelt become uncertain as the entrapment zone moves downstream from Chipps Island.

*Service Response:* The Service need not show statistical significance between the location of the mixing zone and fishery abundance to include variable, low-salinity habitat as a

primary constituent element. Under the Act, the Service must base a critical habitat designation on the best scientific information available. A statistical correlation between a primary constituent element and its effect on species recovery is not required. The complexity of the Delta ecosystem and the numerous factors contributing in time and space to the species' decline make it highly unlikely that any one factor would show a direct correlation with its potential recovery.

*Comment 4:* One commenter thought the Roe Island salinity criteria would have significant impacts on carryover storage in the Sacramento River Basin since meeting those criteria would account for a large portion of carryover storage, and consequently, affect winter-run salmon temperature requirements.

*Service Response:* The Service is addressing, in recovery planning efforts and in section 7 consultations, the concern that compliance with Roe Island criteria will cause reductions in carryover storage in upstream reservoirs. Recovery planning recommendations for winter-run chinook salmon will be included in the delta smelt recovery plan process through coordination of the respective recovery teams for these species. Section 7 consultations will address any competing needs for winter-run storage in Shasta Reservoir.

*Comment 5:* One commenter thought that the State Water Project and the Central Valley Project reservoirs located upstream of the Delta lacked the capacity to release enough controlled outflow to regulate salinity at Roe Island on a continuous basis, when recreational safety, flooding, travel time and upstream riparian right constraints are taken into account.

*Service Response:* The Service notes the isohaline need not be located at Roe Island on a continuous basis, since EPA's Roe Island standard is triggered only when uncontrolled runoff has placed the 2 ppt isohaline seaward of Roe Island. The SWP and CVP reservoirs have the capacity to release outflow to meet the Roe Island criteria once the criteria are triggered.

*Comment 6:* One commenter believed sampling biases and temporal and spatial variability in the data can be factors that distort or confound the abundance indices used to support the EPA's water quality standards.

*Service Response:* The Service addressed the concerns regarding data bias in the final rule to list the delta smelt as a threatened species (58 FR 12856), noting that the Service is obliged under the Act to use the best available scientific and commercial information in making a listing

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determination. The Service also must use the best available information in designating critical habitat, and must take into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat (section 4(b)(2)).

*Comment 7:* One commenter thought the salinity standards as proposed by the EPA were not protective enough of the delta smelt, and recommended that—(1) additional days be added to the Roe Island standard in below normal to critically dry years to buffer against years when storm flows or reservoir releases place the 2 ppt isohaline at Roe Island for the first time late in the year, (2) a stipulation be added for an eleventh-hour invocation of the 2 ppt standard if it appears that the 2 ppt requirement will fail to be invoked at all, and (3) the Service include a Middle Ground standard in addition to the Roe Island standard, having the Middle Ground standard implemented independently of any type of trigger or stipulation. The commenter thought water quality criteria at Middle Ground were necessary not only to provide rearing habitat immediately west of Chipps Island (since habitat in that area is positively correlated with delta smelt abundance), but also would allow delta smelt to access the expansive shoals of Grizzly Bay through Honker Bay. Another commenter worried that simply reproducing historic habitat conditions would not be sufficient to recover the delta smelt.

*Service Response:* The Service believes that EPA's water quality standards, as proposed, will afford protection and promote recovery of the delta smelt. Adding additional independent (i.e., no trigger) criteria at Middle Ground location (between Roe Island and Chipps Island) would defeat the purpose of the Roe Island standard by dampening any variability in the yearly pattern of outflow as discussed in the preceding response.

Use of the term "conservation" in the definition of critical habitat indicates that its designation should identify areas that may be needed for a species' recovery and delisting. However, when critical habitat is designated at the time a species is listed, the Service frequently does not know exactly what may be needed for recovery. In this regard, critical habitat serves to preserve options for a species' eventual recovery. The Service will address the cause(s) and remedies for delta smelt decline in the recovery planning process and in future section 7 consultations as new information develops.

*Comment 8:* One commenter suggested a mechanism for phased

compliance be developed for EPA's water quality standards. Another commenter suggested that the standards be set aside in critically dry years until their exact utility in recovering the delta smelt and the estuary is quantified.

*Service Response:* One of the purposes of designating critical habitat is to identify areas that may be needed for a species' recovery and delisting so that options can be retained for the realization of this goal. The Service recognizes that the degradation of delta smelt critical habitat has occurred over more than a century and that, as a result, it is unreasonable to expect that recovery will be achieved in a relatively short timeframe. Please refer to "The Effects of Critical Habitat" section above for a detailed discussion on how the Framework Agreement (1994), the section 7(a)(1) mandate, and CVP water contract renewals will, in essence, allow compliance with EPA's water quality standards to be phased in.

However, the Act does not permit the protections provided by critical habitat to be delayed in ways that may result in the destruction or adverse modification of critical habitat, such as what may occur in drier water years. Having threatened status under the Act means that the delta smelt is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Designating critical habitat will facilitate the recovery (i.e., delisting) of the delta smelt, rather than allowing the species to continue declining into endangered status.

Water quality (salinity) in the Estuary has been identified by the Service as a primary constituent element essential to the conservation of the delta smelt. A significant modification to EPA's water quality standards, or a substantial delay or break in designating critical habitat for the delta smelt, would not only postpone recovery of the species but could adversely impact the species. The delta smelt's pelagic life history, dependence on pelagic microzooplankton, 1-year life span, limited geographic range, and low fecundity make it susceptible to decimation if its reproductive or larval nursery areas are disturbed for more than two years.

In formulating the basis for the economic impact analysis, the Service assumed that destruction or adverse modification of critical habitat would not occur in any given water year, provided that Federal and State agencies and other parties comply with flows required in biological opinions interim to the State Board's implementation of water quality standards, and that Federal and State agencies are making

satisfactory progress towards implementing recovery plan objectives.

*Comment 9:* Agricultural interests and municipal representatives making comments in the public hearings felt the designation of critical habitat for the delta smelt and EPA's estuarine standards would cause water allocation in California to be inflexible, especially in light of expanding municipal water needs for population growth, natural disasters (e.g., earthquakes and fires) and expanding industry. One commenter was concerned that by designating critical habitat for the delta smelt, construction of new Delta water conveyance facilities would be prevented.

*Service Response:* Designating critical habitat for the delta smelt will not cause water allocation in California to be inflexible. Section 7 of the Act requires Federal agencies to consult on actions that may affect delta smelt to ensure that their actions are not likely to destroy or adversely modify critical habitat. The Service provides advisory recommendations under section 7 by consulting with other Federal agencies to identify and help resolve conflicts between listed species, their critical habitat, and proposed actions. Management actions designed to provide protection for delta smelt through formal consultation or the section 10 incidental take permit process can be achieved in a variety of ways by considering a range of project alternatives or measures. The consultation and permitting processes are flexible, designed to identify solutions on either a project-by-project or regional basis.

A critical habitat designation will not necessarily preclude the construction of new Delta water conveyance facilities. The Service's economic analysis for designating critical habitat assumed that construction of water facilities for future economic growth is more affected by application of the jeopardy standard, rather than critical habitat designation. Nonetheless, these economic assumptions do not constrain the Service's review of future water project proposals. The construction of a new Delta water conveyance facility may or may not jeopardize the continued existence of the delta smelt, and may or may not result in the destruction or adverse modification of its critical habitat, depending on numerous elements, including the facilities' design, location and operations criteria.

*Comment 10:* Several commenters believed that implementation of EPA's water quality standards will only remedy one factor contributing to the delta smelt's decline. Commenters

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suggested that over-fishing, habitat modification, and the introduction of toxics and heavy metals to the Estuary have contributed to the decline of the delta smelt. Numerous respondents stated that introduced species in the Delta, such as the yellowfin goby (*Acanthogobius flavimanus*), striped bass and inland silversides are the real cause of the delta smelt's decline. Special concern was expressed over the effects that two species of exotic zooplankton and a species of the exotic Asian clam, (*Potamocorbula amurensis*) had on the Estuary ecosystem.

*Service Response:* Regardless of other related effects, the best available information indicates that diminished water quality and quantity are major factors contributing to the decline of the delta smelt. EPA's water quality (salinity) standards will contribute to the recovery of the delta smelt.

Under the Act, the Service may list species and designate critical habitat even though the interaction of many causes of the species' decline masks the relative contribution of any single factor. Critical habitat preserves options for a species' recovery. As such, designation of critical habitat preserves habitat conditions within which implementation of recovery actions can occur. As stated in the final rule to list the delta smelt, continuing studies may shed light on the causes of decline, and lead to recovery or management actions that may be of benefit to the species.

*Comment 11:* One commenter was concerned that water users could comply with EPA's water quality standards early in the February-June compliance period, hence adequate salinity would not be provided in later months if the delta smelt were to spawn late in June or early July. The same commenter suggested that a year-round standard might be a better and more reasonable approach.

*Service Response:* The Service generally agrees with this comment and recognized in the revised proposed rule that delta smelt may spawn as late as July. Providing water quality (salinity) to conserve the delta smelt and its critical habitat is not limited to a defined time period as EPA's standards are to the February through June period. As the "Primary Constituent Elements" section outlines, critical habitat for the delta smelt will be focused on the habitat needs of a particular life stage that may be affected by a project. Additional flows may be required after the February through June period to protect delta smelt present in the south and central Delta from being entrained in the State and Federal projects, and to avoid jeopardy to the species.

#### Biological Issues

*Comment 12:* One commenter suggested that the importance of habitat in Grizzly Bay and lower Suisun Bay should be weighted since the bays are a relatively large area of high quality habitat upon which some species rely heavily.

*Service Response:* Though Grizzly Bay and lower Suisun Bay are important areas of delta smelt habitat, habitat conditions elsewhere in Suisun Bay and upstream in the Estuary are just as important for spawning, larval and juvenile transport, rearing and adult migration. Habitat for each life stage is essential for the recovery of the species and is contained in this designation.

*Comment 13:* One commenter thought additional flow requirements would not be needed in July or August to protect larval and juvenile delta smelt from being entrained in the State and Federal water projects since delta smelt remain in particular locations despite flow conditions.

*Service Response:* The Service recognizes that juvenile and adult delta smelt, when given the opportunity, may remain in especially productive areas such as Suisun Bay, after the mixing zone has moved upstream. However, flows may be required in the July-August period to protect delta smelt present in the south and central Delta from being entrained in the State and Federal projects, and to avoid jeopardy to the species.

*Comment 14:* One respondent noted that the distribution of delta smelt is not determined by flow alone. The commenter cited 1993 tow-net and fall midwater trawl collections that found delta smelt upstream of the mixing zone near Decker Island, and found delta smelt considerably downstream of the mixing zone in Suisun Bay.

*Service Response:* The Service agrees that the distribution of delta smelt is not based exclusively on flow. When delta smelt are located in suitable, productive habitat, they may not travel with the mixing zone as it moves upstream, or downstream. After being transported to productive rearing habitat, delta smelt may remain and take advantage of safe and productive nursery areas.

Delta smelt do not become "trapped" in the mixing zone, but may remain in particular areas. In the text of the final rule, the Service clarifies this point by referring to the salt and freshwater mixing area as the "mixing zone," rather than the "entrapment zone," to clear any misconception that delta smelt and other estuarine species are associated exclusively or somehow become trapped within the vertical circulation

currents created by the saltwater-freshwater interface. This type of circulation pattern is important because it mixes nutrients from the ocean and inland areas, resulting in a productive estuarine ecosystem.

The pattern of delta smelt distribution described by the commenter is consistent with distribution patterns in earlier years when dispersal of delta smelt was greater following wetter springs (Sweetnam and Stevens 1993). In 1993, about half the delta smelt population remained in Suisun Bay throughout the summer, even though the 2 ppt isohaline retreated upstream (Herbold 1994).

*Comment 15:* One commenter objected to the Service's use of EPA's proposed water quality standards as the factual and scientific basis for the delta smelt's critical habitat.

*Service Response:* The Service has not based critical habitat for the delta smelt on EPA's water quality standards. Space requirements for delta smelt population growth, cover, and shelter, as well as salinity, were described in detail and were included as primary constituent elements in the proposed rule to designate critical habitat for the delta smelt in 1991, well before EPA promulgated its proposed standards. Since 1991, the EPA and the Service have been working together to coordinate each agencies' actions.

*Comment 16:* Another commenter thought the Service simply identified the delta smelt's entire geographic range as critical habitat without considering whether the designation was essential to the conservation of the species. Other respondents believed the Service did not distinguish between areas of critical habitat that are essential and nonessential for the conservation of the delta smelt, thereby including marginal areas not necessary for delta smelt recovery.

*Service Response:* The Service agrees that critical habitat is limited to the specific areas within the geographic area that contain the physical and biological features needed by the species. As discussed in more detail at comment 37, below, the Service has described river, channel, slough and bay water habitats essential for the recovery of the smelt. Without these areas of habitat, the delta smelt cannot survive or reproduce, rear, or be transported between other suitable habitat areas.

Neither the Act or its regulations requires the Service to rank or identify areas of habitat that are more "essential" than others when critical habitat is designated. In the "Primary Constituent Elements" section of this rule, the Service has specifically described the

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importance of habitat for each life stage of this annual species. Without adequate habitat for each of these life stages, the delta smelt would not survive or recover. The Service may highlight and propose specific management actions to protect and rehabilitate certain areas in the recovery planning process, such as areas in Cache Slough and the lower Sacramento River complex identified by one commenter.

Finally, the Service did not simply designate critical habitat based on the entire geographic range of the delta smelt. At the time the Service expanded the critical habitat boundary in 1994, larval delta smelt had been located as far north as the confluence of the Sacramento River with the Feather River. This area was not included in the revised proposed critical habitat boundary. Based on recent unpublished data (and brought to our attention in a comment), delta smelt in these most upstream observations may have been misidentified as pond smelt (*Hypomesus nipponensis*, or wakasagi). Portions of San Pablo Bay, the Napa River, and western Suisun Marsh known to support the species are not included in the critical habitat designation.

In addition, California Department of Fish and Game biologists contacted the Service with new information that in 1993, delta smelt were found spawning as far upstream as Sacramento. Based on this new information and the importance of this spawning habitat in some years, the Service expanded critical habitat in the 1994 proposal to extend to these important areas.

*Comment 17:* One commenter thought the Service did not identify areas currently occupied by the smelt.

*Service Response:* Delta smelt presently occur throughout the range designated as critical habitat. Delta smelt also occur outside the legal boundary of the Delta, in the Sacramento, San Joaquin, and Mokelumne rivers.

*Comment 18:* One respondent questioned the need for critical habitat, since delta smelt populations had increased seven-fold in 1993.

*Service Response:* Designation of critical habitat for the delta smelt is justified even though the 1992 and 1993 summer tow-net and fall midwater trawl abundance indices show increased abundance levels. Based on the best available information, the delta smelt has not recovered, and remains vulnerable to a variety of threats. Delta smelt were listed as threatened because the species was likely to become an endangered species within the foreseeable future throughout all or a

significant portion of its range. A species has recovered if the status of the species, based on the best scientific and commercial data available, indicates listing is no longer appropriate under the criteria of the Act (50 CFR 402.02, 424.11(d)(2)). Listing remains appropriate under the Act until long-term population abundance indices remain at high levels and the population is widespread throughout the Estuary for a number of years. One or two years of high abundance levels is not sufficient to ensure recovery of an annual species such as the delta smelt. Specific recovery criteria are being developed in the recovery planning process.

*Comment 19:* Several commenters were concerned with the Service's "single species approach", whereas other individuals were worried that EPA's water quality standards, having been based on eight estuarine indicator species, were too broad because species other than the delta smelt would benefit from the standards. There was concern how delta smelt recovery would be coordinated with the recovery of other threatened and endangered estuarine fish species (e.g., winter-run chinook and Sacramento splittail), the salt marsh harvest mouse (*Reithrodontomys raviventris*), California clapper rail (*Rallus longirostris obsoletus*), Suisun Marsh management in general, and with other species outside the Estuary area.

*Service Response:* Designation of critical habitat and identifying water quality (salinity) as a primary constituent element for protection of the delta smelt may incidentally benefit other native estuarine species. Providing variable salinity regimes will facilitate the recovery of the Estuary to its natural state. The Service does not foresee a significant decline in other native estuarine species due to this critical habitat designation, or due to the implementation of EPA's water quality standards.

Delta smelt recovery will be coordinated with the habitat and water quality needs of other fish and other marsh and wetland species in the Estuary. The Delta Native Fishes Recovery Team was formed in 1993 to address the Estuary native fishes in general. The recovery team will consider the population decline of delta smelt and other native Estuary fishes that ultimately may require active management to restore sustainable populations. The recovery team has developed a draft Recovery Plan that has analyzed the needs and recommended management actions for the delta smelt, longfin smelt, Sacramento splittail, green sturgeon,

spring-run chinook salmon, late fall-run chinook salmon and San Joaquin fall-run chinook salmon. Winter-run chinook salmon also was included in recovery planning for the delta smelt, using recommendations developed by the Winter-run Recovery Team.

Federal agencies that propose projects that may affect the salt marsh harvest mouse and the California clapper rail, both listed as endangered under the State and Federal Endangered Species Acts, must consult with the Service under section 7 of the Federal Act. All listed species have equal protection under the State and Federal Acts and the Service cannot develop solutions for one species that may jeopardize other listed species.

*Comment 20:* One commenter claimed that the Service misrepresented Moyle *et al.* (1992) by stating that delta smelt grow faster in the mixing zone.

*Service Response:* The Service is puzzled by the assertion that Moyle *et al.* (1992) was misrepresented in the revised proposed rule for delta smelt critical habitat. The Service stated: "[w]hen the entrapment zone is located in a broad geographic area with extensive shallow-water habitat within the euphotic zone (depths less than 4 meters), high densities of phytoplankton and zooplankton are produced (Arthur and Ball 1978, 1979, 1980), and larval and juvenile fish, including delta smelt, grow rapidly." (Moyle *et al.* 1992, Sweetnam and Stevens 1993).

Moyle *et al.* (1992) stated "[T]he mixing currents keep the larvae circulating with the abundant zooplankton also found here [in the mixing zone] (Orsi and Knutson 1979; Siegfried *et al.* 1979; Stevens *et al.* 1985). Growth is rapid, and the juvenile fish are 40–50 mm fork length (FL) by early August [citations omitted]."

Sweetnam and Stevens (1993) stated "[D]elta smelt are fast growing and short lived (Moyle 1976) \* \* \* The majority of growth is within the first 7 to 9 months of life \* \* \*"

The purpose of the paragraph written by the Service and pointed out by the commenter was to illustrate estuarine productivity, while explaining the dynamics of the Estuary's mixing zone and the delta smelt's association with the mixing zone. The Service has not knowingly misrepresented information, and does not believe any misrepresentation occurred in this instance.

*Comment 21:* One respondent commented that delta smelt spawn north of Suisun Bay in Montezuma Slough, Suisun Slough and their tributaries, and believed this fact contradicted the Service's assertion that

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delta smelt spawn upstream of the mixing zone.

*Service Response:* Montezuma Slough, Suisun Slough, and their tributaries are upstream of the area where mixing between freshwater and salt water occurs in wetter water years. In dryer water years, the entrainment zone may move upstream as far upstream as the City of Sacramento in late summer, and these sloughs may become saline. If delta smelt were to spawn late (i.e., July or August), they would probably seek areas other than the sloughs to spawn in freshwater.

*Comment 22:* Several commenters at the public hearings suggested that the Service use hatcheries to produce enough delta smelt to make the population stable.

*Service Response:* The Service believes using hatcheries to propagate fish, including delta smelt, should not be a substitute for habitat protection and restoration. Dr. Moyle presented testimony in 1992 (Natural Heritage Institute 1992) summarizing the work of Hilborn (1992), which explained several reasons why hatcheries are not beneficial to the long-term maintenance of fisheries. His points included (1) though initially successful, hatchery effectiveness decreases after a few years; (2) hatchery fish often do poorly in the wild; (3) artificial production poses a threat to the maintenance of wild fish; (4) hatchery fish dilute the naturally adapted genes of wild fish; and (5) hatcheries provide an excuse for habitat loss. Assuming hatcheries could be used to stabilize delta smelt populations, propagated fish would require an environment that provides ample food, low levels of toxic compounds, and low entrainment losses (Moyle and Herbold 1989). Reliance on hatcheries would not adhere to one of the primary purposes of the Act, which is to conserve the ecosystem(s) upon which listed species depend (16 USC 1531(b)).

*Comment 23:* One commenter asked why the Service stated that delta smelt are more likely to be entrained in river channels than when downstream of the Sacramento-San Joaquin River confluence, when there is no relationship between salvage and subsequent delta smelt abundance. The commenter noted that entrainment also occurs in Pacific Gas and Electric (PG & E) cooling water diversions downstream from the confluence of the two rivers.

*Service Response:* DWR (1994) states that Federal and State pumps entrain delta smelt. A relationship has been found between the number of juvenile delta smelt salvaged at the State and Federal pumps and both the percent of inflow diverted and total Delta outflow

(DWR 1994). Whether or not there is a statistical relationship between the number of delta smelt entrained at the State and Federal water project pumps and subsequent delta smelt abundance, water quality (salinity) is essential to the conservation of the delta smelt.

Adequate salinity and flow provide the delta smelt with suitable habitat for all life stages, and will transport delta smelt away from major points of entrainment. The Service recognizes and has stated in previous rules that delta smelt are taken downstream of the Sacramento-San Joaquin River confluence in numerous agricultural, municipal and industrial diversions. Delta smelt are also taken upstream from the confluence in numerous (over one-thousand) agricultural diversions.

*Comment 24:* One commenter thought the Montezuma Slough Control Structure might aid, rather than interfere, with the distribution of delta smelt within Suisun Marsh.

*Service Response:* Based on the best available evidence, the Service maintains that operation of the Montezuma Slough Control Structure may result in the destruction or adverse modification of critical habitat. The Service is required by section 4(b)(8) of the Act to identify public or private activities that may result in destruction or adverse modification of critical habitat, and does so in the context of this rulemaking. Even though optimal operation of the Montezuma Slough Control Structure may provide valuable habitat to delta smelt, its operation for other purposes may interfere with the distribution of delta smelt to spawning and rearing habitat within Suisun Marsh. The effects of the salinity control structure on delta smelt are currently being investigated by the DWR, in coordination with the Bureau.

#### Social Issues

*Comment 25:* Some respondents believe humans are the real endangered species, and that neither delta smelt nor any other animal species should be considered more important than humans. Similarly, one commenter thought humans could survive just fine without delta smelt, but could not survive without farmers.

*Service Response:* The Act recognizes that species of fish, wildlife, and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people (section 2(a)(3)). Delta smelt possess these attributes. The delta smelt is the only smelt endemic to California and one of only two native estuarine smelt species (the other being longfin smelt) found in the Estuary.

The purpose of the Act is to protect species in danger of becoming extinct in the immediate or foreseeable future. Humans are not in such danger. The number of humans has increased in the last century at a rapid rate. As pointed out in a report submitted by one commenter, total farm-related employment (agricultural services, food manufacturers, and agricultural chemicals) increased between 1977 and 1989 (Carter and Goldman 1992). Agricultural services provided 89,908 jobs in California in 1989, adding some 45,000 jobs and more than 4,000 agricultural firms in 12 years.

*Comment 26:* Congressman Gary Condit and several other commenters thought the critical habitat proposal failed to account for the human element involved, especially the "[E]ffect and toil of thousands of human hands and hearts to provide healthy and wholesome food for the United States and throughout the world".

*Service Response:* As required by the Act, the Service has adequately accounted for the "human element" by analyzing the economic impacts of designating critical habitat for the delta smelt. The draft economic analysis has been revised in response to public comments, in response to discussions held at five workshops sponsored by the EPA, and in light of additional research to better portray the economic reality of the critical habitat designation.

#### Procedural and Legal Issues

*Comment 27:* One commenter was concerned that efforts by the Federal agencies to manage the Bay/Delta were uncoordinated. On the other hand, one commenter presumed that the Service adopted EPA's water quality standards wholesale, and thought the Service had no authority to do so because the Service designates critical habitat under the narrow purposes of the Act, while the EPA promulgates water quality standards under the framework of the Clean Water Act. Similarly, another commenter thought the Service would, in effect, be interposing or substituting EPA's regulatory judgment for its own if the Service incorporated EPA's water quality standards in its designation of critical habitat.

*Service Response:* This final rule does not incorporate EPA's water quality standards *per se*, although implementation of these standards may be a means to promote recovery of the delta smelt. The January 6, 1994, revised critical habitat proposal for the delta smelt included a list of habitat conditions and a description of water quality primary constituent elements. These elements were developed in

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accordance with the requirements of the Act and its regulations. The Service's proposal also reflects the coordinated approach provided by the Club Fed process. The Service participated with the Bureau, NMFS, and EPA in guaranteeing that the January 6, 1994, critical habitat and water quality proposals were based on the best available scientific and technical information. Another priority was for the proposals to take into account the goals and concerns of the agencies and public and private interests affected by the agencies' programs and activities.

The preservation of rare and endangered species is a substantive link between the proposals of the Service and the EPA. The EPA promulgated the Bay/Delta standards because they disapproved provisions of the 1991 Bay/Delta plan developed by the State Board. The EPA determined that the State had not adopted criteria sufficient to protect designated uses of the Estuary, including the "Preserv[ing] Rare and Endangered Species" designated use. Similarly, in discussing the "Relationship Between Fish and Wildlife Service and EPA Actions," the Service wrote—" \* \* \* [T]he Clean Water Act requires protection of the most sensitive use within each category of designated uses. 'Protection of Endangered and Threatened Species' is considered a designated use within the meaning of the Clean Water Act; therefore, a species listing under the Endangered Species Act provides one method to identify the most sensitive use within the designated uses of a water body." (59 FR 854).

Biologically, the proposed critical habitat for the delta smelt and the salinity criteria that constituted EPA's proposed water quality standards are directly related. " \* \* \* EPA's proposed water quality standards address the location of 2 ppt salinities from February to June and, therefore, address both critical habitat requirements for delta smelt and a range of interrelated parameters that affect other species that rely on estuarine habitat." (59 FR 854) Based on the common legal and biological underpinnings of the critical habitat designation and the proposed water quality standards, the Service's treatment of salinity as a primary constituent element and the textual references to the proposed salinity standards were appropriate and fully consistent with the goal of assuring substantive consistency between the two proposals.

Because the designation of critical habitat and EPA's proposed Bay/Delta standards have common elements, the critical habitat designation must address

the standards, and, at a minimum, must not be inconsistent with them, and vice versa. The January 6, 1994, critical habitat proposal did not incorporate specific salinity standards into the regulatory designation of habitat, as was the case with the initial critical habitat proposal published in 1991. Rather, the 1994 proposal designated water quality as a primary constituent element, stating—"salinity concentrations [as] required to maintain delta smelt habitat for spawning, larval and juvenile transport, rearing, and adult migration."

The coordinated Federal effort and the substantive consistency of the EPA and Service proposals are a direct reflection of the agencies' intent to address Bay/Delta issues in an effective and responsible manner. The coordinated Club Fed process is intended to address concerns expressed by the State of California of a perceived lack of coordination among the Federal agencies.

*Comment 28:* One commenter thought designation of critical habitat was not prudent at this time, since critical habitat would not provide the delta smelt any more protection than the listing of the species had already provided. Another commenter thought designating critical habitat at the present time would interfere with the delta smelt recovery planning process.

*Service Response:* Designation of critical habitat is prudent at this time because the designation will provide substantive benefits to the delta smelt beyond those already resulting from its status as a threatened species. Critical habitat serves to preserve options for a species' eventual recovery. A critical habitat designation contributes to species conservation primarily by identifying important geographic areas, and by describing the features within the areas that are essential to the species. The designation puts public and private entities on notice that the area is important habitat. Section 7 of the Act requires Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to destroy or adversely modify designated critical habitat. This section requires parties to consult with the Service to avoid jeopardy and destruction or adverse modification to important habitat areas.

A designation of critical habitat provides a clearer indication to Federal agencies as to when consultation under section 7 is required, particularly in cases where the action would not result in direct mortality or injury to individuals of the listed species (e.g., an action occurring within the critical area when a migratory species is not present). The critical habitat

designation, describing the essential physical or biological features of the habitat, also assists parties in determining which activities conducted outside the designated area are subject to section 7 consultation (i.e., activities that may affect primary constituent elements of the designated area).

Designating critical habitat also assists private, State, and Federal agencies in planning future actions, since the designation establishes, in advance, those habitats that will be given special consideration in section 7 consultations and section 10 incidental take activities. With the designation of critical habitat, potential conflicts between projects and endangered or threatened species can be identified and possibly avoided early in the agency's planning process.

Designating critical habitat will not interfere with recovery planning efforts now in progress. A recovery plan would be prepared for the delta smelt pursuant to the Act whether or not critical habitat was designated for the species.

*Comment 29:* One commenter thought Club Fed could not restore natural resources to levels existing during times of significantly fewer people under current California law. Another respondent believed the Service may not refer to EPA's water quality standards because the estuarine standards are based on historical conditions, rather than on "existing conditions" now occurring in the Estuary. The respondent claims there is a temporal element in the definition of critical habitat, stating that critical habitat is defined in the Act in terms of existing conditions, and the Service must look to specific areas which contain physical and biological features essential to the conservation of the species at the time it is listed. The commenter went on to say that critical habitat may only consist of those areas that currently contain essential physical and biological features.

*Service Response:* The definition of critical habitat does not require that all primary constituent elements necessarily be conditions existing at the time critical habitat is designated. Conditions existing historically in the Estuary are required to recover the delta smelt. Conditions now occurring in the Estuary have resulted in the decline of the delta smelt population, because the Estuary currently does not contain all of the physical and biological features (e.g., habitat requirements and salinity) necessary for each of the species' life stages. Critical habitat for the delta smelt identifies areas needed to conserve the species, so it may recover and, ultimately, be delisted. In order to accomplish recovery, it is necessary that

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critical habitat encompass conditions that are superior to existing conditions, so that all of the physical and biological features necessary for the delta smelt are present in the Estuary. The Delta Native Fishes Recovery Team has identified 1968 as a time when the Estuary had appropriate hydrologic conditions that would allow recovery of the delta smelt. An interagency Statement of Principles (Plenert, Fullerton, and Seraydarian, *in litt.* 1992) among the Service, NMFS and EPA have found that the Estuary ecosystem and its anadromous and resident fisheries were relatively healthy during the years between 1960–1970. The Service recognizes no significant conflict with managing toward historic conditions for all primary constituent elements as a conservation strategy for the delta smelt.

The Service notes that the 1994 revised proposed critical habitat for the delta smelt contains the physical and biological features essential for the conservation of the delta smelt. Using equations developed by Kimmerer and Monismith (1992) to calculate salinity, DWR (1993) determined that the isohaline was located downstream of the Roe Island historic reference point 124 days, and was between Roe Island and Chipps Island habitat 14 days between February 1 and June 31 in 1993 (DWR 1993). Therefore, conditions for spawning, larval and juvenile transport, rearing and adult migration was, in fact, available for all life stages as recently as 1993. However, these physical and biological features do not occur frequently enough, and are not protected during critical periods in February through June, especially in drier water years. The mixing zone was pushed out beyond Roe Island during this period because 1993 was a wet year. Water quality criteria are necessary to ensure habitat suitable for the delta smelt are available at critical times in all water-year types.

*Comment 30:* The Service did not identify a plan, any directives, or a goal to ensure that delta smelt are protected, or to indicate when the species is recovered.

*Service Response:* A critical habitat designation need not, and should not, include specific management plans or recovery goals. Designating critical habitat for a species does not result in a management or recovery plan. Critical habitat simply identifies areas where conservation efforts should be concentrated. Designating critical habitat alone will not dictate how the delta smelt should be protected, nor will it require identification of goals to measure the success of the designation. Plans, goals, and directives will be

identified and set in motion during the recovery planning process. Section 4(f)(1) of the Act specifies what should be included in a recovery plan. Criteria for downlisting or delisting are contained in recovery plans, which function as goals to achieve species conservation. The Delta Native Fishes Recovery Team has developed a draft Recovery Plan for the delta smelt and other estuarine fish species, and will include recovery and delisting criteria for the delta smelt. The public will have the opportunity to comment on a draft delta smelt Recovery Plan before it is approved as a final plan as required by section 4(f)(4) of the Act.

*Comment 31:* Senator Phil Wyman and The California Farm Bureau were disappointed with the quality of the public hearings held in Fresno because only the Service and the EPA attended the meeting to hear testimony and answer questions. The Senator and the Farm Bureau believed the Bureau and NMFS should have been at the hearing, since the issues involved "Club Fed". Moreover, several of the participants in Fresno felt the hearings were simply a "going-through-the-motions" exercise.

*Service Response:* Section 4(b)(5)(E) of the Act requires the Service to hold a public hearing if one is requested within 45 days of the publication of a proposed rule. The Service received such a request, and held hearings in Fresno, Irvine, Sacramento, and San Francisco to accept public comment on two proposals by the Service and on one proposal by EPA—the proposed critical habitat designation for the delta smelt, listing of the Sacramento splittail, and Bay/Delta water quality standards.

The hearings are not a "going-through-the-motions" event. Service staff review all oral comments presented at the public hearings from the hearing transcripts. Oral comments are given the same weight and consideration as are comments submitted in written form.

*Comment 32:* Many commenters thought the Service should prepare an Environmental Impact Statement (EIS) required by NEPA, to comply with the holding in *Douglas County v. Lujan*. These commenters thought the Service should assess the environmental and social impacts that may occur in or near the Estuary, and outside the Estuary area as a result of designating critical habitat for the delta smelt. Commenters identified potential environmental impacts, including groundwater overdraft and subsequent land subsidence, sagging canals and leaking rivers, fugitive dust, warming of reservoir water, impacts on regional water quality control plans, increased energy use, impacts on listed and

candidate species, loss of water for wetlands, loss of open-space habitat provided by farms, and impacts on regional recreational use at reservoirs.

*Service Response:* The decision in *Pacific Legal Foundation v. Andrus* (657 F.2d 829) held that an EIS is not required for listings under the Act. The decision noted that preparing an EIS on listing actions does not further the goals of NEPA or the Act. The Service believes that, under the reasoning of this decision, preparing an EIS for the delta smelt critical habitat designation would not further the goals of NEPA, or the Act, and is not legally required.

The United States District Court for the District of Oregon in *Douglas County v. Lujan* held that critical habitat designations should be analyzed under NEPA. However, the decision is stayed pending appeal to the Ninth Circuit.

In addition, see the discussion in this rule respecting NEPA compliance.

*Comment 33:* One commenter thinks the Service violated the Federal Advisory Committee Act (FACA) because it relied on scientific information developed by the San Francisco Estuary Project (SFEP) in developing the revised critical habitat designation.

*Service Response:* Section 4(b)(2) of the Act specifies that "The Secretary shall designate critical habitat \* \* \* on the basis of the best scientific data available \* \* \*." When the Service identifies critical habitat, it relies on scientific data in published literature, data gathered as a result of status reviews, data received during the public comment periods, and information communicated in conversations with biologists, economists and other specialists. A summary of the findings of the SFEP (1993) was included in the body of information that the Service used to revise the proposed rule to designate critical habitat.

Critical habitat for the smelt was first proposed in October, 1991. The Service revised the critical habitat boundaries in 1994, relying on the best scientific information available from California Department of Fish and Game biologists, Service biologists, and new scientific information received during the public comment period from the EPA and other commenters. Included in this information were the findings and recommendations of the SFEP.

Had the Service not used SFEP information, the Service would not have complied with section 4(b)(2) of the Act, which requires use of the best scientific evidence available. SFEP was created in 1988 as part of EPA's National Estuary Program. The SFEP is an Environmental Management Program of EPA, the State

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of California and the Association of Bay Area Governments. The Service has participated in the SFEP extensively over the past several years. The SFEP developed recommendations for estuarine standards, and complied with FACA when they conducted workshops and meetings, and when they chose participants to work on the standards.

*Comment 34:* One commenter thought the critical habitat designation is defective since the data supporting the expansion of critical habitat for the delta smelt was based on personal communications not available for the public review.

*Service Response:* The Service relied on information that has been available to the public by contacting the California Department of Fish and Game, EPA or the Service. The administrative record for the critical habitat designation is and has been available for public inspection since publication of the initial proposed rule in 1991.

*Comment 35:* One commenter urged the Service and the EPA to exhaust all possible remedies to recover the delta smelt (e.g., by using the Delta Protection Act) before more burdens were placed on California's water users with the designation of critical habitat.

*Service Response:* Pursuant to 50 CFR 424.12, the Service must designate critical habitat unless it is not prudent to do so. The Service has not concluded that it is not prudent to designate critical habitat. Further, critical habitat is determinable. Therefore, the requirement at section 4(b)(6)(c)(ii) to publish a final designation by not more than one year after listing applies.

*Comment 36:* One commenter felt the proposed critical habitat designation should be withdrawn since the Service did not comply with the statutory time period for designating critical habitat for the delta smelt. The commenter cited *Idaho Farm Bureau Federation v. Babbitt*, 839 F.Supp. 739 (D. Idaho 1993) to support its contention.

*Service Response:* In this rulemaking, the Service first proposed critical habitat for the delta smelt in 1991. It revised its proposal in 1994 after public comment indicated that the Service had not included important spawning habitat for the species. These facts are significantly different from those of the case cited by the commenter. As such, the Service does not apply the holding in that case to this rulemaking effort.

*Comment 37:* One commenter thought measures implemented in the past to protect delta smelt habitat be given a "credit" in any future section 7 consultation or section 10 determination with the Service.

*Service Response:* Under sections 7 and 10 of the Act, the Service assesses the merits of project proposals on a case-by-case basis. In a formal section 7 consultation, the Service evaluates the effects of an action, creating an environmental baseline (50 CFR 402.14(g)(3)). This baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process (50 CFR 402.02).

Conservation actions proposed by project proponents can be considered as suitable measures to reduce the impact of incidental take, or otherwise reduce, mitigate, and compensate for project effects.

#### *Economic Issues*

*Comment 38:* Many commenters thought the economic analysis prepared for the Service by the EPA was inadequate.

*Service Response:* The economic analysis is described and its results are summarized in this final rule. The Service believes the economic analysis is sufficient in that it adequately and appropriately identifies costs of designating critical habitat. As such, it enables the Secretary to exclude areas from critical habitat designation if the benefits of an exclusion are found to outweigh the benefits of including an area as critical habitat.

*Comment 39:* Several commenters accused the Service of incorrectly minimizing the economic impacts in the delta smelt critical habitat designation since the impacts associated with the critical habitat designation were separated from the economic impacts attributable to the listing of the species.

*Service Response:* Section 4(b)(2) of the Act requires the Service to consider the economic and other relevant impacts of designating critical habitat. It does not direct the Service to assess the economic impacts of both listing the species and designating its critical habitat. Section 4(b)(1)(A) of the Act explicitly precludes the Service from considering the economic impacts of listing a species as threatened or endangered. The congressional intent behind inclusion of this statutory provision was to ensure that only relevant biological criteria are used to assess the ecological status of a species.

The 1994 revised proposed critical habitat designation for the delta smelt explained the economic impacts

attributable to listing and to critical habitat designation. Subsequent to listing and prior to this final critical habitat designation, protective measures for the delta smelt (e.g., as provided through section 7 consultation with the Bureau) have been in place and created economic impacts not associated with critical habitat designation. In a comprehensive economic analysis prepared by the EPA and other economists for the Service, the economic impacts attributed to designating critical habitat have been evaluated. The Service has not limited the examination of economic impacts so as to minimize the economic effects of designating critical habitat.

*Comment 40:* One commenter thought that the Service could not begin to define critical habitat until it fully considered the economic impacts of the designation. The commenter thought a proposed rule for critical habitat could not be drafted until an economic analysis was conducted, and an opportunity to comment on the analysis was provided to interested parties. Another commenter thought the public should be able to comment on a revised critical habitat designation in the event the Secretary excludes portions of habitat which were included in the revised proposed rule.

*Service Response:* The Service has not defined critical habitat prematurely for the delta smelt because the Act does not require completion of an economic analysis before the Service can propose critical habitat areas. In a critical habitat rulemaking conducted in accordance with the Act and the Administrative Procedure Act (APA), the Service defines and proposes critical habitat boundaries, conducts an economic impact analysis, takes public comment on the proposed critical habitat designation and the economic analysis, makes exclusions, if any, to critical habitat boundaries, and promulgates a final rule. The Secretary, through the Service, has the discretion to exclude critical habitat areas based on economics, in accordance with the section 4(b)(2) standard. The section allows the Secretary to exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of critical habitat, provided that exclusion will not result in extinction of a species. The Service has properly conducted critical habitat rulemaking for the delta smelt.

Neither the Act, nor its regulations, require the Service to allow public comment on revised critical habitat designations where the Secretary has excluded areas of proposed critical

habitat. The standard rulemaking process requires preparation of a proposed rule followed by a final rule. Publishing a draft final rule is not required. The Service acknowledges that the public was allowed to comment in the above described manner in the critical habitat designation for the Northern Spotted Owl, however, the opportunity for public comment was a policy decision made specifically for that rulemaking and is not required by law.

The Service has provided ample opportunity for the public to comment on the delta smelt critical habitat designation proposals and on the economic analysis during prescribed comment periods from October 3 to February 3, 1992; March 16 to April 30, 1993, and again from January 27 to March 11, 1994. Four public hearings also were held to solicit comments on the revised proposed critical habitat designation.

*Comment 41:* One commenter thought the critical habitat designation was flawed since the economic analysis could not properly analyze economic impacts likely to arise from the proposed designation, because the Service failed to present any focused or concrete indication of what specific management measures would be pursued. The commenter thought the public was not able to effectively comment on the critical habitat designation due to this inadequacy.

*Service Response:* Designating critical habitat does not result in a management plan. Specific management measures are identified in a draft Recovery Plan that currently is being prepared by the Service, and need not be identified in a proposed critical habitat designation.

As described in the above comment, the Service believes the public was given an opportunity to effectively comment on the critical habitat designation and the draft economic analysis. The draft RIA was available for review and provided sufficient detail so that the public could provide meaningful comments.

*Comment 42:* One commenter believes the critical habitat designation is deficient because the Service failed to analyze the potential economic impacts of any particular portion of the Delta.

*Service Response:* Section 4 of the Act requires the Secretary to take into consideration "The economic impact \* \* \* of specifying any particular area as critical habitat." The Service may exclude any area from critical habitat if it is determined that the benefits of such exclusion outweigh the benefits of specifying such areas as part of critical habitat, unless failure to designate such

area will result in the extinction of the species.

The Service believes it has adequately analyzed the potential economic impacts of the Estuary "area." The Act does not require an agency to analyze potential economic impacts for any specific or particular "area." An "area" is not limited to particular reaches of a river, or particular areas of a species' habitat.

*Comment 43:* The Department of the Army thought the Service did not sufficiently analyze the economic impacts of designating critical habitat, and did not include adequate economic data. They thought the Service should have included channel dredging activities and the maintenance of flood control levees in the economic analysis, including the economic impacts of potential failure and flooding since maintenance might be limited due to critical habitat designation.

*Service Response:* The Service believes the economic impacts of designating critical habitat have been sufficiently addressed, and include discussion of dredging and levee maintenance. As discussed in the final rule to list the delta smelt, and in the revised proposed rule to designate critical habitat for the species, the Service determined that the economic impact of restricting activities associated with deep water navigation channel dredging were attributable to the jeopardy standard imposed by the listing of the delta smelt as a threatened species. Hence, the economic impacts of these activities can not be associated with designating critical habitat.

The Service did determine that levee maintenance may adversely modify critical habitat without necessarily jeopardizing the delta smelt. The economic impacts of restrictions associated with the construction and implementation of these projects have been analyzed to determine the economic cost or benefit of critical habitat designation. Properly scheduling maintenance and construction activities to avoid periods critical to a species can allow projects to go forward without incurring large economic impacts.

#### National Environmental Policy Act

The Service has determined that an Environmental Assessment and/or an Environmental Impact Statement, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Act. A notice outlining the Service's reasons for this determination was published in

the **Federal Register** on October 25, 1983 (48 FR 49244).

#### Regulatory Flexibility Act and Executive Order 12866

This proposed rule has been reviewed under Executive Order 12866. The Department of the Interior has determined that the proposed rule will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Based on the information discussed in this rule, significant economic impacts will not result from the critical habitat designation. Also, no direct costs, enforcement costs, information collection, or recordkeeping requirements are imposed on small entities by this designation. Further, the rule contains no recordkeeping requirements as defined by the Paperwork Reduction Act of 1980.

#### Takings Implications Assessment

The Service has analyzed the potential takings implications of designating critical habitat for the delta smelt in a Takings Implications Assessment prepared pursuant to requirements of Executive Order 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights." The Takings Implications Assessment concludes that the designation does not pose significant takings implications.

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#### Authors

The primary authors of this proposed rule are Nadine R. Kanim and Dana Jacobsen, Sacramento Field Office (see ADDRESSES section).

#### List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

#### Regulation Promulgation

Accordingly, the Service hereby amends part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

#### PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500, unless otherwise noted

#### § 17.11 [Amended]

2. Amend § 17.11(h), in the entry in the table under FISHES for "Smelt, delta," in the column under "Critical Habitat" by revising "NA" to read "17.95(e)."

3. Amend § 17.95(e) by adding critical habitat of the delta smelt in the same alphabetical order as the species occurs in § 17.11(h).

#### § 17.95 Critical habitat—fish and wildlife.

(e) \* \* \*

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**DELTA SMELT (*Hypomesus transpacificus*)**

California—Areas of all water and all submerged lands below ordinary high water and the entire water column bounded by and contained in Suisun Bay (including the contiguous Grizzly and Honker Bays); the length of Montezuma Slough, and the existing contiguous waters contained within the Delta, as defined by section 12220, of the State of California's Water Code of 1969 (a complex of bays, dead-end sloughs, channels

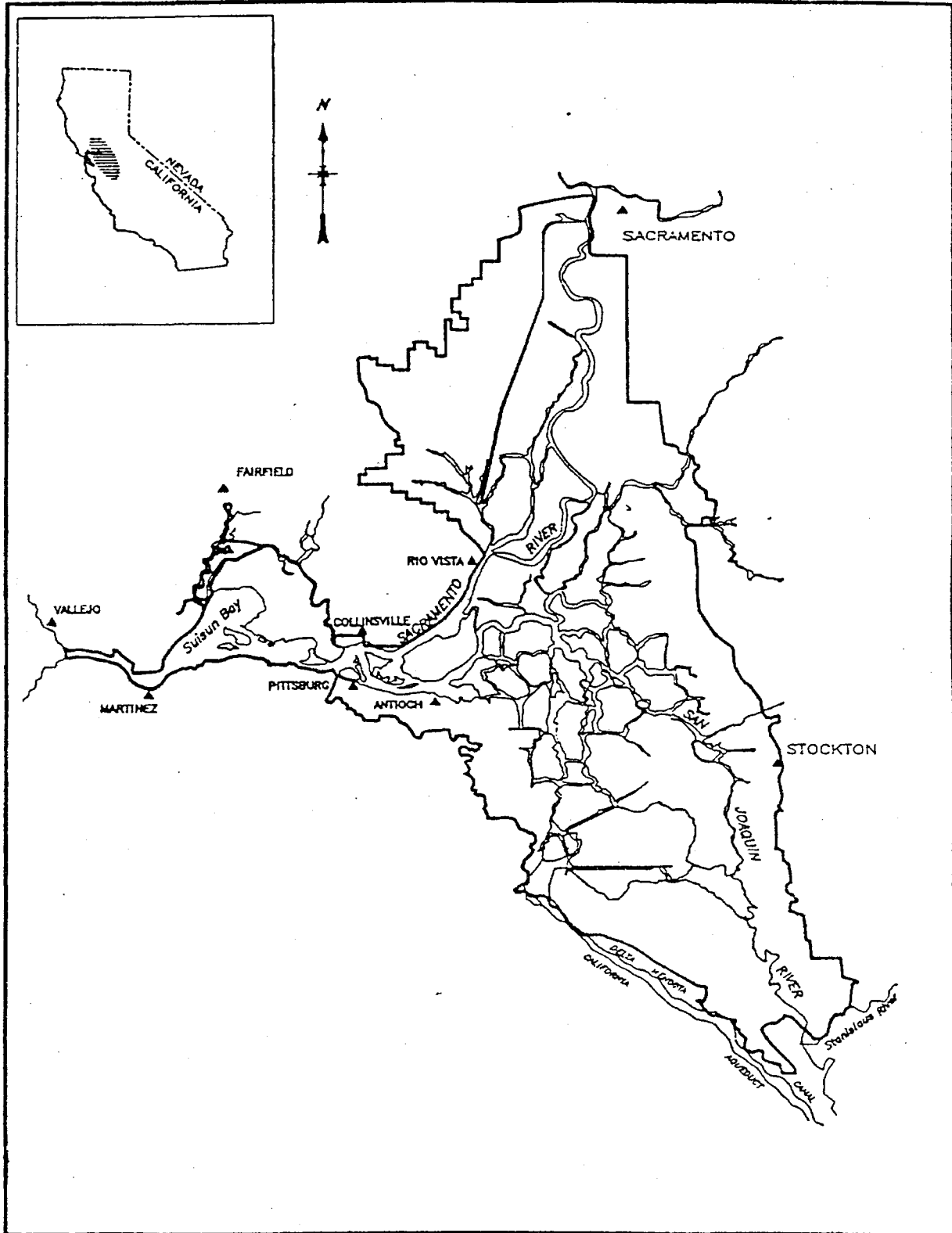
typically less than 4 meters deep, marshlands, etc.) as follows:

Bounded by a line beginning at the Carquinez Bridge which crosses the Carquinez Strait; thence, northeasterly along the western and northern shoreline of Suisun Bay; including Goodyear, Suisun, Cutoff, First Mallard (Spring Branch), and Montezuma Sloughs; thence, upstream to the intersection of Montezuma Slough with the western boundary of the Delta as delineated

in section 12220 of the State of California's Water Code of 1969; thence, following the boundary and including all contiguous water bodies contained within the statutory definition of the Delta, to its intersection with the San Joaquin River at its confluence with Suisun Bay; thence, westerly along the south shore of Suisun Bay to the Carquinez Bridge.

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Primary Constituent Elements—physical habitat, water, river flow, and salinity concentrations required to maintain delta smelt habitat for spawning, larval and juvenile transport, rearing, and adult migration.

Dated: December 8, 1994.

**George T. Frampton, Jr.,**

*Assistant Secretary for Fish and Wildlife and Parks.*

[FR Doc. 94-31063 Filed 12-16-94; 8:45 am]

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## DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 285

[Docket No. 940393-4093; I.D. 112894B]

Atlantic Tuna Fisheries; Bluefin Tuna

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Bluefin tuna quota transfer.

**SUMMARY:** NMFS transfers 5 metric tons (mt) of bluefin tuna from the longline-south Incidental subcategory to the longline-north Incidental subcategory. NMFS has determined that the fisheries

landing bluefin under the longline-south Incidental subcategory will not achieve the full 1994 quota allocation. This action is being taken to extend the season for the longline-north Incidental subcategory, which will assure additional collection of biological assessment and monitoring data and increase the economic benefits from this fishery without contributing significantly to additional bluefin mortality. In addition, this action will prevent waste of bluefin tuna that might otherwise be discarded dead.

**EFFECTIVE DATE:** December 14, 1994 through December 31, 1994.

**FOR FURTHER INFORMATION CONTACT:** John Kelly, 301-713-2347 or Ray Baglin, 508-281-9140.

**SUPPLEMENTARY INFORMATION:** Bluefin tuna are currently leaving the fall feeding grounds in New England and migrating along the Mid-Atlantic waters, so high incidental catches by longline vessels operating south of 34° N. lat. are not expected to occur. After the addition of 5 mt, effective November 4, 1994 (59 FR 55821, November 9, 1994), the longline-north Incidental subcategory has only 0.6 mt remaining of its total new allocation of 28 mt for vessels fishing north of 34° N. lat. Once the quota is reached for this northern subcategory, any bluefin tuna

incidentally taken by longline vessels must be discarded at sea. In order to prevent waste of bluefin tuna, which would otherwise be discarded dead, NMFS is transferring an additional 5 mt of quota from the southern to the northern subcategory. With the addition of this 5 mt, the total annual allocation to date for the Incidental subcategory longline-north will be 33 mt. This amount should be sufficient to account for incidental take of bluefin by the northern subcategory for the remainder of this year while any unharvested balance for the southern subcategory will be added to the 1995 quota. After the transfer of this 5 mt, approximately 12 mt remains available in the longline-south Incidental subcategory. Based on reported catches, bluefin taken from the southern subcategory will not exceed the 12 mt remaining of that quota.

### Classification

This action is taken under 50 CFR 285.22(i) and is exempt from review under E.O. 12866.

Dated: December 13, 1994.

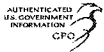
**David S. Crestin,**

*Acting Director, Office of Fisheries Conservation and Management, National Marine Fisheries Service.*

[FR Doc. 94-31095 Filed 12-14-94; 2:31 pm]

BILLING CODE 3510-22-F

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Federal Register / Vol. 62, No. 194 / Tuesday, October 7, 1997 / Notices

City of Milwaukee, 841 N. Broadway, Milwaukee, WI 53202, \$4,994,424.00  
 State of Wisconsin, Department of Administration, Division of Housing, 101 E. Wilson, 4th Floor, Madison, WI 53708-8944, \$1,573,200.00  
 City of Richmond (Cat. B), Richmond City Health Dept., East District Center, Suite 105, 701 N. 25th St., Richmond, VA 23223, \$1,368,818.00  
 State of Missouri (Cat. B), Bureau of Environmental Epidemiology, P.O. Box 570, 210 El Mercado Plaza, Jefferson City, MO 65102, \$1,997,894.00  
 Palmerton Borough (Cat. B), Borough Hall, P.O. Box 235, Palmerton, PA 18071, \$633,288.00

Dated: September 29, 1997.  
 David E. Jacobs,  
 Director, Office of Lead Hazard Control.  
 [FR Doc. 97-26464 Filed 10-6-97; 8:45 am]  
 BILLING CODE 4210-32-P

**DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**

[Docket No. FR-4167-N-03]

**Announcement of Funding Awards for the Traditional Indian Housing Development Program—Fiscal Year 1997**

**AGENCY:** Office of the Assistant Secretary for Public and Indian Housing, HUD.

**ACTION:** Notice of funding awards.

**SUMMARY:** In accordance with section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989, this announcement notifies the public of funding decisions made by the Department in a competition for funding under the Notice of Funding Availability (NOFA) for the Traditional Indian Housing Development Program. This announcement contains the names and addresses of the awardees and the amount of the awards made available by HUD to provide assistance to the Indian Housing Development Program.

**FOR FURTHER INFORMATION CONTACT:** Bruce Knott, Director, Housing and Community Development Division, Office of Native American Programs, Department of Housing and Urban Development, 1999 Broadway, Suite 3390, Denver, CO 80202-3607; telephone (303) 675-1600 (this is not a toll-free number). Hearing-or speech impaired persons may use the Telecommunications Devices for the Deaf (TTY) by contacting the Federal Information Relay Service at 1-800-877-8339.

**SUPPLEMENTARY INFORMATION:** The Indian Housing Development program is authorized by sections 5 and 6, U. S. Housing Act of 1937 (42 U.S.C. 1437c, 1437d), as amended; Section 23 U. S. Housing Act of 1937, as amended by

section 554, Cranston-Gonzalez National Affordable Housing Act; section 7(d), Department of Housing and Urban Development Act (42 U.S.C. 3535(d)).

This notice announces FY 1997 funding of approximately \$200,000,000 to be used to assist in job training, employment, contracting and other economic opportunities to section 3 residents and section 3 business concerns. The FY 1997 grantees announced in this Notice were selected for funding consistent with the provisions in the NOFA published in the **Federal Register** on April 24, 1997 (62 FR 20068).

The Catalog of Federal Domestic Assistance number for this program is 14.850.

In accordance with section 102(a)(4)(C) of the Department of Housing and Urban Development Reform Act of 1989 (103 Stat. 1987, 42 U.S.C. 3545), the Department is publishing the grantees and amounts of the awards in Appendix A.

Dated: September 30, 1997.  
 Kevin Emanuel Marchman,  
 Acting Assistant Secretary for Public and Indian Housing.

**APPENDIX A.—FUNDING AWARDS TRADITIONAL INDIAN HOUSING DEVELOPMENT PROGRAM**  
 [Fiscal Year 1997]

Grantee name & address	Amount	Units
Alabama-Quassarte Tribal Town of Oklahoma, 111 North 6th Street, P.O. Box 537, Henryetta, Oklahoma 74437	1,343,258	15
Aleutian Housing Authority, 4000 Old Seward Highway, STE #202, Anchorage, Alaska 99503	3,564,426	20
AVCP Regional Housing Authority, P.O. Box 767, Bethel, Alaska 99559	3,702,767	20
Bay Mills Housing Authority, Route 1 Box 3345, Brimley, Michigan 49715	5,342,780	50
Bering Straits Regional Housing Authority, P.O. Box 995, Nome, Alaska 99762	3,907,142	20
Bristol Bay Housing Authority, P.O. Box 50, Dillingham, Alaska 99576	4,278,815	20
C.L.U.S.H.A., 338 Wallace Avenue, Coos Bay, Oregon 97420	2,014,984	15
Catawba Indian Housing Authority, P.O. Box 11106, Rock Hill, South Carolina 29730	1,833,516	20
Chehalis Indian Housing Authority, P.O. Box 314, Oakville, Washington 98568	1,388,548	10
Cheyenne River Housing Authority, P.O. Box 480, Eagle Butte, South Dakota 57625	3,327,410	30
Citizen Band Potawatomi, Nation Housing Authority, 1901 South Gordon Cooper Drive, Shawnee, Oklahoma 74801	1,841,370	15
Coeur d'Alene Housing Authority, P.O. Box 267, Plummer, Idaho 83851	514,920	5
Cook Inlet Housing Authority, 2600 Cordova Street, STE 201, Anchorage, Alaska 99503	2,283,567	20
Copper River Basin, Regional Housing Authority, Post Office Box 199, Copper Center, Alaska 99573	2,503,780	18
Delaware Tribe of Western Oklahoma, P.O. Box 825, Anadarko, Oklahoma, 73005	1,315,169	15
Eastern Shawnee Tribe of Oklahoma, P.O. Box 350, Seneca, Missouri 64865	1,459,596	15
Eastern Shoshone Housing Authority, P.O. Box 538, Fort Washakie, Wyoming 82514	1,988,726	15
Enterprise Rancheria Indian Housing Authority, 2950 Feather River Boulevard, Suite C, Oroville, CA 95965	2,287,653	15
Fort Belknap Housing Authority, Route 1, P.O. Box 61, Harlem, Montana 59526	3,281,696	25
Fort Hall Indian Housing Authority, P.O. Box 306, Fort Hall, Idaho 83203	564,185	5
Fort Peck Housing Authority, P.O. Box 667, Poplar, Montana 59255	2,477,362	20
Goshute Housing Authority, P.O. Box 6104, Ibapah, Utah 84034	2,258,490	15
Grand Ronde Housing Authority, P.O. Box 38, Grand Ronde, Oregon 97347	598,265	5
Hoopa Valley Indian Housing Authority, P.O. Box 1285, Hoopa, California 95546	7,156,733	41
Houlton Maliseet Housing Authority, 13 Clover Circle, P.O. box 13, Houlton, Maine 04730	1,699,207	15
Housing Authority of the Cherokee Nation, P.O. Box 1007, Tahlequah, Oklahoma 74465	4,489,242	50
Housing Authority of the Cheyenne-Arapaho Tribe, 1000 Canyon Ridge Road, Clinton, Oklahoma 73601	2,852,880	30
Housing Authority of the Iowa Tribe of Kansas and Nebraska, P.O. Box 68, White Cloud, Kansas 66094	960,260	10

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APPENDIX A.—FUNDING AWARDS TRADITIONAL INDIAN HOUSING DEVELOPMENT PROGRAM—Continued  
[Fiscal Year 1997]

Grantee name & address	Amount	Units
Housing Authority of the Iowa Tribe of Oklahoma, Rural Route 1, Box 721, Perkins, Oklahoma 74059 .....	1,415,325	15
Housing Authority of the Kaw Tribe of Indians, P.O. Box 371, Newkirk, Oklahoma 74647 .....	868,046	10
Housing Authority of the Kickapoo Tribe of Oklahoma, P.O. Box 120, McLoud, Oklahoma 74851 .....	957,477	10
Housing Authority of the Osage Tribe, P.O. Box 517, Hominy, Oklahoma 74035 .....	869,020	10
Housing Authority of the Peoria Tribe, P.O. Box 1304, Miami, Oklahoma 74355 .....	1,776,999	20
Housing Authority of the Seminole Nation, P.O. Box 1493, Wewoka, Oklahoma 74884 .....	280,531	3
Huron Potawatomi Indian Housing Authority, 2221 1½ Mile Road, Fulton, Michigan 49052 .....	1,518,889	15
Indian Housing Authority of Central California, 5108 E. Clinton Way, #108, Fresno, California 93727 .....	8,954,932	55
Interior Regional Housing Authority, 828 27th Avenue, Fairbanks, Alaska 99701-6918 .....	3,847,797	20
Kallispel Tribe, P.O. Box 38, Usk, Washington 99180 .....	1,073,688	8
Karuk Tribe Housing Authority, P.O. Box 1159, Happy Camp, California 96039 .....	7,535,144	44
Kasigluk Tribal Council, Yup'ik Housing Authority, P.O. Box 119, Kasigluk, Alaska 99609 .....	2,320,663	8
Klamath Tribal Housing Authority, 905 Main Street, Suite 613, Klamath Falls, Oregon 97601 .....	1,157,120	10
Little River Band of Ottawa Indians, P.O. Box 314, Manistee, Michigan 49660 .....	1,897,740	15
Little Traverse Bay Band of Odawa, P.O. Box 246, 1345 U.S. 31 North, Petoskey, Michigan 49770 .....	1,897,740	15
Lower Brule Housing Authority, P.O. Box 183, Lower Brule, South Dakota 57548 .....	3,168,725	27
Lower Elwha Indian Housing Authority, 22 Kwitsen Drive, Port Angeles, Washington 98362 .....	1,382,483	10
Lummi Nation Indian Housing Authority, 2616 Kwina Road, Bellingham, Washington 98226-8698 .....	655,325	5
Miami Tribe of Oklahoma, P.O. Box 1326, Miami, Oklahoma 74355 .....	1,389,680	15
Mississippi Band of Choctaw Housing Authority, P.O. Box 6088, Choctaw Branch, Philadelphia, Mississippi 39350 .....	4,898,121	59
Modoc Tribe of Oklahoma Housing Authority, 515 G, SE Street, Miami, Oklahoma 74354-8224 .....	1,389,680	15
North Fork Rancheria, Indian Housing Authority, P.O. Box 929, North Fork, California 93643 .....	2,396,590	15
North Pacific Rim Housing Authority, 560 E. 34th Avenue, Ste #302, Anchorage, AK 99503 .....	2,822,233	16
Northern Circle Indian Housing Authority, 694 Pinoleville Drive, Ukiah, California 95482 .....	4,087,950	30
Northwest Inupiat Housing Authority, P.O. Box 331, Kotzebue, Alaska 99752 .....	2,945,193	15
Omaha Indian Housing Authority, P.O. Box 150, Macy, Nebraska 68039 .....	4,392,131	38
Owens Valley Housing Authority, P.O. Box 490, Big Pine, California 93513 .....	5,856,661	36
Pueblo of Acoma Housing Authority, P.O. Box 620, Acoma, New Mexico 87034 .....	5,098,135	40
Pueblo of Laguna Housing Authority, P.O. Box 178, Laguna, New Mexico 87026 .....	3,035,400	30
Quapah Tribal Housing Authority, P.O. Box 765, Quapah Oklahoma 74363 .....	1,337,990	15
Quileute Indian Housing Authority, P.O. Box 159, La Push, Washington 98350 .....	655,325	5
Quinault Indian Housing Authority, P.O. Box 160, Taholah, Washington 98587 .....	1,414,514	10
Sac and Fox of Missouri Housing Authority, Rt 1, Box 97, Unit 12, Reserve, Kansas 66434 .....	1,940,172	20
Santa Clara Pueblo Housing Authority, P.O. Box 580, Espanola, New Mexico 87532 .....	2,252,908	20
Seminole Housing Authority, 6300 Stirling Road, 3rd Floor, Hollywood, Florida 33024 .....	3,534,624	35
Seneca Indian Housing Authority, 50 Iroquois Drive, Irving, New York 14081 .....	3,538,648	25
Shoalwater Bay Tribe, P.O. Box 130, Tokeland, Washington 98590 .....	1,310,650	10
Siletz Indian Housing Authority, P.O. Box 549, Siletz, Oregon 97380 .....	1,854,841	15
Spokane Indian Housing Authority, P.O. Box 195, Wellpinit, Washington 99040 .....	1,342,110	10
Squaxin Island Tribe, Route 1, Box 257, Shelton, Washington 98584 .....	860,005	7
Swinomish Indian Housing Authority, P.O. Box 677, La Conner, Washington 98257 .....	655,325	5
Tagiugmiullu Nunamiullu Housing Authority, P.O. Box 409, Barrow, Alaska 99723 .....	3,392,144	20
Tlingit-Haida Regional Housing Authority, P.O. Box 32237, Juneau, Alaska 99803 .....	3,521,273	20
United Keetoowah Band of Cherokee Housing Authority, P.O. Box 746, Tahlequah, Oklahoma 74465-0746 .....	1,409,511	15
Upper Sioux Indian Community, P.O. Box 147, Granit Falls, Minnesota 56241 .....	1,948,135	15
Utah Paiute Housing Authority, 665 North, 100 East, Cedar City, Utah 84720 .....	2,097,260	20
Walker River Reservation Housing Authority, P.O. Box 238, Schurz, Nevada 89427 .....	2,867,490	20
Warm Springs Indian Housing Authority, P.O. Box 1167, Warm Springs, Oregon 97761 .....	705,712	5
Wyandotte Tribe of Oklahoma, P.O. Box 250, Wyandotte, Oklahoma 74370 .....	1,607,194	15
Yurok Indian Housing Authority, P.O. Box 98, Klamath, California 95548 .....	10,628,004	64

[FR Doc. 97-26463 Filed 10-6-97; 8:45 am]  
BILLING CODE 4210-33-P

**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**Endangered and Threatened Species  
Permit Applications**

**AGENCY:** Fish and Wildlife Service.

**ACTION:** Notice of receipt of permit applications.

**SUMMARY:** The following applicants have applied for a scientific research permit to conduct certain activities with endangered species pursuant to section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Permit No. 832946

*Applicant:* James E. Pike, Huntington Beach, California.

The applicant requests a permit to take (harass by survey, locate and monitor nests) the least Bell's vireo (*Vireo bellii pusillus*), southwestern

willow flycatcher (*Empidonax traillii extimus*), and coastal California gnatcatcher (*Polioptila californica californica*) in conjunction with population monitoring and removal of brown-headed cowbird (*Molothrus ater*) eggs and chicks from parasitized nests of these species throughout their range in California for the purpose of enhancing their survival.

Permit No. 832945

*Applicant:* Lisa Kegarice, San Bernardino, California.

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**PART 17—[AMENDED]**

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500, unless otherwise noted.

2. Section 17.12(h) is amended by adding the following, in alphabetical order under FLOWERING PLANTS, to

the List of Endangered and Threatened Plants:

**§ 17.12 Endangered and threatened plants.**  
\* \* \* \* \*  
(h) \* \* \*

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
<i>Sidalcea keckii</i> .....	Keck's checker-mallow.	U.S.A. (CA) .....	Malvaceae—Mallow ..	E	NA	NA	*

Dated: January 13, 2000.  
**Jamie Rappaport Clark,**  
Director, U.S. Fish and Wildlife Service.  
[FR Doc. 00–3278 Filed 2–15–00; 8:45 am]  
BILLING CODE 4310–55–U

**DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**

**50 CFR Part 226**  
[Docket No. 990128036–0025–02; I.D. 012100E]  
RIN 0648–AG49

**Designated Critical Habitat: Critical Habitat for 19 Evolutionarily Significant Units of Salmon and Steelhead in Washington, Oregon, Idaho, and California**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule.

**SUMMARY:** NMFS is designating critical habitat for 19 evolutionarily significant units (ESUs) of chinook (*Oncorhynchus tshawytscha*), chum (*O. keta*), coho (*O. kisutch*), and sockeye salmon (*O. nerka*) and steelhead trout (*O. mykiss*) previously listed under the Endangered Species Act (ESA). Critical habitat occurs in the states of Washington, Oregon, Idaho, and California and encompasses accessible reaches of all rivers (including estuarine areas and tributaries) within the range of each listed ESU. Critical habitat is also designated in Ozette Lake for that sockeye salmon ESU. The areas described in this final rule represent the current freshwater and estuarine range of the listed species. For all ESUs,

critical habitat includes all waterways, substrate, and adjacent riparian zones below longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years). After considering public comments and reviewing additional scientific information, NMFS has modified various aspects of the proposed designations, including a revised description of adjacent riparian zones and the exclusion of Indian lands from critical habitat. The economic (and other) impacts resulting from this critical habitat designation are expected to be minimal.

**DATES:** This rule is effective March 17, 2000. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of June 4, 1999.

**ADDRESSES:** Copies of the USGS publication and maps may be obtained from the USGS, Map Sales, Box 25286, Denver, CO 80225. Copies may be inspected at NMFS, Protected Resources Division, 525 NE Oregon Street—Suite 500, Portland, OR 97232–2737, or NMFS, Office of Protected Resources, 1315 East-West Highway, Silver Spring, MD 20910, or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

Reference materials regarding this critical habitat designation can be obtained via the internet at [www.nwr.noaa.gov](http://www.nwr.noaa.gov).

**FOR FURTHER INFORMATION CONTACT:** In Washington, Oregon, or Idaho, contact Garth Griffin (Portland) at (503) 231–2005. In California, contact Craig Wingert (Long Beach) at (562) 980–4021.

**SUPPLEMENTARY INFORMATION:**

**Background**

During the past 3 years, NMFS has published final listing determinations for numerous ESUs of salmon and steelhead throughout the Pacific Northwest and California. Although critical habitat has been designated for several of these ESUs, final designations are still pending for 19 ESUs of five species: (1) Puget Sound, Lower Columbia River, Upper Willamette River, Upper Columbia River spring-run, California Central Valley spring-run, and California Coastal chinook salmon ESUs (63 FR 11482, March 9, 1998); (2) Hood Canal summer-run and Columbia River chum salmon ESUs (63 FR 11774, March 10, 1998); (3) Ozette Lake sockeye salmon ESU (63 FR 11750, March 10, 1998); (4) Oregon Coast coho salmon ESU (64 FR 24998, May 10, 1999); and (5) Southern California, South-Central California coast, Central California coast, California Central Valley, Upper Columbia River, Snake River Basin, Lower Columbia River, Upper Willamette River, and Middle Columbia River steelhead ESUs (64 FR 5740, February 5, 1999).

Section 4(a)(3)(A) of the ESA requires that, to the maximum extent prudent and determinable, NMFS designate critical habitat concurrently with a determination that a species is endangered or threatened. At the time of final listing for each of these 19 ESUs, critical habitat was not determinable because the information to perform the required analyses was insufficient. However, NMFS has published proposed rules designating critical habitat for these ESUs, solicited public comments, and held public hearings on the proposals. This final rule considers the new information and comments received in response to the proposed rules for all 19 ESUs.

Use of the term "essential habitat" within this document refers to critical habitat as defined by the ESA and should not be confused with the requirement to describe and identify Essential Fish Habitat (EFH) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. 1801 *et seq.*

#### Definition of Critical Habitat

Critical habitat is defined in section 3(5)(A) of the ESA as "(i) the specific areas within the geographical area occupied by the species...on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species...upon a determination by the Secretary [of Commerce (Secretary)] that such areas are essential for the conservation of the species." The term "conservation," as defined in section 3(3) of the ESA, means "...to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" (see U.S.C. 1532(3)).

In designating critical habitat, NMFS considers the following requirements of the species: (1) Space for individual and population growth, and for normal behavior; (2) food, water, air, light, minerals, or other nutritional or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, or rearing of offspring; and, generally, (5) habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of the species (see 50 CFR 424.12(b)). In addition to these factors, NMFS also focuses on the known physical and biological features (primary constituent elements) within the designated area that are essential to the conservation of the species and that may require special management considerations or protection. These essential features may include, but are not limited to, spawning sites, food resources, water quality and quantity, and riparian vegetation.

#### Benefits of Critical Habitat Designation

A designation of critical habitat provides Federal agencies with a clear indication as to when consultation under section 7 of the ESA is required, particularly in cases where the proposed action would not result in immediate mortality, injury, or harm to individuals

of a listed species (e.g., an action occurring within the critical habitat area when a migratory species is not present). The critical habitat designation, in describing the essential features of the habitat, also helps determine which activities conducted outside the designated area are subject to section 7 (i.e., activities outside critical habitat that may affect essential features of the designated area).

A critical habitat designation will also assist Federal agencies in planning future actions because the designation establishes, in advance, those habitats that will be given special consideration in section 7 consultations. With a designation of critical habitat, potential conflicts between Federal actions and endangered or threatened species can be identified and possibly avoided early in an agency's planning process.

#### Summary of Comments

Between April 1998 and June 1999, NMFS held 40 public hearings on the critical habitat proposals: 9 in Washington, 15 in Oregon, 4 in Idaho, and 12 in California (63 FR 16955, April 7, 1998; 63 FR 30455, June 4, 1998; 64 FR 20248, April 26, 1999; 64 FR 24998, May 10, 1999). Approximately 800 written comments were submitted in response to the proposed rules and numerous individuals provided oral testimony at the public hearings. New information and comments received are summarized as follows.

#### Public Notification Process

*Comment 1:* Some commenters felt that the process for proposing critical habitat was not handled well (e.g., difficulties with public notice and time to respond) and that the proposal itself was too ill-defined to be fully evaluated.

*Response:* NMFS made every attempt to communicate the critical habitat proposal to the affected communities. As noted above, 40 public hearings were held in California, Washington, Oregon, and Idaho and various local newspapers were notified of the proposed action, comment deadlines, and public meetings. In response to numerous requests, NMFS twice extended the comment periods (63 FR 30455, June 4, 1998; 64 FR 20248, April 26, 1999) to allow additional time for the public to submit comments. Finally, NMFS responded to several requests for supplemental meetings with affected county and local groups to promote better understanding of the proposal and attempt to allay unwarranted fears resulting from misleading information. Any and all parties are encouraged to contact NMFS if they have questions or need additional information regarding

this final rule (see **FOR FURTHER INFORMATION CONTACT**).

#### Economic Considerations

*Comment 2:* Numerous commenters believed that NMFS improperly minimized the proposal's economic impacts by separating the designation of critical habitat from the listing process (i.e., by considering only the incremental economic effects of designating critical habitat, beyond the effects associated with listing the species). These commenters are concerned that by separating the costs associated with the various administrative actions (e.g., listing, critical habitat designation, section 7 consultations), NMFS underestimated the real economic consequences of protecting listed salmon and steelhead. Some commenters countered that any economic costs would be offset once the salmon and steelhead fisheries were restored. Many commenters objected to NMFS' interpretation that the impact of critical habitat designation is subsumed by the costs associated with protections under section 7 of the ESA. Several commenters contended that NMFS failed to conduct an analysis pursuant to the Regulatory Flexibility Act.

*Response:* NMFS disagrees with the assertion that it has improperly minimized the economic impacts by separating the designation of critical habitat from the listing process, or that this incremental approach for critical habitat designation renders sections of the ESA meaningless. Rather, the ESA is unambiguous in how it addresses economic impacts; it prohibits the consideration of economic impacts in the listing process, but requires analysis of economic impacts when designating critical habitat. These separate requirements for each determination necessarily engender an incremental analysis in which only the economic impacts resulting from the designation of critical habitat are considered.

Since NMFS is designating the current range of the listed species as critical habitat, this designation will not impose any additional requirements or economic effects beyond those which already accrue from section 7 of the ESA, which is triggered by the species' listing. Section 7 requires Federal agencies to ensure that any action they carry out, authorize, or fund is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of habitat determined to be critical. The consultation requirements of section 7 are nondiscretionary and are effective at the time of species' listing. Therefore, Federal agencies must consult with

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NMFS and ensure their actions do not jeopardize a listed species regardless of whether critical habitat is designated.

Most of the effect on non-Federal interests will result from the protective regulations of 4(d) and the no-jeopardy requirement of section 7, both of which are a function of listing a species, not designating its critical habitat. Whether or not critical habitat is designated, non-Federal interests must conduct their actions in a manner consistent with the requirements of the ESA. When a species is listed, non-Federal interests must comply with the prohibitions on takings found in section 9 of the ESA and associated regulations under section 4(d). If the activity is funded, permitted, or authorized by a Federal agency, that agency must comply with the non-jeopardy mandate of section 7 of the ESA, which results from listing a species, not from designating its critical habitat. Once critical habitat is designated, the agency must avoid actions that destroy or adversely modify that critical habitat. However, pursuant to NMFS' ESA implementing regulations, any action that destroys or adversely modifies critical habitat is also likely to jeopardize the continued existence of the species (See the definitions in 50 CFR 402.02). Therefore, NMFS does not anticipate that the designation will result in significant additional requirements for non-Federal interests.

Notwithstanding its lack of economic impact, the designation of critical habitat remains important because it identifies habitat that is essential for the continued existence of a species and, therefore, indicates habitat that may require special management attention. This facilitates and enhances Federal agencies' ability to comply with section 7 by ensuring that agencies are aware of it when their activities may affect listed species and habitats essential to support them. In addition to aiding Federal agencies in determining when consultations are required pursuant to section 7(a)(2), critical habitat can aid an agency in fulfilling its broader obligation under section 7(a)(1) to use its authority to carry out programs for the conservation of listed species.

The Chief Counsel for Regulation of the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration that this rule would not have a significant economic impact on a substantial number of small entities, as provided in the Regulatory Flexibility Act.

*Comment 3:* A number of commenters were under the impression that critical habitat is equivalent to a "set-aside" or

an easement and that by its nature is tantamount to an illegal and unconstitutional "taking" of private property. Some commenters felt that designating critical habitat abrogated Executive Order 12630 and the June 30, 1988, Attorney General's "Guidelines for Evaluation and Risk Avoidance of Unanticipated Takings." Some of these commenters provided estimates and analyses describing specific costs they believed they would incur as a result of the proposed critical habitat designation. These commenters suggested that they should be monetarily reimbursed for any financial hardship resulting from a designation of critical habitat.

*Response:* A critical habitat designation does not impose any additional burdens on private land than those imposed by the species' listing. A private landowner continues to be free to manage his property as he sees fit, using care that his land management does not result in the take of a listed species. The critical habitat designation simply clarifies the geographic areas within which one's activities may impact listed salmon and steelhead. A critical habitat designation affects private land only when a Federal action (e.g., obtaining a Federal permit) triggers a section 7 consultation.

Land use activities may be affected by statutory and regulatory protections afforded species once they are listed under the ESA. Section 9(a) of the ESA specifically prohibits the take of endangered species, and NMFS has proposed to adopt similar regulations for threatened steelhead (64 FR 73479, December 30, 1999) and chinook, chum, coho, and sockeye salmon (65 FR 170, January 3, 2000). These prohibitions, which include actions that significantly modify or degrade habitat, may have some impact on land uses that can be shown to have harmed anadromous salmonids (e.g., placing barriers to migration in a stream), but these regulations should not be confused with the designation of critical habitat. In the course of deciding to make this final designation, the Department of Commerce has complied with Executive Order 12630, Government Actions and Interference with Constitutionally Protected Property Rights.

#### *Compliance with National Environmental Policy Act (NEPA)*

*Comment 4:* Some commenters believed that NMFS should prepare an environmental impact statement pursuant to NEPA on the critical habitat designations because the designations are a major Federal action and will have a significant impact on the environment.

*Response:* Under section 4(b)(2) of the ESA, the Secretary is required to designate critical habitat on the basis of the best scientific data available after taking into account the economic and other relevant impacts of specifying any particular area as critical habitat. In past critical habitat designations, NMFS has performed analyses of the kind requested here: environmental analysis under the NEPA. In all such cases NMFS has determined that mere designation of critical habitat has no adverse environmental impacts. In the time since these analyses were performed, it has become NMFS' policy, as well as that of the U.S. Fish and Wildlife Service, that designating critical habitat has in fact no impact that requires a NEPA analysis. The Services determined that any appreciable environmental impact resulting from ESA activities accrued not from designating critical habitat, but from listing the species in the first place. Thus, designating critical habitat is simply an adjunct to listing species as threatened or endangered; it is, in itself, merely another effect generated by the listing process and has little or no environmental impact.

The Ninth Circuit Court of Appeals has upheld the Services' determination. In *Douglas County v. Babbitt* (see 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996)), the Court found that Congress, in enacting the ESA, intended that critical habitat procedures displace NEPA requirements. Further, the Court found that NEPA "does not apply to actions that do not change the physical environment" and that "to apply NEPA to the \* \* \* ESA would further the purposes of neither statute." In other words, the court found that NEPA does not apply to designation of critical habitat under the ESA.

#### *Scope and Extent of Critical Habitat*

The majority of commenters raised issues regarding the geographic scope and extent of proposed critical habitat, in particular the designation of adjacent riparian zones and the exclusion of historical habitats above dams and marine areas in the Pacific Ocean. Critical habitat is defined in section 3(5)(A) of the ESA as the specific areas within the geographic area occupied by the species on which are found those physical or biological features that are essential to the conservation of the species and that may require special management considerations or protection. Based on commenters' concerns and on new information received during the public comment period, NMFS has refined its designation of critical habitat for all 19

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ESUs of salmon and steelhead. The following sections, partitioned by habitat type, address commenters' concerns and clarify NMFS' designation of critical habitat for these ESUs.

#### *Freshwater and Estuarine Habitats*

*Comment 5*: Numerous commenters felt that a more complete scientific analysis was required before critical habitat could be designated and, as a result, requested that the agency withdraw the proposed rules. Some commenters questioned NMFS' delineation of critical habitat as including all areas currently accessible to the species, and requested more specificity as to which stream reaches are critical habitat. Some commenters sought designation of unoccupied streams as critical habitat, while others noted that some local creeks and streams never had salmon or steelhead (e.g., Calleguas Creek) and requested designation of only those areas where species restoration is feasible. Several commenters believed that adverse hydrologic conditions and degraded habitat in certain streams (e.g., Stone Corral Creek and Upper Elder Creek in California's Central Valley, and Pony Creek in coastal Oregon) would preclude certain basins or river reaches from playing a critical role in the species' recovery. Several commenters noted errors in the tables used to identify river basins containing critical habitat in the proposed rules (e.g., in the California coastal chinook salmon ESU). Several commenters identified streams and estuarine areas that they believed should be included or highlighted due to their significance for salmon and steelhead production. Finally, a large number of commenters requested that NMFS extend the southern extent of the critical habitat designation from Malibu Creek to at least San Mateo Creek in San Diego County in conjunction with a range extension of the Southern California steelhead ESU.

*Response*: While the proposed rules described the lack of consistent and robust data sets with which to discern the species' distribution at a fine scale, NMFS believes that the best available distribution information is sufficient to characterize basin-level designations of critical habitat for the listed species. A variety of mapping efforts are underway throughout the Pacific Northwest and California (e.g., the "core area" mapping component of the Oregon Coastal Salmon Restoration Initiative (OCSRI 1997), since renamed "The Oregon Plan for Salmon and Watersheds"). However, most have yet to be completed or fail to depict salmonid habitats in a consistent manner or at a fine geographic scale.

Hence, they must be viewed as good but tentative descriptions of areas occupied by or critical for salmon and steelhead. NMFS believes that these mapping efforts hold great promise for focusing habitat protection and restoration efforts and will continue to use the expertise of state and tribal comanagers to discern salmonid distribution when specific actions warrant (e.g., during section 7 consultations). However, the limited data across the range of these 19 ESUs, as well as dissimilarities in data types within them, continue to make it difficult to define this species' distribution at a finer scale than the U.S. Geological Survey (USGS) hydrologic units (i.e., basins) identified Tables 7–24. Similarly, this limitation precludes the agency from restricting critical habitat to streams where restoration may or may not be feasible.

The agency's preferred approach to identifying critical habitat is to designate all areas accessible to the species within the range of hydrologic units in each ESU. While this may not provide the level of resolution to define the species' presence or absence in specific local creeks and streams, NMFS believes that adopting a more inclusive, watershed-based description of critical habitat is appropriate because it: (1) recognizes the species' use of diverse habitats and underscores the need to account for all of the habitat types supporting the species' freshwater and estuarine life stages, from small headwater streams to migration corridors and estuarine rearing areas; (2) takes into account the natural variability in habitat use that makes precise mapping problematic (e.g., some streams may have fish present only in years with abundant rainfall); and (3) reinforces the important linkage between aquatic areas and adjacent riparian/upland areas. While unoccupied streams are excluded from critical habitat, habitat quality in the species' current range is intrinsically related to the quality of upland areas and of inaccessible headwater or intermittent streams which provide key habitat elements (e.g., large woody debris, gravel, water quality) crucial for fish in downstream reaches.

NMFS clarifies that reaches or basins historically and currently unoccupied (e.g., Calleguas Creek, Ventura County, California) would not be considered critical habitat. Also, the agency acknowledges that some streams currently have little suitable habitat for salmon and steelhead or are rarely inhabited by the species. As noted previously, the paucity of detailed information regarding salmonid distribution precludes NMFS from

identifying specific drainages or river reaches occupied by the species. In addition, the current low abundance of the species makes it difficult to rule out any stream for recovery since the remnant populations may need whatever habitat is available in order to persist. In the case of some streams cited by commenters it is unclear whether the basin has been monitored sufficiently such that firm conclusions about the species' presence/absence can be made. Instead, NMFS believes that the most prudent approach to characterizing critical habitat is to include all areas accessible to listed salmon and steelhead. In streams where there is limited species distribution information, NMFS biologists would make their best professional judgment about the access to and suitability of available habitat and what if any impacts would occur to the listed fish as a result of a specific activity. Few if any effects would result from an activity where it is well documented that the listed species makes little use of a river reach or basin and the existing habitat conditions are poor.

To address the request by several commenters, NMFS has provided a more complete list of rivers, bays, and estuaries known to support salmon and steelhead in each ESU (see section Critical Habitat of Salmon and Steelhead; Changes to the Proposed Rules). NMFS has also corrected several errors contained in the tables used to identify river basins and estuarine areas containing critical habitat and errors in the regulatory definitions. Changes included correcting misidentified basins and dams, deleting reference to several dams that are beyond the upstream extent of salmonid access, and including habitats currently occupied but erroneously omitted in the proposed rule (e.g., the inadvertent exclusion of south San Francisco Bay as critical habitat for Central California Coast steelhead ESU). See also comments and corrections noted under Dams and Barriers.

It is important to note that recent listing determinations have changed the geographic boundaries of several chinook salmon, chum salmon, and steelhead ESUs. These changes have resulted in modifications to the critical habitat to correspond with the new ESU configurations. As a result, the Upper Willamette River chinook salmon ESU (and its critical habitat) now extends downstream of Willamette Falls to include the areas occupied by Clackamas River spring-run populations (64 FR 14308, March 24, 1999) and the Hood Canal summer-run chum salmon ESU/critical habitat now includes

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Dungeness Bay and tributaries (64 FR 14508, March 25, 1999). In contrast, the California coastal and Snake River fall-run chinook salmon ESUs (64 FR 50394, September 16, 1999) and Upper Willamette River steelhead ESU (64 FR 14517, March 25, 1999) were listed within a smaller range of watersheds; hence several basins and dams/reservoirs are now being excluded from the critical habitat designation. In the case of the Snake River fall-run chinook salmon ESU, critical habitat will remain in the range of watersheds originally designated on December 28, 1993 (58 FR 68543). Specific changes to the critical habitat designations for all ESUs are summarized in Critical Habitat of Salmon and Steelhead; Changes to the Proposed Rules.

Finally, with respect to the southern extent of critical habitat for the Southern California steelhead ESU, NMFS finds that the comments may have merit. In 1999, juvenile *O. mykiss* suspected of being steelhead were found in several locations within the San Mateo Creek watershed. NMFS is evaluating the available biological information for these fish, including a limited amount of genetic and otolith microchemistry data, to determine whether a range extension of this ESU is warranted. If warranted by the available data, NMFS will propose a range extension of this ESU in a separate rule making. NMFS would consider the extension of the critical habitat designation south of Malibu Creek in conjunction with that rulemaking.

#### Adjacent Riparian Zones

*Comment 6:* While many commenters supported NMFS' proposal to include the adjacent riparian zone as critical habitat, others were strongly against this approach. Some noted the lack of justification for including adjacent riparian zones of 300 feet from each side of a stream in the critical habitat proposals for chinook, chum and sockeye salmon. Moreover, many felt that proposing to designate these zones was arbitrary and excessive. Several commenters offered possible lesser solutions to defining adjacent riparian zones, including: only the actual inhabited stream reaches themselves, a smaller width to the riparian boundary (e.g., equivalent to a site-potential tree height), or the extent of the flood plain.

*Response:* NMFS agrees that the proposed rules for chinook, chum, and sockeye salmon did not adequately describe the rationale for identifying adjacent riparian zones as part of critical habitat. The subsequent proposed rules for steelhead and Oregon coast coho

salmon included greater detail on this topic and moreover proposed a new, refined approach to designating the adjacent riparian zone (summarized below). NMFS believes it is important to include these zones in the designation of critical habitat for several reasons. The ESA defines critical habitat to include areas "on which are found those physical or biological features \* \* \* essential to the conservation of the species and \* \* \* which may require special management considerations or protection." These essential features for salmon include, but are not limited to, spawning sites, food resources, water quality and quantity, and riparian vegetation (see 50 CFR 424.12(b)). Riparian areas form the basis of healthy watersheds and affect these primary constituent elements; therefore, they are essential to the conservation of the species and need to be included as critical habitat.

NMFS' past critical habitat designations for listed salmonids have included the adjacent riparian zone as part of the designation. For example, in the final designations for Snake River spring/summer chinook, fall chinook, and sockeye salmon (58 FR 68543, December 28, 1993), NMFS included the adjacent riparian zone as part of critical habitat and defined it in the regulation as those areas within a horizontal distance of 300 feet (91.4 meters) from the normal high water line. In the critical habitat designation for Sacramento River winter-run chinook (58 FR 33212, June 16, 1993), NMFS included "adjacent riparian zones" as part of the critical habitat but did not define the extent of that zone in the regulation. The preamble to that rule stated that the adjacent riparian zone was limited to "those areas that provide cover and shade."

Streams and stream functioning are inextricably linked to adjacent riparian and upland (or upslope) areas. Streams regularly submerge portions of the riparian zone via floods and channel migration, and portions of the riparian zone may contain off-channel rearing habitats used by juvenile salmonids, especially during periods of high flow. The riparian zone also provides an array of important watershed functions that directly benefit salmonids. Vegetation in the zone shades the stream, stabilizes banks, and provides organic litter and large woody debris. The riparian zone stores sediment, recycles nutrients and chemicals, mediates stream hydraulics, and controls microclimate. Healthy riparian zones help ensure water quality essential to salmonids as well as the forage species they depend on (Reiser and Bjornn, 1979; Meehan, 1991;

FEMAT, 1993; and Spence *et al.*, 1996). Human activities in the adjacent riparian zone, or in upslope areas, can harm stream function and can harm salmonids, both directly and indirectly, by interfering with the watershed functions described here. For example, timber harvest, road-building, grazing, cultivation, and other activities can increase sediment, destabilize banks, reduce organic litter and woody debris, increase water temperatures, simplify stream channels, and increase peak flows leading to scouring. These adverse modifications reduce the value of habitat for salmonids and, in many instances, may result in injury to or mortality of fish. Because human activity may adversely affect these watershed functions and habitat features, NMFS concluded the adjacent riparian zone could require special management consideration, and, therefore, was appropriate for inclusion in critical habitat.

The Snake River salmon critical habitat designation relied on analyses and conclusions reached by the Forest Ecosystem Management Assessment Team (FEMAT, 1993) regarding interim riparian reserves for fish-bearing streams on Federal lands within the range of the northern spotted owl. The interim riparian reserve recommendations in the FEMAT report were based on a systematic review of the available literature, primarily for forested habitats, concerning riparian processes as a function of distance from stream channels. The interim riparian reserves identified in the FEMAT report for fish-bearing streams on Federal forest lands are intended to (1) provide protection to salmonids, as well as riparian-dependent and associated species, through the protection of riparian processes that influence stream function, and (2) provide a high level of fish habitat and riparian protection until site-specific watershed and project analyses can be completed. The FEMAT report identified several alternative ways that interim riparian reserves providing a high level of protection could be defined, including the 300-foot (91.4 meter) slope distance, a distance equivalent to two site-potential tree heights, the outer edges of riparian vegetation, the 100-year flood plain, or the area between the edge of the active stream channel to the top of the inner gorge, whichever is greatest. The U.S. Forest Service (USFS) and U.S. Bureau of Land Management (BLM) ultimately adopted these riparian reserve criteria as part of an Aquatic Conservation Strategy aimed at conserving fish, amphibians, and other aquatic- and riparian-

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dependent species in the Record of Decision for the Northwest Forest Plan (FEMAT ROD, 1994).

While NMFS has used the findings of the FEMAT report to guide its analyses in ESA section 7 consultations with the USFS and BLM regarding management of Federal lands, NMFS recognizes that the interim riparian reserves may be conservative in some instances, with regard to the protection of adjacent riparian habitat for salmonids since they are designed to protect terrestrial species that are riparian dependent or associated, as well as salmonids. Moreover, NMFS' analyses have focused more on the stream functions important to salmonids and on how proposed activities will affect the riparian area's contribution to properly functioning conditions for salmonid habitat.

Since the adoption of the Northwest Forest Plan, NMFS has gained experience working with Federal and non-Federal landowners to determine the likely effects of proposed land management actions on stream functions. In freshwater and estuarine areas, these activities include, but are not limited to agriculture; forestry; grazing; diking and bank stabilization; construction/urbanization; dam construction/operation; dredging and dredged spoil disposal; habitat restoration projects; irrigation withdrawal, storage, and management; mineral mining; road building and maintenance; sand and gravel mining; wastewater/pollutant discharge; wetland and floodplain alteration; and woody debris/structure removal from rivers and estuaries. NMFS has developed numerous tools to assist Federal agencies in analyzing the likely impacts of their activities on anadromous fish habitat. With these tools, Federal agencies are better able to judge the impacts of their actions on salmonid habitat, taking into account the location and nature of their actions. NMFS' primary tool guiding Federal agencies is a document titled "Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale" (NMFS, 1996a). This document presents guidelines to facilitate and standardize determinations of "effect" under the ESA and includes a matrix for determining the condition of various habitat parameters. This matrix is being implemented throughout northern California and Oregon coastal watersheds and is expected to help guide efforts to define salmonid risk factors and conservation strategies throughout the West Coast.

Several recent literature reviews have addressed the effectiveness of various

riparian zone widths for maintaining specific riparian functions (e.g., sediment control, large woody debris recruitment) and overall watershed processes. These reviews provide additional useful information about riparian processes as a function of distance from stream channels. For example, Castelle *et al.* (1994) conducted a literature review of riparian zone functions and concluded that riparian widths in the range of 30 meters (98 feet) appear to be the minimum needed to maintain biological elements of streams. They also noted that site-specific conditions may warrant substantially larger or smaller riparian management zones. Similarly, Johnson and Reba (1992) summarized the technical literature and found that available information supported a minimum 30-meter riparian management zone for salmonid protection.

A recent assessment funded by NMFS and several other Federal agencies reviewed the technical basis for various riparian functions as they pertain to salmonid conservation (Spence *et al.*, 1996). These authors suggest that a functional approach to riparian protection requires a consistent definition of riparian ecosystems based on "zones of influence" for specific riparian processes. They noted that in constrained reaches where the active channel remains relatively stable through time, riparian zones of influences may be defined based on site-potential tree heights and distance from the active channel. In contrast, they note that, in unconstrained reaches (e.g., streams in broad valley floors) with braided or shifting channels, the riparian zone of influence is more difficult to define, but recommend that it is more appropriate to define the riparian zone based on some measure of the extent of the flood plain.

Spence *et al.* (1996) reviewed the functions of riparian zones that are essential to the development and maintenance of aquatic habitats favorable to salmonids and the available literature concerning the riparian distances that would protect these functional processes. Many of the studies reviewed indicate that riparian management widths designed to protect one function in particular, recruitment of large woody debris, are likely to be adequate to protect other key riparian functions. The reviewed studies concluded that the vast majority of large woody debris is obtained within one site-potential tree height from the stream channel (Murphy and Koski, 1989; McDade *et al.*, 1990; Robison and Beschta, 1990; Van Sickle and Gregory,

1990; FEMAT, 1993; and Cederholm, 1994). Based on the available literature, Spence *et al.* (1996) concluded that fully protected riparian management zones of one site-potential tree would adequately maintain 90 to 100 percent of most key riparian functions of Pacific Northwest forests if the goal was to maintain instream processes over a time frame of years to decades.

Based on experience gained since earlier critical habitat designations and after considering public comments and reviewing additional scientific information regarding riparian habitats, NMFS is re-defining adjacent riparian zones for the 9 chinook, chum and sockeye salmon ESUs to match the riparian function description used for steelhead and Oregon Coast coho salmon ESUs. Specifically, the adjacent riparian area for all 19 salmon and steelhead ESUs is defined as the area adjacent to a stream that provides the following functions: shade, sediment transport, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter. Specific guidance on assessing the potential impacts of land use activities on riparian functions can be obtained by consulting with NMFS (see ADDRESSES), local foresters, conservation officers, fisheries biologists, or county extension agents.

The physical and biological features that create properly functioning salmonid habitat vary throughout the species' range and the extent of the adjacent riparian zone may change accordingly depending on the landscape under consideration. While a site-potential tree height can serve as a reasonable benchmark in some cases, site-specific analyses provide the best means to characterize the adjacent riparian zone because such analyses are more likely to accurately capture the unique attributes of a particular landscape. Knowing what may be a limiting factor to the properly functioning condition of a stream channel on a land use or land type basis and how that may or may not affect the function of the riparian zone will significantly assist Federal agencies in assessing the potential for impacts to listed salmon and steelhead. On Federal lands within the range of the northern spotted owl, Federal agencies should continue to rely on the Aquatic Conservation Strategy of the Northwest Forest Plan to guide their consultations with NMFS. Where there is a Federal action on non-Federal lands, Federal agencies should consider the potential effects of the activities they fund, permit, or authorize on the riparian zone adjacent to a stream that may

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influence the following functions: shade, sediment delivery to the stream, nutrient or chemical regulation, streambank stability, and the input of large woody debris or organic matter. In areas where the existing riparian zone is seriously diminished (e.g., in many urban settings and agricultural settings where flood control structures are prevalent), Federal agencies should focus on maintaining any existing riparian functions and restoring others where appropriate, for example, by cooperating with local watershed groups and landowners. NMFS acknowledges in its description of riparian habitat function that different land use types (e.g., timber, urban, and agricultural) will have varying degrees of impact and that activities requiring a Federal permit will be evaluated on the basis of disturbance to the riparian zone. In many cases the evaluation of an activity may focus on a particular limiting factor for a watercourse (e.g., temperature, stream bank erosion, sediment transport) and whether that activity may or may not contribute to improving or degrading the riparian habitat.

Finally, NMFS emphasizes that a designation of critical habitat does not prohibit landowners from conducting actions that modify streams or the adjacent terrestrial habitat. Critical habitat designation serves to identify important areas and essential features within those areas, thus alerting both Federal and non-Federal entities to the importance of the area for listed salmonids. Federal agencies are required by the ESA to consult with NMFS to ensure that any action they authorize, fund, or carry out is not likely to destroy or adversely modify critical habitat in a way that appreciably diminishes the value of critical habitat for both the survival and recovery of the listed species. The designation of critical habitat will assist Federal agencies in evaluating how their actions on Federal or non-Federal lands may affect listed salmon and steelhead and determining when they should consult with NMFS on the impacts of their actions. When a private landowner requires a Federal permit that may result in the modification of salmonid habitat, Federal permitting agencies will be required to ensure that the permitted action, regardless of whether it occurs in the stream channel, adjacent riparian zone, upstream of an impassible dam, or upland areas, does not appreciably diminish the value of critical habitat for both the survival and recovery of the listed species or jeopardize the species' (i.e., ESUs) continued existence. For other actions, landowners and agencies

should consider the needs of the listed fish and NMFS will assist them in assessing the impacts of actions.

#### *Dams and Barriers*

*Comment 7:* Numerous commenters, including the Elwha Klallam Tribe requested that NMFS conduct a more detailed analysis of areas above existing dams before concluding that these areas do not constitute critical habitat. Of particular concern were two Elwha River dams in Washington and numerous dams in California's Central Valley and south coast. Many felt that designating areas above dams would assist in recovery planning and dam-relicensing negotiations. Others requested that NMFS identify additional dams as the upstream extent of accessible habitat for salmon and steelhead. Some commenters requested clarification about whether NMFS considers critical habitat above dams that currently have listed fish transported above them (i.e., via trap and haul programs). The Shoshone-Bannock Tribes requested that NMFS include areas above Napias Creek Falls in the designation for Snake River Basin steelhead.

*Response:* NMFS' ESA implementing regulations specify that unoccupied areas are not to be included in critical habitat unless the present range would be inadequate to ensure the conservation of the species (50 CFR 424.12(e)). While the blocked areas are significant in certain ESUs or river basins (e.g., California's Central Valley and southern coast and in Washington's Elwha River Basin), NMFS has not conducted an assessment to determine if all or some of these blocked habitats are currently essential for the recovery of any ESU. In addition, the agency has not performed the requisite economic analyses needed to designate blocked areas (50 CFR 424.12(a)).

The agency's intent in identifying specific dams in each ESU was to clarify the upstream extent of known occupied reaches and to contrast these barriers with smaller, ephemeral barriers (e.g., culverts, push-up dams, etc.) that the agency does not view as impassible structures. NMFS does not intend to "write off" potential habitats above these dams, but instead will fully consider the role of these blocked habitats in the recovery planning process and in ESA habitat conservation plans and section 7 consultations. If future analyses reveal that these areas are essential for the species' conservation or could contribute to an expedited recovery of any listed ESU, NMFS will revise the critical habitat designation and make efforts to gain

access to blocked habitats. NMFS will continue to encourage Federal, state and local agencies to consider the needs of listed salmon and steelhead even in areas currently unoccupied but potentially important for future population access, restoration, and recovery.

NMFS has also reviewed information submitted by commenters requesting that a number of dams be added or removed from the list of dams/reservoirs representing the upstream extent of critical habitat (Tables 7-24). In doing so, the agency re-examined the hydrologic unit maps and found a number of errors that have been corrected in the tables. In many cases a particular dam was found to be misidentified, located in the wrong hydrologic unit, or upstream of an impassible barrier. Although several commenters believed that Black Butte Dam was misidentified in the proposed rule, NMFS has verified that this dam does in fact mark the upstream extent of Stony Creek in the Sacramento-Lower Thomes hydrologic unit. In other cases, NMFS found additional dams that block salmon and steelhead passage and has identified them as the upstream extent of critical habitat in the appropriate tables.

The agency also found several cases where dams identified as blockages in the original proposed designation were discovered to have "trap and haul" programs that move listed salmon and steelhead above them. This has resulted in an increase in the occupied range of several listed ESUs, and NMFS has expanded critical habitat to include accessible reaches above such dams. These and other edits are summarized in the section Critical Habitat of Salmon and Steelhead; Changes to the Proposed Rules.

In the case of Napias Creek Falls, NMFS noted in the proposed designation that steelhead do not presently occur in upper Napias Creek and that conclusions regarding the nature of this barrier are difficult. While NMFS believes it is likely steelhead could migrate above the falls at certain streamflows (NMFS, 1998), it is difficult to determine the frequency that steelhead would migrate above the falls or whether steelhead would recolonize habitat areas above the falls. The presence of relict indicator species above the falls (e.g., rainbow trout) tends to indicate steelhead may have occurred above the falls over evolutionary time periods; however, historical information indicates steelhead have not occurred in this area in recent times. The agency specifically requested comments regarding this and

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other falls, but has not received information that would bear conclusively on this issue. Therefore, the agency will continue to consider the areas upstream of Napias Creek Falls as outside the range of critical habitat for listed Snake River Basin steelhead. If new information becomes available to indicate otherwise, the agency will make the appropriate modifications to this ESU's critical habitat designation.

#### Marine Habitats

*Comment 8:* Numerous commenters questioned why NMFS had not designated critical habitat in marine areas. Some commenters provided data supporting the inclusion of estuarine/marine areas for the Hood Canal summer-run chum salmon ESU. Some recommended that NMFS revise its designation based on the recent EFH recommendations which include marine areas over portions of the continental shelf.

*Response:* In the case of the Hood Canal summer-run chum salmon ESU, NMFS agrees that the evidence supports including marine/estuarine areas in the unique, fjord-like setting of Puget Sound (i.e., in a manner similar to the designation for the Puget Sound chinook salmon ESU). The agency is currently re-evaluating its previous determination to exclude ocean areas as critical habitat for listed salmon and steelhead ESUs, in particular the issue of whether marine areas require special management consideration or protection. NMFS agrees that the rationale supporting the current EFH designation for Pacific salmon should be a key part of this re-evaluation. Regardless of the specific areas designated, it is important to note that Federal agencies are required to ensure that their actions, regardless of whether they occur in freshwater, estuarine, or marine habitats, do not jeopardize the continued existence of a listed species.

#### Factors for the Species' Decline

*Comment 9:* Many commenters challenged the merits of the original listings and felt that the true cause of salmon and steelhead declines lay in various spheres aside from freshwater habitat. Among the various causes cited were: tribal fishing, commercial fishing, sport fishing, foreign fishing, marine mammals, other protected predators, non-native species, birds, hatchery practices, dams, ocean conditions, and recent droughts and floods. Others provided evidence that mismanagement and pollution of freshwater habitats have been principal factors in the species' decline. Still others felt that

extinction is a natural process and that little can (or should) be done about it.

*Response:* NMFS believes that the threatened extinction of numerous salmon and steelhead populations is primarily the result of human, not natural, factors and will continue to encourage all efforts to protect and restore imperiled salmon and their habitat. The agency acknowledges that a multitude of factors have contributed to the decline of west coast salmon and steelhead and has described these factors in more detail in the proposed listing determinations (60 FR 38011, July 25, 1995; 61 FR 41541, August 9, 1996; 63 FR 11482, March 9, 1998; 63 FR 11750, March 10, 1998; 63 FR 11774, March 10, 1998; 63 FR 11798, March 10, 1998), in technical status reviews for the coho salmon (Weitkamp *et al.*, 1995), steelhead (Busby *et al.*, 1996), sockeye salmon (Gustafson *et al.*, 1997), chum salmon (Johnson *et al.*, 1997), and chinook salmon (Myers *et al.*, 1998), and in documents detailing factors for decline for related species (NMFS 1996b and 1998). Many of the causes cited by commenters are human-controlled and NMFS believes that these can and must be addressed in the near term to improve the salmon's chances for surviving uncontrollable natural events such as droughts, floods, and poor ocean conditions.

#### ESA Definitions and Standards

*Comment 10:* Some commenters requested that NMFS clarify the meaning of "harm" under the ESA.

*Response:* NMFS interprets the term "harm" in the context of habitat destruction as an act that actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, and sheltering (64 FR 60727, November 8, 1999). The habitat modification or degradation contained in the definition of "harm" is limited to those actions that actually kill or injure listed fish or wildlife. NMFS believes that this definition is reasonable for the conservation of the habitats of listed species and moreover is in keeping with Congress' intent under the ESA.

Section 9 of the ESA makes it illegal to take an endangered species of fish or wildlife. The definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." (16 U.S.C. 1532(19)). On November 8, 1999, NMFS published a final rule defining the term "harm" (64

FR 60727). The U.S. Fish and Wildlife Service has also promulgated a regulation further defining the term "harm" to eliminate confusion concerning its meaning (50 CFR 17.3). The U.S. Fish and Wildlife Service's definition of "harm" with respect to habitat destruction has been upheld by the Supreme Court as a reasonable interpretation of the term and supported by the broad purpose of the ESA to conserve endangered and threatened species (See *Babbitt v. Sweet Home Chapter of Communities for a Greater Oregon*, 115 S. Ct. 2407, 2418 (1995)). With the listings of salmon and steelhead, potentially affected parties questioned whether NMFS also interpreted harm to include habitat destruction. The November 8, 1999, final rule clarifies that NMFS' interpretation of harm is consistent with that of the U.S. Fish and Wildlife Service.

*Comment 11:* Several commenters took exception to NMFS' assertion that adverse modification of critical habitat is equivalent to jeopardizing the listed species.

*Response:* NMFS disagrees that the terms "adverse modification" and "jeopardy" are necessarily different. Section 7 of the ESA requires that Federal agencies ensure that their actions are not likely to result in the destruction or adverse modification of critical habitat. This requirement is in addition to the prohibition against jeopardizing the continued existence of a listed species, and it is the only mandatory legal consequence of a critical habitat designation. An understanding of the interplay of the "jeopardy" and "adverse modification" standards is necessary to the proper evaluation of the prudence of designation as well as the conduct of consultation under section 7. Implementing regulations (50 CFR 402.02) define "jeopardize the continued existence of" and "destruction or adverse modification of" in virtually identical terms. "Jeopardize the continued existence of" means "to engage in an action that reasonably would be expected...to reduce appreciably the likelihood of both the survival and recovery of a listed species..." "Destruction or adverse modification" means "an alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species." Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species. Thus, actions satisfying the standard for adverse modification are nearly always found to also jeopardize the species

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concerned, and the existence of a critical habitat designation does not materially affect the outcome of section 7 consultation. This is in contrast to the public perception that the adverse modification standard sets a lower threshold for violation of section 7 than that for jeopardy. In fact, biological opinions which conclude that a Federal agency action is likely to adversely modify critical habitat but not to jeopardize the species for which it is designated are very rare.

#### *Adequacy of Existing Conservation Plans and Efforts*

*Comment 12:* Several commenters stated that existing management plans and conservation initiatives were sufficient to protect salmon and steelhead and their habitat, and, therefore, the proposed critical habitat designation is not warranted. Some commenters admonished NMFS to engage in local salmon conservation programs and warned that designating critical habitat could dampen these efforts.

*Response:* The designation of critical habitat relies on evaluating which areas are occupied and essential for the species' conservation (see "Definition of Critical Habitat"). However, NMFS did consider existing regulatory mechanisms and conservation plans applicable to salmon and steelhead and their habitats in the final listing determinations for each species (62 FR 43937, August 18, 1997; 63 FR 13347, March 19, 1998; 63 FR 42587, August 10, 1998; 64 FR 14308, March 24, 1999; 64 FR 14508, March 25, 1999; 64 FR 14517, March 25, 1999; 64 FR 14528, March 25, 1999; 64 FR 50394, September 16, 1999). In those **Federal Register** documents, a variety of Federal and state laws and programs were found to have affected the abundance and survival of anadromous fish populations in all 19 ESUs. NMFS concluded that available regulatory mechanisms were inadequate and that regulated activities continued to represent a potential threat to the species' existence.

NMFS agrees with commenters that state and local watershed efforts are key to the recovery and long-term survival of these 19 salmon and steelhead ESUs. Species listings and critical habitat designations under the ESA should in no way hamper efforts to help salmonids and other imperiled species in the Pacific Northwest and California. NMFS encourages such efforts, as evidenced by the agency's involvement with an array of programs in the Pacific Northwest and California, including: helping to fund watershed coordinators through the Oregon Governor's

Watershed Enhancement Board and assisting with implementation of the Oregon Plan for Salmon and Watersheds; working with numerous Resource Conservation Districts and watershed restoration efforts in the four states; providing technical support for a variety of recovery planning efforts in Puget Sound and the Columbia River Basin; participating in the development of California's recovery and strategic management plans for coastal salmonids and working with the California Governor's Biodiversity Councils; and working with tribal, state, and city/local jurisdictions to develop protective regulations for threatened salmonids. NMFS recognizes the significant benefits that will accrue to salmon and steelhead as a result of these efforts. In fact, NMFS has promulgated interim and proposed protection regulations (i.e., ESA 4(d) rules) that provide specific limits to the ESA take prohibitions for certain harvest, hatchery, habitat restoration, monitoring, and other state and tribal efforts currently underway in the range of these 19 salmon and steelhead ESUs (62 FR 38479, July 18, 1997; 64 FR 73479, December 30, 1999; 65 FR 170, January 3, 2000). All parties interested in obtaining technical assistance in support of salmon and steelhead conservation (or other information related to NMFS' ESA activities) are encouraged to contact NMFS field office personnel in Washington, Oregon, Idaho, and California (see **FOR FURTHER INFORMATION CONTACT**).

#### *Indian Lands*

*Comment 13:* Beginning in 1998, NMFS received comments from various Northwest and California tribes requesting that the agency not designate critical habitat on Indian lands. Many of these tribes noted that this exclusion was warranted due to specific provisions contained in a June 1997 Secretarial Order entitled "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (Secretarial Order). Many of these comments focused on the critical habitat proposals for chinook, chum and sockeye salmon (63 FR 11482, March 9, 1998; 63 FR 11750, March 10, 1998; 63 FR 11774, March 10, 1998) which did not address Indian lands (i.e., proposed to designate Indian lands). However, other comments addressed specific language used to define the exclusion of Indian lands in proposals for steelhead (64 FR 5740, February 5, 1999) and Oregon Coast coho salmon (64 FR 24998, May 10, 1999).

*Response:* The unique and distinctive relationship between the United States and Indian tribes is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribes from the other entities that deal with, or are affected by, the Federal Government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to the treaties, statutes, judicial decisions, executive orders and other agreements that define the relationship between the United States and tribes, lands have been retained by Indian tribes or have been set aside for tribal use. These lands are managed by Indian tribes in accordance with tribal goals and objectives, within the framework of applicable laws.

As a means of recognizing the responsibilities and relationship between the United States and Indian tribes, the Secretaries of Commerce and Interior issued the June 5, 1997 Secretarial Order. The Secretarial Order clarifies the responsibilities of NMFS and the U.S. Fish and Wildlife Service when carrying out authorities under the ESA and requires that they consult with, and seek participation of, the affected Indian tribes to the maximum extent practicable. The Secretarial Order further provides that the Services... shall consult with the affected Indian tribe(s) when considering the designation of critical habitat in an area that may impact tribal trust resources, tribally owned fee lands, or the exercise of tribal rights. Critical habitat shall not be designated in such areas unless it is determined essential to conserve a listed species."

Pursuant to the Secretarial Order and in response to written and verbal comments provided by various tribes in Washington, Oregon, Idaho, and California, as well as the Northwest Indian Fisheries Commission, NMFS met and corresponded with many of the affected tribes concerning the inclusion of Indian lands in final critical habitat designations. These discussions resulted in significant clarifications regarding the tribes' general position to exclude their lands, as well as specific issues regarding NMFS' interpretation of Indian lands under the Secretarial Order.

The Secretarial Order defines Indian lands as "any lands title to which is either: (1) held in trust by the United States for the benefit of any Indian tribe

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or individual; or (2) held by any Indian tribe or individual subject to restrictions by the United States against alienation." In clarifying this definition with the tribes, NMFS has asserted that (1) fee lands within the reservation boundaries and owned by non-Indians, and (2) fee lands outside the reservation boundaries and owned by individual Indians, would be designated as critical habitat. The basis for this distinction regarding fee lands is that the tribal governments exercise management authority over fee lands they own (whether on or off the reservation) and over fee lands on the reservation owned by individual Indians. However, it is presently unclear to NMFS what management authority the tribal governments have over non-Indian-owned lands on the reservation or member-owned fee lands off the reservation. Such authority over land management is a crucial factor in the determination to designate them as critical habitat or not.

Based on a consideration of the Federal Government's trust responsibilities to Indian tribes, particularly as addressed in the Secretarial Order (including NMFS' determination that designating such areas are not essential to the conservation of listed steelhead), and out of respect for tribal sovereignty over the management of Indian lands, NMFS has determined that Indian lands should be excluded from the final critical habitat designation for these 19 ESUs of salmon and steelhead. The Indian lands specifically excluded from critical habitat are those defined in the Secretarial Order, including: (1) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and (2) fee lands, within the reservation boundaries, owned by individual Indians.

Although NMFS continues to believe that habitat on Indian lands which is currently accessible to listed salmon and steelhead is important for the long-term survival and recovery of these species, the agency believes that section 7 consultations through the Bureau of Indian Affairs and other Federal agencies in combination with the continued development and implementation of tribal resource management programs that support salmonid conservation represent an alternative to designating critical habitat that will result in a proportionate and essential contribution to salmon and steelhead conservation that is also consistent with the goals of the Secretarial Order. Also, all of these Tribal lands combined comprised only a minor portion (less than 3%) of the total watershed area for these 19 ESUs.

Therefore, NMFS has determined that the critical habitat that is designated in this final rule is sufficient to provide for the conservation of these 5 species.

NMFS will continue to discuss this issue with interested tribes, in particular some tribes' concerns over the status of fee lands, and will modify critical habitat as needed in the future. Such modifications could include: (1) recognizing that additional lands have been converted into trust status and are thereby excluded from critical habitat; or (2) designating Indian lands as critical habitat if the agency, in consultation with an affected tribe, determines that recovery cannot be achieved for an ESU unless the particular lands are designated.

The original proposals for steelhead and Oregon Coast coho identified specific tribes that should be excluded from critical habitat designation. However, given the complete exclusion of all Indian lands within the range of these 19 salmon and steelhead ESUs, NMFS believes there is no longer a need to identify all affected tribes. If, in future rulemaking, NMFS proposes to designate Indian lands, then the agency would specifically identify the affected landholdings.

#### **Critical Habitat of Salmon and Steelhead; Changes to the Proposed Rules**

As noted in the proposed rules for these 5 species of salmon and steelhead, critical habitat encompasses dozens of major river basins and an array of essential habitat features. Essential habitat types for these species can be generally described to include the following: (1) juvenile rearing areas; (2) juvenile migration corridors; (3) areas for growth and development to adulthood; (4) adult migration corridors; and (5) spawning areas. Within these areas, essential features of critical habitat include adequate: (1) substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food, (8) riparian vegetation, (9) space, and (10) safe passage conditions. Given the vast geographic range occupied by each of these salmon and steelhead ESUs and the diverse habitat types used by the various life stages, it is not practical to describe specific values or conditions for each of these essential habitat features. However, good summaries of these environmental parameters and freshwater factors that have contributed to the decline of salmon and steelhead can be found in reviews by CDFG, 1965; California Advisory Committee on Salmon and Steelhead Trout (CACSTT), 1988; Brown and Moyle, 1991; Bjornn

and Reiser, 1991; Nehlsen *et al.*, 1991; Higgins *et al.*, 1992; California State Lands Commission (CSLC), 1993; Botkin *et al.*, 1995; NMFS, 1996b; and Spence *et al.*, 1996.

For reasons described earlier in this document, NMFS has revised its designation of freshwater and estuarine critical habitat for chinook, chum, and sockeye salmon to include riparian areas that provide the following functions: shade, sediment transport, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter. Habitat quality in this range is intrinsically related to the quality of riparian and upland areas and of inaccessible headwater or intermittent streams which provide key habitat elements (e.g., large woody debris, gravel, water quality) crucial for salmon and steelhead in downstream reaches. Marine habitats (i.e., oceanic or nearshore areas seaward of the mouth of coastal rivers) are also vital to salmon and steelhead, and ocean conditions are believed to have a major influence on the species' survival. Although NMFS has not included the Pacific Ocean as critical habitat in these final rules, the agency will be re-evaluating this issue and may propose including specific marine zones for salmon and steelhead ESUs in a separate notice.

NMFS is modifying the final critical habitat designations for these 19 ESUs based on comments and new information received on the proposed rules. The following section gives a general description of each ESU's range, identifies some of the larger salmon and steelhead basins within each ESU, and summarizes the major changes to critical habitat designations. The river basins identified do not constitute a comprehensive inventory; many small or unidentified streams and tributaries in each ESU also provide essential spawning, rearing and estuarine habitat for salmon and steelhead. Instead, these summaries are meant to supplement the USGS hydrologic units listed in Tables 7-24 with commonly-used river names within each ESU. The actual regulatory descriptions of critical habitat for each ESU can be found in the regulatory text at the end of this **Federal Register** document.

#### **General Description of ESU Range and Major Changes from Proposed Critical Habitat Designations**

##### *Chinook Salmon*

(1) Puget Sound ESU - Major river basins known to support this ESU include the Nooksack, Skagit, Stillaguamish, Snohomish, Green/



Duwamish, Puyallup, Nisqually, Skokomish, Dungeness, Cedar, and Elwha Rivers. Major bays and estuarine/marine areas include the South Sound, Hood Canal, Elliott Bay, Possession Sound, Admiralty Inlet, Saratoga Passage, Rosario Strait, Strait of Georgia, Haro Strait, and the Strait of Juan De Fuca. In this final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative) description; (2) excluded all Indian lands (as previously defined) from the designation; (3) removed the Fraser and Crescent-Hoko hydrologic units from Table 7 because they are outside the range of the ESU; (4) included areas above Howard Hanson Dam due to the fact that trap and haul operations move listed chinook salmon into habitats above this dam; (5) included areas above Cushman Dam due to the presence of listed chinook salmon above the dam; (6) removed Cedar Falls Dam (Masonry Dam) since it does not delimit the upstream extent of river reaches inhabited by this ESU; and (7) added Landsburg Diversion and Alder Dam to Table 7 because they currently block upstream passage.

(2) Lower Columbia River ESU - Major river basins known to support this ESU include the Grays, Elochoman, Kalama, Lewis, Washougal, White Salmon, Cowlitz, Coweeman, Klaskanine, Clackamas, Sandy, and Hood Rivers, as well as Youngs Bay and the Columbia River and estuary. In this final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative) description; (2) excluded all Indian lands (as previously defined) from the designation; (3) added the Upper Cowlitz hydrologic unit to Table 8 because it contains critical habitat for this ESU; (4) removed Cougar, Oak Grove, and Yale Dams from Table 8 since they do not delimit the upstream extent of river reaches inhabited by this ESU; (5) clarified that the dam in the Lower Columbia-Sandy hydrologic unit is "Bull Run Dam 2" and that The Dalles Dam is in the Middle Columbia-Hood hydrologic unit; and (6) included areas above Mayfield Dam due to the fact that trap and haul operations move listed chinook salmon into habitats above the dam.

(3) Upper Willamette River ESU - Major river basins known to support this ESU include the Willamette, Molalla, North Santiam, and McKenzie Rivers, as well as the Columbia River and estuary. In this final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative)

description; (2) excluded all Indian lands (as previously defined) from the designation; (3) corrected the range of the designation to include the Clackamas River Basin (which contains populations that are part of the ESU); (4) added Big Cliff, Blue River, Cottage Grove, Dorena, and Fern Ridge Dams to Table 9 because they currently block upstream passage; (5) included areas above Foster, Cougar, and Dexter Dams due to the fact that trap and haul operations move listed chinook salmon into habitats above these dams.

(4) Upper Columbia River Spring-run ESU - Major river basins known to support this ESU include the Wenatchee, Entiat, and Methow Rivers, as well as the Columbia River and estuary. In this final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative) description; (2) excluded all Indian lands (as previously defined) from the designation; (3) added the Lower Willamette hydrologic unit to Table 10 because it contains critical habitat for this ESU; (4) removed the Okanogan hydrologic unit from Table 10 since it does not contain river reaches inhabited by the ESU; and (5) removed Bull Run and Condit Dams from Table 10 since they do not delimit the upstream extent of river reaches inhabited by this ESU.

(5) California Central Valley Spring-run ESU - Major river basins known to support this ESU include the Sacramento River, Feather River, Yuba River, and Big Chico, Beegum, Deer, Mill, Butte, Clear, Battle, and Antelope Creeks, as well as the Sacramento-San Joaquin Delta and Honker, Grizzly, Suisun, and San Francisco Bays. In this final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative) description; (2) excluded all Indian lands (as previously defined) from the designation; (3) removed the Lower American, Cottonwood Headwaters, Upper Coon-Upper Auburn and Coyote hydrologic units from Table 11 since they do not contain river reaches inhabited by the ESU; (4) removed Nimbus, San Pablo, Shasta, and Calaveras Dams from Table 11 since they do not delimit the upstream extent of river reaches inhabited by this ESU; (5) added Centerville Dam to Table 11 because it currently blocks upstream passage; and (6) corrected the location of Eglebright Dam to be in the Upper Yuba hydrologic unit.

(6) California Coastal ESU - Rivers, estuaries, and bays known to support this ESU include Humboldt Bay, Redwood Creek, and the Mad, Eel, Mattole, and Russian Rivers. In this

final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative) description; (2) excluded all Indian lands (as previously defined) from the designation; (3) removed several hydrologic units and dams/reservoirs that are no longer within the range of this re-configured ESU; (4) added Warm Springs Dam to Table 12 because it currently blocks upstream passage; and (5) specified the dams for two reservoirs - Scott Dam (Lake Pillsbury) and Coyote Dam (Lake Mendocino).

#### *Chum Salmon*

(1) Hood Canal Summer-run ESU - Rivers, estuaries, and bays known to support this ESU include the Quilcene, Dosewallips, Duckabush, Hamma Hamma, Lilliwaup, Dewatto, Tahuya, and Union Rivers, Dungeness Bay/River, and Snow and Salmon Creeks (Discovery Bay tributaries) and Jimmycomelately Creek in Sequim Bay. Some populations on the east side of Hood Canal (Big Beef Creek, Anderson Creek, and the Dewatto and Tahuya Rivers) are severely depressed and have recently had no returning adults. In this final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative) description; (2) excluded all Indian lands (as previously defined) from the designation; (3) included estuarine/marine areas adjacent to the basins within the range of the ESU as well as areas of Admiralty Inlet and the Straits of Juan De Fuca; (4) corrected the range of the designation to extend as far west as Dungeness Bay/Basin (which contains populations that are part of the ESU); and (5) excluded areas above Cushman Dam or above longstanding, naturally impassable barriers.

(2) Columbia River ESU - Besides the Columbia River and estuary, presently only a few Washington streams are recognized as containing chum salmon: Hamilton and Hardy Creeks (near Bonneville Dam), and the Cowlitz and Grays Rivers. Oregon currently recognizes 23 "provisional" populations in the Columbia River Basin, ranging from the Lewis and Clark River to Milton Creek near St. Helens, Oregon (Kostow, 1995). In this final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative) description; (2) excluded all Indian lands (as previously defined) from the designation; and (3) excluded areas above specific dams (Bonneville and Merwin Dams) or above longstanding, naturally impassable barriers.

*Sockeye Salmon*

(1) Ozette Lake ESU - Sockeye salmon in this ESU inhabit Ozette Lake and the Ozette River and currently spawn primarily in lakeshore upwelling areas in Ozette Lake (particularly at Allen's Bay and Olsen's Beach). Additional spawning areas may include the Ozette River (below Ozette Lake) and Coal Creek, a tributary of the Ozette River. Sockeye salmon do not presently spawn in tributary streams to Ozette Lake (although they may have spawned there historically), but currently there are efforts to propagate the species in Umbrella Creek. In this final rule, NMFS has: (1) modified the description of the adjacent riparian zone to be based on a functional (rather than quantitative) description; (2) excluded all Indian lands (as previously defined) from the designation; and (3) clarified that areas above longstanding, naturally impassable barriers are excluded.

*Coho Salmon*

(1) Oregon Coast ESU - Major river basins known to support this ESU include the Necanicum, Nehalem, Nestucca, Salmon, Siletz, Yaquina, Alsea, Yachats, Siuslaw, Umpqua, Coos, Coquille Rivers, and Siltcoos, Tahkenitch, and Tenmile Lakes Basins. In this final rule, NMFS has: (1) added Win Walker Reservoir to Table 15 because it currently blocks upstream passage; and (2) clarified that all Indian lands are excluded from the designation.

*Steelhead*

(1) Southern California ESU - Major river basins known to support this ESU include Malibu Creek and the Santa Clara, Santa Ynez, and Ventura Rivers. In this final rule, NMFS has: (1) removed Vern Freeman Dam (which was misidentified in the Ventura hydrologic unit) and Matilija Dam since they do not delimit the upstream extent of river reaches inhabited by this ESU; (2) corrected the location of Vaquero and Rindge Dams to be in the Santa Maria and Santa Monica Bay hydrologic units, respectively; (3) removed the Calluegas hydrologic unit from Table 16 since it does not contain river reaches inhabited by the ESU; and (4) clarified that all Indian lands are excluded from the designation.

(2) South-Central California Coast ESU - Major river basins known to support this ESU include the Big Sur, Carmel, Little Sur, Pajaro, and Salinas Rivers. In this final rule, NMFS has: (1) removed Los Padres Dam since it does not delimit the upstream extent of river reaches inhabited by this ESU; (2) added

Lopez Dam, and Whale Rock, North Fork Pacheco, Chesbro, Nacimiento, and San Antonio Reservoirs to Table 17 because they currently block upstream passage; and (3) clarified that all Indian lands are excluded from the designation.

(3) Central California Coast ESU - Major river basins known to support this ESU include the Russian and San Lorenzo Rivers on the coast, and several other smaller tributaries within San Pablo and San Francisco Bays. In this final rule, NMFS has: (1) corrected the range of the designation to include Aptos Creek (which contains populations that are part of the ESU); (2) added Phoenix Dam, Almaden Reservoir, Anderson Reservoir, Calero Reservoir, Guadalupe Reservoir, Searsville Lake, Stevens Creek Reservoir, Vasona Reservoir, Chabot Dam, Crystal Springs Reservoir, Del Valle Reservoir, San Antonio Reservoir, Soulejule Dam, and Pilarcitos Dam to Table 18 because they currently block upstream passage; (3) corrected the location of Calaveras Reservoir to be in the San Francisco Bay hydrologic unit; (4) renamed Nicasio Dam to Peters Dam; (5) included the entire San Francisco Bay (west to the Golden Gate Bridge) as critical habitat; and (6) clarified that all Indian lands are excluded from the designation.

(4) California Central Valley ESU - Major river basins known to support this ESU include the Sacramento, San Joaquin, Stanislaus, American, Feather, Merced, Mokelumne, Tuolumne, and Yuba Rivers, Battle, Butte, Big Chico, Beegum, Cache, Deer, Mill, Antelope, Putah, Stony, and Cottonwood Creeks, as well as the Sacramento-San Joaquin Delta and Honker, Grizzly, Suisun, and San Francisco Bays. In this final rule, NMFS has: (1) added Centerville and Monticello Dams to Table 19 because they currently block upstream passage; (2) corrected the location of Whiskeytown Dam to be in the Sacramento-Upper Clear hydrologic unit; (3) added the Lower Cache and San Francisco Bay hydrologic units to Table 19 because they contain critical habitat for this ESU; and (4) clarified that all Indian lands are excluded from the designation.

(5) Upper Columbia River ESU - Major Columbia River tributaries known to support this ESU include the Entiat, Methow, Okanogan, and Wenatchee Rivers, as well as the Columbia River and estuary. In this final rule, NMFS has clarified that all Indian lands are excluded from the designation.

(6) Snake River Basin ESU - Major Snake River tributaries known to support this ESU include the

Clearwater, Grande Ronde, Salmon, Selway, and Tucannon Rivers, as well as the Columbia River and estuary. In this final rule, NMFS has: (1) clarified that all Indian lands are excluded from the designation; and (2) clarified that areas upstream of Napias Creek Falls are excluded from the designation.

(7) Lower Columbia River ESU - Major Columbia River tributaries known to support this ESU include the Clackamas, Cowlitz, Hood, Kalama, Lewis, Sandy, Washougal, and Wind Rivers. In this final rule, NMFS has: (1) included areas above Mayfield Dam due to the fact that trap and haul operations move listed steelhead into habitats above these dams; and (2) clarified that all Indian lands are excluded from the designation.

(8) Upper Willamette River ESU - Major river basins known to support this ESU include the Willamette, Mollala, and Santiam Rivers, as well as the Columbia River and estuary. In this final rule, NMFS has: (1) corrected the range of the designation to exclude areas upstream of the Calapooia River Basin; (2) removed Bull Run, Cougar, Dexter, and Dorena Dams from Table 23 since they do not delimit the upstream extent of river reaches inhabited by this ESU; (3) corrected the location of Big Cliff Dam to be in the North Santiam hydrologic unit; and (4) clarified that all Indian lands are excluded from the designation.

(9) Middle Columbia River ESU - Major Columbia River tributaries known to support this ESU include the Deschutes, John Day, Klickitat, Umatilla, Walla Walla, and Yakima Rivers, as well as the Columbia River and estuary. In this final rule, NMFS has clarified that all Indian lands are excluded from the designation.

As a result of recent listing determinations affecting the geographic boundaries and ESA listing status of several chinook salmon ESUs (64 FR 50394, September 16, 1999), NMFS is not promulgating a final critical habitat designation for the Central Valley fall- and late-fall run chinook salmon ESU. Also, NMFS is excluding from designation areas north of Redwood Creek and south of the Russian River, including San Francisco and San Pablo Bay tributaries, that were originally proposed as critical habitat for the former southern Oregon and California coastal chinook salmon ESU (63 FR 11482, March 9, 1998). Finally, critical habitat for the Snake River fall-run chinook salmon ESU will remain in the range of watersheds originally designated on December 28, 1993 (58 FR 68543).

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### Need for Special Management Considerations or Protection

NMFS believes that special management considerations may be needed to ensure that essential habitats and features are maintained or restored. Activities that may require special management considerations for freshwater and estuarine life stages of listed salmon and steelhead include, but are not limited to: (1) land management; (2) timber harvest; (3) point and non-point water pollution; (4) livestock grazing; (5) habitat restoration; (6) beaver removal; (7) irrigation and domestic water withdrawals and returns; (8) mining; (9) road construction; (10) dam operation and maintenance; (11) diking and streambank stabilization; and (12) dredge and fill activities. Not all of these activities are necessarily of current concern within every watershed; however, they indicate the potential types of activities that will require consultation in the future. At this time, no special habitat management considerations have been identified for listed salmon and steelhead while they are residing in the ocean environment.

### Activities that May Affect Critical Habitat

A wide range of activities may affect the essential habitat requirements of listed salmon and steelhead in freshwater and estuarine habitats. More in-depth discussions are contained in the response to comments under Scope and Extent of Critical Habitat and in **Federal Register** documents announcing the proposed critical habitat for each ESU (63 FR 11482, March 9, 1998; 63 FR 11750, March 10, 1998; 63 FR 11774, March 10, 1998; 64 FR 5740, February 5, 1999; 64 FR 24998, May 10, 1999). These activities include water and land management actions of Federal agencies (e.g., U.S. Forest Service, U.S. Bureau of Land Management, U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, the Federal Highway Administration, Natural Resource Conservation Service, National Park Service, Bureau of Indian Affairs, and the Federal Energy Regulatory Commission) and related or similar actions of other federally regulated projects and lands, including livestock grazing allocations by the U.S. Forest Service and U.S. Bureau of Land Management; hydropower sites licensed by the Federal Energy Regulatory Commission; dams built or operated by the U.S. Army Corps of Engineers or U.S. Bureau of Reclamation; timber sales conducted by the U.S. Forest Service and U.S. Bureau of Land Management; road building activities

authorized by the Federal Highway Administration, U.S. Forest Service, U.S. Bureau of Land Management, and National Park Service; and mining and road building activities authorized by the states of California and Oregon. Other actions of concern include dredge and fill, mining, diking, and bank stabilization activities authorized or conducted by the U.S. Army Corps of Engineers, habitat modifications authorized by the Federal Emergency Management Agency, and approval of water quality standards and pesticide labeling and use restrictions administered by the Environmental Protection Agency.

The Federal agencies that will most likely be affected by this critical habitat designation include the U.S. Forest Service, U.S. Bureau of Land Management, U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, Federal Highway Administration, Natural Resource Conservation Service, National Park Service, Bureau of Indian Affairs, Federal Emergency Management Agency, Environmental Protection Agency, and the Federal Energy Regulatory Commission. This designation will provide these agencies, private entities, and the public with clear notification of critical habitat designated for listed salmonids and the boundaries of the habitat and protection provided for that habitat by the section 7 consultation process. This designation will also assist these agencies and others in evaluating the potential effects of their activities on listed salmon and steelhead and their critical habitat and in determining if consultation with NMFS is needed.

NMFS anticipates that numerous private entities will be affected by the ESA listings and the resultant need to carry out conservation measures throughout the species' current range. As noted above, many of these effects result from direct and indirect linkages to an array of Federal actions, including Federal projects, permits, and funding. For example, the fishing industry (both the commercial and recreational sectors) is already hard hit by declining salmon runs and will continue to suffer until the species recover and provide sustainable fisheries. Agriculture and forestry sectors typically require Federal permits or authorizations to harvest timber, graze livestock, apply herbicides/pesticides, irrigate crops, or build associated access roads in salmon watersheds. These permits will need to be modified so that they are adequately protective of salmon and their habitats. In some cases, such modifications could result in decreases in timber harvest,

and livestock and crop production. The transportation and utilities sectors may need to modify the placement of culverts, bridges and utility conveyances (e.g., water, sewer and power lines) to avoid barriers to fish migration. Developments occurring in or near salmon streams (e.g., marinas, residential, or industrial facilities) may need to be altered or built in a manner that ensures that listed fish will not be harmed by the construction, or subsequent operation, of the facility. Recreational and commercial mining operations will need to ensure that their actions do not jeopardize listed species. Recreational and tourism industries may have ESA-related restrictions imposed so that activities such as fishing enterprises are conducted in a manner that safeguard spawning fish and their habitats.

In addition, the widespread ESA listings underscore that both urban and rural communities could face significant changes in how they approach such diverse activities as: planning, zoning, and construction/development; erosion and sediment control; floodplain management; water withdrawals and supply reservoirs; and stormwater and wastewater discharges. These are just a few examples of potential impacts, but it is clear that the effects will encompass numerous sectors of private and public activities.

### Expected Economic Impacts of Designating Critical Habitat

The economic impacts to be considered in a critical habitat designation are the incremental effects of critical habitat designation above the economic impacts attributable to listing or attributable to authorities other than the ESA (see response to comments under Economic Considerations). Incremental impacts result from special management activities in those areas, if any, outside the present distribution of the listed species that NMFS has determined to be essential to the conservation of the species. For these 19 salmon and steelhead ESUs NMFS has determined that the present geographic extent of their freshwater and estuarine range is likely sufficient to provide for conservation of the species, although the quality of that habitat needs improvement on many fronts. Because NMFS is not designating any areas beyond the current range of these ESUs as critical habitat, the designation will result in few, if any, additional economic effects beyond those that may have been caused by listing and by other statutes.

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### Compliance With Existing Statutes

NMFS has determined that Environmental Assessments and Environmental Impact Statements, as defined under the National Environmental Policy Act of 1969, need not be prepared for critical habitat designations made pursuant to the ESA. See *Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996).

### References

The complete citations for the references used in this document can be obtained by contacting Garth Griffin, NMFS (see **FOR FURTHER INFORMATION CONTACT**) or via the Internet (see **ADDRESSES**).

### Classification

This rule has been determined to be significant for purposes of Executive Order (E.O.) 12866.

NMFS is designating only the current range of these salmon and steelhead ESUs as critical habitat. Given the affinity of these species to spawn in small watersheds, this current range encompasses a wide range of habitat, including lakes, small tributary reaches, as well as mainstem, off-channel and estuarine areas. Areas excluded from this designation include historically-occupied areas above impassable dams and headwater areas above impassable natural barriers (e.g., long-standing, natural waterfalls). Since NMFS is designating the current range of the listed species as critical habitat, this designation will not impose any additional requirements or economic effects upon small entities, beyond those which may accrue from section 7 of the ESA. Section 7 requires Federal agencies to insure that any action they carry out, authorize, or fund is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat (ESA § 7(a)(2)). The consultation requirements of section 7 are nondiscretionary and are effective at the time of species' listing. Therefore, Federal agencies must consult with NMFS and ensure their actions do not jeopardize a listed species, regardless of whether critical habitat is designated.

In the future, should NMFS determine that designation of habitat areas outside the species' current range is necessary for conservation and recovery, NMFS will analyze the incremental costs of that action and assess its potential impacts on small entities, as required by the Regulatory Flexibility Act. Until that time, a more detailed analysis would be premature and would not reflect the

true economic impacts of the proposed action on local businesses, organizations, and governments.

Accordingly, the Chief Counsel for Regulation of the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration that this rule would not have a significant economic impact of a substantial number of small entities, as described in the Regulatory Flexibility Act.

### Executive Order 13132 - Federalism

In keeping with the intent of the Administration and Congress to provide continuing and meaningful dialogue on issues of mutual State and Federal interest, NMFS has conferred with appropriate State and local officials following its proposal to designate the critical habitat described in this final rule. While these officials, and other interested parties, expressed support for protection of the listed species, they also expressed support for activities that may be affected by the designation. The **SUPPLEMENTARY INFORMATION** section of this rule discusses these comments and NMFS' responses. Among other things, the responses address concerns regarding the scope and extent of critical habitat, and concerns regarding possible impacts of a critical habitat designation. The areas described in this final rule represent the current freshwater and estuarine range of the listed species. For all ESUs, critical habitat includes all waterways, substrate, and adjacent riparian zones below longstanding, naturally impassable barriers. The economic (and other) impacts resulting from this critical habitat designation are expected to be minimal.

This rule does not contain a collection-of-information requirement for purposes of the Paperwork Reduction Act.

### List of Subjects in 50 CFR Part 226

Endangered and threatened species, Incorporation by reference.

Dated: February 7, 2000.

**Andrew A. Rosenberg**,  
Deputy Assistant Administrator for Fisheries,  
National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 226 is amended as follows:

### PART 226—DESIGNATED CRITICAL HABITAT

1. The authority citation for part 226 continues to read as follows:

**Authority:** 16 U.S.C. 1533.

2. Section 226.212 is added to read as follows:

### § 226.212 Critical habitat designation for 19 evolutionary significant units of salmon and steelhead in Washington, Oregon, Idaho, and California.

Critical habitat is designated to include all river reaches accessible to listed salmon or steelhead within the range of the ESUs listed, except for reaches on Indian lands. Critical habitat consists of the water, substrate, and adjacent riparian zone of estuarine and riverine reaches in hydrologic units and counties identified in Tables 7 through 24 to this part for all of the salmon and steelhead ESUs listed in this section. Accessible reaches are those within the historical range of the ESUs that can still be occupied by any life stage of salmon or steelhead. Inaccessible reaches are those above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years) and specific dams within the historical range of each ESU identified in Tables 7 through 24 to this part. Hydrologic units are those defined by the Department of the Interior (DOI), U.S. Geological Survey (USGS) publication, "Hydrologic Unit Maps," Water Supply Paper 2294, 1987, and the following DOI, USGS, 1:500,000 Scale Hydrologic Unit Maps: State of Oregon (1974), State of Washington (1974), State of California (1978), and State of Idaho (1981), which are incorporated by reference. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the USGS publication and maps may be obtained from the USGS, Map Sales, Box 25286, Denver, CO 80225. Copies may be inspected at NMFS, Protected Resources Division, 525 NE Oregon Street-Suite 500, Portland, OR 97232-2737, or NMFS, Office of Protected Resources, 1315 East-West Highway, Silver Spring, MD 20910, or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

(a) *Puget Sound Chinook Salmon* (*Oncorhynchus tshawytscha*) geographic boundaries. Critical habitat is designated to include all marine, estuarine and river reaches accessible to listed chinook salmon in Puget Sound. Puget Sound marine areas include South Sound, Hood Canal, and North Sound to the international boundary at the outer extent of the Strait of Georgia, Haro Strait, and the Strait of Juan De Fuca to a straight line extending north from the west end of Freshwater Bay, inclusive. Excluded are areas above specific dams identified in Table 7 to this part or above longstanding, naturally impassable barriers (i.e.,



natural waterfalls in existence for at least several hundred years).

(b) *Lower Columbia River Chinook Salmon (Oncorhynchus tshawytscha) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed chinook salmon in Columbia River tributaries between the Grays and White Salmon Rivers in Washington and the Willamette and Hood Rivers in Oregon, inclusive. Also included are river reaches and estuarine areas in the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to the Dalles Dam. Excluded are areas above specific dams identified in Table 8 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(c) *Upper Willamette River chinook salmon (Oncorhynchus tshawytscha) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed chinook salmon in the Clackamas River and the Willamette River and its tributaries above Willamette Falls. Also included are river reaches and estuarine areas in the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to, and including, the Willamette River in Oregon. Excluded are areas above specific dams identified in Table 9 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(d) *Upper Columbia River Spring-run Chinook salmon (Oncorhynchus tshawytscha) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of Chief Joseph Dam in Washington, excluding the Okanogan River. Also included are river reaches and estuarine areas in the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to Chief Joseph Dam in Washington. Excluded are areas above specific dams identified in Table 10 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(e) *Central Valley Spring-run chinook salmon (Oncorhynchus tshawytscha) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed chinook salmon in the Sacramento River and its tributaries in California. Also included are river reaches and estuarine areas of the Sacramento-San Joaquin Delta, all waters from Chippis Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge, and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge. Excluded are areas above specific dams identified in Table 11 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(f) *California Coastal Chinook Salmon (Oncorhynchus tshawytscha) geographic boundaries.* Critical habitat is designated to include all river reaches and estuarine areas accessible to listed chinook salmon from Redwood Creek (Humboldt County, California) to the Russian River (Sonoma County, California), inclusive. Excluded are areas above specific dams identified in Table 12 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(g) *Hood Canal Summer-run Chum Salmon (Oncorhynchus keta) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed chum salmon (including estuarine areas and tributaries) draining into Hood Canal as well as Olympic Peninsula rivers between and including Hood Canal and Dungeness Bay, Washington. Also included are estuarine/marine areas of Hood Canal, Admiralty Inlet, and the Straits of Juan De Fuca to the international boundary and as far west as a straight line extending north from Dungeness Bay. Excluded are areas above specific dams identified in Table 13 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(h) *Columbia River Chum Salmon (Oncorhynchus keta) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed chum salmon (including estuarine areas and tributaries) in the Columbia River downstream from Bonneville Dam, excluding Oregon tributaries upstream of Milton Creek at river km 144 near the

town of St. Helens. Excluded are areas above specific dams identified in Table 14 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(i) *Ozette Lake Sockeye Salmon (Oncorhynchus nerka) geographic boundaries.* Critical habitat is designated to include all lake areas and river reaches accessible to listed sockeye salmon in Ozette Lake, located in Clallam County, Washington. Excluded are areas above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(j) *Oregon Coast coho salmon (Oncorhynchus kisutch) geographic boundaries.* Critical habitat is designated to include all river reaches and estuarine areas accessible to listed coho salmon from coastal streams south of the Columbia River and north of Cape Blanco, Oregon. Excluded are areas above specific dams identified in Table 15 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(k) *Southern California steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Santa Maria River to Malibu Creek, California (inclusive). Excluded are areas above specific dams identified in Table 16 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(l) *South-Central California Coast steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Pajaro River (inclusive) to, but not including, the Santa Maria River, California. Excluded are areas above specific dams identified in Table 17 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(m) *Central California Coast steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River to Aptos Creek, California (inclusive), and the drainages of San Francisco and San Pablo Bays. Also included are all waters of San Pablo Bay westward of the Carquinez

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Bridge and all waters of San Francisco Bay from San Pablo Bay to the Golden Gate Bridge. Excluded is the Sacramento-San Joaquin River Basin of the California Central Valley as well as areas above specific dams identified in Table 18 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(n) *Central Valley steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed steelhead in the Sacramento and San Joaquin Rivers and their tributaries in California. Also included are river reaches and estuarine areas of the Sacramento-San Joaquin Delta, all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge, and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the Golden Gate Bridge. Excluded are areas of the San Joaquin River upstream of the Merced River confluence and areas above specific dams identified in Table 19 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(o) *Upper Columbia River steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed steelhead in Columbia River tributaries upstream of the Yakima River, Washington, and downstream of Chief Joseph Dam. Also included are river reaches and estuarine areas in the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon

side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to Chief Joseph Dam in Washington. Excluded are areas above specific dams identified in Table 20 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(p) *Snake River Basin steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed steelhead in the Snake River and its tributaries in Idaho, Oregon, and Washington. Also included are river reaches and estuarine areas in the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to the confluence with the Snake River. Excluded are areas above specific dams identified in Table 21 to this part or above longstanding, naturally impassable barriers (i.e., Napias Creek Falls and other natural waterfalls in existence for at least several hundred years).

(q) *Lower Columbia River steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed steelhead in Columbia River tributaries between the Cowlitz and Wind Rivers in Washington and the Willamette and Hood Rivers in Oregon, inclusive. Also included are river reaches and estuarine areas in the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to the Hood River in Oregon. Excluded are areas above specific dams identified in Table 22 to this part or above longstanding, naturally impassable

barriers (i.e., natural waterfalls in existence for at least several hundred years).

(r) *Upper Willamette River steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed steelhead in the Willamette River and its tributaries above Willamette Falls upstream to, and including, the Calapooia River. Also included are river reaches and estuarine areas in the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to, and including, the Willamette River in Oregon. Excluded are areas above specific dams identified in Table 23 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

(s) *Middle Columbia River steelhead (Oncorhynchus mykiss) geographic boundaries.* Critical habitat is designated to include all river reaches accessible to listed steelhead in Columbia River tributaries (except the Snake River) between Mosier Creek in Oregon and the Yakima River in Washington (inclusive). Also included are river reaches and estuarine areas in the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to the Yakima River in Washington. Excluded are areas above specific dams identified in Table 24 to this part or above longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

3. Tables 7 through 24 are added to part 226 to read as follows:

Table 7 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Puget Sound Chinook Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Strait of Georgia .....	17110002	Skagit (WA), Whatcom (WA) .....	
Sand Juan Islands .....	17110003	San Juan (WA) .....	
Nooksack .....	17110004	Skagit (WA), Whatcom (WA) .....	
Upper Skagit .....	17110005	Skagit (WA), Whatcom (WA) .....	
Sauk .....	17110006	Snohomish (WA), Skagit (WA) .....	
Lower Skagit .....	17110007	Skagit (WA), Snohomish (WA) .....	
Stillaguamish .....	17110008	Snohomish (WA), Skagit (WA) .....	
Skykomish .....	17110009	King (WA), Snohomish (WA) .....	
Snoqualmie .....	17110010	King (WA), Snohomish (WA) .....	Tolt Dam
Snohomish .....	17110011	Snohomish (WA) .....	
Lake Washington .....	17110012	King (WA), Snohomish (WA) .....	Landsburg Diversion
Duwamish .....	17110013	King (WA) .....	
Puyallup .....	17110014	King (WA), Pierce (WA) .....	
Nisqually .....	17110015	Pierce (WA), Thurston (WA) .....	Alder Dam

Table 7 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Puget Sound Chinook Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.—Continued

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Deschutes .....	17110016	Lewis (WA), Thurston (WA) .....	
Skokomish .....	17110017	Grays Harbor (WA), Jefferson (WA), Mason (WA).	
Hood Canal .....	17110018	Clallam (WA), Jefferson (WA), Kitsap (WA), Mason (WA).	
Puget Sound .....	17110019	Island (WA), Jefferson (WA), King (WA), Kitsap (WA), Mason (WA), Pierce (WA), Skagit (WA), Snohomish (WA), Thurston (WA).	
Dungeness-Elwha .....	17110020	Clallam (WA), Jefferson (WA) .....	
			Elwha Dam

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, and riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 8 to Part 226 —Hydrologic Units and Counties Containing Critical Habitat for Lower Columbia River Chinook Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Middle Columbia-Hood .....	17070105	Hood River (OR), Klickitat (WA), Skamania (WA), Wasco (OR).	Condit Dam, The Dalles Dam
Lower Columbia-Sandy .....	17080001	Clackamas (OR), Clark (WA), Multnomah (OR), Skamania (WA).	Bull Run Dam 2
Lewis .....	17080002	Clark (WA), Cowlitz (WA), Skamania (WA).	Merwin Dam
Lower Columbia-Clatskanie .....	17080003	Clatsop (OR), Columbia (OR), Cowlitz (WA), Lewis (WA), Skamania (WA), Wahkiakum (WA).	
Upper Cowlitz .....	17080004	Lewis (WA), Pierce (WA), Skamania (WA), Yakima (WA).	
Lower Cowlitz .....	17080005	Cowlitz (WA), Lewis (WA), Skamania (WA).	
Lower Columbia .....	17080006	Clatsop (OR), Pacific (WA), Wahkiakum (WA).	
Clackamas .....	17090011	Clackamas (OR), Marion (OR) .....	
Lower Willamette .....	17090012	Clackamas (OR), Columbia (OR), Multnomah (OR), Washington (OR).	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, and riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 9 to Part 226 —Hydrologic Units and Counties Containing Critical Habitat for Upper Willamette River Chinook Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Lower Columbia-Sandy .....	17080001	Clark (WA) .....	
Lower Columbia-Clatskanie .....	17080003	Clatsop (OR), Columbia (OR), Cowlitz (WA), Wahkiakum (WA).	
Lower Columbia .....	17080006	Clatsop (OR), Pacific (WA), Wahkiakum (WA).	
Middle Fork Willamette .....	17090001	Douglas (OR), Lane (OR) .....	Cottage Grove Dam, Dorena Dam
Coast Fork Willamette .....	17090002	Douglas (OR), Lane (OR) .....	
Upper Willamette .....	17090003	Benton (OR), Lane (OR), Lincoln (OR), Linn (OR), Polk (OR).	
McKenzie .....	17090004	Lane (OR), Linn (OR) .....	Blue River Dam
North Santiam .....	17090005	Clackamas (OR), Linn (OR) Marion (OR)	Big Cliff Dam
South Santiam .....	17090006	Linn (OR) .....	Green Peter Dam
Middle Willamette .....	17090007	Clackamas (OR), Marion (OR), Polk (OR), Washington (OR), Yamhill (OR).	
Yamhill .....	17090008	Lincoln (OR), Polk (OR), Tillamook (OR), Yamhill (OR).	
Molalla-Pudding .....	17090009	Clackamas (OR), Marion (OR) .....	
Tualatin .....	17090010	Clackamas (OR), Columbia (OR), Multnomah (OR), Tillamook (OR), Washington (OR), Yamhill (OR).	
Clackamas .....	17090011	Clackamas (OR), Marion (OR) .....	

Table 9 to Part 226 —Hydrologic Units and Counties Containing Critical Habitat for Upper Willamette River Chinook Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.—Continued

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Lower Willamette .....	17090012	Clackamas (OR), Columbia (OR), Multnomah (OR).	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, and riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 10 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Upper Columbia River Spring-run Chinook Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Chief Joseph .....	17020005	Chelan (WA), Douglas (WA), Okanogan (WA).	Chief Joseph
Similkameen .....	17020007	Okanogan (WA) .....	
Methow .....	17020008	Okanogan (WA) .....	
Upper Columbia-Entiat .....	17020010	Chelan (WA), Douglas (WA), Grant (WA), Kittitas (WA).	
Wenatchee .....	17020011	Chelan (WA) .....	
Upper Columbia-Priest Rapids .....	17020016	Benton (WA), Grant (WA), Franklin (WA), Kittitas (WA), Yakima (WA).	
Middle Columbia-Lake Wallula .....	17070101	Benton (WA), Gilliam (OR), Klickitat (WA), Morrow (OR), Sherman (OR), Umatilla (OR), Walla Walla (WA).	
Middle Columbia-Hood .....	17070105	Hood River (OR), Klickitat (WA), Sherman (OR), Skamania (WA), Wasco (OR).	
Lower Columbia-Sandy .....	17080001	Clark (WA), Multnomah (OR), Skamania (WA).	
Lower Columbia-Clatskanie .....	17080003	Clatsop (OR), Columbia (OR), Cowlitz (WA), Wahkiakum (WA).	
Lower Columbia .....	17080006	Clatsop (OR), Pacific (WA), Wahkiakum (WA).	
Lower Willamette .....	17090012	Columbia (OR), Multnomah (OR) .....	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, and riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 11 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Central Valley California Spring-run Chinook Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Sacramento-Lower Cow-Lower Clear .....	18020101	Shasta (CA), Tehama (CA) .....	
Lower Cottonwood .....	18020102	Shasta (CA), Tehama (CA) .....	
Sacramento-Lower Thomes .....	18020103	Butte (CA), Glenn (CA), Tehama (CA) .....	Black Butte Dam
Sacramento-Stone Corral .....	18020104	Butte (CA), Colusa (CA), Glenn (CA), Sutter (CA), Yolo (CA).	
Lower Butte .....	18020105	Butte (CA), Colusa (CA), Glenn (CA), Sutter (CA).	Centerville Dam
Lower Feather .....	18020106	Butte (CA), Sutter (CA), Yuba (CA) .....	Oroville Dam
Lower Yuba .....	18020107	Yuba (CA) .....	
Lower Bear .....	18020108	Placer (CA), Sutter (CA), Yuba (CA) .....	Camp Far West Dam
Lower Sacramento .....	18020109	Sacramento (CA), Solano (CA), Sutter (CA), Placer (CA), Yolo (CA).	
Sacramento-Upper Clear .....	18020112	Shasta (CA) .....	Keswick Dam, Whiskeytown Dam
Upper Elder-Upper Thomes .....	18020114	Tehama (CA) .....	
Upper Cow-Battle .....	18020118	Shasta (CA), Tehama (CA) .....	
Mill-Big Chico .....	18020119	Butte (CA), Shasta (CA), Tehama (CA) .....	
Upper Butte .....	18020120	Butte (CA), Tehama (CA) .....	
Upper Yuba .....	18020125	Nevada (CA), Yuba (CA) .....	Englebright Dam
Suisun Bay .....	18050001	Contra Costa (CA), Napa (CA), Solano (CA).	
San Pablo Bay .....	18050002	Alameda (CA), Contra Costa (CA), Marin (CA), Napa (CA), San Mateo (CA), Solano (CA), Sonoma (CA).	
San Francisco Bay .....	18050004	Alameda (CA), Contra Costa (CA), Marin (CA), San Francisco (CA), San Mateo (CA).	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, and riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.



Table 12 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for California Coastal Chinook Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Mad-Redwood .....	18010102	Humboldt (CA), Trinity (CA) .....	Scott Dam
Upper Eel .....	18010103	Glenn (CA), Lake (CA), Mendocino (CA), Trinity (CA).	
Middle Fork Eel .....	18010104	Humboldt (CA), Mendocino (CA), Trinity (CA).	
Lower Eel .....	18010105	Humboldt (CA), Mendocino (CA) .....	
South Fork Eel .....	18010106	Humboldt (CA), Mendocino (CA) .....	
Mattole .....	18010107	Humboldt (CA), Mendocino (CA) .....	
Big-Navarro-Garcia .....	18010108	Mendocino (CA) .....	
Gualala-Salmon .....	18010109	Mendocino (CA), Sonoma (CA) .....	
Russian .....	18010110	Mendocino (CA), Sonoma (CA) .....	
Bodega Bay .....	18010111	Marin (CA), Sonoma (CA) .....	
			Coyote Dam, Warm Springs Dam

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, and riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 13 to part 226—Hydrologic Units and Counties Containing Critical Habitat for Hood Canal Summer-run Chum Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Skokomish .....	17110017	Mason (WA) .....	Cushman Dam
Hood Canal .....	17110018	Clallam (WA), Jefferson (WA), Kitsap (WA), Mason (WA).	
Puget Sound .....	17110019	Island (WA), Jefferson (WA), Kitsap (WA)	
Dungeness-Elwha .....	17110020	Clallam (WA), Jefferson (WA) .....	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 14 to part 226—Hydrologic Units and Counties Containing Critical Habitat for Columbia River Chum Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat.

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Lower Columbia - Sandy .....	17080001	Clark (WA), Skamania (WA), Multnomah (OR).	Bonneville Dam
Lewis .....	17080002	Cowlitz (WA), Clark (WA), Skamania (WA).	Merwin Dam
Lower Columbia - Clatskanie .....	17080003	Wahkiakum (WA), Lewis (WA), Cowlitz (WA), Skamania (WA), Clatsop (OR), Columbia (OR).	
Lower Cowlitz .....	17080005	Cowlitz (WA), Lewis (WA), Skamania (WA).	
Lower Columbia .....	17080006	Pacific (WA), Wahkiakum (WA), Lewis (WA), Clatsop (OR).	
Lower Willamette .....	17090012	Columbia (OR), Multnomah (OR), Washington (OR).	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 15 to part 226—Hydrologic Units and Counties Containing Critical Habitat for Oregon Coast Coho Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within the range of ESU <sup>x</sup>	Dams/Reservoirs
Necanicum .....	17100201	Clatsop (OR), Tillamook (OR) .....	McGuire Dam
Nehalem .....	17100202	Clatsop (OR), Columbia (OR), Tillamook (OR), Washington (OR).	
Wilson-Trask-Nestucca .....	17100203	Lincoln (OR), Polk (OR), Tillamook (OR), Washington (OR), Yamhill (OR).	
Siletz-Yaquina .....	17100204	Benton (OR), Lincoln (OR), Polk (OR), Tillamook (OR).	
Alsea .....	17100205	Benton (OR), Lane (OR), Lincoln (OR) .....	
Siuslaw .....	17100206	Benton (OR), Douglas (OR), Lane (OR) .....	
Siltcoos .....	17100207	Douglas (OR), Lane (OR) .....	

Table 15 to part 226—Hydrologic Units and Counties Containing Critical Habitat for Oregon Coast Coho Salmon, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat—Continued

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within the range of ESU <sup>x</sup>	Dams/Reservoirs
North Umpqua .....	17100301	Douglas (OR), Lane (OR) .....	Cooper Creek Dam, Soda Springs Dam Ben Irving Dam, Galesville Dam, Win Walker Reservoir
South Umpqua .....	17100302	Coos (OR), Douglas (OR), Josephine (OR).	
Umpqua .....	17100303	Coos (OR), Douglas (OR), Lane (OR) .....	Lower Pony Creek Dam
Coos .....	17100304	Coos (OR), Douglas (OR) .....	
Coquille .....	17100305	Coos (OR), Curry (OR), Douglas (OR) .....	
Sixes .....	17100306	Coos (OR), Curry (OR) .....	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 16 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Southern California Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Cuyama .....	18060007	San Luis Obispo (CA), Santa Barbara (CA).	Vaquero Dam
Santa Maria .....	18060008	San Luis Obispo (CA), Santa Barbara (CA).	
San Antonio .....	18060009	Santa Barbara (CA) .....	Bradbury Dam
Santa Ynez .....	18060010	Santa Barbara (CA) .....	
Santa Barbara Coastal .....	18060013	Santa Barbara (CA), Ventura (CA) .....	
Ventura .....	18070101	Santa Barbara (CA), Ventura (CA) .....	Casitas Dam, Robles Dam Santa Felicia Dam
Santa Clara .....	18070102	Los Angeles (CA), Santa Barbara (CA), Ventura (CA).	
Santa Monica Bay .....	18070104	Los Angeles (CA), Ventura (CA) .....	Rindge Dam

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 17 to Part 226.—Hydrologic Units and Counties Containing Critical Habitat for South-Central California Coast Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Pajaro .....	18060002	Monterey (CA), San Benito (CA), Santa Clara (CA), Santa Cruz (CA).	Chesbro Reservoir, North Fork Pacheco Reservoir
Estrella .....	18060004	Monterey (CA), San Luis Obispo (CA) .....	Nacimiento Reservoir, Salinas Dam, San Antonio Reservoir
Salinas .....	18060005	Monterey (CA), San Benito (CA), San Luis Obispo (CA).	
Central Coastal .....	18060006	Monterey (CA), San Luis Obispo (CA) .....	Lopez Dam, Whale Rock Reservoir
Alisal-Elkhorn Sloughs .....	18060011	Monterey (CA), San Benito (CA) .....	
Carmel .....	18060012	Monterey (CA) .....	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 18 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Central California Coast Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Russian .....	18010110	Mendocino (CA), Sonoma (CA) .....	Coyote Dam, Warm Springs Dam
Bodega Bay .....	18010111	Marin (CA), Sonoma (CA) .....	
Suisun Bay .....	18050001	Contra Costa (CA), Napa (CA), Solano (CA).	
San Pablo Bay .....	18050002	Alameda (CA), Contra Costa (CA), Marin (CA), Napa (CA), San Francisco (CA), Solano (CA), Sonoma (CA).	Phoenix Dam, San Pablo Dam
Coyote .....	18050003	Alameda (CA), San Mateo (CA), Santa Clara (CA).	Almaden Reservoir, Anderson Reservoir, Calero Reservoir, Guadalupe Reservoir, Searsville Lake, Stevens Creek Reservoir, Vasona Reservoir
San Francisco Bay .....	18050004	Alameda (CA), Contra Costa (CA), San Francisco (CA), San Mateo (CA), Santa Clara (CA).	Calaveras Reservoir, Chabot Dam, Crystal Springs Reservoir, Del Valle Reservoir, San Antonio Reservoir

Table 18 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Central California Coast Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat—Continued

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Tomales-Drake Bays .....	18050005	Marin (CA), Sonoma (CA) .....	Peters Dam, Seeger Dam, Soulejule Dam
San Francisco Coastal South .....	18050006	San Mateo (CA) .....	Pilarcitos Dam
San Lorenzo-Soquel .....	18060001	San Mateo (CA), Santa Cruz (CA) .....	Newell Dam

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 19 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Central Valley Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Sacramento-Lower Cow-Lower Clear .....	18020101	Shasta (CA), Tehama (CA) .....	Black Butte Dam
Lower Cottonwood .....	18020102	Shasta (CA), Tehama (CA) .....	
Sacramento-Lower Thomes .....	18020103	Butte (CA), Glenn (CA), Tehama (CA) .....	
Sacramento-Stone Corral .....	18020104	Butte (CA), Colusa (CA), Glenn (CA), Sutter (CA), Yolo (CA).	
Lower Butte .....	18020105	Butte (CA), Colusa (CA), Glenn (CA), Sutter (CA).	Centerville Dam
Lower Feather .....	18020106	Butte (CA), Sutter (CA), Yuba (CA) .....	Oroville Dam
Lower Yuba .....	18020107	Yuba (CA) .....	Camp Far West Dam
Lower Bear .....	18020108	Placer (CA), Sutter (CA), Yuba (CA) .....	
Lower Sacramento .....	18020109	Placer (CA), Sacramento (CA), Solano (CA), Sutter (CA), Yolo (CA).	
Lower Cache .....	18020110	Yolo (CA) .....	Monticello Dam
Lower American .....	18020111	Placer (CA), Sacramento (CA), Sutter (CA).	
Sacramento-Upper Clear .....	18020112	Shasta (CA) .....	Keswick Dam, Whiskeytown Dam
Cottonwood Headwaters .....	18020113	Shasta (CA), Tehama (CA) .....	
Upper Elder-Upper Thomes .....	18020114	Tehama (CA) .....	Englebright Dam
Upper Cow-Battle .....	18020118	Shasta (CA), Tehama (CA) .....	
Mill-Big Chico .....	18020119	Butte (CA), Shasta (CA), Tehama (CA) .....	
Upper Butte .....	18020120	Butte (CA), Tehama (CA) .....	
Honcut Headwaters .....	18020124	Butte (CA), Yuba (CA) .....	
Upper Yuba .....	18020125	Yuba (CA), Nevada (CA) .....	
Upper Coon-Upper Auburn .....	18020127	Placer (CA) .....	
Middle San Joaquin-Lower Merced-Lower Stanislaus .....	18040002	Calaveras (CA), Merced (CA), San Joaquin (CA), Stanislaus (CA).	
San Joaquin Delta .....	18040003	Alameda (CA), Contra Costa (CA), Sacramento (CA), San Joaquin (CA).	
Lower Calaveras-Mormon Slough .....	18040004	Calaveras (CA), San Joaquin (CA), Stanislaus (CA).	
Lower Consumnes-Lower Mokelumne .....	18040005	Amador (CA), Sacramento (CA), San Joaquin (CA).	Comanche Dam
Upper Stanislaus .....	18040010	Calaveras (CA), San Joaquin (CA), Tuolumne (CA).	Goodwin Dam
Upper Calaveras .....	18040011	Calaveras (CA) .....	New Hogan Dam
Panoche-San Luis Reservoir .....	18040014	San Joaquin (CA), Stanislaus (CA) .....	
Suisun Bay .....	18050001	Contra Costa (CA), Solano (CA) .....	
San Pablo Bay .....	18050002	Contra Costa (CA), Marin (CA), San Francisco (CA), Solano (CA), Sonoma (CA).	
San Francisco Bay .....	18050004	Alameda (CA), Contra Costa (CA), San Francisco (CA), San Mateo (CA).	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 20 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Upper Columbia River Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Chief Joseph .....	17020005	Chelan (WA), Douglas (WA), Okanogan (WA).	Chief Joseph Dam
Okanogan .....	17020006	Okanogan (WA) .....	
Similkameen .....	17020007	Okanogan (WA) .....	
Methow .....	17020008	Okanogan (WA) .....	



Table 20 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Upper Columbia River Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat—Continued

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Upper Columbia-Entiat .....	17020010	Chelan (WA), Douglas (WA), Grant (WA), Kittitas (WA).	
Wenatchee .....	17020011	Chelan (WA) .....	
Moses Coulee .....	17020012	Douglas (WA), Grant (WA) .....	
Upper Columbia-Priest Rapids .....	17020016	Benton (WA), Franklin (WA), Grant (WA), Kittitas (WA), Yakima (WA).	
Middle Columbia-Lake Wallula .....	17070101	Benton (WA), Gilliam (OR), Klickitat (WA), Morrow (OR), Sherman (OR), Umatilla (OR), Walla Walla (WA).	
Middle Columbia-Hood .....	17070105	Hood River (OR), Klickitat (WA), Sherman (OR), Skamania (WA), Wasco (OR).	
Lower Columbia-Sandy .....	17080001	Clark (WA), Multnomah (OR), Skamania (WA).	
Lower Columbia-Clatskanie .....	17080003	Clatsop (OR), Columbia (WA), Cowlitz (WA), Wahkiakum (WA).	
Lower Columbia .....	17080006	Clatsop (OR), Pacific (WA), Wahkiakum (WA).	
Lower Willamette .....	17090012	Columbia (OR), Multnomah (OR) .....	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 21 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Snake River Basin Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Hells Canyon .....	17060101	Adams (ID), Idaho (ID), Wallowa (OR) ....	Hells Canyon Dam
Imnaha .....	17060102	Baker (OR), Union (OR), Wallowa (OR) ..	
Lower Snake-Asotin .....	17060103	Asotin (WA), Garfield (WA), Nez Perce (ID), Wallowa (OR).	
Upper Grande Ronde .....	17060104	Umatilla (OR), Union (OR), Wallowa (OR)	
Wallowa .....	17060105	Union (OR), Wallowa (OR) .....	
Lower Grande Ronde .....	17060106	Asotin (WA), Columbia (WA), Garfield (WA), Union (OR), Wallowa (OR).	
Lower Snake-Tucannon .....	17060107	Asotin (WA), Columbia (WA), Garfield (WA), Whitman (WA).	
Palouse .....	17060108	Franklin (WA), Whitman (WA) .....	
Lower Snake .....	17060110	Columbia (WA), Franklin (WA), Walla Walla (WA).	
Upper Salmon .....	17060201	Blaine (ID), Custer (ID), Lemhi (ID) .....	
Pahsimeroi .....	17060202	Custer (ID), Lemhi (ID) .....	
Middle Salmon-Panther .....	17060203	Custer (ID), Lemhi (ID) .....	
Lemhi .....	17060204	Lemhi (ID) .....	
Upper Middle Fork Salmon .....	17060205	Boise (ID), Custer (ID), Lemhi (ID), Valley (ID).	
Lower Middle Fork Salmon .....	17060206	Idaho (ID), Lemhi (ID), Valley (ID) .....	
Middle Salmon-Chamberlain .....	17060207	Idaho (ID), Lemhi (ID), Valley (ID) .....	
South Fork Salmon .....	17060208	Idaho (ID), Valley (ID) .....	
Lower Salmon .....	17060209	Idaho (ID), Lewis (ID), Nez Perce (ID) ....	
Little Salmon .....	17060210	Adams (ID), Idaho (ID) .....	
Upper Selway .....	17060301	Idaho (ID) .....	
Lower Selway .....	17060302	Idaho (ID) .....	
Lochsa .....	17060303	Clearwater (ID), Idaho (ID) .....	
Middle Fork Clearwater .....	17060304	Idaho (ID) .....	
South Fork Clearwater .....	17060305	Idaho (ID) .....	
Clearwater .....	17060306	Clearwater (ID), Idaho (ID), Latah (ID), Lewis (ID), Nez Perce (ID), Whitman (WA).	
Lower North Fork Clearwater .....	17060308	Clearwater (ID) .....	Dworshak Dam
Middle Columbia-Lake Wallula .....	17070101	Benton (WA), Gilliam (OR), Klickitat (WA), Morrow (OR), Sherman (OR), Umatilla (OR), Walla Walla (WA).	
Middle Columbia-Hood .....	17070105	Hood River (OR), Klickitat (WA), Sherman (OR), Skamania (WA), Wasco (OR).	
Lower Columbia-Sandy .....	17080001	Clark (WA), Multnomah (OR), Skamania (WA).	

Table 21 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Snake River Basin Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat—Continued

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Lower Columbia-Clatskanie .....	17080003	Clatsop (OR), Columbia (WA), Cowlitz (WA), Wahkiakum (WA).	
Lower Columbia .....	17080006	Clatsop (OR), Pacific (WA), Wahkiakum (WA).	
Lower Willamette .....	17090012	Columbia (OR), Multnomah (OR) .....	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 22 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Lower Columbia River Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Middle Columbia-Hood .....	17070105	Hood River (OR), Skamania (WA) .....	
Lower Columbia-Sandy .....	17080001	Clackamas (OR), Clark (WA), Multnomah (OR), Skamania (WA).	Bull Run Dam 2
Lewis .....	17080002	Clark (WA), Cowlitz (WA), Skamania (WA).	Merwin Dam
Lower Columbia-Clatskanie .....	17080003	Clatsop (OR), Columbia (OR), Cowlitz (WA), Skamania (WA), Wahkiakum (WA).	
Lower Cowlitz .....	17080005	Cowlitz (WA), Lewis (WA), Skamania (WA).	
Lower Columbia .....	17080006	Clatsop (OR), Pacific (WA), Wahkiakum (WA).	
Clackamas .....	17090011	Clackamas (OR), Marion (OR) .....	
Lower Willamette .....	17090012	Clackamas (OR), Columbia (OR), Multnomah (OR), Washington (OR).	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 23 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Upper Willamette River Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Lower Columbia-Sandy .....	17080001	Clark (WA) .....	
Lower Columbia-Clatskanie .....	17080003	Clatsop (OR), Columbia (WA), Cowlitz (WA), Wahkiakum (WA).	
Lower Columbia .....	17080006	Clatsop (OR), Pacific (WA), Wahkiakum (WA).	
Upper Willamette .....	17090003	Benton (OR), Linn (OR), Polk (OR) .....	
North Santiam .....	17090005	Clackamas (OR), Linn (OR), Marion (OR)	Big Cliff Dam
South Santiam .....	17090006	Linn (OR) .....	Green Peter Dam
Middle Willamette .....	17090007	Clackamas (OR), Marion (OR), Polk (OR), Washington (OR), Yamhill (OR).	
Yamhill .....	17090008	Lincoln (OR), Polk (OR), Tillamook (OR), Yamhill (OR).	
Molalla-Pudding .....	17090009	Clackamas (OR), Marion (OR) .....	
Tualatin .....	17090010	Clackamas (OR), Columbia (OR), Multnomah (OR), Tillamook (OR), Washington (OR), Yamhill (OR).	
Lower Willamette .....	17090012	Clackamas (OR), Columbia (OR), Multnomah (OR).	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

Table 24 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Middle Columbia River Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Upper Columbia-Priest Rapids .....	17020016	Benton (WA), Franklin (WA) .....	
Upper Yakima .....	17030001	Kittitas (WA), Yakima (WA) .....	

Table 24 to Part 226—Hydrologic Units and Counties Containing Critical Habitat for Middle Columbia River Steelhead, and Dams/Reservoirs Representing the Upstream Extent of Critical Habitat—Continued

Hydrologic Unit name	Hydrologic Unit number	Counties <sup>1</sup> within Hydrologic Unit and within range of ESU	Dams/Reservoirs
Naches .....	17030002	Kittitas (WA), Yakima (WA) .....	Condit Dam
Lower Yakima .....	17030003	Benton (WA), Klickitat (WA), Yakima (WA).	
Middle Columbia-Lake Wallula .....	17070101	Gilliam (OR), Morrow (OR), Umatilla (OR), Benton (WA), Klickitat (WA), Sherman (OR), Walla Walla (WA), Yakima (WA).	
Walla Walla .....	17070102	Umatilla (OR), Wallowa (OR), Columbia (WA), Walla Walla (WA).	
Umatilla .....	17070103	Morrow (OR), Umatilla (OR), Union (OR)	
Willow .....	17070104	Morrow (OR), Gilliam (OR) .....	
Middle Columbia-Hood .....	17070105	Hood River (OR), Sherman (OR), Wasco (OR), Klickitat (WA), Skamania (WA).	
Klickitat .....	17070106	Klickitat (WA), Yakima (WA) .....	
Upper John Day .....	17070201	Crook (OR), Grant (OR), Harney (OR), Wheeler (OR),.	
North Fork John Day .....	17070202	Grant (OR), Morrow (OR), Umatilla (OR), Union (OR), Wheeler (OR).	
Middle Fork John Day .....	17070203	Grant (OR) .....	Pelton Dam
Lower John Day .....	17070204	Crook (OR), Gilliam (OR), Grant (OR), Jefferson (OR), Morrow (OR), Sherman (OR), Wasco (OR), Wheeler (OR).	
Lower Deschutes .....	17070306	Hood River (OR), Jefferson (OR), Sherman (OR), Wasco (OR).	
Trout .....	17070307	Crook (OR), Jefferson (OR), Wasco (OR)	
Lower Columbia-Sandy .....	17080001	Multnomah (OR), Clark (WA), Skamania (WA).	
Lower Columbia-Clatskanie .....	17080003	Clatsop (OR), Columbia (WA), Cowlitz (WA), Wahkiakum (WA).	
Lower Columbia .....	17080006	Clatsop (OR), Pacific (WA), Wahkiakum (WA).	
Lower Willamette .....	17090012	Columbia (OR), Multnomah (OR) .....	

<sup>1</sup> Some counties have very limited overlap with estuarine, riverine, or riparian habitats identified as critical habitat for this ESU. Consult USGS hydrologic unit maps (available from USGS) to determine specific county and basin boundaries.

[FR Doc. 00-3553 Filed 2-15-00; 8:45 am]  
BILLING CODE 3510-22-F

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Part 679**

[Docket No. 991223348-9348-01; I.D. 021000C]

**Fisheries of the Exclusive Economic Zone Off Alaska; Pollock in the Shelikof Strait Conservation Area in the Gulf of Alaska**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Closure.

**SUMMARY:** NMFS is prohibiting directed fishing for pollock in the Shelikof Strait conservation area in the Gulf of Alaska (GOA). This action is necessary to prevent exceeding the interim 2000 pollock total allowable catch (TAC) for

the Shelikof Strait conservation area established by the 2000 Interim Specifications and amended by the emergency interim rule implementing Steller sea lion protection measures for the pollock fisheries off Alaska.

**DATES:** Effective 1200 hrs, Alaska local time (A.l.t.), February 13, 2000, until 1200 hrs, A.l.t., March 15, 2000.

**FOR FURTHER INFORMATION CONTACT:** Mary Furuness, 907-586-7228

**SUPPLEMENTARY INFORMATION:** NMFS manages the groundfish fishery in the GOA exclusive economic zone according to the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

The interim 2000 pollock TAC in the Shelikof Strait conservation area as amended by the emergency interim rule implementing Steller sea lion protection measures for the pollock fisheries off

Alaska (65 FR 3892, January 25, 2000) and an inseason adjustment (65 FR 4892, February 2, 2000) is 13,991 metric tons (mt), determined in accordance with § 679.22(b)(3)(iii)(C).

In accordance with § 679.20(d)(1)(i), the Administrator, Alaska Region, NMFS (Regional Administrator), has determined that the interim TAC of pollock in the Shelikof Strait conservation area will soon be reached. Therefore, the Regional Administrator is establishing a directed fishing allowance of 13,491 mt, and is setting aside the remaining 500 mt as bycatch to support other anticipated groundfish fisheries. In accordance with § 679.22(b)(3)(iii)(A), the Regional Administrator finds that this directed fishing allowance will soon be reached. Consequently, NMFS is prohibiting directed fishing for pollock in the Shelikof Strait conservation area in the GOA.

Maximum retainable bycatch amounts may be found in the regulations at § 679.20(e) and (f).

**No. 17-15245**

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IN THE UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT

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CACHIL DEHE BAND OF WINTUN INDIANS OF THE COLUSA  
INDIAN COMMUNITY, a federally recognized Indian Tribe,  
Plaintiff-Appellant,

v.

KENNETH LEE SALAZAR, Secretary of the Interior, *et al.*,  
Defendants-Appellees.

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APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE  
EASTERN DISTRICT OF CALIFORNIA (No. 2:12-cv-03021-TLN-AC)

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**PLAINTIFF-APPELLANT'S ADDENDUM TO OPENING BRIEF**

**VOLUME 2**

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**DEPARTMENT OF COMMERCE****National Oceanic and Atmospheric Administration****50 CFR Part 223**

[Docket No. 991207324-0148-02; I.D. 081699C]

RIN 0648-AK94

**Endangered and Threatened Species; Final Rule Governing Take of 14 Threatened Salmon and Steelhead Evolutionarily Significant Units (ESUs)**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule.

**SUMMARY:** Under section 4(d) of the Endangered Species Act (ESA), the Secretary of Commerce (Secretary) is required to adopt such regulations as he deems necessary and advisable for the conservation of species listed as threatened. NMFS now issues a final ESA 4(d) rule adopting regulations necessary and advisable to conserve fourteen listed threatened salmonid ESUs. This final rule applies the prohibitions enumerated in section 9(a)(1) of the ESA to one coho salmon ESU, three chinook salmon ESUs, two chum salmon ESUs, one sockeye salmon ESU and seven steelhead ESUs. NMFS does not find it necessary and advisable to apply the take prohibitions described in section 9(a)(1)(B) and 9(a)(1)(C) to specified categories of activities that contribute to conserving listed salmonids or are governed by a program that adequately limits impacts on listed salmonids. This final rule includes 13 such limits on the application of the ESA section 9(a)(1) take prohibitions.

**DATES:** Effective September 8, 2000. Applicability dates: In § 223.203 for the Snake River Basin, Lower Columbia River, Middle Columbia River, Upper Willamette River, Central Valley, California, Central California Coast, and South-Central California Coast steelhead ESUs, this final rule is applicable September 8, 2000. In § 223.203 for the Snake River spring/summer, Snake River fall, Puget Sound, Lower Columbia River and Upper Willamette River chinook, Oregon Coast, Central California Coast, and South/Central California Coast coho, Hood Canal summer-run and Columbia River chum, and Ozette Lake sockeye ESUs, this final rule is applicable January 8, 2001.

**ADDRESSES:** Branch Chief, NMFS, Northwest Region, Protected Resources Division, 525 NE. Oregon St., Suite 500,

Portland, OR 97232-2737; Regional Administrator, Northwest Region, 7600 Sand Point Way, NE, BIN C15700, Building 1, Seattle, WA 98115-0070; Assistant Regional Administrator, Protected Resources Division, NMFS, Southwest Region, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213; Regional Administrator, NMFS, Southwest Region, 501 West Ocean Blvd., Long Beach, CA 90802-4213; Salmon Coordinator, Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring, MD 20910.

**FOR FURTHER INFORMATION CONTACT:** Garth Griffin at 503-231-2005 or Craig Wingert at 562-980-4021.

**Electronic Access**

Reference materials regarding this rule can also be obtained from the internet at [www.nwr.noaa.gov](http://www.nwr.noaa.gov).

**SUPPLEMENTARY INFORMATION:****Background**

On August 18, 1997, NMFS published a final rule listing the Snake River Basin (SRB), Central California Coast (CCC), and South/Central California Coast (SCCC) steelhead (*Oncorhynchus mykiss*) ESUs as threatened species under the ESA (62 FR 43937). On March 19, 1998, NMFS published a final rule listing the Lower Columbia River (LCR) and Central Valley, California (CVC) steelhead ESUs as threatened species under the ESA (63 FR 13347). On March 25, 1999, NMFS published a final rule listing the Middle Columbia River (MCR) and Upper Willamette River (UWR) steelhead ESUs as threatened (64 FR 14517). Those final listing documents describe the background of the steelhead listing actions and provide summaries of NMFS' conclusions regarding the status of the listed steelhead ESUs. On August 10, 1998 (63 FR 42587), NMFS, on behalf of the Secretary, published a final rule listing the Oregon Coast (OC) ESU of coho salmon (*Oncorhynchus kisutch*, or *O. kisutch*) as threatened. By a final rule published on March 24, 1999 (64 FR 14308), NMFS listed as threatened the Puget Sound (PS), Lower Columbia River (LCR) and Upper Willamette River (UWR) ESUs of west coast chinook salmon (*Oncorhynchus tshawytscha*, or *O. tshawytscha*) in Washington and Oregon. By a final rule published on March 25, 1999 (64 FR 14508), NMFS listed as threatened the Hood Canal Summer-run (HCS) and Columbia River (CR) chum salmon ESUs (*Oncorhynchus keta*, or *O. keta*) in Washington and Oregon. By a final rule published on March 25, 1999 (64 FR 14528), NMFS

listed as threatened the Ozette Lake ESU of sockeye salmon (*Oncorhynchus nerka*, or *O. nerka*) in Washington. Those final rule listing notifications describe the background of the listing actions and provide a summary of NMFS' conclusions regarding the status of the threatened coho, chinook, chum, and sockeye salmon ESUs.

Section 4(d) of the ESA provides that whenever a species is listed as threatened, the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of the species. Such protective regulations may include any or all of the prohibitions that apply automatically to protect endangered species under ESA section 9(a)(1). Those section 9(a)(1) prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (including harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any wildlife species listed as endangered, without written authorization. It is also illegal under ESA section 9(a)(1) to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Section 11 of the ESA provides for civil and criminal penalties for violation of section 9 or of regulations issued under the ESA.

Whether section 9(a)(1) prohibitions or other protective regulations are necessary and advisable is in large part dependent upon the biological status of the species and potential impacts of various activities on the species. These threatened species are likely to become endangered species within the foreseeable future. Their current threatened status cannot be explained by natural cycles in ocean and weather conditions. NMFS has concluded that threatened chinook, coho, chum, sockeye, and steelhead are at risk of extinction primarily because their populations have been reduced by human "take". West Coast populations of these salmonids have been depleted by take resulting from harvest, past and ongoing destruction of freshwater and estuarine habitats, hydropower development, hatchery practices, and other causes. "Factors for Decline: A Supplement to the Notice of Determination for West Coast Steelhead" (NMFS, 1996) and "Factors Contributing to the Decline of Chinook Salmon: An Addendum to the 1996 West Coast Steelhead Factors for Decline Report" (NMFS, 1998)

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concludes that all of the factors identified in section 4(a)(1) of the ESA have played some role in the decline of the species. It is necessary and advisable then to apply the ESA section 9(a)(1) prohibitions to these listed ESUs, in order to provide for their conservation.

These listings have created a great deal of interest among states, counties, and others in adjusting their programs that may affect the listed species to ensure they are consistent with salmonid conservation. Although the primary purpose of state, local, and other programs is generally to further some activity other than conserving salmon, such as maintaining roads, controlling development, ensuring clean water or harvesting trees, some entities have adjusted one or more of these programs to protect and conserve listed salmonids. NMFS believes that with appropriate safeguards, many such activities can be specifically tailored to minimize impacts on listed threatened salmonids to an extent that makes additional Federal protections unnecessary for conservation of the listed ESU.

NMFS, therefore, proposes a mechanism whereby entities can be assured that an activity they are conducting or permitting is consistent with ESA requirements and avoids or minimizes the risk of take of listed threatened salmonids. When such a program provides sufficient conservation for listed salmonids, NMFS does not find it necessary and advisable to apply ESA section 9(a)(1) take prohibitions to activities governed by those programs. In those circumstances (see descriptions to follow), additional Federal ESA regulation through imposing the take prohibitions is not necessary and advisable because it would not enhance the conservation of the listed ESUs. In fact, declining to apply take prohibitions to such programs likely will result in greater conservation gains for a listed ESU than would blanket application of section 9(a)(1) prohibitions, through the program itself and by demonstrating to similarly situated entities that practical and realistic salmonid protection measures exist. NMFS will monitor the activities under a program where NMFS has granted a "limit" on the application of the ESA take prohibitions for unexpected harm, as well as for harmful activities resulting in take that do not obey the requirements of the limit and, therefore, are subject to NMFS ESA enforcement. An additional benefit of this approach is that NMFS can focus its enforcement efforts on activities and programs that have not yet adequately

addressed the conservation needs of listed ESUs.

#### Substantive Content of Final Regulation

NMFS had previously proposed protective regulations for three of the salmonid ESUs subject to this final rule. When NMFS first proposed the Oregon Coast coho for listing (60 FR 38026, July 25, 1995), it proposed to apply the prohibitions of ESA section 9(a)(1) to that ESU. When NMFS first proposed the LCR and SRB steelhead ESUs for listing (61 FR 41541, August 9, 1996), it also proposed to apply the prohibitions of ESA section 9(a)(1) to those ESUs. These proposed protective regulations, however, were never finalized. NMFS has since proposed application of the section 9(a)(1) prohibitions for seven listed steelhead ESUs (64 FR 73479, December 30, 1999), and seven listed salmonid ESUs (65 FR 170, January 3, 2000). This final rule applies the prohibitions of ESA section 9(a)(1) to all 14 listed ESUs.

NMFS concludes that the prohibitions generally applicable for endangered species are necessary and advisable for conservation of these listed ESUs. Additionally, NMFS determines that section 9(a)(1) prohibitions on listed salmonids in the 14 listed ESUs need not be applied when it results from a specified subset of activities described herein. These are activities that are conducted in a way that contributes to conserving the listed ESUs and where NMFS determines that added protection through Federal regulation is not necessary and advisable for conservation of an ESU. Therefore, NMFS will now apply ESA section 9(a)(1) prohibitions to these 14 threatened salmonid ESUs, but will not apply the take prohibitions to the 13 programs described in this document as meeting that level of protection. Of course, the entity responsible for any habitat-related programs might equally choose to seek an ESA section 10(a)(1)(b) permit, or be required to satisfy ESA section 7 consultation if Federal funding, management or approval is involved. This final rule does not impose restrictions beyond those applied in other sections of the ESA, but provides another option beyond the section 7 and 10 tools to authorize incidental take.

Working with state and local jurisdictions and other resource managers, NMFS has identified 13 programs and criteria for future programs for which it is not necessary and advisable to impose ESA section 9(a)(1) prohibitions because they contribute to conserving the ESU. Under specified conditions and in appropriate

geographic areas, these programs and criteria include: (1) activities conducted in accord with ESA incidental take authorization; (2) ongoing scientific research activities, for a period of 6 months from the publication of this final rule; (3) emergency actions related to injured, stranded, or dead salmonids; (4) fishery management activities; (5) hatchery and genetic management programs; (6) activities in compliance with joint tribal/state plans developed within *United States (U.S.) v. Washington* or *U.S. v. Oregon*; (7) scientific research activities permitted or conducted by the states; (8) state, local, and private habitat restoration activities; (9) properly screened water diversion devices; (10) routine road maintenance activities; (11) certain park pest management activities; (12) certain municipal, residential, commercial, and industrial (MRCI) development and redevelopment activities; and (13) forest management activities on state and private lands within the State of Washington. The language which follows describes each limit. These are programs or criteria for future programs where NMFS will limit the application of the section 9(a)(1) prohibitions. More comprehensive descriptions of each limit and discussions regarding the scientific basis for this final rule are contained in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000). In the future, NMFS anticipates adding new limits for more activities that are deemed necessary and sufficient for the conservation of the species.

NMFS emphasizes that these limits are not prescriptive regulations. The fact of not being within a limit does not mean that a particular action necessarily violates the ESA or this regulation. Many activities do not affect these species, and thus, need not be included in the 13 limits listed earlier. The limits describe circumstances in which an entity or actor can be certain it is not at risk of violating the take prohibitions or of consequent enforcement actions, because the take prohibitions would not apply to programs or activities within those limits. Jurisdictions, entities, and individuals are encouraged to evaluate their practices and activities to determine the likelihood of take occurring. NMFS can provide ESA coverage through section 4(d) rules, section 10 research and enhancement permits, or incidental take permits; or through section 7 consultations with Federal agencies. If take is likely to occur, then the jurisdiction, entity or individual should modify its practices to avoid take of a threatened species or seek protection from potential ESA



liability through section 7, section 10, or section 4(d) processes.

Jurisdictions, entities, and individuals are not required to seek inclusion in a section 4(d) limit from NMFS. In order to reduce its liability, a jurisdiction, entity, or individual may also informally comply with a limit by choosing to modify its programs to be consistent with the evaluation considerations described in an individual limit. Finally, a jurisdiction, entity, or individual may seek to qualify its plans or ordinances for inclusion in a limit by obtaining the 4(d) limit authorization from the appropriate NMFS Regional Administrator (see ADDRESSES).

NMFS wishes to continue to work collaboratively with all affected jurisdictions, entities, and individuals to recognize management programs that conserve and meet the biological requirements of salmonids, and to strengthen other programs toward conservation of listed salmonids. This final rule may be amended to add new limits on the take prohibitions, or to amend or delete limits as circumstances warrant.

State, county and local efforts such as Clark, Cowlitz, Kitsap, the Puget Sound Tri-County Initiative in Washington state; and the City of Portland and Clackamas County in Oregon are working with NMFS to make their ordinances and practices fish friendly and to be adopted in future 4(d) rulemaking. NMFS also acknowledges the important progress being made by Metro, the directly-elected regional government in Portland, Oregon. NMFS is enthusiastic about Metro's current planning efforts and encourages its progress in regional planning to address salmonid conservation.

NMFS acknowledges, and is participating in, the State of Washington's Agricultural, Fish, and Water negotiation process currently underway in Washington State. The process currently underway is intended to address the requirements of the ESA and the Clean Water Act (CWA). The negotiations are designed to address agricultural practices and processes including but not limited to: Field Office Technical Guides (FOTGs), Comprehensive Irrigation District Management Plans (CIDMP), Ditch Maintenance Plans (DMPs) and Pesticide Management as needed to comply with ESA and CWA. It is anticipated that completed FOTGs, CIDMPs, DMPs, and Pesticide Management, if acceptable to NMFS, will be included in future ESA 4(d) rulemaking.

NMFS strongly encourages comprehensive conservation planning for programs at the state level. State level conservation programs can be one of the most efficient methods to implement effective conservation practices across the board and achieve comprehensive benefits for listed fish and their habitats. Other examples of these state-based conservation programs include the completed forestry agreement in Washington state; ongoing reviews of Oregon and California forestry practices; and development of coastal states' shoreline management programs. NMFS is working with Washington State Department of Ecology on development of a model shoreline program. Alternatively, a local jurisdiction seeks inclusion in a limitation of the take prohibition by adopting this model program, NMFS expects to address the potential "take" issues associated with the shorelines program through an ESA section 7 consultation with the National Ocean Service in the coming months. This may obviate the need for a 4(d) limit for shoreline-related activities under the authority of the Department of Ecology.

Concurrent with this final rule, NMFS is publishing a final rule describing a limit on the section 9(a)(1) prohibitions for actions in accord with any tribal resource management plan that the Secretary has determined will not appreciably reduce the likelihood of survival and recovery of a threatened ESU (published elsewhere in this **Federal Register** issue).

Following is a section entitled "Notice of Availability" which lists seven documents referred to in the regulation. The purpose of making these documents available to the public is to inform governmental entities and other interested parties of the technical components NMFS expects to be addressed in programs submitted for its review. These technical documents provide guidance to entities as they consider whether to submit a program for a 4(d) limit. The documents represent several kinds of guidance, and are not binding regulations requiring particular actions by any entity or interested party.

For example, NMFS' Viable Salmonid Policy (VSP) paper referenced in the fishery and harvest management limits provides a framework for identifying populations and their status as a component of developing adequate harvest or hatchery management plans. This rule asks that FMEPs and HGMPs "utilize the concepts of 'viable' and 'critical' salmonid population thresholds, consistent with the concepts contained in the [VSP paper]." Thus,

state fishery agencies preparing such programs are put on notice of the technical analysis needed to support decisions within a program. Similarly, NMFS' Fish Screening Criteria explicitly recognize that they are general in nature and that site constraints or particular circumstances may require adjustments in design, which must be developed with the NMFS staff member, or authorized officer, to address site specific considerations and conditions. Finally, research involving electrofishing comes within the scientific research limit only if conducted in accordance with NMFS' Guidelines for Electrofishing. The guidelines recognize that other techniques may be appropriate in particular circumstances, and NMFS can recognize those as appropriate during the approval process.

Of the state or local documents referenced in the rules, two (Oregon Department of Transportation's (ODOT) road maintenance program to govern routine maintenance activities and Portland Parks' integrated pest management program) are existing programs already being implemented that NMFS has found adequate and made effective as limits. Those entities, thus, need no further approval for the programs. Other jurisdictions may come within the road maintenance limit if they use the ODOT program or provide other practices found by NMFS to be equivalent or more protective of salmonids. The State of Washington's Forests and Fish Report will not trigger a limit until the Washington Board of Forestry adopts regulations that NMFS finds are at least as protective as the report. Thus, the report indicates a set of conditions that will allow NMFS to approve the limit, but recognizes that the Board may design regulations that are not identical to, but are at least as protective as, the report language.

In sum, where the rule cites a document, a program's consistency with the guidance is "sufficient" to demonstrate that the program meets the particular purpose for which the guidance is cited. However, the entity or individual wishing a program to be accepted as within a particular limit has the latitude to show that its variant or approach is, in the circumstances where it will apply and affect listed fish, equivalent or better.

NMFS will continue to review the applicability and technical content of its own documents as they are used in the future and make revisions, corrections or additions as needed. NMFS will use the mechanisms of the rule to take comment on revisions of any of the referenced state programs. If any of

these documents is revised and NMFS relies on the revised version to provide guidance in continued implementation of the rule, NMFS will publish in the **Federal Register** a notice of its availability stating that the revised document is now the one referred to in the specified 223.203(b) subsection.

#### Notice of Availability

The following is a list of documents cited in the regulatory text of this final rule. Copies of these documents may be obtained upon request (see **ADDRESSES**).

1. Oregon Department of Transportation (ODOT) Maintenance Management System Water Quality and Habitat Guide (June, 1999).
  2. City of Portland, Oregon Parks and Recreation Department Pest Management Program (March 1997) with Waterways Pest Management Policy updated December 1, 1999.
  3. State of Washington, Forests and Fish Report (April 29, 1999).
  4. Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act (NMFS, 2000a).
  5. Juvenile Fish Screen Criteria, National Marine Fisheries Service, Northwest Region, Revised February 16, 1995, with Addendum of May 9, 1996.
  6. Fish Screening Criteria for Anadromous Salmonids (January 1997).
  7. Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units. (NMFS, 2000b).
- Copies of all references, reports, related documents and "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000) are also available upon request (see **ADDRESSES**).

The limits on the take prohibitions do not relieve Federal agencies of their duty under section 7 of the ESA to consult with NMFS if actions they fund, authorize, or carry out may affect listed species. To the extent that actions subject to section 7 consultation are consistent with a circumstance for which NMFS has limited the take prohibitions, a letter of concurrence from NMFS will greatly simplify the consultation process, provided the program is still consistent with the terms of the limit.

#### Applicability to Specific ESUs

In the regulatory language in this final rule, the limits on applicability of the take prohibitions to a given ESU are accomplished through citation to the Code of Federal Regulations' (CFRs') enumeration of threatened marine and anadromous species, 50 CFR 223.102. For the convenience of readers of this notice, 50 CFR 223.102 refers to

threatened salmonid ESUs through the following designations:

- (a) (1) Snake River spring/summer chinook
- (a) (2) Snake River fall chinook
- (a) (3) Central California Coast coho
- (a) (4) Southern Oregon/Northern California Coast coho
- (a) (5) Central California Coast steelhead
- (a) (6) South-Central California Coast steelhead
- (a) (7) Snake River Basin steelhead
- (a) (8) Lower Columbia River steelhead
- (a) (9) Central Valley, California steelhead
- (a) (10) Oregon Coast coho
- (a) (12) Hood Canal summer-run chum
- (a) (13) Columbia River chum
- (a) (14) Upper Willamette River steelhead
- (a) (15) Middle Columbia River steelhead
- (a) (16) Puget Sound chinook
- (a) (17) Lower Columbia River chinook
- (a) (18) Upper Willamette River chinook
- (a) (19) Ozette Lake sockeye

#### Summary of Comments in Response to the Proposed Rules

Between January 10, 2000, and February 22, 2000, NMFS held 25 public hearings to solicit comments on the proposed ESA 4(d) rules: 7 in Washington, 8 in Oregon, 3 in Idaho, and 7 in California (64 FR 73479, December 30, 1999; 65 FR 170, January 3, 2000; 65 FR 7346, February 14, 2000; 65 FR 7819, February 16, 2000). During the 65-day public comment period, NMFS received 1,146 written comments on the proposed rules from Federal, state, and local government agencies; Indian tribes; non-governmental organizations; the scientific community; and individuals. In addition, numerous individuals provided oral testimony at the public hearings.

Based on these public hearings and comments, NMFS now issues its final protective regulations for these 14 salmon and steelhead ESUs. The preamble section of this rule refers to the prohibitions of ESA section 9(a)(1). In addition to the commonly referred to take prohibitions of section 9(a)(1)(B) and 9(a)(1)(C), section 9(a)(1), also includes prohibitions on the import, export, sale, delivery, or transport in interstate commerce of endangered species. The public comments NMFS received almost exclusively focused on the section 9 take prohibitions. The following comments and responses, therefore, refer to the "take"

prohibitions of section 9(a)(1)(B) and 9(a)(1)(C), not to the other prohibitions described in section 9(a)(1). Accordingly, for the rest of this preamble and in the regulation, the term "prohibition" refers to the prohibition of take within the 13 specified limits.

New information and a summary of comments received in response to the proposed rules are summarized as follows.

#### Comments and Responses

##### Take Guidance

*Comment 1:* Some commenters stated that a primary focus of the proposal was to encourage development of local tailor-made measures that protect salmonids and they requested further guidance on how their programs could be included in future ESA 4(d) rules.

*Response:* Credible local initiatives are indeed needed to help save these species, and guidance on how local programs can be included in 4(d) rules is available in *The ESA and Local Governments: Information on 4(d) Rules, May 7, 1999*. In addition, NMFS staff will be available to offer advice and otherwise help individual jurisdictions and entities ensure that their actions do not take listed fish.

*Comment 2:* Some commenters wanted a simplified process (e.g., a "letter of approval" from NMFS staff) for including local programs in future ESA 4(d) rules.

*Response:* NMFS worked with state and local authorities to identify several categories of activities where local programs can be certified to comply with ESA requirements if they meet the conditions described in the rule. This simplified process would be available for land-use development activities, water diversion screening, road maintenance, hatchery operations, fisheries harvest, fisheries related research, and habitat restoration activities. Other governmental entities are encouraged to step forward and work with NMFS. First, to ensure that local programs meet the salmon's biological requirements and the mandates of the ESA, and second, to streamline the administration of any program.

*Comment 3:* A number of commenters stated that the proposed take guidance was too vague (e.g., guidance in the limit for new urban density development). Others commented that the guidance was too prescriptive, and still others stated that the guidance was less stringent for some categories of activities and more stringent for others.

*Response:* To be approved for a limit from ESA take prohibitions, a program

must conserve salmon and meet their biological requirements. This criterion is the same for all programs. These species span the entire west coast from coastal rainforests to arid inland areas to high mountain regions nearly a thousand miles from the ocean and, thus, specific requirements will naturally differ from place to place. Some jurisdictions have asked for NMFS' help in learning how to avoid or limit adverse impacts on these species. General guidance is provided in this rule. This final 4(d) rule addresses concerns about vague guidance by providing additional specificity and by requiring that once specific programs designed to meet NMFS' criteria are produced (and before determining whether they are adequate), NMFS will publish the proposed program for review and comment.

*Comment 4:* Some commenters stated that NMFS must wait to apply take prohibitions until more specific guidance is published on how other programs can qualify for a limit on the take prohibitions. Others requested that NMFS delay take prohibitions until many more local programs were ready to be included in an ESA 4(d) rule, or that NMFS phase in the take prohibitions as programs qualify for a limit.

*Response:* These species are, by definition, likely to become endangered in the foreseeable future and undue delay in protecting them would likely increase the difficulty and expense of recovering them. At the same time, NMFS recognizes these rules are novel and complicated and some time is needed for regulated parties to better understand them. NMFS has balanced these considerations by adopting a final rule that puts needed regulations in place within 60 days for the steelhead ESUs and within 180 days for the salmon ESUs, which allows a reasonable period before they become effective (6 months).

*Comment 5:* A few commenters wanted NMFS to grant a grace period from the take prohibitions to those jurisdictions making good faith efforts to conserve the species.

*Response:* The proposed rule already states that while enforcement may be initiated against activities that take protected salmonids, NMFS' clear preference is to work with persons or entities to promptly shape their programs and activities to include credible and reliable conservation measures.

*Comment 6:* Some commenters asked NMFS to apply prohibitions against take to all programs without exception.

*Response:* Any jurisdiction or individual under United States authority is subject to the take prohibitions. Jurisdictions or individuals wanting assurance that an activity they are conducting or permitting is consistent with ESA requirements can be covered under a section 7 consultation (if Federal funding, authorization, or management is involved), seek an ESA section 10 permit, or qualify for a limit under a 4(d) rule. To qualify for any of these options, the activity must show that it sufficiently conserves the listed species.

*Comment 7:* Some commenters wanted NMFS to define the action types and magnitudes that would constitute illegal take. Others held that the array of activities described in the proposed rule that are "likely to injure or kill listed salmonids" was overly inclusive and discussed actions that exceeded NMFS' authority to regulate. Still others requested that NMFS assert that state and local governments are not required to use their regulatory authorities to satisfy ESA requirements.

*Response:* It is NMFS' policy to increase public awareness of and identify those activities that would or would not likely injure or kill a protected species. Take guidance appearing at the end of this document does just that. It is only possible in this final rule to describe categories of actions that may have adverse impacts on fish and describe their consequences (e.g., blocking fish from reaching their spawning grounds, dewatering incubating eggs, etc.). NMFS understands that there is considerable interest in knowing as much as possible about what constitutes "take" and changes have been incorporated in this final rule to accommodate this interest. Determining whether an individual local program or activity is likely to injure or kill a protected species will require credible assessments that take into account local factors and conditions. Regarding the issue of authority, regulations against killing or injuring protected species apply to any person subject to the jurisdiction of the United States (section 9(a)(1) of the ESA). The term "person" means an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State, or of any foreign government; and State, municipality, or political subdivision of a State; or any other entity subject to the jurisdiction of the United States (ESA section 3(12)).

*Comment 8:* A few commenters requested that NMFS make clear that "take" prohibitions would not be violated unless a protected species were injured or killed, and that determinations of whether "take" is likely to occur will be handled on a case-by-case basis.

*Response:* The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, a listed species or to attempt to engage in any such conduct (ESA section 3(18)). The term "harm" refers to an act that actually kills or injures a protected species (64 FR 215 (November 8, 1999)). Harm can arise from significant habitat modification or degradation where it actually kills or injures protected species by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. After conducting a self-assessment to determine whether an activity is likely to "take" a listed species, persons or entities may choose to adjust their program to avoid take, or pursue ESA coverage through a section 10 permit, a section 7 consultation with Federal agencies, or through a 4(d) rule.

*Comment 9:* Commenters requested that adequate monitoring and oversight be required to ensure that programs included in an ESA 4(d) rule are effective.

*Response:* A program is incomplete without a mechanism to track its implementation and effectiveness. NMFS reiterates language in the proposed rule which states that for any program included in an ESA 4(d) rule, "NMFS will evaluate on a regular basis the effectiveness of the program in protecting and achieving a level of salmonid productivity and/or habitat function consistent with the conservation of the listed salmonids." If a program does not meet its objectives, NMFS will work with the relevant jurisdiction to adjust the program accordingly. If the responsible entity chooses not to adjust the program accordingly, NMFS will publish notification in the **Federal Register** and announce that the program will no longer be free from ESA take prohibitions because it does not sufficiently conserve listed salmonids.

*Comment 10:* There were a number of requests for NMFS to grant limits on the take prohibitions to additional programs. Examples included, the Natural Resources Conservation Service's FOTGs, California's Lake and Streambed Alteration Program, Oregon Concrete and Aggregate Producer's suggestions for a limit focused on Department of Geology regulation, Washington's Tri-County initiative, and



The Oregon Plan for Salmon and Watersheds.

*Response:* The ESA 4(d) rule provides an option for state and other jurisdictions to assume leadership for species conservation at the state and local level over and above the conventional tools for processing state and local conservation planning under the ESA through section 7 consultations and section 10 permitting. NMFS is assembling all the Federal, tribal, state, and local programs needed to save salmonids and has offered to collaborate with any entity interested in this 4(d) option. NMFS is especially interested in state-level conservation efforts because state-level programs tailored to meet the needs of the listed stocks can be a very efficient and comprehensive method to provide for the conservation of listed stocks and their habitat. A number of state and local entities have stepped forward to work with NMFS and we are anxious to work with them. However, limits that were not outlined in the proposed rule for public comment will have to be dealt with in a future amendment.

*Comment 11:* Commenters requested that NMFS clarify that activities conducted pursuant to an approved state or Federal permit are free from the ESA section 9 take prohibitions.

*Response:* Activities conducted pursuant to an approved state or Federal permit are subject to take prohibitions. Individual programs can seek relief from any take liability through a section 7 consultation, a section 10 permit process, or a program approved under a 4(d) limit.

*Comment 12:* Commenters argued that the nature of some programs (e.g., road construction, gravel mining, water withdrawals, levee construction, and certain development) should disqualify them from consideration for limits on take prohibitions under an ESA 4(d) rule.

*Response:* Under the proposal, all programs must fulfill the same standard to be included in an ESA 4(d) rule (i.e., they must conserve the species and meet their biological requirements). The important issue here is that threatened salmonids need meaningful, practical, and reliable conservation measures. Some programs will naturally have more difficulty meeting that standard than others. The ESA 4(d) rule simply applies the take prohibitions and allows for the development and implementation of conservation measures.

*Comment 13:* Several commenters suggested that the use of pesticides and herbicides should be considered a resource management tool and,

therefore, be included as a limit by NMFS in the 4(d) rule. Several commenters argued that the proposed take guidance violates the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and, thereby, trespasses unlawfully into Environmental Protection Agency (EPA) authorities and violates the take exemption provided for FIFRA-registered pesticides.

*Response:* NMFS acknowledges that some view the current use of pesticides as essential to successful commercial crop production on agricultural lands, certain types of habitat restoration projects, and dealing with invasive exotic species. NMFS does not currently have specific information on the potential effects on listed salmonids of the very large number of pesticide products currently in use. Accordingly, NMFS is not able to conclude that the otherwise lawful use of these products is sufficiently benign to warrant an explicit limitation of the take prohibition in this rule. NMFS, therefore, has not incorporated such a limit.

For the same reason, NMFS is also unable to make an affirmative finding that the otherwise-lawful use of these products may cause harm to listed salmonids in potential violation of this final rule.

NMFS will continue to conduct scientific research into the potential for adverse effects upon salmonids of a variety of pesticides. NMFS intends to work closely with EPA and state authorities which have primary responsibility for ensuring the proper use of these products under relevant Federal and state regulatory regimes. Should information come forward to suggest that the otherwise lawful use of a pesticide harms or injures listed salmonids and might be in violation of this rule, NMFS anticipates addressing the concern through a section 7 consultation with EPA, NRCS, or United States Fish and Wildlife Service (FWS) as appropriate, or corresponding discussions with responsible state authorities. NMFS prefers this approach rather than use its enforcement authorities against an individual applicator for the otherwise-lawful use of the pesticide. Similarly, if NMFS, with due consideration of any more restrictive state requirements for a pesticide's use, finds that a limitation on the prohibition against take for the use of selected pesticides is necessary and advisable for the conservation of listed salmonids, it may amend this rule accordingly. Through such a programmatic approach, NMFS believes that it will be able to achieve an orderly and comprehensive analysis of the use

of pesticides and their effects on listed salmonids.

*Comment 14:* A few commenters argued that ESA Habitat Conservation Plans (HCPs) should not be free from take prohibitions under a 4(d) rule.

*Response:* A section 10 incidental take permit (issued after analyzing the accompanying habitat conservation plan) authorizes a specified level of take. Including incidental take permits in the first limit of this rule is, thus, consistent with the structure and intent of the ESA.

*Comment 15:* A few commenters requested that NMFS prescribe standards (temporary or otherwise) for agricultural activities to be included in an ESA 4(d) rule.

*Response:* Different entities (including agricultural interests) have expressed a strong preference for standards developed at the local level (not one-size-fits-all standards). The 4(d) rule was written to foster local interest and support tailor-made programs and NMFS stands ready to work with any interested entity in forging such standards. On the issue of agricultural practices in particular, NMFS is working with a number of agricultural entities to explore conservation practices which might contribute to the conservation of salmonids and their habitats, and is hopeful that these discussions will yield further details on proper conservation practices to help conserve salmon.

*Comment 16:* A few commenters asked NMFS to work closely with FWS to clarify each other's roles to establish universal standards that cover all listed species.

*Response:* The two services do work closely together on ESA implementation. For example, NMFS and FWS share identical definitions of "harm" and the proposed rule does state that "as it evaluates any program against the criteria in this rule to determine whether the program warrants a limitation on take prohibitions, NMFS will coordinate closely with FWS regional staffs." This comment, however, is well taken and NMFS will continue to work closely with FWS to coordinate and streamline ESA implementation. NMFS notes that it is commonly requested to distinguish biological requirements of salmonids from biological requirements of other species (some under the jurisdiction of FWS).

*Comment 17:* Commenters asked NMFS to establish a funding mechanism (e.g., an escrow account) to support habitat restoration activities.

*Response:* Millions of dollars in Federal funding have been granted to

state programs that fund specific habitat restoration projects. NMFS will continue to support funding for these programs in the future.

*Comment 18:* Several commenters argued that current conditions are a result of past practices, not current practices. They believed that NMFS has failed to justify why the little remaining habitat is important to listed fish and failed to provide detailed scientific rationale to support the agency's contention that certain activities (e.g., urban development) result in take.

*Response:* NMFS disagrees. The list of examples in this final rule (see Take Guidance) as well as those provided in the proposed rule give general guidance on the types of current activities that are very likely to take threatened salmonids. While not exhaustive, this list was based on direct experience with managing salmonid populations in their natural environment and a thorough understanding of the scientific literature. The ESA listing process for these threatened salmonids has documented the decline of salmonid populations in the four western states and has identified the historic and current causes of these declines. The commenters correctly note that past practices have caused the decline of salmonid populations; however, current human activity can also kill or injure listed salmonids. Development and other human activities within riparian areas or elsewhere in the watershed alter the properly functioning condition of riparian areas. These activities can alter shading (and hence stream temperature), sediment transport and supply, organic litter and large wood inputs, bank stability, seasonal streamflow regimes, and flood dynamics. The natural functions of riparian areas and the ways in which human activities affect those processes and functions are described in the publication entitled "An Ecosystem Approach to Salmonid Conservation" (NMFS, 1996).

*Comment 19:* Some commenters requested maps of "sensitive resource sites" at a large scale so local jurisdictions that deal with small land parcels may use them. Some commenters stated that NMFS should focus on areas where redds or fish are actually present, not on general definitions such as "spawning gravels."

*Response:* NMFS acknowledges the value of producing maps that identify resource sites important for the different salmonid life cycle stages. NMFS will continue to work with state entities, local jurisdictions, co-managers and citizens to increase our knowledge of threatened salmonids. NMFS will also

continue to increase its own capabilities for mapping resource areas and watersheds. Because there were so many comments requesting that NMFS identify which activities have a high likelihood of resulting in take and will be priorities for enforcement action, the take guidance has been revised to focus on high risk activities. The language referring to "spawning gravels" has, therefore, been removed.

*Comment 20:* One commenter requested that NMFS add the word "intentional" to clarify the take guidance regarding promotion of predator populations associated with habitat alterations.

*Response:* NMFS must respectfully disagree. Whether the action is intentional or unintentional, NMFS considers habitat alterations that promote predation on listed species to be undesirable. Such actions may in fact cause injury or harm to listed salmonids.

*Comment 21:* Several commenters recommended adding sediment discharge to the list of toxic chemicals and other pollutants that are very likely to injure or kill salmonids. Other commenters requested that NMFS clarify which chemicals and pollutants it is referring to in this section.

*Response:* NMFS refers to toxic chemicals or other pollutants being discharged or dumped and then gives examples by listing sewage, oil, gasoline, and others. Sedimentation from timber harvest and other land use activities may plug the interstitial spaces in gravel spawning areas reducing salmon egg survival during their incubation period as well as many other deleterious effects. Based on these comments and the fact that sediment discharge may harm listed salmonids by physically disturbing or blocking streambed gravels, NMFS added soil disturbances to the list of actions that are likely to kill or injure salmonids.

*Comment 22:* One commenter urged NMFS to add language in the activity category dealing with the chemical and pollutant discharge or dumping to recognize that take can also occur when these activities are carried out with a valid permit. Another commenter recommended that NMFS clarify which permits are considered "valid," and one commenter stated that this potential "take" should only apply to waters supporting the listed salmonids.

*Response:* NMFS agrees that chemical and pollutant discharge may take listed fish whether or not there is a valid permit for the discharge. In order to clarify this point, NMFS has deleted the words "particularly when done outside of a valid permit for the discharge" from

the take guidance. Regarding the suggestion that take prohibitions should only be applied to waters supporting listed salmonids, the take guidance applies throughout the ESU for the listed species whether or not there are salmonids present in individual rivers or streams.

*Comment 23:* One commenter noted that the introduction of non-native species likely to prey upon or displace listed species should be expanded to include non-native species that may adversely affect salmonid habitat.

*Response:* NMFS agrees that non-native species may alter salmonid habitat to such an extent that the habitat may no longer provide all the functions and characteristics that support listed salmonids. The take guidance language now reflects this suggestion.

*Comment 24:* Numerous commenters argued for language changes and refinements in the descriptions of actions that may injure or kill listed salmonids. The first suggestion is to expand the list of ways fish passage can be blocked to include human-induced physical, chemical, and thermal blockages.

*Response:* NMFS has revised the take guidance to address this comment and to clarify its enforcement priorities.

*Comment 25:* Several commenters suggested adding language to the list of activities "very likely to injure or kill salmonids" to address activities that further contribute to or maintain water quality impairments in those water bodies on the 303(d) list of the CWA.

*Response:* NMFS agrees that this is an important issue and that activities that degrade water quality or maintain degraded conditions can injure listed species. This issue is already addressed in the section on discharging or dumping toxic chemicals or other pollutants into water or riparian areas and in the language changes discussed in the previous comment.

*Comment 26:* Some commenters urged NMFS to state that water withdrawals can affect salmonids in more ways than adversely modifying spawning and rearing habitat. One commenter also requested that NMFS note that water withdrawals can adversely affect groundwater by capturing flow that might otherwise discharge to surface waters.

*Response:* NMFS considers "spawning, rearing, and migrating" to be "essential behavioral patterns." The word "migrating" will be added to the take guidance regarding water withdrawals. Regarding the second comment about the potential impact of water withdrawals on groundwater and surface water, NMFS cannot provide

further detail in this take guidance because the actual impacts of a given act depend on situation-specific conditions.

*Comment 27:* Several commenters asked NMFS to expand the discussion of impacts arising from water diversion and flow discharges to include impacts other than changes in stream temperature.

*Response:* NMFS agrees that water diversions and discharge may have other deleterious effects on salmonid habitat. These may include impacts on sediment transport, turbidity, and stream flow alterations. The actual likelihood that these actions would result in take depends on situation-specific conditions. Based on public comments, the take guidance in the final rule has been revised to clarify NMFS' intent regarding which activities are very likely to injure or kill salmonids and to identify priorities for NMFS enforcement action.

*Comment 28:* Several commenters recommended moving the topics "water withdrawals" and "violation of federal or state CWA discharge permits" from the section where actions may injure or kill listed fish to the section where actions are "very likely to injure or kill salmonids."

*Response:* NMFS has revised the take guidance. One change is that water withdrawals have been added to the list of activities that are very likely to injure or kill salmonids. However, the likelihood that take will actually occur depends on the individual action. The issue of actions that violate Federal and state CWA discharge permits is not specifically addressed in the new take guidance language.

*Comment 29:* One commenter urged NMFS to consider land use activities that affect more than just salmonid habitat. They highlighted the fact that adverse effects include impacts on floodplain function, natural hydrologic patterns, riparian function, and water quality. They also recommended expanding the list of land use activities identified in the proposed rule.

*Response:* In a section of the preamble of the proposed rule entitled Aids for Understanding the Limits on the Take Prohibition, under Issue 2: Population and Habitat Concepts, NMFS describes properly functioning habitat conditions that create and sustain the physical and biological features essential to conserving the species. These habitat conditions recognize the importance of floodplain function and channel migration and emphasize the dynamic nature of natural systems. NMFS intends the term "salmonid habitat" to be consistent with the habitat functions and processes described in the Habitat

Concepts preamble language. NMFS recognizes that different types of land use activities can impact salmonid habitat to such an extent that take may occur. Language has been added to the revised take guidance to address floodplain gravel mining and floodplain development.

*Comment 30:* Several commenters argued that the take guidance needs to be clarified so that the public can understand what NMFS means in its different categories of take.

*Response:* NMFS agrees that the take guidance language in the proposed rule caused confusion about which activities can result in take and what actions will be priorities for enforcement. NMFS has revised the take guidance section to focus on those activities that are very likely to injure or kill salmonids.

*Comment 31:* One commenter suggested amending the proposed language concerning take due to water withdrawals by using Oregon Department of Fish and Wildlife (ODFW) minimum flows to regulate water withdrawals.

*Response:* NMFS does not reference specific state, local, or private regulations or programs that might prevent take because there is such a large number of programs (and partial programs) in the different states that could be cited. Absent a program approved under section 7 or 10 of the ESA or under this rule, individual jurisdictions and private entities will need to develop, adopt, and implement programs that prevent take.

*Comment 32:* One commenter suggested that NMFS clarify its intent by using the language "actually impact water quality" in the context of take occurring due to violations of Federal or state CWA discharge permits.

*Response:* NMFS notes the comment. However, due to changes in the final rule's take guidance language, this specific category of activity has been eliminated.

*Comment 33:* Some commenters asserted that rural areas were unfairly singled out for engaging in activities that take listed species while urban areas were given ESA 4(d) limits.

*Response:* NMFS applies the prohibition against take uniformly across the landscape encompassed by the threatened species' ESUs. This take prohibition applies equally to rural areas and urban areas and the take guidance identifies activities that can occur in urban and rural areas. Limits on the take prohibitions were given to complete programs that were shown to conserve salmon and steelhead.

*Comment 34:* One commenter asked that NMFS clarify the relationship

between take avoidance and the designation of critical habitat.

*Response:* Critical habitat is a geographic description of the areas essential for a species' conservation. These designations highlight important habitat features as well as management actions that may require special management considerations. Take avoidance relates to critical habitat in that special management actions taken (or authorized) by Federal agencies must avoid adversely modifying critical habitat.

#### *Viable Salmonid Populations (VSP)*

*Comment 35:* Several commenters said that NMFS should not base policy on a document that is not complete and has not been reviewed in its final form.

*Response:* Comments on the December 13, 1999, VSP draft were solicited from over 50 peer reviewers plus tribal and state co-managers. In addition, the document has been available for public comment since the draft ESA 4(d) rules were released. We have received approximately 20 peer and co-manager reviews, plus numerous public comments. These reviews, particularly those from peer-reviewers, have generally been very positive, and the document will require little substantive revision before publication as a NOAA Technical Memorandum in June of 2000.

*Comment 36:* Several commenters stated that populations are generally smaller than a "distinct population segment" as defined in the ESA and NMFS has "gone too far" in proposing protection of individual populations.

*Response:* In applying the VSP principles, NMFS does not mean to require equal protection of every single population. The unit requiring protection under the ESA is a "distinct population segment" (i.e., ESU). Therefore, it is the ESU that NMFS must ensure has a minimal risk of extinction. A population is the appropriate biological unit for scientifically evaluating salmonid extinction risk. The status of an ESU can be determined in large part by analyzing the individual populations that constitute the ESU, and determining how their individual statuses combine to affect ESU viability.

*Comment 37:* Many commenters said that VSP is too vague to be implemented.

*Response:* Where possible, NMFS has endeavored to provide numerical guidelines for viability thresholds. However, VSP generally does not provide generic quantitative criteria that can be applied to all salmonid populations because the thresholds vary by species and location. This means that



applying the VSP principles will require population- and ESU-specific evaluations. This will not be very satisfying to managers looking to VSP for “the answer,” but is the only scientifically sound course at this time. NMFS will continue to explore whether generic guidelines (or modeling approaches) may be appropriate for some criteria (e.g., minimum population size), but this requires further analysis and will not be a part of the VSP paper finalized in June. As geographically-specific VSP applications are completed, more general numerical guidelines may be possible.

*Comment 38:* Several commenters noted that NMFS does not define the relationship of the VSP terms “viable” and “critical” to the ESA terms “threatened” and “endangered.”

*Response:* The VSP paper does not attempt to define “threatened” and “endangered” under the ESA. Defining “threatened” and “endangered” requires policy decisions about the acceptable levels of risk to an ESU that the VSP concept does not address. It is also important to note that the terms viable and critical in VSP are often applied to populations, whereas the unit of interest with regard to the ESA is the ESU.

*Comment 39:* Several commenters wanted the effects of potential actions to be evaluated on scales other than the population (some desired smaller, some larger).

*Response:* Although a population is the appropriate unit for studying many biological processes, it may also be appropriate to evaluate management actions that affect units at smaller or larger spatial and temporal scales. For example, ocean harvest plans may affect multiple populations, while a habitat restoration plan only affects a small portion of a single population’s habitat. The VSP concept does not preclude establishing goals at these different scales. However, management actions ultimately need to be related to population and ESU viability.

*Comment 40:* Several commenters said that VSP does not adequately consider the importance of freshwater habitat.

*Response:* VSP does not attempt to establish the habitat requirements for recovering populations. Habitat criteria are captured, generally, in the concept of Properly Functioning Conditions (PFC) discussed within this rule.

*Comment 41:* A few commenters said that VSP does not consider important components of recovery planning, such as ecological interactions.

*Response:* The VSP concept attempts to describe the population level

attributes of viable salmonid populations; it does not prescribe how to recover populations. Recovery will require the entire suite of factors that impact salmon throughout their life cycle to be considered and evaluated—including ecological interactions and habitat needs. These are important issues that will need to be dealt with during recovery planning.

*Comment 42:* Several commenters said that data needed to evaluate VSP parameters will not be available and, therefore, VSP concepts cannot be applied.

*Response:* Data will generally not be available to thoroughly evaluate every VSP parameter. In developing the VSP guidelines, NMFS tried to consider all the processes that need to be evaluated in order to determine a population’s status. If all of these processes cannot be evaluated, the VSP guidelines suggest the type of data that need to be collected. If a VSP guideline cannot be evaluated, managers must explicitly recognize the uncertainty associated with current management decisions because of a data-poor environment. The fact that VSP facilitates this recognition is, in itself, a valuable contribution.

*Comment 43:* A few commenters said that VSP makes several references to “historic conditions” for evaluating population status, but does not define the time frame for “historic.”

*Response:* Historic conditions are used as a reference point in evaluating population status because under historic conditions populations were assumed to have been viable. The time frame, then, refers to a period in time where the population or ESU was considered self-sustaining and may represent different eras for different groups of fish. However, it should be noted that while historical data can be a valuable tool in evaluating population status, it should not suggest that NMFS will require all populations to be at historic levels in order to be viable. The value placed on historic data and the relationship between recovery goals and historic levels will be ESU- and population-specific.

*Comment 44:* One commenter argued that given the high levels of uncertainty associated with the ESU viability guidelines, the default assumption should be that all populations need to be viable in order to produce a viable ESU.

*Response:* This seems to be an appropriately precautionary approach, but responses to uncertainty entail policy decisions that can only be made after carefully analyzing a specific situation.

*Comment 45:* One commenter said that by defining populations, VSP claims that straying always has negative effects on viability.

*Response:* In the process of identifying populations, there is no blanket assumption that straying has a negative effect on viability. Straying is a natural process, and appropriate levels of straying within and among viable populations will depend on a balance between the risks and benefits of straying. Indeed, the VSP document acknowledges the potentially critical role that straying plays in extinction and recolonization dynamics among salmonid subpopulations and populations. It should also be noted that human factors (such as stock transfers, blockage of migratory routes, and other habitat alterations) have the potential to increase rates of genetic exchange by one to two orders of magnitude over historic levels. These changes are unlikely to be beneficial.

*Comment 46:* Several commenters stated that VSP does not consider certain factors to be important when evaluating population status. These factors included (1) marine-derived nutrients, (2) diversity, (3) temporal and spatial structure, and (4) genetic drift.

*Response:* These topics are covered in the current draft of the VSP document, and some topics may be clarified or expanded during the revision process.

*Comment 47:* A few commenters said that in evaluating VSP parameters, juvenile fish counts should be considered as well as (or instead of) adult spawner counts.

*Response:* Although the VSP paper discusses using juvenile fish counts, the guidelines generally focus on adult spawners counts—and not other life stages—because spawner count data sets are prevalent throughout the region and they can be related to the extensive body of conservation biology principles with relative ease. However, NMFS does not go into great detail on monitoring and evaluation programs and should consider any scientifically defensible strategy that allows population status to be evaluated. In some cases, it may be more feasible to collect data on juveniles than adults and it may be possible to assess population viability based primarily on juvenile counts. However, the population evaluation would still need to address the principles outlined in VSP regarding all four parameters (i.e., abundance, productivity, spatial structure, and diversity).

*Comment 48:* One commenter said NMFS does not take an “ecosystem approach.”



*Response:* It is true that VSP focuses only on Pacific salmonid populations and the ecological processes that directly or indirectly affect them. The paper does not deal explicitly with other species or ecosystem processes that do not affect salmonids. However, given the large geographic scale and the presumed keystone role of salmonids in many ecosystems, an "ecosystem approach" is likely to emerge. Defining the management processes that may support an "ecosystem approach" is outside VSP's scope and intent.

*Comment 49:* One commenter said that VSP is a framework, not a benchmark, and asserted that the states should have the latitude to develop some of their own benchmarks within this framework.

*Response:* As noted in a previous response, VSP generally does not provide generic quantitative criteria. Quantitative criteria will be required in setting recovery goals for specific ESUs. In some contexts (often in reference to broad landscapes), the standard is expressed as "seeking to attain or maintain PFC." "Contribute to PFC" is a phrase often used in reference to near-term actions that put habitat on a course to attain PFC over time and is consistent with the standard. Finally, in some circumstances (often in referring to more site-scale decisions), the standard may be expressed as "not precluding PFC." There is no distinction in practice between these expressions of the standard.

#### *Evaluating Habitat Conditions—Properly Functioning Conditions (PFC)*

*Comment 50:* Several commenters opined that PFC should be more clearly defined. Others suggested that specific numeric criteria be included.

*Response:* Both the preamble and rule texts have been modified to more clearly define PFC and its central role in habitat evaluations. Proper functioning conditions create and sustain over time the physical and biological characteristics that are essential to conservation of the species, whether important for spawning, breeding, rearing, feeding, migration, sheltering, or other functions. Habitat-affecting processes include, but are not limited to vegetation growth, bedload transport through rivers and streams, rainfall runoff patterns, and river channel migration. The concept of proper function recognizes that natural patterns of habitat disturbance, such as through floods, landslides and wildfires, will continue.

NMFS measures conditions on the landscape to evaluate whether and how PFC is likely to be affected, attained or

maintained by an activity. The indicators vary between different landscapes based on unique physiographic, geologic or other features. Although the indicators used to assess functioning condition may entail instantaneous measurements, they are chosen, using the best available science, to detect the health of underlying processes, not static characteristics.

The scope of any given activity is important to NMFS' analysis. The scope of the activity may be such that only a portion of the habitat forming processes in a watershed are affected by it. For NMFS to find that an activity is consistent with the conservation of the listed salmonids, only the effects on habitat functions that are within the scope of that activity will be evaluated. For example, an integrated pest management program may affect habitat forming processes related to clean water, but have no effect on physical barriers preventing access by fish to a stream.

NMFS' evaluation of an activity includes an analysis of both direct and indirect effects of the action. "Indirect effects" are those that are caused by the action and are later in time but are still reasonably certain to occur. They include the effects on species or critical habitat of future activities that are induced by the original action and that occur after the action is completed. The analysis also takes into account direct and indirect effects of activities that are interrelated or interdependent with the proposed action. "Interrelated actions" are those that are part of a larger action and depend on the larger action for their justification. "Interdependent actions" are those that have no independent utility apart from the action under consideration. NMFS has published an extensive discussion of the effects of activities in its Consultation Handbook—Procedures for Conducting Consultation and Conference Activities Under section 7 of the Endangered Species Act (March, 1998).

Though there is more than one valid analytical framework for determining effects of an activity, NMFS has developed an analytic methodology it has documented in a Matrix of Pathways and Indicators (MPI; often called "The Matrix"). The MPI can help NMFS and others identify any risks to PFC. The pathways for determining the effects of an action are represented as six conceptual groupings (e.g., water quality, channel condition, and dynamics) of 18 habitat condition indicators (e.g., temperature, width/depth ratio). Default indicator criteria (mostly numeric, though some are

narrative) are laid out for three levels of environmental baseline condition: properly functioning, at risk, and not properly functioning. The effect of the action upon each indicator is classified by whether it will restore, maintain, or degrade the indicator.

The MPI provides a consistent, but geographically adaptable, framework for effects determinations. The pathways and indicators, as well as the ranges of their associated criteria, are amenable to alteration through the process of watershed analysis. The MPI, and variations on it, are widely used in consultations under Section 7 of the ESA on the effects of federal actions and will be similarly used to evaluate activities pursuant to this rule. The MPI is also used in other venues to determine baseline conditions, identify properly functioning condition, and estimate the effects of individual management prescriptions. While this assessment tool originally was developed to address forestry activities, NMFS intends to work with state, tribal, and other experts to facilitate its use in other ecological settings such as lakes, estuaries and urban settings.

*Comment 51:* One commenter objected that the conservation standard for PFC was "jeopardy" or survival, which is inadequate for ESA 4(d) rules and for recovery.

*Response:* PFC is not calibrated to provide for population persistence at some level less than full recovery, nor does NMFS believe that the best available science holds out the possibility of such an incremental approach to habitat conservation. Land and resource managers are required to demonstrate that their proposed activities will allow for the recovery of all essential functions of salmon habitat.

*Comment 52:* Several letters addressed the applicability of the "properly functioning conditions" concept to urban settings and questioned whether PFC could ever be attained in urban environments.

*Response:* It is widely recognized that urbanization alters the hydrologic behavior of once unpaved, undeveloped lands. Within this context, common goals for the management of urban landscapes include controlling stormwater runoff and protecting water quality. An urban watershed can become properly functioning if the ecological functions essential for listed salmonids within the watershed—such as storage, attenuation of peak flows, and water quality mitigation—can be restored by increasing watershed storage and providing buffers to attenuate water quality problems emanating from urban landscapes. In this context, the PFC goal

is to restore the hydrologic function in the urban watershed by modifying peak flow events, providing storage, protecting water quality and habitat, and allowing passage.

*Comment 53:* One commenter stated that the draft VSP concept and NMFS' established PFC approach were inconsistent.

*Response:* The VSP concept is being developed to serve as a population management analog to PFC's role in evaluating habitat-affecting actions. The intent of VSP is to serve as a consistent conservation standard, equivalent to PFC, that can be applied in diverse analyses. The VSP emphasizes measurable fish population parameters because that is how fish harvest and culture activities' environmental effects are most immediately and evidently expressed. Conversely, PFC indicators are typically physical habitat characteristics because they most readily and measurably show the effects of land and water management regimes. In essence, PFC is a description of conditions that support salmonid productivity at a viable level. However, because the standards are applied at widely different geographic scales, NMFS cannot currently describe the quantitative relationships between fine-scale habitat characteristics and salmon population levels. Though the two approaches measure effects on different salmonid biological requirements, they consistently strive toward the same end: determining the effects of various activities, placing them in the context of the species' life histories, and using that data to ascertain the best means of recovering the salmon.

*Legal/National Environmental Policy Act (NEPA)/Reg Flex/Direct Take*

*Comment 54:* Commenters asserted that the proposed rule exceeds NMFS' authority, either by reaching too far in protections or failing to meet ESA mandates by not being protective enough. Many commenters raised questions about the legal standards underlying limits and about the relationship between section 4(d) and section 7 consultations or section 10 habitat conservation plans. Several asserted that the standards for all three functions should be the same; others emphasized that the standard for 4(d) is more protective, stating that it must conserve the listed species.

*Response:* Many of those comments focus more on the limits provided than on the legally enforceable outcome of the rule (the take prohibitions). This response will first set forth in a general fashion the basis for this final rule, and then respond to the remainder of legal

issues that are not included in the overall description.

First, section 4(d) regulations are those "necessary and advisable to provide for conservation" of the threatened salmonids. This final rule imposes one major regulatory prohibition (in addition to the less significant prohibitions of section 9(a)(1) or interstate commerce and import/export): that is, that actors are to avoid taking threatened salmonids of the 14 listed ESUs. The take prohibitions are what the ESA imposes by statute to protect endangered species and, if perfectly implemented, would provide the most protection possible. There is no question but that take prohibitions "provide for the conservation" of the species.

Nor can there be any real question about the advisability of imposing take prohibitions at all. NMFS' listings were based on findings that the ESUs are at risk and specifically that there are factors (set forth in ESA section 4(a)(1)) that have caused and are continuing to cause the listed ESUs' populations to decline. See "Factors for Decline: A Supplement to the Notice of Determination for West Coast Steelhead" (NMFS, 1996); Coastal Coho Habitat Factors for Decline and Protective Efforts in Oregon" (NMFS, 1997), and "Factors Contributing to the Decline of Chinook Salmon: An Addendum to the 1996 West Coast Steelhead Factors for Decline Report" (NMFS, 1998). Many of these factors (habitat destruction, overutilization, inadequate regulatory systems) are state, local, or private, and have no link to Federal actions. Prohibiting take for these ESUs is, therefore, the most direct way of protecting the listed species. NMFS listed two additional chinook ESUs as threatened in September of 1999 and will be proposing ESA 4(d) protections for them in the near future.

This final rule also establishes 13 circumstances in which NMFS does not find it necessary and advisable to apply the take prohibitions. NMFS believes that by describing (wherever possible) a program or the components of a program that will adequately protect the species, it provides valuable guidance to agencies or individuals wishing to play a part in salmonid protection and will minimize their legal risks under the ESA as well. NMFS further believes that it is appropriate to limit the take prohibitions for such programs provided that NMFS' salmonid conservation goal (and legal responsibility) is not compromised—that is, so long as the rule provides for conservation of the listed ESUs. Thus, this final rule limits the application of the take prohibitions

selectively. NMFS is confident that given the stringency of the fish protections in the programs receiving limits on the take prohibitions, this final rule meets the section 4(d) conservation standard.

In determining that take prohibitions are not necessary and advisable for a particular program, NMFS has ensured that each program—including programs that NMFS will evaluate in the future to determine whether they fit within one of the 13 limits—will not jeopardize the species. That is, none will appreciably reduce the likelihood of survival and recovery of any of the ESUs in the wild.

Further, for some programs involving sectors which have had particularly destructive impacts on habitat or bear other significant responsibility for decline of the species, there must be a demonstration above and beyond "not jeopardizing." Just as a Federal agency has a responsibility not only to conduct its affairs in a way that does not jeopardize but also to use its authorities in furtherance of the conservation of the species, ESA 4(d) regulations as a whole must provide measures necessary and appropriate to conserve the species. Hence, while for many actions or programs "not jeopardizing" may be equivalent to not precluding or impairing recovery, for others it may be necessary to include commitments for specific positive contributions that are vital to recovery because of past impacts from those sectors. NMFS has taken those considerations into account when evaluating potential programs (or establishing approval criteria) to determine if they qualify for inclusion in one of the limits.

By statutory definition, species conservation equates to those methods and procedures that will bring a species to the point at which it no longer needs the protections of the ESA and may be delisted. Those methods and procedures encompass the full array of actions that will contribute to recovery: Federal efforts to avoid jeopardy and conserve the species under section 7; efforts taken in accord with section 10 conservation plans; state, tribal, local, or private initiatives undertaken to improve the prospects of listed fish quite independent of any ESA requirement; efforts to avoid taking listed species; and habitat improvements accomplished under numerous regulatory programs for protecting other resources, such as the CWA, state and Federal regulations governing fill and removal in waterways, and the like.

NMFS believes this final rule reflects the necessary and appropriate level of protections for conserving these threatened ESUs given our current

knowledge. As the preamble to the proposed rule noted, NMFS recognizes that new information may lead to changes in the final rule. NMFS has not yet completed recovery planning for the species subject to this final rule, nor does the ESA command that recovery planning precede enactment of 4(d) regulations. Once recovery planning is complete, NMFS may amend the 4(d) protections with any combination of new or amended limits, impose the take prohibitions if a limit were found not to be consistent with a necessary and appropriate recovery measure, or require enhancements or prescriptions.

*Comment 55:* A few commenters asserted that NMFS gives no indication that it intends to comply with ESA sections 7 or 10 in promulgating or implementing these rules.

*Response:* Promulgation of a section 4(d) rule is a Federal action requiring consultation under section 7 of the ESA. NMFS must ensure through its internal consultation process that the 4(d) rule being promulgated is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of their critical habitat. NMFS completed the required consultation and concluded that promulgation of this rule greatly improves protections for threatened salmonids and their habitat, and is not likely to adversely affect either those ESUs or other listed species. NMFS has complied with its section 7 consultation requirements.

Where take prohibitions are imposed, those pursuing actions that may take listed salmonids may choose to apply for a section 10 permit at any time. Section 10 permits are issued on a case-by-case basis supported by individual analysis and section 7 consultation. Where NMFS has found it not necessary to impose take prohibitions, there would be no basis for issuing research or enhancement or incidental take permits through section 10, provided the action is carried out in accordance with the requirements of the applicable limit.

*Comment 56:* One commenter urged that NMFS make clear that no state or local rule shall hinder NMFS or citizens from taking legal actions to ensure salmon recovery. Another asked that NMFS provide for citizen enforcement and appeal of local government permits re ESA issues. A third commenter suggested that the limits be revised to reflect the idea that they extend only so far as local governments' reasonable interpretation and application of its own rules.

*Response:* This final rule does not in any way alter the ESA's enforcement

provisions, including the rights of third parties to enforce under appropriate circumstances. Second, NMFS believes the proposed rules clearly established that in any enforcement proceeding where there is a question whether an action is "in compliance with" one of the described limits, it is ultimately the defendant's (or respondent's) responsibility to assert that issue as an affirmative defense and establish facts that show compliance. In order to dispel any confusion by the public on this point, NMFS has added a subsection, "Affirmative defense," to spell out that it will be the defendant's or respondent's obligation to plead application of and compliance with a limit as an affirmative defense. This approach is consistent with the structure of the proposed rule and with ESA section 1539(g) which states "In connection with any action alleging a violation of section 1538 [the section 9 prohibitions] of this title, any person claiming the benefit of any exemption or permit under this chapter shall have the burden of proving that the exemption or permit is applicable, has been granted, and was valid and in force at the time of the alleged violation." NMFS anticipates that in most cases, the applicability of individual limits will be resolved early in an enforcement investigation. Enforcement personnel will make reasonable efforts to attempt to rule out the applicability of 4(d) limits by, for example, evaluating circumstantial evidence, or through direct contact with the potential violator and subsequent confirmation through reliable third party sources. However, ultimately it is not the agency's responsibility to determine the existence or nonexistence of every exculpatory fact relating to an alleged ESA violation. This clarification is also consistent with existing case law, which generally holds that the burden of raising and proving affirmative defenses rests with the defendant, not with the government (see, e.g., *Patterson v. New York*, 97 S.Ct. 2319 (1977)).

As to the third comment, once a state or local government program comes within a limit (for instance, local development ordinances found by NMFS to meet the standards of the rule), it will be up to the local government to implement that ordinance, including any necessary exercise of reasonable judgement. If monitoring or other information indicates that the ordinance, as implemented, is not providing adequate protections, then the adaptive mechanisms in the 4(d) rule will trigger changes in the ordinance, imposition of the take prohibitions, or

imposition under the ESA of affirmative requirements.

*Comment 57:* One commenter suggested that the standards set in the 4(d) rule to qualify for a limit are higher than landowners would otherwise be required to meet to avoid take. Another stated that there was no consistent conservation standard applied in evaluating potential limits.

*Response:* NMFS must respectfully disagree. The limits described in this final rule do not in every circumstance avoid all take. To do so would require much more stringent steps in some cases. Rather, the limits reflect NMFS' judgement that activities in compliance with such a program or approach are what current information indicates will be necessary and advisable for that activity sector to conserve the ESUs. Activities in compliance with such a program or approach will not appreciably reduce the likelihood of survival and recovery of the species in the wild and, where necessary, will include other conservation measures to repair or improve conditions. Nonetheless, it is expected—and in some cases demonstrable—that activities satisfying the conditions for inclusion within one of the limits will still take listed salmonids.

In evaluating fishery management programs to determine if they qualify for a limit, NMFS relies on the concept of viable salmonid populations and its associated use of viable and critical thresholds for management decisions. The limits require that relevant biological parameters be identified so individual population status can be evaluated and the program may be placed in an appropriate context for determining whether it will support population viability. Land management related programs being considered for limits are assessed according to their ability to help attain or maintain properly functioning conditions (i.e., those conditions NMFS considers necessary for supporting viable salmonid populations).

*Comment 58:* Several commenters noted that NMFS had not made the case that take prohibitions (or any ESA 4(d) rules) are needed for these ESUs, or for specific sectors of activity. Some assert that NMFS should first demonstrate that conservation activities applicable to Federal activities have been fully tapped before applying 4(d) rules to private lands.

*Response:* NMFS must respectfully disagree. While the contribution of non-Federal actions to the overall decline of the ESUs affected by this final rule varies, depending in part on the ratio of Federal to non-Federal lands and in part



on the concentration of habitat modifications and non-Federal hatchery or harvest impacts, NMFS could not justify placing all hope of sustaining and recovering these ESUs on Federal agency actions alone. The record upon which NMFS listed these ESUs is abundantly clear that the decline of the ESUs is substantially influenced by actions other than those with some Federal nexus. While section 4(d) provides the Secretary some discretion in determining what protective regulations are necessary and advisable in a given circumstance, the structure of the section strongly supports the appropriateness of a determination to impose take prohibitions.

*Comment 59:* At least one commenter, while agreeing that the limits are not prescriptive rules, states that the rule making record does not support "this wide-ranging prescriptive rule" which the commenter believes prohibits "a very wide variety of activities that might occasionally "take" listed species" without NMFS' permission.

*Response:* To repeat the preamble text from the proposed rules, "[t]he fact of not being within a limit would not mean that a particular action necessarily violates the ESA or this regulation." NMFS has attempted to make even clearer in this final rule that activities that are not within a limit are not prohibited. What is prohibited is taking a threatened salmonid through any activities not within a limit. Those conducting activities that are not within a limit are subject to liability only if it can be demonstrated that their activities in fact have taken a threatened salmonid. An actor believing that its actions result in incidental take may apply for an incidental take permit under ESA section 10 to ensure that no enforcement liability accrues.

*Comment 60:* Two commenters noted that they had requested the decision-making record (for the proposed rule) and were told that it was "unavailable for public review."

*Response:* Both proposed 4(d) rules included a "References" section that offered a list of the references relied on. These documents were available to the public. That is all that informal rulemaking requires.

*Comment 61:* A few commenters noted that it is inconsistent with the ESA to apply the "jeopardy" standard (to not appreciably reduce the likelihood of survival and recovery in the wild) in a 4(d) rule; also, doing so for tribal plans is inconsistent with the standard applied for other "exemptions." One commenter urged that NMFS model all of the limits after the limit for tribal plans, which

provides a process for NMFS to determine a plan's consistency with ESA standards, but does not set out specific requirements or standards.

*Response:* NMFS believes that none of the limits will jeopardize the listed species' survival or recovery and that each habitat-related limit will contribute to placing habitat on a trajectory toward proper function and populations on a trajectory toward viability. It is worth noting that in practical application, distinctions between what is needed for survival and recovery and between providing for recovery and not jeopardizing the likelihood of survival and recovery are speculative at best and perhaps specious. The limit for tribal plans applies that same standard but without specific requirements or standards, in deference to tribal sovereignty and the government-to-government basis on which NMFS interacts with tribes. It is important to note that while there is less specific guidance with respect to tribal resource management plans, they will be assessed against the fundamental ESA standard (whether they will appreciably reduce the likelihood of survival and recovery in the wild), as have the other limits, and that any determination regarding tribal resource management plans will be accompanied by a description of the biological rationale for its outcome.

*Comment 62:* One commenter believed that the ESA 4(d) limits are "negotiated," "second class" HCPs appropriate only to larger governmental entities and that they consign jurisdictions with smaller population bases to the fringes of the process. Another urged that all limits should be drafted so that they are made available to any government wanting to participate and get coverage under the limit.

*Response:* While NMFS does not agree with the commenter's characterization of the limits, we have broadened some of the limits' availability and modified others in such a way that they are more adaptable for smaller or more rural jurisdictions. For instance, the development limit no longer targets only to "urban density" development, and the road maintenance limit is available to any jurisdiction. These sorts of adjustments are the very heart of the 4(d) limit process—they illustrate NMFS' intention to create an open process of public review and adapt our proposals (when we may) in accordance with the feedback we receive.

*Comment 63:* One commenter suggested that NMFS should create "categorical exclusions" for activities

not requiring the ongoing review and monitoring required in the proposed rules. The commenter points to FWS regulations that permit the Utah prairie dog to be taken under Utah state permits.

*Response:* In this final rule NMFS has made a number of adjustments to make limits more broadly available and to minimize requirements for oversight. However, the prairie dog provision the commenter cites makes very clear that if those takings interfere with conserving the species, FWS may immediately prohibit further such takings. Similarly, NMFS believes that the level of "tracking" required in this final rule will ensure that impacts from non-prohibited activities are consistent with conserving the threatened salmonids.

*Comment 64:* Some commenters asserted that the "proposed requirement" for protecting flows for listed species should be addressed in a local government's ordinance is beyond the scope and authority of a local government.

*Response:* Evaluation consideration "J" for the MRCI limit asks that the local government ordinances ensure that [new] development-related water supply demands can be met without impacting flows needed for threatened salmonids. This request does not require local government to regulate water rights or otherwise control flows; it asks only that new development demonstrate that its new water demands can be satisfied without undercutting flows required by threatened salmonids.

*Comment 65:* One commenter suggested NMFS should delegate to state and local officials authority to limit the take prohibition or provide a "certificate of safe harbor." Another commenter suggested that ESA section 9 take prohibitions cannot apply within a state unless the state has also adopted those regulations. This comment relies on the reference within 4(d) to section 6(c) ("...such regulations shall apply in any State which has entered into a cooperative agreement pursuant to section 6(c) of this Act only to the extent that such regulations have also been adopted by such State").

*Response:* The approach NMFS takes in this final rule aims to recognize and encourage state and local programs wherever NMFS finds them adequate. Nothing within the ESA would give NMFS the authority to delegate the functions suggested, unless a state had the full set of authorities required under section 6 of the ESA for state "assumption" of a program. No state has as yet met those qualifications, which would include having all authorities necessary to conserve the listed species

(such as the ESA provides through section 9, etc.). Therefore, the cited text of section 4(d) does not apply.

*Comment 66:* Another commenter suggested NMFS lacked authority to “delegate” scientific research permit authority to the states.

*Response:* As discussed in response to an earlier comment, this final rule does not delegate permit authority to states. For a subset of all research activities, this final rule does not apply take prohibitions, leaving those research activities subject only to state permitting. For other research, ESA constraints are still in place and researchers should seek ESA section 10 permits (for instance, for research in which private parties intentionally take listed fish.)

*Comment 67:* Several comments assert that the ESA 4(d) rules will result in takings of private property. One asked that the rule provide greater flexibility for redevelopment to prevent takings of private property.

*Response:* The legal effect of this final rule is to prohibit take of threatened salmonids. Complying with that mandate will certainly cause some changes in land management and use and that may affect the economic value of certain activities on the land to a greater or lesser extent—depending on the circumstance. This final rule does not, on its face, prohibit property use in any way that would rise to the level of a constitutional taking, nor does NMFS believe that the adjustments necessary to avoid taking threatened salmonids will be so draconian as to amount to a constitutional taking in any case.

Although NMFS does not agree that this final rule would likely cause a constitutional taking of property, NMFS did intend that the development limit should be broadly available and has amended and clarified the regulation to accomplish that purpose, including specifically naming redevelopment as one of the activities that individual ordinances could cover within the limit.

*Comment 68:* Many commenters desired that NMFS clarify the status of the limits: either wanting to be sure they are not prescriptive, or believing they should be hard requirements. Commenters also wanted to know if activities outside a limit constituted a violation of the rule.

*Response:* The limits are not prescriptive. They are not even enforceable requirements; rather, an entity wishing assurance that its actions are consistent with the ESA may take the necessary steps—as outlined in the regulations—to come within a limit on the take prohibitions. No enforcement action can be taken based on a charge

that someone has failed to follow a limit. Enforcement actions must allege (and ultimately prove) that a listed fish has been taken.

NMFS understands that some commenters would prefer the agency to promulgate specific, detailed regulations to govern particular sectors of activity. For a variety of reasons, NMFS has not chosen that course at this time. Specific proscriptions are an effective protective mechanism where, as with threatened sea turtles, a very specific cause of mortality can be addressed with precision. In the case of Pacific salmonids, where impacts are caused by a large array of activities and where the circumstances leading those impacts to constitute a take are extremely site- or circumstance-specific, NMFS believes it extremely difficult to design a single set of prescriptive rules to cover all of those situations. In addition, prescriptive regulations would likely impose unnecessary costs on some individuals. This is because state, local and individual strategies for avoiding take can be more closely adapted to the local geography or fishery opportunities than can rules that cover an entire landscape. Thus they are equally as effective (or more so) at avoiding take of listed species and less costly than regionwide, blanket prescriptions. The approach taken in this final rule, recognizing limits but not requiring all entities or actors to be within a limit, offers an opportunity to test particular combinations of approaches without requiring everyone to invest in them immediately. Finally, as noted elsewhere in these responses, once recovery planning is complete it may identify specific areas needing more prescriptive attention.

*Comment 69:* Numerous comments suggested that the rule intrudes impermissibly on state water law. Commenters questioned NMFS’ understanding of western water law and authority to regulate water.

*Response:* First, as discussed elsewhere, this rule does not directly regulate water use or water rights in any way. Rather, water diversion was identified as an activity likely to result in take under particular circumstances. There is nothing in the ESA that would carve water use out of the bundle of activities that might lead to an enforceable take of salmonids, nor that would excuse senior water users from responsibility for any take that occurs as a result of their actions. NMFS does not disagree that on a case-by-case basis, questions or priority may be germane to determining causal responsibility for particular impacts. In “A Citizen’s Guide to the 4(d) Rule” (NMFS, 2000),

NMFS provides more information on how water users may evaluate the level of risk of take associated with their diversions and explores options for reducing that risk.

*Comment 70:* One commenter asked NMFS to clarify whether ESA section 7 compliance “is a substitute for” compliance under the rule. Another requested that NMFS include an explicit limit for any entity whose actions have been the subject of an informal consultation in which NMFS has concurred that the action is not likely to adversely affect the threatened species.

*Response:* Section 7 compliance is an adequate substitute for compliance under this rule. So long as an entity is acting within a completed formal ESA section 7 consultation and compliant with terms and conditions imposed, if any, then section 7(o)(2) provides an exception to the prohibitions on taking. Actions subject to informal consultation have a very low probability of take and are thus in the category of activities that do not need to pursue a limit.

*Comment 71:* Take prohibitions should be applied to California’s Central Valley, especially the Yuba River area.

*Response:* The Central Valley steelhead ESU is subject to this final rule. NMFS expects to propose ESA 4(d) protections for the Central Valley spring chinook ESU (listed in September of 1999) within the coming months. Meanwhile, that ESU will benefit from habitat protection afforded by steps taken to avoid taking Central Valley steelhead.

*Comment 72:* One commenter stated that contrary to the Executive Order on Federalism (E.O. 13132), this final rule’s intervention (monitoring and reporting/adjustment of limitations) in state and local land use governance exceeds NMFS’ authority by unnecessarily infringing on state sovereignty. Another suggested that the final rule should state that NMFS is not requiring consistency between state and local regulatory programs and objectives of the ESA.

*Response:* NMFS does not agree that this rule intrudes upon state or local authorities or sovereignty. This rule does not require states to undertake any particular set of actions. It requires that states (like all other actors) refrain from taking threatened salmonids. It provides one mechanism that actors (including states for some of the limits) may pursue to ensure that they do not violate take prohibitions. A state could instead choose to pursue ESA section 10 permits. Where there is a Federal nexus, state actions may receive ESA scrutiny and legal assurance through an ESA section 7 consultation initiated by the action agency. Or, in appropriate cases,

a state may determine in its own judgement that particular activities do not carry a risk of taking listed fish, or it may modify its activities in such a way as to reduce any risk of take to an acceptable level.

*Comment 73:* One commenter argues that the VSP paper is inconsistent with the statutory requirements of the ESA, because of the statement in the preamble to the proposed rules that a "viable population threshold refers to a condition where the population is self sustaining, and not at risk of becoming endangered in the foreseeable future." The commenter suggests this implies a threatened species can be allowed to remain in threatened condition perpetually, and still be considered viable.

*Response:* The commenter has identified an imprecise characterization that was included in the preamble to the proposed rules. This statement has been removed. As explained in response to other comments on VSP, the VSP paper does not attempt to define "threatened" or "endangered" under the ESA.

*Comment 74:* Some commenters stated that NMFS is abusing its discretion by not invoking section 9 prohibitions, and instead relying upon promised conservation efforts and future actions that are not currently operational.

*Response:* This final rule relies upon a determination that a conservation program approved for a limit of the take prohibition has a high degree of certainty that it will be implemented. NMFS may require a commitment to mitigate if implementation of a program is terminated prior to completion.

*Comment 75:* One commenter asserted that NMFS should not or cannot incorporate guidance by reference unless it has undergone ESA section 7 analysis.

*Response:* First, because of modifications made in response to comments, this final rule incorporates far fewer documents by reference. Second, while there is no requirement for a section 7 consultation on such documents, those referenced in the final rule have been analyzed to ensure that actions under them will not appreciably reduce the likelihood of survival and recovery of the listed ESUs in the wild.

*Comment 76:* One commenter wanted the rules modified to prohibit Federal agencies from activities that "take" threatened salmonids.

*Response:* In most cases this final rule does not specifically address Federal agency actions. Once take prohibitions are in effect, they apply to all actors—Federal and non-Federal alike. Second, the ESA requires that Federal actions be

assessed under section 7(a)(2), and nothing written in a 4(d) rule would excuse that obligation. Once NMFS has issued a biological opinion and incidental take statement for Federal agency actions, section 7(o) of the ESA relieves the agency of liability for take.

*Comment 77:* One commenter asserted that the rules could make the controllers of certain activities (such as noxious weed control) vulnerable to third-party lawsuits. Commenters expressed concern about municipal and irrigation district liability for issuing permits that result in take. One commenter stated that municipal entities cannot be held liable for take if the entity does not have discretion in issuing a permit.

*Response:* The first commenter is correct that under the ESA the take prohibitions are enforceable by NMFS or by third parties. This final rule does not create any enforcement routes not specified in the ESA. The take prohibitions apply to all actors, so municipalities and irrigation districts certainly face the possibility of liability; actual liability would depend on specific factual circumstances and the degree of connection between the permit and the take that actually occurs. As to the suggested legal interpretation that a municipal entity's lack of discretion in deciding to issue a permit would be an absolute defense to liability, NMFS believes that question must be addressed in the specific enforcement context in which it arises.

*Comment 78:* One commenter noted that in cases where documents create new legal rights or duties, they are considered "substantive rules" and must be either published in the **Federal Register** or be incorporated by reference through the Director of the Federal Register. Therefore, NMFS should clarify how subsequent amendments to these referenced documents will be treated.

*Response:* There are seven documents referred to in the regulatory text of this final rule. The purpose of making these documents available to the public is to inform governmental entities and other interested parties of the technical components NMFS expects to be addressed in programs submitted for its review. These technical documents provide guidance to entities as they consider whether to submit a program for a 4(d) limit. The documents represent several kinds of guidance, and are not binding regulations requiring particular actions by any entity or interested party. NMFS will continue to review the applicability and technical content of its own documents as they are used in the future and make

revisions, corrections or additions as needed. NMFS will use the mechanisms of this final rule to take comment on revisions of any of the referenced state programs. If any of these documents is revised and NMFS relies on the revised version to provide guidance in continued implementation of the rule, NMFS will publish in the **Federal Register** a notice of its availability stating that the revised document is now the one referred to in the specified 223.203(b) subsection.

*Comment 79:* One commenter suggested that NMFS clarify the regulation regarding withdrawal of a take limit, believing those in the proposed rule to be unnecessarily harsh.

*Response:* NMFS has modified the language throughout this final rule to clarify this point.

*Comment 80:* One commenter stated that the final rule should be non-severable, so that if any or all limits are overturned in a legal challenge, the take prohibitions will not remain in effect. Another suggested that no take prohibition should be imposed until broad limits are available for virtually all sectors of human activity.

*Response:* A fundamental precept of this final rule is NMFS' determination that the subject ESUs require 4(d) protections. Given that, it would be inconsistent with NMFS' ESA responsibilities to the threatened fish to defer any protections in that manner. NMFS has clarified this point by making it explicit that the agency intends the provisions of this rule to be severable.

*Comment 81:* Because NMFS broadly applies PFC as standards with a regulatory effect, PFC guidance and supporting science should be subject to public notice and comment before it is formally applied to ESA 4(d) limitation approvals.

*Response:* PFC requires the maintenance of habitat functions essential to the survival and recovery of listed salmonids. As such, the use of the PFC approach as an analytical tool adds no standard to that already established in the ESA, but rather assists NMFS and the users in evaluating effects of activities on conservation of the species.

*Comment 82:* One commenter asked NMFS to clarify whether the take prohibition applies throughout the range of the ESUs or only in designated critical habitat. Another asserted that NMFS has created a de facto extension of critical habitat.

*Response:* The take prohibition applies throughout the range of the affected ESUs. Critical habitat designation gives guidance to Federal agencies, and is not directly linked to ESA section 4(d) in any way. As to the



assertion that the rule creates “de facto” critical habitat, NMFS must respectfully disagree. Contrary to the commenter’s perception, this rule does not suggest that “highly burdensome and expensive ‘safe harbors’ are what it takes to avoid ESA section 9 take liability.” The rule provides one method of ensuring that no ESA section 9 take liability accrues, but there are other methods such as section 10 permits. Or, an actor may determine in its own judgement that particular activities do not carry a risk of taking listed fish, or modify its activities in such a way as to reduce any risk of take to an acceptable level.

#### Direct Take

*Comment 83:* Some commenters contended that under the ESA, and court decisions interpreting it, NMFS does not have the discretion to “allow” or “authorize” direct take of listed species through 4(d). The commenters cite cases in which the courts have determined that FWS could not authorize hunting of threatened wolves or grizzly bears unless it had first determined that “population pressures within the animal’s ecosystem cannot otherwise be relieved.”

*Response:* In these rules the Secretary is making an initial determination as to what protective regulations are “necessary and advisable to provide for the conservation of” the listed salmonids. In making that determination, the Secretary is not required to impose take prohibitions. In fact, section 4(d) goes on to state that “[t]he Secretary may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1)...” Thus, the Secretary has discretion to assess the status of the listed ESUs and to determine, as he has here, that blanket application of the take prohibitions is not necessary and advisable, and to describe the circumstances in which take prohibitions will not be applied. The Secretary has found that in certain circumstances, activities are sufficiently regulated by other entities or processes that Federal take prohibitions are not necessary and advisable.

In a variety of circumstances, take prohibitions might not be found necessary and advisable to provide for the conservation of a threatened species. For instance, if a threatened species is located almost exclusively on Federal lands and impacted largely by a Federal activity on those lands, the Secretary might determine that section 7 consultations will provide all the protections necessary to allow the species to recover. Or, a threatened species might be threatened because of

negative impacts from a narrow class of human activity. In that circumstance, the Secretary might choose to impose prescriptive regulations tailored specifically to alter those activities in a manner that would allow the species to recover.

More importantly, the biological impact of take on the ESU is the same, whether a particular number of listed fish are lost as a result of incidental impacts or intentional (directed) impacts. Situations in which this final rule would limit the application of take prohibitions for intentional taking of threatened salmonids are extremely limited and consistent with the conservation and recovery goals of the ESA. Scientific research activities conducted by fisheries experts, in accord with specific guidance, and permitted by a state, can be within the limit. Harvest activity will have direct impacts in very few situations—generally where the status of the affected population is already considered viable, even though the status of the larger ESU is not. Taking listed broodstock for artificial propagation might occur for conservation purposes (or, only after the species’ conservation needs are met, for secondary purposes such as fisheries).

*Comment 84:* A few commenters stated that in excusing direct take through harvest, NMFS is placing a far more demanding burden on other sectors (such as land use) in terms of minimizing and avoiding incidental take. They asserted that the demands/standards should be equivalent.

*Response:* This final rule is far from “excusing direct take through harvest” in any blanket fashion, as the comment may be read to suggest. Rather, in setting out the standards by which any fishery harvest program will be judged, NMFS has emphasized the means by which a management scheme maintains or achieves viable status for a population rather than on the specific mechanism by which that impact may be incurred. This final rule does not give a pass to any specific management plan at this time; each plan must be made available for public comment and reviewed against the standards for an Fishery Management and Evaluation Plan (FMEP). NMFS anticipates few instances, especially in the early stages of recovery, where such plans will include impacts targeted on threatened salmonids.

The standards by which NMFS will judge the suitability of any program for a limit are the same, whether the program manages fishery harvest or some type of land management activity. In both instances, such a program may

have some impact on the listed ESU, but at a level that will not appreciably reduce the likelihood of its survival and recovery in the wild. Because current habitat conditions are in most cases far below those needed to support viable populations in the wild, additional impacts on habitat must be carefully constrained and in many cases, accompanied by mitigative measures.

*Comment 85:* One commenter stated that the proposed rule does not (but should) address commercial harvest and noted that NMFS recently increased the allowable commercial take of salmon which will unavoidably include some listed fish.

*Response:* The prohibition against take applies to all activities subject to U.S. jurisdictions, including commercial, recreational, and tribal harvest. The commenter refers to commercial harvest in the marine context, which is evaluated through section ESA 7 consultations. Any commercial activity in non-ocean fisheries would have to be governed by an FMEP in compliance with all of the standards of these rules.

#### NEPA

*Comment 86:* Some commenters wanted NMFS to clarify the extent to which NEPA applies to the ESA 4(d) rules.

*Response:* NEPA applies to the ESA 4(d) rules and, as the proposed rule states, NMFS completed environmental assessments (EAs) for this action. Those EAs were made available upon request and on NMFS’ web site during the comment period.

*Comment 87:* Several commenters suggested that the EAs failed to examine a full range of alternatives (such as the Oregon Plan) or that they did not adequately discuss and evaluate the impacts of the proposed action.

*Response:* While none of the alternatives focus specifically on the Oregon Plan by name, Alternative B contemplates that a state “would have developed a fully adequate comprehensive salmon conservation plan ...to ameliorate all factors for decline for ...an ESU.” The EA assesses what impacts a fully adequate plan would have on the environment, assuming that NMFS recognized such a plan by not applying the take prohibitions to actions in conformance with it. NMFS has reexamined the EAs in light of these comments and believes they explored an appropriate set of alternatives.

*Comment 88:* One commenter noted that NEPA requires a quantitative assessment of consequences of the proposed rule and that agencies should

ensure the scientific integrity of discussions and analyses in NEPA documentation—including explicit reference to the sources relied upon in making the determination.

*Response:* The comment would be appropriate to an Environmental Impact Statement (EIS). However, an EA should not contain long descriptions or detailed data. Rather, it should contain a brief discussion of the need for the proposal, alternatives, and the environmental impacts of the proposed action and the alternatives. Hence, NMFS believes the level of detail provided is adequate for an EA, which is expected to be a concise, brief document.

*Comment 89:* Some commenters asserted that the ESA 4(d) rules will allow significant negative impacts from logging, water withdrawal, agriculture, etc. to continue; hence, NMFS should draft an EIS disclosing these significant impacts. Others stated that the simple act of proposing the 4(d) rules required documentation in an EIS and that the final rules should be delayed until such an EIS has been written.

*Response:* While such activities may have significant negative impacts on the human environment, they do not occur as a result of the ESA 4(d) rules. The comment argues for regulations that will reduce those negative impacts. As the EAs reflect, the take prohibitions will do that. While the commenters may question whether the take prohibitions are the best tool for reining in those negative impacts, the final 4(d) rules as written do not cause any of those impacts. Therefore, no EIS is required for the 4(d) rules.

Take prohibitions are the sole legally enforceable component of these 4(d) rules, and will impact the environment in a positive manner, phasing in over a long period of time (especially with regard to habitat impacts). The Council of Environmental Quality regulations make clear that the fact that an action will have net beneficial environmental impacts does not excuse preparation of an EIS where there are also significant negative impacts (40 CFR 1508.27—definition of “significantly”). In this case the EAs reveal no significant negative environmental impacts, and NMFS believes the EAs satisfactorily address NEPA. Economic impacts need to be evaluated only when required as part of the process of preparing an EIS, not as a reason for doing one. (See 40 CFR 1508.14, “This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental

effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment.”) Finally, a belief that the take prohibitions do not go far enough to stop activities that harm the environment is not an argument for an EIS.

*Comment 90:* One commenter stated that NMFS incorrectly asserts in the EAs that all environmental effects resulting from actions that respond to the ESA 4(d) rule are the independent analytical burden of state and local governments and NMFS will not need to consider or address them. They further stated that NMFS must grapple with the environmental effects of its proposed actions, many of which will be negative for irrigation, noxious weed control, use of pesticides, livestock grazing, etc.

*Response:* NMFS agrees that this statement in the EAs should have been drafted more clearly. It must be read in the context in which it appeared. The immediately preceding sentence stated “In addition, any future regulation, policy, program, or plan that NMFS feels is protective of [listed salmonids] and for which NMFS limits the section 9(a) prohibitions, will further reduce the impacts of the 4(d) rule.” In that context, the following modified statement would have been clearer: “All of the potential impacts attributable to any future limits will be due to those state or other governmental regulations, policies, programs, or plans, rather than to the 4(d) take prohibitions.”

#### *Economics/Regulatory Flexibility Analysis*

*Comment 91:* Several commenters raised issues related to E.O. 12866, and stated that NMFS should do a cost/benefit analysis on the promulgation of this rule.

*Response:* NMFS has prepared a Regulatory Impact Review (RIR), which is available on our web site at [www.nwr.noaa.gov](http://www.nwr.noaa.gov). Some of the comments, however, were based on a misunderstanding of the legal effect of this 4(d) rule and were made in the belief that the rule mandated compliance with particular limits. That is not so; this 4(d) rule does not (for instance) mandate watershed conservation plans. This final rule provides a limit on the take prohibitions for habitat restoration activities consistent with watershed conservation plans that meet certain standards, but does not require any person or entity to prepare watershed plans or pursue that limit; they may avoid violating the take prohibition by whatever mechanism they choose.

*Comment 92:* One commenter stated that in addition to demonstrating how each limit contributed to recovery, NMFS should discuss economic and social impacts of each limit.

*Response:* It is NMFS’ responsibility to assess the economic impacts of the regulation overall; those impacts accrue from the take prohibition, not from the limits. NMFS completed an initial regulatory flexibility analysis (IRFA) and made it available for public comment through the proposed rules. Based on comments received, NMFS has broadened many of the limits to make them available to more jurisdictions, or to simplify the processes associated with them. For instance, the road maintenance limit is now available to any state, city, county or port. The development limit is available for any city, county, or regional ordinances or plans that cover development, or categories such as wetland or shoreline regulation. NMFS has supplemented the IRFA to consider some additional categories of economic activity, such as real estate, as well. The Final Regulatory Flexibility Act concludes that at the present time there is no legally viable alternative to the modified rule that would have less impact on small entities and still fulfill the agency’s obligations to protect listed salmon and steelhead.

*Comment 93:* One commenter stated that NMFS should (and failed to) consult with every state and local entity regarding effects of the rules on those entities.

*Response:* The huge number of such entities within the geographic range covered by this rule makes such consultation far beyond NMFS’ resources. However, NMFS held 25 public hearings, accepted comment on the rules for 60 days, and after publishing the proposed rules, held three workshops for state and local government officials in Olympia and the Tri-Cities in Washington and in Salem, Oregon. More than 150 city, county, and state jurisdictions participated in these workshops.

*Comment 94:* One commenter stated that the IRFA was inadequate in its analysis of alternatives, and that it “fails to even list” the small businesses related to residential and commercial development in its Table of Sectors.

*Response:* NMFS stands by the IRFA and affirms that it presents as much information on the possible effects of the take prohibition as could be obtained through any reasonable means. Moreover, comments were solicited on the proposed rules, but NMFS received none suggesting additional sources of relevant data. The IRFA Table of Sectors

included Heavy Construction and Highway and Street Construction, which would encompass a large proportion of the activity related to residential and commercial development. We have also added information on real estate and rental leasing to the Final Regulatory Flexibility Analysis. In addition, the RIR discusses the implications of the 4(d) rule in the urban setting—including activities associated with residential and commercial development.

*Comment 95:* One commenter stated that an independent third party should perform an analysis of the ESA 4(d) rules' economic impacts using economic information developed by the Federal Reserve. The commenter further stated that provisions for landowner compensation and exemption from property tax assessments must also be included as part of this rule.

*Response:* There is no requirement for third party analyses, nor that NMFS use information from any particular source in its analyses. In fact, NMFS has searched broadly for economic information that might provide more quantitative estimates of the potential costs of avoiding take. The Federal Reserve does not develop such data. NMFS has no authority to provide for landowner compensation or to alter property tax assessments. One of the reasons for the approach taken in this final rule is NMFS' hope that by working with local and state government entities toward comprehensive ESA solutions, there will be smaller impacts on individual actors than might accrue from take-avoidance strategies they might otherwise adopt. Also, as is the case for small landowners under the Forests and Fish Report strategy adopted by Washington and recognized in this final rule, in some circumstances local or state governments may elect to provide offsetting compensation.

*Comment 96:* Several commenters disagreed with aspects of the IRFA prepared for the proposed rules. A major concern was that the rule requires extensive reporting and paperwork.

*Response:* This final rule requires only one thing: that actors refrain from taking listed fish. That performance standard does not require reporting. While taking advantage of a limit does require some level of paperwork, that course is not required; an individual or entity may choose simply to modify its actions to avoid take. Nonetheless, NMFS is aware that in some circumstances the paperwork burden is likely to increase and we stand ready to help streamline the process, give

technical advice, and in general decrease that burden wherever we can.

#### *Recovery/Delisting*

*Comment 97:* Many commenters raised issues regarding the timing of and relationships between ESA 4(d) rules and recovery planning. Several stated that NMFS should move forward quickly to develop recovery plans for listed species. Some requested that NMFS publish de-listing goals concurrent with the publication of the final 4(d) rules or withdraw the 4(d) rules until a recovery plan was complete. Related comments questioned whether, in the absence of recovery goals, NMFS could adequately assess the contribution to recovery made by the programs approved as limits on the take prohibition. Other commenters wondered whether the establishment of de-listing goals would require NMFS to reevaluate limits already approved or change the standards for evaluating additional limits. One commenter expressed concern that future recovery plans would simply "rubber stamp" 4(d) rules and their limits.

*Response:* Recovery planning, as required by ESA section 4(f), is one of NMFS' highest priorities, and NMFS agrees that it is important to move forward quickly to establish recovery plans for listed species. NMFS does not agree that it is either necessary or advisable to publish de-listing goals and final recovery plans concurrently with, or prior to, the final 4(d) rules.

There are no statutory or regulatory requirements regarding the timing or relationships between 4(d) rules and section 4(f) recovery plans. In fact, the basic structure of the ESA itself provides that the protective mechanisms of sections 7 and 10 take effect upon the listing of a species as threatened or endangered while recovery planning follows its course through subsequent activities. Recovery plans will provide biological goals for recovery and identify an entire suite of actions needed for recovery. Thus, they may provide a more specific framework for future 4(d) rules or amendments, but the essential protective function of 4(d) rules is independent of recovery plans; that function is to prohibit take of listed species where needed. If the 4(d) rules were not promulgated until de-listing goals were developed or recovery plans completed, the species would be placed at unacceptable risk, and more stringent and costly measures would be necessary to save them.

Moreover, by applying the VSP and PFC concepts it is possible to make judgments about the contributions certain programs make to recovery.

These judgments will not prejudice the comprehensive recovery planning process.

For habitat actions, NMFS may find that it is not necessary or advisable to apply the take prohibition to programs that will help attain or protect properly functioning habitat. For FMEPs, NMFS may find it is not necessary or advisable to apply the take prohibition when the program contains specific management measures that adequately limit take and otherwise protect the ESU. For Hatchery and Genetic Management Plans (HGMPs), NMFS may find that it is not necessary or advisable to apply the take prohibition when a plan is designed to minimize and adequately limit take and promote species conservation. NMFS believes that these standards are all consistent with recovery, and expects that most programs approved as limits will provide a foundation for later recovery planning measures. NMFS also anticipates that the VSP and PFC concepts will continue to evolve and provide the analytical framework for evaluating potential limits and recovery measures.

Through the process of recovery planning, NMFS may develop more specific information about measures needed for recovery or about specific areas needing more prescriptive attention. In addition, each take limit incorporated into the 4(d) rules includes provisions for continued review of its implementation and effectiveness. Thus, NMFS intends to continually reevaluate the limits. If these evaluations, or information developed through recovery planning, or any other information, indicates that a limit is inadequate for recovery, NMFS will revisit the limit.

Finally, NMFS is moving forward as quickly as resources allow to develop recovery plans. NMFS has appointed Technical Recovery Teams (TRTs) for Puget Sound and for the Willamette/Lower Columbia River Basins and Southwest Washington. These teams have begun to identify delisting goals. To conduct the more policy-oriented aspects of recovery planning, NMFS will work with state, local, tribal, and private entities to craft a recovery planning process suited to specific areas and situations. Formal recovery planning efforts will be expanded to additional geographic domains as resources permit.

*Comment 98:* Several commenters addressed the issue of federal trust responsibilities to tribes in developing protection and conservation goals, plans, and measures. These commenters held that NMFS needs to make every effort to ensure that treaty rights and trust responsibilities are met through its



regulatory actions, and that thresholds, goals, and recovery plans support healthy, productive, and harvestable fish populations.

*Response:* NMFS approaches the ESA 4(d) rules as a vital component of conserving the species until the protections of the ESA are no longer needed. These protections will no longer be needed only if the abundance of fish is sufficient to satisfy treaty fishing rights and to fulfill the trust obligations of the United States.

#### Cumulative Impacts

*Comment 99:* A number of commenters questioned the reasoning behind NMFS including in the take guidance a category of activities that, while individually unlikely to injure or kill listed salmonids, may collectively have significant detrimental impacts. Commenters asserted that regulating such activities was beyond NMFS' purview. Others questioned how NMFS would enforce the prohibitions when take resulted from such activities.

*Response:* NMFS agrees somewhat with this comment. The discussion of activities that do not cause take individually but that cumulatively may have significant detrimental impacts on salmonids was intended to be advisory and informative in nature and no enforcement actions in response on these activities were being contemplated. The category of activities raised a number of concerns however, and the language has been struck from the rule. Nonetheless, it is important to note that a myriad of decisions made by individuals and institutions on a daily basis, while negligible in the individual case, may have, in the aggregate, a significant detrimental impact on the ecosystem processes that support salmon and steelhead.

*Comment 100:* Many commenters raised the issue of cumulative impacts. Some expressed concern that the 4(d) proposed rules did not assess the cumulative impact of all the take limits combined. Some also expressed concern that the individual take limits did not address cumulative impacts of activities covered under that limit. Several commenters requested that the final rules include an analysis of cumulative impacts as well as a mechanism for evaluating cumulative impacts caused by any future take limits. One commenter asked how and when NMFS would provide opportunities for the public to review and comment on ESU-wide assessments of cumulative take.

*Response:* The suggestions regarding cumulative impacts have great merit, and NMFS is moving toward implementing a method for assessing

total take across broad sectors. That function, however, would not be specific to the 4(d) context. Impacts on listed species accumulate from natural conditions as well as from illegal and unauthorized take and from actions to which the take prohibition does not apply because they fall in the realm of some other ESA mechanism (section 10 permits; section 7 consultations, or specific provisions of a 4(d) rule). Cumulative impact assessment is problematic because there are very few methods for adequately assessing cumulative impacts of habitat-modifying activities. Nonetheless, NMFS has explicitly incorporated consideration of cumulative impacts into the 4(d) rules where feasible. For example, FMEPs will evaluate the cumulative mortality of all fisheries, and HGMPs will track the number of listed fish taken as broodstock. In addition, NMFS believes that by requiring habitat-modifying activities within a limit to attain or maintain properly functioning condition, and all activities within a limit to contribute to viable salmonid populations, cumulative impacts are, to an extent, accounted for. Moreover, during the process of developing comprehensive recovery plans, NMFS and recovery teams will address the issue of cumulative impacts more systematically. The public will have the opportunity to comment on ESU-wide assessments of cumulative levels of take during the recovery plan public review process.

*Comment 101:* A number of commenters recommended ways for NMFS to assess cumulative effects. One commenter asserted that meaningful assessments of cumulative risk at the ESU level would require linkage between VSP and PFC and development of a common method for evaluating the effects various activities have on populations and habitats. Another urged that NMFS adopt comprehensive habitat productivity standards to evaluate cumulative effects of habitat programs granted limits on the take prohibition. One commenter suggested that NMFS require all habitat-modifying activities to account for habitat-modification-related mortality. Another suggested that NMFS focus on cumulative take rather than dealing with take in its various permutations individually. Another suggested that the rules should mandate an annual cumulative take assessment (based on life cycle stages) for each population in an ESU. In addition, they desired that NMFS (a) examine mortality in the various populations and determine whether take

from a particular sector is placing them at risk, and (b) separate human-induced mortality from that attributable to fluctuating environmental conditions and thereby adjust take regulations to provide more protection during times of environmental stress.

*Response:* NMFS agrees that all of these suggestions have great merit and, as mentioned previously, NMFS is moving toward implementing a method for assessing total take across broad sectors. Also, as mentioned earlier, assessing cumulative impacts is a difficult process. In most cases, there are no adequate standards for habitat productivity and developing them is a complex and long-term task. NMFS intends to work with co-managers to develop the necessary standards and assessment techniques. In addition, during the ESA recovery planning process, NMFS will assess the mortality burdens for each ESU and life-cycle stage.

*Comment 102:* One commenter asserted that limits for urban development should be analyzed within the cumulative impact context.

*Response:* NMFS agrees that cumulative effects should be an important consideration in analyzing the effects of MRCI development and redevelopment. To the extent that NMFS must prioritize the evaluation process, comprehensive MRCI plans with relatively broader scopes of activities, authorities, effects, and geography (and therefore greater cumulative effects) will generally be evaluated before plans with relatively smaller scopes. Applicants with smaller-scale plans should take particular care that their effects analyses take cumulative impacts into account.

*Comment 103:* Several commenters questioned whether NMFS had completed requisite cumulative effects analysis under ESA section 7 and NEPA.

*Response:* NMFS has complied with section 7 consultation requirements on the adoption of the 4(d) rules by consulting both internally and with FWS. In addition, NMFS has completed an EA for this action pursuant to NEPA.

*Comment 104:* One commenter asserted that the cumulative impacts consideration required by § 223.203(b)(8)(iii)(A) is unreasonable due to lack of clear scientific consensus on how to do so.

*Response:* Cumulative impacts analysis has been routinely required by NEPA, ESA, and many other Federal and state authorities for several decades and NMFS does not believe it presents an insurmountable obstacle to development of acceptable watershed

conservation plans (WCPs). In fact, it would be difficult to complete an adequate watershed analysis without having considered cumulative impacts. NMFS is confident that state WCP guidelines will be able to offer sufficient technical advice so that entities developing WCPs will be able to meet the cumulative impacts requirement.

*Comment 105:* Some commenters held that the rules failed to regulate activities consistent with their incremental effects, and that the effect of the rules would be to focus NMFS staff time on urbanized areas, while greater benefit could be gained by identifying habitat areas where the most good could be achieved at the least cost, and then bringing Federal, state, and local resources to bear upon those areas. Other commenters expressed concern that the rules would disproportionately regulate the impacts of habitat modification compared to the impacts of harvest activities.

*Response:* NMFS does not believe that the 4(d) rules fail to regulate activities consistent with their incremental effects. The 4(d) rules "regulate" primarily by putting into place the ESA section 9 take prohibitions. This take prohibition applies to all activities, regardless of their incremental impact on a listed species. The rules then identify certain activities that already conserve the species and for which no additional ESA regulation (i.e., take prohibitions) are necessary. These activities span a broad range and include research, aiding stranded salmonids, managing harvest and hatcheries, and land uses such as forestry, development, and road maintenance. NMFS hopes to continually expand the scope of these limits to encompass additional activities not currently addressed by limits, wherever such efforts are biologically warranted.

#### *Limits for Scientific Research and Rescue/Salvage*

*Comment 106:* Several commenters stated that the ESA 4(d) limit for scientific research activities (research limit) would place excessive reporting requirements on state fisheries agencies and that these agencies lacked the funding and staffing to accommodate the additional workload.

*Response:* NMFS acknowledges that, as a result of promulgating the take prohibitions, state fisheries agencies will now have a higher level of accountability for reporting take of listed salmonids and that some ESA-related reporting will be new for these agencies. However, all of the affected agencies currently oversee research

permit processes for fish sampling in state waters and NMFS believes that the workload associated with this limit should be comparable with state reporting/recordkeeping requirements already in place. Much of the information NMFS is requiring under the research limit is currently generated by the state's permit process, which presently covers all entities (e.g., Federal, academic, private, and other state agency researchers) other than biologists employed by the state fisheries agency. However, these agency biologists typically produce research summaries that NMFS believes could be efficiently translated into the annual state reports supporting this limit.

Moreover, a major impetus for providing the research limit is to allow the state fisheries agencies to continue to oversee and coordinate research efforts for listed salmonids. The ESA's section 10 permitting process does not always facilitate state oversight/coordination and NMFS believes that it is advisable to minimize research impacts by streamlining the research review process in a manner that fosters active participation by state fisheries agencies. It is worth noting that as a result of previous 4(d) rulemaking (50 CFR 223.204(a)(4)), ODFW has successfully coordinated and reported scientific takings per a 1997 research limit involving listed coho salmon in southern Oregon. NMFS will work closely with all of the affected states and research entities to expand on this success while minimizing the reporting workload by incorporating existing state processes into those supporting the 4(d) limit for scientific research.

*Comment 107:* Some commenters asked whether research involving direct take of listed salmon and steelhead would still require a section 10 permit and whether incidental take would be covered under the ESA 4(d) rule.

*Response:* Research and monitoring activities involving either directed or incidental take of the 14 ESUs identified in this rule are covered by this 4(d) limit. Therefore, state-approved activities covered by this limit would not need to go through a separate section 10 permit process. However, if the research is not covered by the research limit, then an applicant would need to obtain an ESA section 10 permit before conducting research that could take a listed salmonid.

*Comment 108:* Several commenters were confused by the language describing provisions under "Continuity of Scientific Research" and requested clarification as to what applications were needed and when take prohibitions would become effective.

*Response:* As described in the proposed rules, NMFS is concerned with the potential for disrupting ongoing scientific research, monitoring, and conservation activities, especially during the coming summer/fall field seasons. Therefore, the agency is providing a temporary limit on the take prohibitions to allow such activities to continue until March 7, 2001 so that the necessary paperwork can be processed. However, to qualify for this "temporary" limit, researchers must submit a section 10 permit application to the Assistant Administrator for Fisheries (AA), NOAA by October 10, 2000 for research activities affecting listed fish in any of the 14 salmon or steelhead ESUs identified in this rule. Applicants would be subject to take prohibitions only after their permit application is denied, rejected as insufficient, or the "temporary" limit period expires, whichever occurs earliest. Researchers failing to submit an application by October 10, 2000 would be subject to take prohibitions beginning on September 8, 2000 for the seven steelhead ESUs and on January 8, 2001 for the seven salmon ESUs. NMFS will make every effort to respond to applicants in a timely fashion. However, researchers are advised to prepare for unavoidable delays that may result from the anticipated load of section 10 permit applications that will be presented to NMFS.

Parties requesting coverage under the ESA 4(d) limit on scientific research activities should consult with the ODFW, the California Department of Fish and Game (CDFG), the Idaho Department of Fish and Game (IDFG), or the Washington Department of Fish and Wildlife (WDFW) to determine when related applications are due to these oversight/coordination agencies. By October 10, 2000, NMFS will expect these agencies to submit a letter of intent to the AA, NOAA, summarizing the types of research to be covered under the 4(d) limit for any of the 14 salmon or steelhead ESUs identified in this rule. This letter will serve as a placeholder for these agencies (and the entities identified in their letter) until they can submit to NMFS a more comprehensive assessment of scientific research activities planned for the 2001 research season. Take prohibitions for these applicants would become effective after their application for the 4(d) limit is either rejected by NMFS or the "temporary" limit period expires, whichever occurs earliest. Applicants failing to submit a letter of intent by October 10, 2000 would be subject to take prohibitions beginning on

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September 8, 2000 for the seven steelhead ESUs and on January 8, 2001 for the seven salmon ESUs. NMFS will work closely with the affected state agencies and researchers to select suitable reporting time frames and minimize the disruption of research efforts.

*Comment 109:* Several commenters requested that NMFS expand the ESA 4(d) limit on scientific research activities to include research by tribal fisheries biologists. Others requested that NMFS include a regulatory obligation for the states and NMFS to include tribes in reviewing scientific research and monitoring efforts subject to the ESA 4(d) limit.

*Response:* NMFS has provided a separate 4(d) rule for Tribal Plans (including research and monitoring activities) (published elsewhere in this *Federal Register* issue) the purpose of which is to establish a process that will meet the conservation needs of listed species while respecting tribal rights, values, and needs. A tribe intending to conduct research-related actions that may take threatened salmonids could submit a Tribal Plan to NMFS for consideration under the 4(d) rules. In addition, tribes have the opportunity to have tribal research activities covered under the research limit for salmon and steelhead, so long as the activities are in accord with state reporting requirements specified in that limit.

NMFS does not believe it is necessary to include a regulatory obligation under 4(d) that requires states to include a tribal co-manager review and concurrence process for research/monitoring activities. There are ample opportunities—both formal and informal—for Federal, state, and tribal co-managers to coordinate salmonid research and monitoring efforts and NMFS will continue to encourage such collaborative efforts. In addition, NMFS recognizes its responsibilities to confer with the tribes on ESA issues and will use this dialogue to ensure that tribal concerns are addressed. NMFS will make available to interested parties the documents describing the research and monitoring conducted under either the tribal 4(d) limit or the salmon/steelhead research limit.

*Comment 110:* Some commenters stated that the research limit was too narrowly defined and should be expanded to apply to other state and non-governmental entities (e.g., state water quality agencies, watershed councils, and sportsman groups). Others requested that NMFS clarify what is meant in the research limit by “oversight” and “coordinated.”

*Response:* NMFS believes that the state fisheries agencies are in the best position to oversee and coordinate scientific research and monitoring efforts involving listed salmonids. While other entities (e.g., other state agencies, academics, consultants, etc.) have considerable expertise in fisheries research, none have the clear management responsibility for salmonids that is vested with the state fisheries agencies. Moreover, NMFS is concerned that expanding this limit to include numerous entities would hinder the coordination of research efforts. NMFS encourages coordination as a means to minimize research impacts on listed salmonids while facilitating data exchange and interpretation.

NMFS agrees that minor modifications to this limit’s description will help clarify the agency’s intent for “oversight” and “coordination.” For example, with respect to “oversight,” NMFS does not believe that a state fishery agency must directly supervise or inspect every research project. Instead, NMFS intended that research efforts covered by the ESA 4(d) limit should merely be identified and approved by the appropriate state fishery agency. The identification and approval processes should constitute nominal extensions of the pre-existing system for obtaining a state research/ collection permit. In addition, NMFS’ emphasis on “coordination” was to encourage the state fisheries agencies to establish and improve upon mechanisms for organizing research and monitoring of listed salmonids. Such coordination could occur at a state-wide level (e.g., the Oregon Plan for Salmon and Watersheds), at a level addressing a particular ESU (e.g., Washington’s Hood Canal and Eastern Strait of Juan de Fuca Summer Chum Recovery Plan), or watershed. No matter what the level, however, the state fisheries agencies will still need to provide NMFS with the requisite annual reports. NMFS will continue to work with the affected states to better define the reporting requirements supporting this limit, maximize the information being gathered on fish and wildlife species (while minimizing impacts on threatened and endangered species), and ensure that sound research proceeds unencumbered by regulatory/permitting requirements.

*Comment 111:* Some requested that this limit be made available to Federal researchers and asked for clarification on the relationship between this limit and ESA section 10 permits.

*Response:* NMFS clarifies that Federal research and monitoring activities could be covered under the research limit.

Federal lands encompass vast areas of salmonid habitat in the Pacific Northwest and California, and Federal research efforts contribute vital information about these species. Therefore, NMFS believes it is necessary and advisable to provide the opportunity for Federal researchers to receive coverage under the research limit. Such coverage would obviate the need for an ESA section 10 permit for these Federal researchers. Still, in deference to the need for close coordination with state and other efforts (plus the fact that Federal researchers will still need research and collection permits from the state fisheries agencies), Federal research will only be covered under the ESA 4(d) limit when that research is overseen by or coordinated with a state fisheries agency that is willing and able to report on the Federal research effort. Also, it is important to note that coverage under the research limit would not relieve Federal agencies of their duty under section 7 of the ESA to consult with NMFS if actions they fund, authorize, or carry out may affect listed species.

*Comment 112:* Some commenters contended that NMFS was placing unnecessary constraints on electrofishing as a sampling technique. Several requested clarifications and revisions to specific protocols described in NMFS’ “Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act” (NMFS, 2000a), in particular they sought revisions in the guidelines pertaining to numeric standards/settings and documenting crew experience and sampling history. One commenter requested that NMFS expand the limit and guidelines to address electrofishing from boats.

*Response:* NMFS contends that the guidelines are both reasonable and necessary for the conservation of listed salmon and steelhead ESUs. The literature is replete with evidence to support NMFS’ concerns that electrofishing can be particularly harmful to salmonids and other fishes (see review by Nielsen, 1998). Before distributing the existing guidelines in 1998, NMFS held a workshop and distributed the subsequent guidelines for peer review. The resulting guidelines reflect reasonable and prudent measures for minimizing the adverse effects of electrofishing. NMFS will continue to encourage researchers to use other less invasive techniques (e.g., traps and snorkeling surveys), but recognizes that electrofishing has utility, or is the only practical alternative in certain study designs.



With respect to specific concerns about the electrofishing guidelines, NMFS disagrees with most of the issues raised and believes that only minor modifications are warranted in these protocols. For example, the agency disagrees with several commenters that requiring conductivity measurements would impose an onerous and costly burden on researchers. It is well known that water conductivity is one of the most critical parameters determining electrofishing impacts and conductivity meters are both inexpensive and readily available. The concerns that NMFS is requiring too much documentation (e.g., logging crew experience and data on sampling results) are also unsound. Most, if not all, researchers record the time spent (e.g., time counters are an integral part of most backpack units) and results of electrofishing surveys (e.g., numbers of fish encountered, injuries observed, site conditions, etc.). These logs aid fish by helping to improve the researcher's technique and can form the basis for training new operators.

With respect to boat electrofishing, NMFS has serious concerns with this technique because it has even greater potential for seriously injuring listed salmonids. For example, the technique can employ electrical output that is an order of magnitude greater than backpack electrofishing units, and environmental conditions can seriously limit a researcher's ability to minimize impacts on listed fish (e.g., adult salmonids in large and turbid stream reaches). NMFS has not developed suitable guidelines for this sampling technique and will continue to request that researchers desiring to employ electrofisher boats apply to NMFS via the ESA section 10 permit process.

*Comment 113:* Some commenters requested that NMFS clarify which entities would be covered under the limit for rescue and salvage actions and better define what constitutes an "emergency" under this limit. One commenter requested that NMFS specifically allow electrofishing under the rescue/salvage limit.

*Response:* The regulations pertaining to this limit state that rescue/salvage can be conducted by "any employee or designee of NMFS, FWS, any Federal land management agency, IDFG, WDFW, ODFW, CDFG, or any Tribe." A designee of the listed entities is any individual that the Federal or state fishery agency, or other co-manager has authorized in writing to perform the rescue/salvage.

While it is not possible to characterize all scenarios constituting an "emergency" for listed salmonids, fish

strandings resulting from natural or human-induced events are probably the most common type encountered. For example, an emergency condition may exist as a result of dewatering (e.g., for irrigation), damming, drought conditions, or when listed fish become stranded in channels or ponds following a flood event, landslide, or debris torrent. Chemical spills associated with industrial effluents or vehicular accidents (e.g., train or automobile accidents) have also been known to create an emergency for salmon and steelhead. These are just a few examples of scenarios that the employees or designees might face. Obviously professional judgement will need to be applied at the scene of an emergency to determine if and how listed fish should be rescued.

NMFS concurs that electrofishing is permissible when there is no better technique for safely removing stranded fish under the rescue/salvage limit. However, the electrofishing should be conducted in accordance with NMFS' backpack electrofishing guidelines.

#### *Fishery, Hatchery, and Genetic Management Activities*

*Comment 114:* Some commenters stated that the proposed ESA 4(d) rules potentially grant broad exemptions for taking listed species in hatchery programs and fisheries and that these limitations should be omitted or tightened to better control hatchery and harvest practices.

*Response:* The final rules establish explicit criteria and standards that hatcheries and harvest activities must adhere to in order for them to be eligible for limitations on section 9 take prohibitions. The criteria include detailed plans, risk assessments, and monitoring and evaluation and are similar to what has been required for section 10 permits in the past. The Fishery Management Evaluation Plans (FMEPs) and Hatchery Genetic Management Plans (HGMPs) will be evaluated using the same standards used to examine section 10 permit applications. The limits for hatcheries and harvest will not decrease the level of protection for listed species.

*Comment 115:* There was general support for the concepts detailed in the technical document "Viable Salmonid Populations." However, there was much concern over how to apply these concepts in actuality. A number of commenters stated that in most cases there would not be enough information to determine population structure and abundance thresholds. Many commenters thought VSP should be

implemented through NMFS' recovery planning efforts.

*Response:* NMFS realizes that a substantial amount of information needs to be generated in order for FMEPs and HGMPs to be consistent with the "Viable Salmon Populations" technical document. Ideally, that information would arise out of the technical phase of the recovery planning process. However, even if all the data are not yet available, the concepts contained in VSP are valid and will still be used to help develop and evaluate FMEPs and HGMPs. Determining "critical" and "viable" thresholds in the management plans allows actions to be tied to the status of listed fish in a particular population or management unit. If a population or management unit is at critical levels, actions must be strictly controlled and not impede recovery. At viable levels, the population or management unit is healthy and more flexibility exists for fisheries and hatchery management. NMFS will work with the co-managers to apply VSP to the greatest extent possible for any given management unit. As additional monitoring and evaluation are completed in the future and as recovery plans are developed, the FMEPs and HGMPs will be revised.

*Comment 116:* Some commenters suggested that no progeny of listed fish that were spawned in a hatchery should be considered listed under the ESA.

*Response:* Listed fish may be taken into a hatchery for spawning as a last resort to conserve the species. Before this can occur, an approved HGMP or ESA section 10 permit must be obtained. The HGMP or section 10 permit specifies the number of listed fish that can be taken into the hatchery. The status of the (artificially propagated) progeny of these fish is determined at the time the species is listed (i.e., stated in the final listing determination). If the hatchery program is part of an ESU where the progeny of listed fish spawned in a hatchery are considered to be listed, NMFS may proceed through rulemaking to delist hatchery progeny once an HGMP or section 10 permit is in place.

*Comment 117:* Some commenters questioned the strategy of restricting steelhead fisheries to areas where only hatchery-marked steelhead are expected to occur and prohibiting the retention of listed steelhead. It was asserted that this policy could be a disincentive for local recovery efforts because healthy, naturally reproducing populations of fish could not be utilized if the population recovers.

*Response:* NMFS agrees that recreational fisheries should not be

limited to streams where only hatchery fish are present. NMFS intends to manage fisheries based upon a listed ESU's status and a given fisheries' impacts on that status. The ultimate goal is to recover and maintain natural, self-sustaining ESUs so that ESA protections are no longer necessary. Under the VSP concept, if a steelhead population has recovered to viable abundance levels, more harvest impacts could be allowed than would be advisable for an adjacent population whose status is poor.

*Comment 118:* Several commenters requested clarification on the meaning and purpose of sanctuary areas, and some questioned the rationale for not requiring the designation of sanctuary areas in FMEPs under the salmon ESA 4(d) rule, but requiring them in FMEPs under the steelhead 4(d) rule. (Note: the proposed 4(d) rule for salmon (65 FR 170, January 3, 2000) was published separately from the proposed rule for steelhead (64 FR 73479, December 30, 1999). The two proposed rules have been combined in this final rule.)

*Response:* NMFS defines sanctuary areas in the FMEPs as areas that are closed to fishing. NMFS' intent is to provide areas where juvenile and adult fish are not exposed to any fishing-related pressure or mortality (including catch and release fisheries, which can have an associated incidental mortality). Tributary streams or stream reaches that are the primary, core areas where listed fish spawn and rear in a given watershed would be good areas to designate as sanctuaries.

Establishing sanctuary areas is especially important for species (like steelhead) that can spend several years rearing in fresh water and may be exposed to multiple fishing seasons. Juvenile salmon are generally less vulnerable to fishing because they typically emigrate to the ocean by the time they are one year old. However, some juvenile salmon (e.g., sockeye) can also exhibit extended freshwater residence. NMFS agrees that sanctuaries should also be included in the FMEPs developed for the listed salmon ESUs. The extent of the existing (and future) sanctuary areas for juvenile and adult fish will be evaluated on an ESU-by-ESU basis when the FMEPs are reviewed.

*Comment 119:* One commenter contended that sanctuaries may be difficult to establish in many California river systems (e.g., Central Valley streams) and asked how many sanctuaries would be needed to get NMFS' approval of an FMEP.

*Response:* NMFS agrees that it may be difficult to designate sanctuaries in the Central Valley system given that the

majority of historical habitat is now inaccessible to fish. However, there are other accessible river systems inhabited by the three steelhead ESUs covered by this ESA 4(d) rule that currently do not offer sanctuary protection in critical spawning and rearing habitats. The FMEP process will allow NMFS to work with co-managers in establishing angling sanctuaries in these areas to further protect and conserve steelhead while still allowing appropriate angling opportunities to proceed. The appropriate numbers of sanctuaries will arise out of the FMEP development process.

*Comment 120:* Some commenters questioned whether the FMEP process is necessary for sport angling and contended that developing elaborate FMEPs is not the best use of limited technical and restoration resources.

*Response:* The FMEP process will make it easier to work with the co-managers in making sure that sport fishing activities comply with the intent of this limit. While the amount of information that NMFS requires for FMEP approval will be similar to information required for an ESA section 10 incidental take permit, the FMEP route provides a longer-term framework for fisheries management and is thus more efficient over time in addressing recreational fishing impacts on listed species.

*Comment 121:* Some commenters requested that recreational fisheries in California receive a limit on the take prohibitions because they are likely to have only minor impacts on listed species.

*Response:* NMFS recognizes that CDFG has instituted conservative fishing regulations in many of the steelhead-bearing streams found in California. These regulations allow for continued angling opportunities, where appropriate, while providing some level of protection for listed steelhead through gear, season, and area restrictions. Although take associated with modern recreational fisheries has not been identified as a major reason for the depressed status of many California steelhead ESUs (NMFS, 1996), there is still a general lack of monitoring from which to derive reliable quantitative estimates of impacts in selected steelhead streams (e.g., Antelope, Deer, and Mill Creeks in the Central Valley steelhead ESU). In addition, take provisions and angling regulations may need to be more restrictive in areas where habitat conditions are not properly functioning and angling pressure would exacerbate the risks faced by a listed population. An approved FMEP would provide the

means to identify these monitoring gaps and open the way for agreements with co-managers on instituting appropriate measures and securing funding sources.

*Comment 122:* NMFS should not require FMEP monitoring that is physically or fiscally impractical.

*Response:* NMFS agrees with this comment and will make every effort to work cooperatively with co-managers to identify resource monitoring and assessment requirements on an ESU-by-ESU basis. The required level of monitoring will be tied to a population's status and the degree to which a specific fishery poses risks to that population. There is sufficient flexibility in the ESA 4(d) rule to accommodate the immediate staffing and funding shortfalls. One of the integral parts of the FMEP process, however, will be to identify the level of monitoring and assessment needed to adequately address the impacts of recreational angling on listed species in a given ESU. Strategies for prioritizing monitoring needs based on funding and staffing capabilities will be stipulated in letter of concurrence NMFS crafts in response to an approved FMEP.

*Comment 123:* Several comments addressed the use of barbed hooks in recreational fisheries for trout and steelhead. One commenter questioned the scientific basis for disallowing barbed hooks in adult steelhead fisheries. Other commenters believed that catch and release mortality could be significantly reduced by requiring the use of barbless hooks.

*Response:* The available scientific data have not shown that using barbless hooks consistently or significantly reduces catch and release mortality in trout and steelhead fisheries, and the ESA 4(d) rule does not require barbless hooks in recreational fisheries. However, NMFS believes certain fishery situations could warrant the use of barbless hooks to minimize potential impacts on listed fish.

*Comment 124:* Several commenters were concerned with language in the ESA 4(d) rules relating to restrictions on resident species fisheries. Some contended that restrictions should be placed on any fishery (resident or anadromous species) that substantially affects listed fish. Others believed the restrictions to be excessive and stated that NMFS should more fully assess the impacts of resident species fisheries on listed salmon and steelhead.

*Response:* All fisheries that potentially affect listed salmon and steelhead must be evaluated in the appropriate FMEP. NMFS' intent is to point out the fact that some resident species fisheries can affect listed fish. In these circumstances, the FMEP must

include angling regulations for resident species fisheries that minimize any take of listed species. An FMEP may also include restrictions on anadromous fisheries to ensure that listed species are conserved.

*Comment 125:* One commenter stated the need to clarify certain definitions used in relation to the hatchery programs. It was asserted that several hatchery programs still have definitions of "natural" fish that seriously obscure the differences between wild and hatchery-produced fish. The commenter stated that the HGMPs should address this problem.

*Response:* NMFS agrees with this comment. Therefore, to clarify, NMFS generally uses the terms "natural" and "hatchery" to describe the origin of anadromous fish following the definitions found in Bjornn and Steward (1990): hatchery fish are those that, regardless of parent stock, have been spawned, incubated, hatched or reared in a hatchery or other artificial production facility. Naturally produced fish are those that result from natural spawning in streams. As Waples (1991) stated, the terms wild and natural are used synonymously to refer to naturally produced fish without regard to the origin of the parent stock.

*Comment 126:* The HGMP and FMEP templates should be referenced in the 4(d) rules.

*Response:* This suggestion has merit and language in this final rule has been duly altered. The templates are available on NMFS' Northwest Region website ([www.nwr.noaa.gov](http://www.nwr.noaa.gov)).

Comments related to the criteria established for FMEPs and HGMPs

*Comment 127:* Some commenters questioned the assertion in the harvest limit that at critical threshold levels, harvest actions must not appreciably increase the genetic and demographic risks facing the population. They stated that this policy does not ensure the conservation of listed species and that any populations that are at critical threshold levels should not be put at risk. They asserted that harvest should be very restricted or totally eliminated when a population reaches critical levels.

*Response:* When a population within a listed ESU is at critical levels, impacts from fisheries must be strictly controlled. No fishery will be allowed under the ESA which jeopardizes the continued existence of an ESU. In some cases it may be necessary to close or curtail fisheries to protect listed fish. The intent of this language was to realize that incidental harvest may occur even under a tightly regulated fishery regime. Anadromous salmonids

have a vast migratory distribution and may be incidentally intercepted in fisheries occurring in other regions. NMFS will evaluate FMEPs to ensure that the harvest regime will protect individual populations and allow the ESU to recover before being approved.

Population-level assessments under the ESA are meant to provide information on abundance, productivity, structure and diversity specific to each population, and are essential to determining an ESU's overall health. However, under some circumstances the ESU as a whole may be viable even though some individual populations have not fully recovered. NMFS and the TRTs appointed to help develop de-listing criteria will determine which, where, and to what degree populations within an ESU must have "viable salmonid population" status to render adequate ESA protection at the ESU level.

*Comment 128:* One commenter stated that no transgenic or genetically engineered fish should be allowed in waters where listed fish reside.

*Response:* No action that jeopardizes the continued existence of listed species is permitted under the proposed 4(d) rules or any other section of the ESA. If NMFS assumes that "transgenic or genetically engineered fish" are not native species and determines that their introduction into waters where listed fish reside would not help recover listed species, these fish would likely be prohibited.

*Comment 129:* Some commenters believed that the final rules should contain citations that demonstrate the validity (including associated risks) of supplementation as a tool for recovery. Some organizations are doubtful that supplementation is effective.

*Response:* There is considerable scientific uncertainty regarding the extent to which benefit can be derived from supplementing naturally spawning populations with hatchery-produced fish. There are well-publicized examples of domesticated, hatchery-produced salmon and steelhead having negative effects on natural production (Kalama River-Skamania summer steelhead). There are also examples where artificial propagation of the local, indigenous, stock appears to have increased or sustained the number of naturally spawning fish (Imnaha and South Fork Salmon River summer chinook, Upper Columbia steelhead, Rogue River coho). The proposed HGMPs require programs to be designed using the best current scientific knowledge in order to identify and manage risks and provide benefits to the listed species. The HGMPs are required

to identify goals, adopt performance standards, and conduct comprehensive monitoring and evaluation in order to help evaluate supplementation success and resolve any uncertainties about the practice.

*Comment 130:* Some commenters stated that artificial propagation has failed to maintain wild fish populations and all hatchery programs should be discontinued.

*Response:* Few of the original artificial propagation programs were designed to maintain wild populations. By developing and implementing HGMPs under the ESA, these programs will address wild population conservation and recovery. The risks and negative effects associated with artificial propagation programs are being identified and managed. It is true that artificial propagation has not been able to maintain wild anadromous fish when dam building, habitat loss, and fishing has continued at the established pace. Reforming hatchery practices is advisable, but discontinuing all artificial propagation is not necessary to restore natural fish under all circumstances. In many cases, hatchery programs are managed to minimize risks to wild populations while providing other benefits, such as supplying harvestable numbers of fish to meet treaty trust responsibilities.

*Comment 131:* One commenter stated that NMFS should not use HGMPs to police compliance with court orders.

*Response:* NMFS cannot approve an HGMP that does not comply with legal mandates established by statute or court order. This criterion is intended to remind the applicants that an HGMP must be legally as well as biologically complete.

*Comment 132:* Several comments addressed the experimental nature of supplementation programs and the need for hatchery program goals to protect genetic diversity and individual wild fish stocks. Furthermore, specific concerns were raised about the need to ensure that monitoring and evaluation activities adequately protect listed fish.

*Response:* NMFS agrees with the general thrust of these comments. Supplementation programs are viewed as being experimental; they can vary from program to program depending on the purpose of the program, the species targeted, stock status, and location. Because of supplementation's experimental nature, HGMPs assume an adaptive management approach for such programs by requiring extensive monitoring and evaluation. These activities must be able to identify deleterious effects on listed fish so the program can be modified. Furthermore,



HGMPs are designed to protect genetic diversity in wild populations (both listed and non-listed) by improving hatchery management, monitoring, and evaluation.

*Comment 133:* Some commenters questioned how mining wild fish populations for broodstock contributes to recovery when a population is at or below the critical threshold.

*Response:* When populations reach critical levels and the best available scientific information indicates that the demographic risks are greater than the genetic risks, using artificial propagation to prevent imminent extinction may be the least risky alternative. When populations are at or below the critical level, the only hatchery programs NMFS is likely to approve would be for the sole objective of enhancing the listed species' propagation and survival. If the cause of the decline is short-term, then the hatchery program could be reduced once the population exceeds the critical threshold. If the cause for the decline cannot be remedied in the short-term, the hatchery can act as a genetic broodstock bank and maintain the population until the causes for decline can be addressed.

*Comment 134:* Some commenters had concerns about NMFS' decision making process in determining whether an HGMP adequately avoids or minimizes any deleterious effects. They desired to know how the standards for this determination would be set and sought an exact description of the monitoring program.

*Response:* NMFS has developed a detailed HGMP template in collaboration with scientists from the other state and Federal agencies and treaty Indian tribes. The template is available on the NMFS Northwest Region's website at [www.nwr.nmfs.gov](http://www.nwr.nmfs.gov). The template references many documents that provide guidance on artificial propagation in terms of setting performance objectives, identifying, evaluating, and managing risks, and monitoring results. NMFS' fishery scientists will review the HGMPs for completeness and adequacy. The HGMPs are also being used in sub-basin planning and in the Northwest Power Planning Council (NPPC) funding process where they may be subject to review by fishery scientists employed by Council staff as well as one or more layers of independent scientific review. The HGMPs will be available for public comment and peer review before they are approved. NMFS believes this process will help ensure deleterious effects are being adequately managed. However, all hatchery programs pose

some degree of unavoidable risk to natural populations.

*Comment 135:* One commenter suggested that hatcheries should produce as many fish as possible and held that there is no scientific basis for favoring natural fish over hatchery fish.

*Response:* NMFS strongly disagrees. Hatchery fish have been identified as one of the factors causing population declines in a number of ESUs. There is a substantial body of scientific evidence to show that hatchery fish can harm natural fish by preying on them, competing with them for food, shelter and mates, displacing them from their native habitats, and creating other effects.

*Comment 136:* One commenter stated that NMFS failed to address the issue of hatchery structures that can block fish passage.

*Response:* Each HGMP will include a section describing the hatchery facilities. It will identify passage issues and water withdrawals and screening facilities. If passage is an issue, it can be addressed through HGMP implementation. Passage is also evaluated in ESA section 10 permits for hatcheries.

*Comment 137:* One commenter recommended that hatchery fish be protected in the 4(d) rules, not just wild fish.

*Response:* The ESA emphasizes the restoration of listed species in their natural habitats. However, section 3(3) of the ESA specifically recognizes the potential for artificial propagation to help achieve rebuilding objectives. Specific protections for hatchery and natural fish reared in a hatchery are detailed in the HGMPs, especially if the hatchery program is used to supplement natural populations. In certain cases, NMFS has determined hatchery fish stocks to be essential to recovering the ESU and has listed them under the ESA.

*Comment 138:* One commenter questioned how NMFS will determine whether a catch and release fishery is allowable.

*Response:* Any selective fishery proposal, including those requiring that listed fish be released after being caught, will be evaluated based on its impacts on listed ESUs. The sum total of all fishery-related impacts on a listed ESU will be considered in terms of its effects on population viability and, when applicable, within the structure of any existing HCP or recovery plan. No fishery that jeopardizes an ESU's continued existence or poses risk to key populations in that ESU will be allowed.

#### *Specific Comments Related to FMEPs*

*Comment 139:* Several commenters desired to know how fishery mortality would be allocated and asked what the mechanism would be for treating ocean, mainstem river, and tributary harvest consistently. They asserted that all fishery related mortality should be accounted for.

*Response:* Once take prohibitions are in effect, any fishery with the potential to impact listed fish is subject to NMFS' ESA review and approval process. All agencies proposing fisheries that have a potential to affect listed stocks are required to quantify these impacts. These agencies are required to comply with ESA review requirements and obtain take authorization through a 4(d) rule limit, a section 7 consultation, or section 10 permit application. Compliance is determined by tallying all fishery related incidental take from all agencies. Rigorous monitoring and evaluation programs ensure that impacts remain within acceptable limits.

The FMEPs will specify adult escapement targets and harvest rates for each ESU. The purpose of the ESA 4(d) rules is to accommodate the listed species' biological needs, not to allocate harvestable surplus. That is a co-manager responsibility and is undertaken in a number of different venues.

*Comment 140:* Numerous comments related to specific information and requirements included in actual FMEPs. The comments mainly addressed specific gear and season restrictions and the need to regularly review the FMEPs to ensure that they protect listed species.

*Response:* The FMEPs will be evaluated under the same standard used for ESA section 10 permits: the proposed action(s) must not jeopardize the continued existence of the listed ESU. The FMEPs will specify the maximum exploitation rates—depending on listed fish abundance—or will specify escapement levels. Each FMEP will include the time frames for regularly reviewing it. Depending on the fishery's location and circumstance, specific angling regulations may be detailed in the FMEP (e.g., minimum length and bag limits for trout fisheries). In other cases (e.g., some salmon fisheries), the specific regulations may be adopted once the exploitation rate or catch quota is determined by examining pre-season run forecasts.

*Comment 141:* Some commenters stated that maximum escapement objectives and reasonable exploitation rates should be specified in the FMEPs.

*Response:* NMFS strongly agrees that escapement objectives must be determined for each fish stock and those objectives must be the fundamental drivers of fishery harvest management. Parties to *U.S. v Washington* and *U.S. v Oregon* should develop—through regional management plans and based on biological requirements and fishery needs—escapement objectives and exploitation rate targets for each stock or management unit.

*Comment 142:* Several commenters suggested that all hatchery chinook should be marked and that selective fisheries should be required.

*Response:* From an ESA perspective, several obvious and significant benefits derive from applying a visual mark to hatchery chinook—most notably the ability to easily monitor hatchery stray rates and differentiate hatchery fish from natural fish for stock assessment purposes. In addition, marking all hatchery fish can help managers evaluate productivity among hatchery and wild fish—an important piece of data for recovery planning. Because it now can be accomplished with machines on a massive scale and with relatively little impact on survival, the adipose fin clip achieves these benefits in a very cost-effective and efficient manner.

By enabling selectivity, mass marking may also provide the means for sustainable fisheries—clearly a very important objective. However, because a number of critical issues related to ongoing coded wire tag (CWT) programs remain unresolved, NMFS shares the view of its co-managers that decisions made now to mass mark hatchery chinook are separate from decisions to be made later regarding selective fisheries. Even in cases where NMFS has required that a hatchery production run be mass-marked because of ESA concerns, this does not imply that a selective fishery will subsequently be endorsed. It is not NMFS' policy to require that all hatchery production be mass marked. Rather, our policy is that mass marking must be decided on a case-by-case basis after taking into account, among other things, the specific objectives of the hatchery production, the intended purposes of the mark, and the effect the hatchery production would have on fish listed under the ESA.

*Comment 143:* One commenter asserted that any rulemaking must ensure that treaties will be respected and that harvestable numbers of fish result.

*Response:* NMFS agrees. As several court cases have found, conserving and recovering listed stocks under the ESA

to the point where they no longer need the protections of the ESA is entirely consistent with the long-term objective of having healthy harvestable populations and the exercise of treaty rights to fish and hunt. From a larger perspective, the greatest improvements in tribal fishing opportunity will not accrue over the short term but through the long-term recovery of the populations. Federal trust responsibility is best fulfilled at this time by engaging in conservative fisheries management. At the same time, hatchery production can be used to provide harvestable fish if such programs can be shown to be consistent with recovering wild fish.

*Comments Related to the Time Frame for Developing and Commenting on FMEPs and HGMPs*

*Comment 144:* Numerous agencies, organizations, and individuals commented that enough time must be allowed to develop and review the FMEPs and HGMPs. Several commenters suggested providing a grace period from several months to several years after the final rules are published for developing and approving FMEPs and HGMPs.

*Response:* NMFS realizes the significant amount of work and time required to develop and process FMEPs and HGMPs. Therefore, NMFS is providing 6 months until take prohibitions go into effect for the listed steelhead ESUs to allow additional time to develop and approve FMEPs and HGMPs.

In addition, NMFS has also provided a transition period of 6 months for recreational fisheries that affect listed steelhead. NMFS has assessed the angling regulations currently in effect for juvenile and adult steelhead in California, Oregon, Washington, and Idaho and has concluded that listed steelhead will be sufficiently protected during this 6-month period. This will allow additional time to develop and approve FMEPs for the steelhead ESUs. Some fisheries and hatchery programs will not need ESA coverage immediately after take prohibitions go into effect because the actions do not affect listed species. NMFS will work with the co-managers to prioritize fisheries and hatchery programs on the basis of how urgently each needs ESA coverage.

*Comments Related to the Process of Reviewing/approving/implementing FMEPs and HGMPs*

*Comment 145:* Some commenters suggested that NMFS include a provision for independent scientific review of the FMEPs and memorandum

of agreement (MOAs) between NMFS and the action agency.

*Response:* As stated in the rules, the public will have the opportunity to review and comment on FMEPs and HGMPs for at least 30 days before NMFS acts on them. During this comment period, independent scientific entities are invited to review and comment on FMEPs and HGMPs. NMFS intends to address the public comments with the appropriate co-manager before approving any plan.

*Comment 146:* Some commenters wanted NMFS to define the "regular basis" on which limits will be evaluated. They also wanted to know what the time frames for reporting would be.

*Response:* NMFS and the individual co-manager will decide on a case-by-case basis the review and evaluation requirements for an approved FMEP or HGMP. The FMEPs and HGMPs will specify the time frames for regularly reviewing the plans and that information will be included in NMFS' letter of concurrence on the management plans. Depending on the circumstances, management plans may be evaluated every year or after analyses are complete. This will reasonably accommodate the time needed to prepare post-season catch and effort reports as well as any analyses the co-managers need for adjusting fishing regulations. However, whenever practical, the evaluation and review process should embrace an annual time frame so that appropriate adjustments may be made before the next fishing season.

*Comment 147:* Some commenters were concerned that a final HGMP was not available at the time of the proposed rules and that the final criteria for HGMPs may be substantially different from those cited in the proposed ESA 4(d) rules.

*Response:* The final draft of the HGMP template has been available to co-managers and posted on NMFS' web site since January of 2000. This template includes the information that must be included in the HGMPs for approval. Based on the public comments received, the criteria and the template for HGMPs have not changed substantially in the final rule.

*Comment 148:* A few commenters stated that the process for approving a hatchery broodstock program should be clearly described.

*Response:* NMFS believes the process is clearly described in the proposed and final rules. A state or Federal co-manager who wishes to utilize the ESA 4(d) process rather than the section 10 process must develop a detailed HGMP.

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The HGMP must address the criteria in the 4(d) rule and follow the template NMFS has provided. The draft HGMP will be made available for public comment for at least 30 days. If NMFS determines the HGMP adequately addresses the established criteria, we will issue a written concurrence or, in the case of a Federal action, we will conduct a section 7 consultation. NMFS believes this process allows the public an adequate amount of time to review and evaluate a hatchery broodstock program before it is approved.

*Comment 149:* One commenter pointed out that the assumption that average hooking mortality is less than 5 percent is based on only one study (Hooton, 1987). Based on the scientific literature, they felt this rate to be low and recommended that NMFS further evaluate hook and release mortality rates in the literature.

*Response:* NMFS agrees that hooking mortality deserves further investigation and we are committed to doing so. However, for now the 5 percent rate reported in Hooton (1987) seems to constitute a reasonable average. Other studies do show higher mortality rates for salmonids when stream temperatures are elevated (Klein, 1965; Dotson, 1982; Titus and Vanicek, Taylor and Barnharnt, 1997), but for most conditions, Hooton's estimates are reasonably accurate.

#### *Habitat Restoration Activities*

*Comment 150:* One commenter stated that NMFS itself should develop the WCP guidelines.

*Response:* NMFS believes that the states are in the best position to perform the lead role in developing these guidelines. The geographic scope of this rule covers four states, an area over which biological and geological factors vary considerably. Even more importantly, each state's agencies, regulations, and conservation programs are unique and the WCP guidelines, to be effective, should be designed to fit within that unique context. The states' natural resource agencies have relatively large and expert staffs that are better prepared to interact with the entities that will use these guidelines. For these reasons, this limit remains founded upon the development of state WCP guidelines.

*Comment 151:* Numerous commenters stated that the interim provisions of § 223.203(b)(8)(ii) (in the proposed rule, 65 FR 170, January 3, 2000) should be extended beyond 2 years, or were too permissive, or too restrictive. Many of these commenters proposed inclusion of specific activities that were not

included in the six proposed interim provisions.

*Response:* NMFS observes that the interim provisions of § 223.203(b)(8)(ii) have been misunderstood to such an extent that NMFS has dropped these provisions from the final rule. The intent of these proposed interim provisions was to acknowledge that getting WCP guidelines and plans in place will require time, and the potential benefit to listed salmonids of allowing certain relatively low risk habitat restoration projects to proceed in the near term might outweigh the risk entailed by those activities not being part of a WCP.

However, the interim provisions had been widely misperceived as detailed regulation of habitat restoration activities. NMFS did not intend to provide for the direct regulation of habitat restoration activities under the terms of this rule and regrets that the earlier proposal created this false impression. Accordingly, NMFS now deems it advisable to simply drop the interim provisions from this final rule. Many low risk activities (e.g., riparian enclosure fencing or native vegetation planting), simply do not carry an appreciable risk of taking. Activities involving instream construction or modification of the streambed or banks require CWA section 404 permits which carry ESA section 7 coverage. All habitat restoration activities will entail less risk and more benefit if they are part of an approved WCP, and NMFS encourages the timely development of WCP guidelines and plans. Habitat restoration projects are less likely to be successful if undertaken without supporting analyses that disclose habitat impairments and absent resource management adjustments within the watershed to redress the underlying causes of those impairments.

NMFS strongly encourages jurisdictions, entities, and citizens to use the habitat restoration guidelines and technical manuals referenced in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000) as readily available techniques to reduce the risks of harm or injury to the listed stocks. In the event that an allegation arose about a potential ESA section 9 violation, NMFS would furthermore take into account the efforts of the watershed group or entity to adhere to the relevant guidelines. Where injury or harm was resulting in such a circumstance, NMFS believes that the proper and most effective remedy would be an orderly adjustment in the relevant guidelines and not the prosecution of a section 9 violation against an individual project.

*Comment 152:* Several commenters had questions regarding what entities are responsible for developing and implementing WCPs and what state agency is responsible for certifying the plans.

*Response:* This final rule intentionally leaves these questions unanswered. There are potentially many different entities that may be responsible for developing WCPs in different circumstances—watershed councils, soil and water conservation districts, city or county governments, regional authorities, and so forth. NMFS finds it unnecessary to limit by rule what types of entities may produce and carry out WCPs. Likewise, NMFS leaves it to the individual states to determine the appropriate agencies for developing guidelines and certifying plans.

*Comment 153:* Many commenters had concerns about the clarity and intent of the approval criteria for the WCP guidelines.

*Response:* The criteria have been modified in this final rule to make them clearer and more effective.

*Comment 154:* Some commenters suggested that Federal activities—particularly habitat restoration activities—should receive a limit on the take prohibitions. CDFG suggested that restoration activities conducted under the Department's Fishery Habitat Restoration Program are already covered by their incidental take permit associated with their Corps of Engineer (COE) 404 permit consultation.

*Response:* Federal agencies that engage in, permit, or fund activities that may affect listed species are required under section 7 of the ESA to consult with NMFS. The ESA contains no provision to exempt Federal actions that involve habitat restoration activities from their section 7 obligations. Habitat restoration activities would only need to seek approval under this limit if they have more than a negligible likelihood of taking listed salmonids, and are not covered by any section 10 permit or section 7 incidental take statement.

*Comment 155:* Several commenters were concerned that neither the states nor NMFS will have the necessary resources to handle such a large number of written approvals; also, some stated that it was inappropriate for a state or NMFS to review individual projects after having approved an overall plan.

*Response:* NMFS agrees that the workload associated with approving all individual restoration projects and activities could overwhelm state and NMFS staff resources. In addition, activity-level review could defeat much of the process efficiency gained in the WCP approach. This final rule has been



changed to require only state certification of WCPs, and NMFS' approval of the state guidelines (with a periodic review of the state certification process to ensure that WCPs are adequately analyzed). Provisions for clearly identifying whether particular activities are part of an approved plan must be part of the plans themselves and need not necessarily involve state or NMFS staff directly.

*Comment 156:* One commenter asserted that it is unclear which criteria NMFS will use in concurring with a state certification of a WCP.

*Response:* NMFS has amended the final version of this rule to drop the requirement of NMFS concurrence with the certification of individual WCPs. NMFS expects the criteria for the relevant state certifications will be contained in the state restoration guidelines anticipated by this final rule, and will periodically review the states' certification process for appropriate rigor.

*Comment 157:* One commenter proposed a stepwise approach toward making the transition from the specified activities of § 223.203(b)(8)(ii) interim period to allow development of state guidelines and WCP to the WCP context of § 223.203(b)(8)(i).

*Response:* NMFS agrees with the commenter, and in response the interim provisions proposed as 223.203(b)(8)(ii) have been deleted from the rule.

*Comment 158:* One commenter suggested integrating FMEPs and WCPs. Another stated that WCPs should be a part of the recovery planning process and not be evaluated piecemeal.

*Response:* In essence, the first commenter is suggesting recovery plans, which NMFS agrees are necessary for the conservation of the species and intends to develop for listed salmon. However, NMFS does not believe that completed recovery plans are a necessary prerequisite for all habitat restoration activities. While the existence of an overarching recovery plan could make constituent watershed conservation planning both easier and more effective, it does not follow that adequate watershed conservation planning cannot be done prior to the existence of a recovery plan.

*Comment 159:* Numerous commenters suggested that local governments should be recognized and allowed to develop guidelines and WCPs without state or Federal approval or the 2-year time line. A few commenters further questioned the scope and scale of the plans or pointed out the burden the process would place on local governments.

*Response:* The 2-year interim period has been deleted from this final rule, so

the time line for developing guidelines and WCPs is now entirely up to the states and the entities desiring to perform habitat restoration activities. NMFS recognizes and appreciates the efforts local authorities are putting forth in watershed planning and habitat restoration projects. Nevertheless, NMFS is not prepared to individually review and approve WCPs, and has dropped that requirement from the final rule. State technical guidance can certainly assist localities in watershed conservation planning, and local governments having the wherewithal to independently develop and implement WCPs should not have undue difficulty navigating the revised approval process.

*Comment 160:* Several commenters suggested that NMFS should give more recognition to local watershed restoration efforts.

*Response:* NMFS recognizes the importance of local efforts, and will, by accepting approved watershed assessments, WCPs, and restoration projects developed through cooperative local efforts, acknowledge the contributions made by local watershed conservation groups. These efforts, in conjunction with regional and ESU-specific recovery efforts, will be crucial components of species recovery.

*Comment 161:* Several commenters pointed out that the assured funding criterion § 223.203(b)(8)(i)(A)(10) could present difficulties for some local governments and watershed councils.

*Response:* NMFS recognizes that securing funding to reliably implement the WCPs will be a challenging undertaking for many entities. Therefore, NMFS remains open to trying different means to flexibly deal with any difficulties that may arise—particularly with regard to funding.

*Comment 162:* One commenter objected to a requirement that WCPs be monitored to determine whether they increase listed salmonid productivity. The commenter was concerned that the cost and difficulty of monitoring fish populations would discourage local efforts at habitat restoration.

*Response:* NMFS realizes it is difficult and expensive to monitor population response and that acceptable methods have generally not been developed. While increased fish productivity is the ultimate goal (from NMFS' perspective) of a WCP, NMFS recognizes that monitoring programs will focus on habitat functions and processes as indicators of watershed health.

*Comment 163:* One commenter suggested that the **Federal Register** document and comment period prior to NMFS' approval of watershed conservation plan guidelines was

unrealistic and contrary to the goal of salmon recovery.

*Response:* NMFS considers it necessary to provide for appropriate public review of the guidelines that NMFS expects to be addressed in programs submitted for its review. Ensuring complete and open public scrutiny will improve the guidelines through broad input and enhance their value through dissemination to all parties interested in the role of the guidelines in salmon recovery.

*Comment 164:* A number of commenters suggested there was a need for greater clarification in the scope and purpose of WCPs and watershed analyses, and that more specific direction was required in order to identify the information needs of the plans and analyses.

*Response:* Analyses and plans must ensure that habitat restoration activities will help place the overall habitat on a trajectory towards a self sustaining condition that provides high quality ecosystem function. NMFS believes that projects planned and carried out based on a watershed-scale analysis and conservation plan are likely to be the most beneficial. Watershed analyses identify problems that are impairing watershed processes and functions and supply base information needed to develop watershed plans and restoration activities. Without the context provided by watershed analyses, habitat restoration efforts are likely to focus on symptoms rather than on the underlying impaired ecosystem processes. NMFS identified 10 standards in the ESA 4(d) rule that characterize the WCPs' scope and intent.

*Comment 165:* Two commenters indicated that the restoration programs receiving limits on the ESA section 9 prohibitions should be expanded, and further, that the guidance should be made ESU-specific.

*Response:* NMFS works with state and local jurisdictions and other resource managers to identify programs for which it is not necessary and advisable to impose take prohibitions because they contribute to conserving the ESU or are governed by a program that adequately limits impacts on listed salmonids. This ESA 4(d) rule may be amended to add new limits on the take prohibitions or to alter or delete limits as circumstances warrant. NMFS wishes to continue to work collaboratively with state and local jurisdictions and other resource managers to recognize existing and potential management programs that conserve listed salmonids and meet their biological requirements. As more programs that meet these objectives are developed or identified, greater

geographic and ESU specificity may be possible.

*Comment 166:* One commenter suggested that WCPs should be required to protect existing high quality habitat.

*Response:* NMFS agrees that the best available science supports the concept of protecting existing high quality habitat as a cornerstone of a WCP (provided there is high quality habitat within the scope of the WCP). But the criteria provided at § 223.203(b)(8)(iii) will be used only to evaluate state WCP guidelines, which will include much more technical detail. Those guidelines will then be used to evaluate WCPs.

*Comment 167:* One commenter stated that conservation plans should not be limited to salmonid recovery but must be broad enough to encompass other watershed functions and goals.

*Response:* In freshwater ecosystems, NMFS' legal authorities are limited to the conservation and recovery of listed anadromous salmonids and their habitats. To help conserve listed salmonids, restoration actions should put the aquatic habitat on a trajectory towards such a naturally self sustaining system (i.e., properly functioning habitat). Properly functioning habitat condition consists of the sustained presence of the natural processes that provide high quality ecosystem function. This complex system is composed of the stream, the riparian area, and upslope areas. All three components of this system are interconnected. The WCPs that guide restoration activities intended to conserve salmonids will also benefit other aquatic, riparian dependent, and upland species and their habitats.

*Comment 168:* Two commenters suggested that WCPs should also serve as CWA section 303 Total Maximum Daily Loads (TMDLs) for waters listed as impaired. Another suggested that NMFS work with the Oregon Department of Agriculture to coordinate the SB 1010 water quality management process with the watershed conservation planning process.

*Response:* NMFS believes these are excellent ideas and recommends the approach. However, NMFS does not deem it necessary for the conservation of the species to require such a consolidation of mandates in this final rule. Incorporating water quality management plans, such as SB 1010 plans or TMDL Water Quality Management plans, into the watershed conservation planning effort is a logical and pragmatic approach towards watershed-scale recovery.

*Comment 169:* Numerous commenters stated that the habitat restoration portion of the rule was too permissive

and unclear in its objectives, definition, criteria, and implementation. One commenter believed it would create new programs that would divert attention from the loss of viable habitat which is the root cause of salmonid decline. Others cautioned against allowing state programs a limit on the take prohibitions because existing state programs have proven to be poorly designed and implemented. Several commenters noted general loopholes in the limits section.

*Response:* The six specific interim provisions of the proposed rule were intended to strike a balance between the possible benefit to listed salmonids of allowing incidental take associated with some habitat restoration activities (while WCPs were being developed) against the risk that those activities might have deleterious consequences that a WCP context would have prevented. To accomplish this, NMFS selected six categories of common and relatively low risk restoration activities, and provided specific guidance and a list of references to further reduce the risk. In light of the numerous comments asserting that the interim provisions were both too permissive and too restrictive, NMFS now concedes that attempting to strike this balance was overly ambitious, and so has deleted the interim provisions from the limit for habitat restoration. Instead, NMFS offers three approaches for individuals who are contemplating habitat restoration actions but are concerned about their take liability: (1) Many of the most effective long-term restoration activities (e.g., riparian livestock enclosure fencing, native vegetation planting, cessation of ground or vegetation disturbing activities, cessation of water diversion) have extremely low probabilities of take, and the actors should not be concerned about take liabilities; (2) most higher-risk activities (e.g., instream construction activities, modification of stream bed or banks) require a CWA 404 permit from COE which provides incidental take permission through section 7 of the ESA; and (3) NMFS recommends the habitat restoration limit on take prohibition included in this rule as the best solution for encouraging effective restoration activities consistent with science based guidelines.

*Comment 170:* A commenter suggested that the rule holds habitat restoration to a much higher standard (in some cases so high as to render such activities impossible) in terms of avoiding impacts than it requires for development activities.

*Response:* NMFS disagrees. As stated in the rule, all 13 of the limits

contribute to the conservation of listed salmon or are governed by programs that adequately limit their impacts. Moreover the same standard applies to both habitat restoration and development activities; they must achieve PFC of the habitat.

*Comment 171:* Several commenters believe that NMFS' approach with this limit is to treat habitat restoration activities as a significant threat to the very species they are trying to protect. They believe that NMFS is overreaching its authority and this approach is bureaucratic, unrealistic, unnecessary, and will, as a result, be counterproductive to species recovery. Many stated that NMFS should give a limit to any activity carried out in accordance with state and Federal Laws. Another general sentiment was that NMFS should take a "hands-off" approach to restoration activities and simply provide landowners with technical expertise.

*Response:* We agree that bureaucracy should be kept to a minimum wherever possible and we will consistently seek ways to streamline all the processes this final rule entails. Nonetheless, the final rule includes a limit for habitat restoration activities because, absent the limit, some of these activities could result in prohibited taking. NMFS does indeed want to avoid the tragic irony of having a protective regulation impede habitat restoration that might otherwise contribute to recovery. However, good intentions alone will not adequately protect listed salmonids from the unintended negative consequences of poorly designed habitat restoration projects. Such projects often entail physical modification of currently used habitat of listed salmonids, and have significant potential to further damage impaired habitats and populations. The probability and consequences of project failure can be particularly severe when projects attempt to redress the symptoms of habitat impairments before the underlying causes have been reversed. NMFS does not believe that it can disengage from its ESA responsibilities and simply rely on other state and Federal laws for approval to carry out restoration activities.

*Comment 172:* A few commenters stated that emergency exemptions and a specific scope of rules should be included for bank stabilization and flood repair operations.

*Response:* NMFS believes altering and hardening stream banks, removing riparian vegetation, constricting channels and flood plains, and regulating flows are primary causes of anadromous fish declines. Section 404 of the CWA—implemented through COE

regulatory authority—provides conditions for permitting stream channel and bank activities. Section 7 of the ESA provides emergency consultation procedures which allow Federal action agencies to incorporate endangered species concerns into their actions during the response to an emergency (50 CFR 402.05). For these reasons, NMFS asserts that existing regulations are sufficiently flexible to enable emergency work without limiting take prohibitions for flood control or repair activities.

*Comment 173:* One commenter suggested that “artificial bank stabilization” should be defined.

*Response:* We agree that the usage in the proposed rule may have been confusing. The term is meant to be read in context with “primary purpose” of the habitat restoration activity definition. The primary purpose of the vast majority of bank stabilization projects is not to restore natural aquatic or riparian habitat processes or conditions, but to protect economic development and then try to “fix” habitat remnants in an artificial manner. Such use of artificial materials and means in a piecemeal approach to control a river (or enhance an already controlled river) clearly fits the definition of artificial bank stabilization.

*Comment 174:* Numerous commenters stated that marine and estuarine habitats should be included in the habitat protections and that connectivity issues and restoration activities should receive similar attention.

*Response:* NMFS agrees estuarine habitats should be protected, but believes the rule adequately prohibits take and destruction of habitat in marine and estuarine areas. This final rule text provides sufficient examples (i.e., destruction of freshwater and estuarine habitat, altering stream or tidal channels, altering habitat) as take guidance. Lists of how prohibited take may occur are not designed to be exhaustive. Regarding limits for habitat restoration activities in marine/estuarine areas, NMFS believes such projects are of large enough scale and complexity to require project by project technical review at least until watershed planning is complete. NMFS not only agrees with the commenters stating that near shore marine and estuarine habitats should be included in watershed planning but expects that these areas will be included in applicable state guidelines and WCPs.

*Comment 175:* A number of commenters requested that NMFS define the spatial scales appropriate for watershed analyses and conservation plans.

*Response:* NMFS recognizes that the four states covered by the ESA 4(d) rule delineate watershed boundaries using different hydrologic and administrative criteria. Consequently, the size of individual watersheds varies among the states and often across programs within a state, though there are a number of basic similarities in terms of watershed function and boundary. Each state’s regulations and conservation programs are unique and the WCPs will most effectively conserve anadromous fish and their habitats if watershed boundaries are delineated within each administrative context.

*Comment 176:* A number of commenters indicated that the state guidance documents developed to help steer restoration activities were not complete or were not ESA compliant.

*Response:* NMFS recognizes that some of the identified state guidance documents are not finalized, and that some of the included activities may have an appreciable risk of taking. However, NMFS notes that these documents do provide guidance that will reduce risk and increase benefits of habitat restoration activities. Therefore, NMFS still recommends use of the guidance documents: Oregon Aquatic Habitat Restoration and Enhancement Guide (1999); A Guide to Placing Large Wood in Streams, Oregon Department of Forestry and Department of Fish and Wildlife (May, 1995); WDFW’s Fish Passage Design at Road Culverts (March 3, 1999); and Oregon Road/Stream Crossing Restoration Guide (Spring 1999). Further, NMFS encourages the states to compile and expand these valuable guidance documents into WCP guidelines which NMFS may find qualifying under § 223.203(b)(8)(iii) of this rule.

*Comment 177:* Some comments reflected a concern that a report cited by NMFS in the proposed rule, “Steelhead Restoration and Management Plan for California” was not a peer-reviewed document and should not be included as guidance.

*Response:* The report cited in these comments has been adopted as an integral part of the Cal-Fed ecosystem plan, and was subject to extensive peer review before being adopted.

*Comment 178:* Several commenters questioned how the rule affected Indian Tribes’ habitat restoration efforts. Most comments were directed at tribal participation in watershed planning, the potential for conflict between state guidelines and tribal restoration plans, and the lack of specific limits for tribal habitat restoration projects.

*Response:* As co-managers, the Tribes may participate in any forum for

developing conservation guidelines and specific WCPs. Tribes may also submit their own watershed conservation guidelines and plans under the Tribal plan limit. This final rule text describes a process wherein four western states are tasked because NMFS believes the states are responsible for conserving natural resources and native species within their geographic boundaries, and that sufficient infrastructure is in place to expeditiously develop guidelines. No further or specific limits for tribal restoration projects were included in the rule because limits for tribal trust resource management actions that take threatened salmonids are promulgated in a separate rulemaking (65 FR 108, January 3, 2000).

*Comment 179:* One commenter requested that the removal of sinker logs (which can sometimes constitute a navigational hazard) should receive a limit on the take prohibitions.

*Response:* Removal of navigational hazards is under the authority of COE and it is their responsibility to consult with NMFS when they propose to engage in an activity that may affect listed salmonids. Federal projects that are approved through ESA section 7 consultation need not also qualify under a 4(d) rule limit.

*Comment 180:* One commenter suggested that physical fish habitat is not being fully utilized now, and questions the need to create more.

*Response:* NMFS respectfully disagrees and believes the commenter may have oversimplified the multifaceted problem of habitat productivity as being only a matter of finite capacity. This is a less-than-accurate portrayal of the habitat factors for decline which include both pervasive loss of habitat quality and loss of access to historic habitat because of barriers. It is NMFS’ position that habitat degradation and loss have contributed substantially to the decline of anadromous salmonids, and opportunities to regain both habitat function and extent should be sought.

*Comment 181:* Some commenters felt NMFS should recognize that it may not be advisable or possible to protect or restore historic stream channels/processes, especially in urban settings.

*Response:* NMFS recognizes that, especially in the urban setting, stream channel habitats are often impaired and are not functioning properly. NMFS would further acknowledge that not all stream segments may be recoverable. However, NMFS maintains that all tools for salmon recovery must be retained in the toolbox. Urban development, open space, or green space designations provide opportunity to protect



important riparian settings. Likewise, urban redevelopment may provide future opportunities for communities to protect or restore historically important stream channel settings.

#### *Properly Screened Water Diversions*

*Comment 182:* One commenter wanted to know who determines whether fish screens are adequate.

*Response:* The proposed rule states that NMFS' engineering staff will agree in writing that a diversion facility is screened, maintained, and operated in compliance with NMFS-approved Juvenile Fish Screen Criteria. The proposed limit has been revised based on public comments and by the fact that the projected workload associated with approving potentially thousands of water diversion facilities in four states has the potential to overwhelm NMFS staff resources. Consequently, this final rule has been changed to allow NMFS-authorized state agency engineers and screen inspectors to review and recommend screen design certifications and to allow NMFS-authorized screen inspectors to check screens for operational and maintenance compliance. This approval process will augment NMFS staff review. NMFS' Northwest Region (NWR) Juvenile Fish Screen Criteria have been adopted by the Columbia Basin Fish and Wildlife Authority (with participants from the states of Oregon, Washington, and Idaho) for use in waters with anadromous salmonids. NMFS' Southwest Region (SWR) Juvenile Fish Screen Criteria was developed in close coordination with CDFG criteria and the two sets of criteria are compatible. As a result, in all four states affected by this final rule, NMFS' Juvenile Fish Screen Criteria will form the basis for a design review and inspection program. It is proposed that a design specification check-off form and an operational screen inspection report form be developed and used consistently in the four states. NMFS will establish and maintain a data base to record who reviewed a particular screen design, when it was inspected, any problems associated with poorly designed screens being approved, and other relevant information. A key component of this process will be important training to certify inspectors and design reviewers. New language has been added to the regulation to reflect this change.

*Comment 183:* Some commenters stated that the final rule should acknowledge other screen technologies, especially non-conforming technologies, that have been demonstrated to meet or exceed levels of protection provided by

technologies that do meet NMFS screen criteria.

*Response:* NMFS' engineering staff is frequently asked to assess other screen technologies that are not compliant with NMFS' screen criteria. As a result, NMFS staff has developed a standard protocol for evaluating non-conforming technologies, and has published an agency position paper titled "Experimental Fish Guidance Devices," November 1994, that can be found on the NMFS web page at [www.nwr.noaa.gov/1hydro/exp\\_tech1.htm](http://www.nwr.noaa.gov/1hydro/exp_tech1.htm). This position paper describes the process NMFS requires for a proponent of experimental technology to demonstrate that a particular non-conforming technology meets or exceeds the level of protection offered by a facility designed using NMFS' Juvenile Fish Screen Criteria. We are not aware of any non-conforming technology that demonstrably protects fish as well as or better than NMFS' criteria for the variety of operating conditions present at any typical water diversion site. If evidence is provided that a non-conforming technology exceeds the level of protection provided by NMFS criteria (as described in the position paper referenced above), NMFS would welcome and approve this technology.

*Comment 184:* One commenter stated that water withdrawal and diversion activities that take listed salmon should not be granted limits.

*Response:* The intent of the limit for a water diversion equipped with a screen constructed to NMFS' standard is to minimize take associated with diversion activities once water is diverted from the stream. NMFS intends to enforce the take prohibition for other forms of take that may be associated with water diversions (e.g., dewatering streams, building gravel push-up dams, or creating other passage impediments).

*Comment 185:* A few commenters stated that requiring screens on all diversions in the Sacramento Delta regardless of whether or not the particular diversion affects steelhead is unjustified.

*Response:* The intent of providing juvenile fish screen facilities is to minimize the prospect of take once the water has been diverted. It is extremely unlikely that it can be conclusively demonstrated that any particular diversion in a river basin containing listed steelhead will never entrain a listed steelhead. It may sometimes be true that listed fish are not present at a diversion site. It is more likely that—due to a variety of circumstances—the listed fish simply escape observation at a given site. This should not be construed as a total absence of listed

fish at a site. It should also be remembered that fish are at critically low levels now and that their presence at diversions and other sites is likely to increase as we proceed with their recovery.

*Comment 186:* Some commenters asserted that agencies and individuals making good faith efforts to install screens should receive a grace period during which take prohibitions would not be enforced.

*Response:* NMFS acknowledges that certain complex screen facilities can take several years to finance, design, and construct. NMFS will, therefore, change the proposed rule to include a provision for addressing selected facilities on a case-by-case basis. In these instances, a facility will be eligible for approval under the limit if it has an approved design construction plan and schedule that includes interim operation measures to minimize take. In the event that this schedule is not met, or if a schedule modification is made that is not approved by NMFS engineering staff, or if the screen installation deviates from the approved design, the water diversion will be subject to take prohibitions. In all other cases, as stated in the proposed rule, NMFS will apply the prohibition against take and the limit is available to those who have their diversion facility approved and inspected as stated in this final rule.

*Comment 187:* One commenter stated that diversion activities that substantially benefit the public should be included in the limit.

*Response:* It can be argued that any diversion activity confers public benefit to one degree or another. However, water diversions are screened to protect fish and allow them safe egress from the diverted flow—an activity which has little to do with how much the diversion itself benefits the public. Therefore, it is not possible to grant a blanket approval for water diversions—regardless of the amount of benefit that may putatively accrue from an individual facility.

*Comment 188:* Several commenters asserted that NMFS' screening criteria are not well defined, have not received enough scientific review, and are not flexible enough.

*Response:* On the contrary, NMFS' juvenile fish screen criteria are extensively detailed and do include sufficient flexibility to deal with site-specific constraints and other concerns. There is no set of juvenile fish screen criteria in the world that is as well defined, or has undergone a higher degree of scientific scrutiny. In addition, NMFS' juvenile fish screen criteria are based on decades of operational

experience that have yielded the best screen designs for salmonid protection in existence. Several state agencies have adopted NMFS' screen criteria and use them in water bodies containing anadromous fish. Lastly, extensive biological screen evaluations have revealed little or no injury to fish when testing screen facilities constructed to NMFS' criteria. This is a primary indicator that NMFS' juvenile fish screen criteria are the best option for protecting listed fish entrained by a water diversion.

*Comment 189:* One commenter suggested that screened diversions approved under the limit should be reviewed annually as to their physical condition.

*Response:* This is a good suggestion. NMFS agrees with this comment, and will seek to incorporate this issue into the check-off form and inspection process for a screen design and inspection program that NMFS be developed with the states.

*Comment 190:* One commenter stated that there should be no violation of the rule for inadequately screened diversions if no take can be proven.

*Response:* There are no liabilities under ESA if take does not occur.

*Comment 191:* One commenter thought that "enforcement official" should be replaced with "authorized officer."

*Response:* NMFS agrees with this recommendation and has made this language change.

*Comment 192:* One commenter stated that unscreened agricultural diversions in the Sacramento River delta are not the problem, and that NMFS should concentrate its efforts on the export pumps that dry up the river.

*Response:* Water diversions in critical habitat have the potential to take listed salmonids and, are therefore, subject to take prohibitions. Even properly screened diversions may take fish by drying up the river. NMFS intends to enforce take prohibitions against diversions that dewater river beds.

*Comment 193:* One commenter wanted to know if the limit applies to all diversions or just irrigation diversions.

*Response:* As stated previously, diversion of water in critical habitat has the potential to take listed salmonids and is therefore subject to take prohibitions. Thus the limit applies to all diversions that may affect the listed species.

*Comment 194:* One commenter identified the need for detailed operation and maintenance guidance if maintenance is to be a requirement in this limit.

*Response:* NMFS' engineering staff will provide this guidance in general for all juvenile fish screens and will develop site-specific operations and maintenance plans for sites with particular concerns. Our intent is to develop this guidance in conjunction with regional forums on screen activities (e.g., the Fish Screen Oversight Committee of the Columbia Basin Fish and Wildlife Authority). Both the general and the site-specific guidance will be included in the proposed training program for state-authorized officers.

*Comment 195:* One commenter wanted to know if the ESA 4(d) rule applies to temporary diversions during construction.

*Response:* NMFS will need to review each situation on a case-by-case basis and the answer will depend on the nature of the diversion. Some construction activities provide a temporary diversion around a construction site, and safely return fish and flow to the stream downstream of the site. Other activities may be required to provide a screen and bypass for a temporary diversion if biological review determines that the activity will place the fish at risk. These decisions will be made when developing a Biological Opinion on a particular in-stream activity.

*Comment 196:* One commenter urged NMFS not to apply the ESA 4(d) rule take prohibitions in areas upstream of fish barriers.

*Response:* The ESA 4(d) rule take prohibition applies to the land and ocean area within the 14 designated ESUs. All operators of water diversions within these ESUs need to review their activities and modify any activity that may take a threatened species.

*Comment 197:* One commenter noted that NMFS does not credit compliance with existing fish protection requirements, but appears to require continual updating to new fish screen standards and individual sign-off from NMFS staff that the screen complies. The commenter also stated that individual screen certification creates certain practical obstacles and NMFS should use this as an incentive and limit the take prohibitions on water use in general, not just on the physical diversion structure.

*Response:* The intent of the ESA 4(d) water diversion screening limit is to allow a water diversion to be made as safe as possible for listed fish species. Therefore, as new biological information becomes available, it may drive a modification in the screen criteria. Nonetheless, NMFS recognizes that it is unnecessary to retro-fit all existing

screen facilities with new features every time new information comes to light because the criteria that are currently in place do an excellent job protecting all salmonid life stages. NMFS has updated their juvenile fish screen criteria only once in the last 11 years. The change came about as a result of new biological evidence that certain previously untested aspects of the old criteria did not adequately protect certain life stages of fish. While this set a standard for new installations, NMFS did not expect retro-fits of recently constructed facilities. NMFS intends to certify screen designs that meet the criteria in place at the time of construction—providing there is no evidence to show that the device is actively taking listed species. In addition, NMFS intends that when screen components need to be replaced due to wear, materials will be used consistent with current criteria. However, if a screen is installed that is out of compliance with NMFS criteria, no limit from the take prohibition will be allowed.

*Comment 198:* One commenter argued that the practical effect of the ESA 4(d) rules with respect to water diversions is to eliminate incentives for water users to screen their diversions.

*Response:* The intent of this limit is to offer diverters protection from take enforcement when fish are protected by a properly installed, well-designed, and well-maintained screen. There are clearly other issues (e.g., stream dewatering) that can not be solved by screen installation, and these activities will continue to diminish critical habitat and take listed fish and thus be subject to take prohibition.

*Comment 199:* One commenter urged NMFS to apply this limit to water pumping devices as well as diversions.

*Response:* Water pumping devices are included in this limit.

*Comment 200:* One commenter wanted to know the details of NMFS' enforcement strategy for non-compliant screens and diversions.

*Response:* NMFS' enforcement strategy is specified in the section of this final rule entitled "Take Guidance." Unscreened water diversions that cause take of a threatened species are subject to NMFS take enforcement action.

#### Road Maintenance Activities

#### Comments Relating to the Oregon Department of Transportation (ODOT) Limit

*Comment 201:* Several commenters wanted the limit provided to the ODOT for the Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices July 1999 (Guide)

to apply to other cities and counties as well so they would not have to develop their own. Many of these commenters also requested that the limit be expanded to other jurisdictions and departments of transportation—with appropriate revisions to the best management practices (BMPs).

*Response:* There are two issues reflected in this and other road maintenance comments and NMFS has organized its responses accordingly. The first is that some local jurisdictions would like to adopt the ODOT manual without modification with the understanding that it will provide proper functioning habitat conditions. NMFS agrees that local jurisdictions can adopt the BMPs in the manual; however, the local maintenance programs will need to be examined further to assess any differences between them and ODOT's program and determine how those differences would affect the success in contributing to Properly Functioning Condition (PFC). Also, NMFS and ODOT have spent several years evaluating this program so that NMFS has a clear understanding of ODOT's ability to fulfill training, tracking, and reporting requirements. Other jurisdictions wishing to be covered under this limit would have to demonstrate their ability to make similar commitments and would also need to define the circumstances under which an individual BMP would not be followed.

The second issue pertains to the potential application of the limit to similar activities of other jurisdictions besides ODOT and Oregon cities and counties. NMFS agrees that under the conditions that meet or exceed those described above, the limit for routine road maintenance could be applied to other jurisdictions such as ports, other state transportation agencies, and cities and counties in other states which also, like ODOT, have programs that are determined to meet PFC. This final rule describes the procedure for public comment and determination of inclusion within the limitation on the take prohibition.

*Comment 202:* One commenter focused on how NMFS would respond if the ODOT program had compliance problems or if new information demonstrated that the program no longer provided sufficient protection. They stated that allowing ODOT to correct the matter "within a mutually determined period of time" was too vague a standard.

*Response:* NMFS agrees, and the wording of the rule has been changed to reflect this comment.

*Comment 203:* Some reviewers stated that the ODOT guide is completely inadequate to the task of protecting fish in that it allows far too many potentially harmful activities and contains far too much ambiguous language. Similarly a number of commenters asked that ODOT remove the "hedge" words ("where feasible," etc.) from the road maintenance limit.

*Response:* NMFS believes that the ODOT program, as designed, will adequately protect the listed species and their habitat. NMFS also intends this final rule to be somewhat flexible in terms of allowing combinations of measures that avoid or sufficiently minimize take. Further, this final rule has been designed to take into account a range of circumstances wherein hard constraints relating to physical, safety, weather, equipment, or other project aspects make it impossible to follow the BMP to the letter. In addition, ODOT has stated that the discretionary language will not be used for convenience or for ease of operation. Therefore, based on NMFS' working relationship with ODOT, we expect that the standard BMPs will be used in most circumstances and situations. To help ensure that this occurs, the ODOT crews will be extensively trained and NMFS will regularly review the program.

*Comment 204:* One commenter stated that the ODFW, not the ODOT regional environmentalist, should review ODOT activities and decide if they need a biological assessment. The commenter was concerned by the fact that the proposed rule seemed to mandate consultation with the regional environmental coordinator for any in-water work and that the regional environmental coordinator would not have the specialized knowledge to make good decisions during in-water work.

*Response:* The ODOT coordinates with the ODFW on all in-water work for ODOT bridge repairs, and usually the regional environmental coordinator is involved in the discussions as well. The "and/or" language is not intended to exclude the ODFW, but rather to exclude the regional environmental coordinator in instances where that office's participation is deemed unnecessary. Two ODFW biologists are assigned to coordinate exclusively with ODOT on transportation issues and work closely with ODOT regional environmental coordinators. In addition, district biologists assist ODOT on a variety of construction and road maintenance issues and projects.

*Comment 205:* One commenter stated that the final rule should allow NMFS to approve minor variations from ODOT procedures.

*Response:* NMFS will exercise reasonable judgement as to whether any minor adjustment in the ODOT road maintenance guidance requires formal approval from NMFS and, therefore, also warrants **Federal Register** publication and public comment. However to stay consistent with the spirit of the limit, any change that would affect the substantive protections the program provides for the environment will require a written approval. NMFS has clarified this point by adjusting the language in the rule.

*Comment 206:* One commenter provided multiple, detailed, suggestions and critiques of the ODOT program. Each suggestion (in quotations) is covered in the following discussion unless it is discussed in another response.

(1) "To the maximum extent possible, the manual should contain enforceable standards." *Response:* Based on NMFS' extensive review of the ODOT manual, we believe the standards described are enforceable. For example, the first BMP for surface work requires (a) eliminating diesel as a releasing or cleaning agent and using only environmentally sensitive agents, (b) using heat sources to clean tack nozzles, (c) carrying adequate erosion control supplies to keep materials out of water bodies, and (d) disposing of excess material at appropriate sites. All these are enforceable. The same is true for the great majority of the BMPs for other activities.

(2) "Protective and mitigation measures for work conducted outside of the BMPs should be required, and they should be described." *Response:* We agree with portions of this statement. NMFS is continuing to work with ODOT on its maintenance BMPs. In most cases, the changes would have only minor (short-term) or no effects on habitat or fish. In situations where not following the BMPs would adversely affect fish or their habitat, NMFS will work with ODOT to ensure appropriate alternative protective measures and mitigation are applied.

(3) "The manual should describe an effective, proactive, monitoring program for maintenance projects." *Response:* Page 3 of the guide describes ODOT's monitoring program and it is also described in the draft rule. Research is being conducted on several high-risk activities such as culvert cleaning, culvert replacements, and winter maintenance in order to gain more information about maintenance project impacts and develop better BMPs.

(4) "The manual should contain specific timetables for project reviews and manual updates." *Response:* The



manual can be revised by ODOT in consultation with NMFS at any time. The draft rule states that ODOT has committed to review the guide and revise as necessary, at least every 5 years. In addition, ODOT will annually make any necessary BMP modifications.

(5) "Terms not in common usage should be clearly defined." *Response:* Uncommon terms are defined at the beginning of the guide (pages ii through iv).

(6) "Effective erosion controls and a list of specific techniques should be defined, including a description of methods to be used during emergencies." *Response:* Erosion control measures are described as BMPs under each activity. Erosion control measures for emergencies are being developed under a programmatic biological assessment.

(7) "Mandatory work windows should be defined to protect vulnerable life stages of salmonids." *Response:* As stated in the guide (e.g., pages 8, 12, and 13), ODOT must use in-water work windows for all in-water work, unless the ODFW specifically agrees otherwise. The ODFW's in-water work guidelines are part of the guide, in Appendix C.

(8) "Criteria for the use of bioengineering methods should be described." *Response:* The guide states that bioengineering will be used where possible. The ODOT currently has multiple research projects focusing on the use of bioengineering to stabilize slopes; as the results of the research become known, NMFS and ODOT will develop criteria.

(9) "Riparian management zones should be defined by water type or the criteria used to determine riparian buffer widths [should be] identified." *Response:* Standard buffer widths are defined on page iv of the guide. NMFS determined that these widths provide sufficient protection from road maintenance activities. The standard buffers also are implementable by maintenance staff without requiring detailed knowledge of fish presence/absence. Also, ODOT is developing detailed maps that identify sensitive resource areas based on criteria described in the draft rule; they will include information on overstory values, salmonid presence, spawning habitat, off-channel areas, etc. The maps will thus delineate areas where only certain activities may be allowed and the ODOT maintenance staff will modify their activities accordingly.

*Comment 207:* One commenter asked whether ODOT standards apply to all streams, just water quality limited streams, or just fish-bearing streams.

*Response:* The ODOT standards apply to all streams. The guide is a statewide document for all maintenance areas, even where no listed fish are present.

*Comment 208:* Several commenters stated that any routine road maintenance program should have been included in this limit. In particular, routine road maintenance under the Oregon Department of Forestry's Forest Practices Act was suggested.

*Response:* In the final rule, the limit for road maintenance is broadened beyond the ODOT and Oregon cities and counties to include other jurisdictions within and outside of Oregon based upon the ODOT's manual or which otherwise contribute to achieving or maintaining PFC. However, road maintenance for forestry roads will not be included because the road use and required BMPs are very different for this type of road.

*Comment 209:* One commenter stated that ODOT should provide criteria and steps to avoid, minimize, and mitigate all impacts when their guidance cannot be followed.

*Response:* The ODOT's manual is intended to avoid, minimize, and mitigate all impacts. NMFS chose to preserve ODOT's flexibility in choosing the most practicable methods for avoiding, minimizing, and mitigating for impacts because of ODOT's demonstrated commitment to protecting aquatic resources.

*Comment 210:* Several commenters requested the elimination of the requirement to prohibit any sediment input into the stream resulting from routine road maintenance activities.

*Response:* The ODOT routine road maintenance program does not prohibit sediment input into streams, although it presents measures to minimize and avoid the input.

*Comment 211:* One commenter stated that ODOT needs to allow for road repair during winter/wet seasons if emergency conditions dictate.

*Response:* The ODOT will implement BMPs when practicable, and is responsible for coordinating repair and mitigation measures with appropriate resource agencies in the event fishery or water resources are damaged during a response to an emergency.

*Comment 212:* One commenter requested that ODOT's program be removed as a limit because the tribes had not been given an opportunity to review it. They stated that the guide was not available for review through the notice.

*Response:* There were a total of 52 days to review the ODOT guide. It was available through the ODOT web site and the NMFS Northwest Region's

website. This was cited in the **Federal Register** document within the section titled Electronic Access. Moreover, it is NMFS' intent to work closely with the tribes of the region to develop improved information exchange and consultation opportunities.

Comments on the Potential Application of the Limit to Other Jurisdictions

*Comment 213:* One commenter stated that the limit's requirements for developing an Memorandum of Agreement (MOA) under which road maintenance programs for other jurisdictions would be approved are not specific and should be revised to provide clear direction.

*Response:* NMFS intentionally did not provide a detailed description of what the MOA should include or how it should be prepared. The MOA was intended to provide the mechanism for negotiating with various jurisdictions about how to make sure that their program is equivalent to the effectiveness of ODOT program in contributing to achieving or maintaining PFC, including the tasks of training, tracking, and reporting, and how to best apply comparable measures identified in the ODOT guide. Based on this and other comments, NMFS has revised the regulatory language to require "a written agreement" rather than a formal MOA. That written agreement is intended to be flexible enough so there is no need to recreate a new maintenance program or amend the rule.

*Comment 214:* One commenter suggested that each jurisdiction seeking coverage under the limit for routine road maintenance should be able to develop its own BMPs.

*Response:* NMFS does not object to the use of BMPs that may be different from those presented in the ODOT guide. NMFS is satisfied that road maintenance activities in compliance with the ODOT guide and program contribute to achieving or maintaining PFC. NMFS expects that each jurisdiction seeking to apply the routine road maintenance limit to its program will clearly demonstrate how that program either applies equivalent measures to those specified in the ODOT guide or how it otherwise contributes to PFC. NMFS does not necessarily expect each jurisdiction to adopt the ODOT guide.

*Comment 215:* One commenter indicated that compliance and effectiveness monitoring and adaptive management are essential to ensure adequate protection of listed species. This commenter expressed concern that the monitoring may not be adequate and that without specific monitoring criteria

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and protocols, the ability to evaluate and modify conservation measures would be limited.

*Response:* NMFS agrees that monitoring is essential for assuring that the routine road maintenance programs are being properly implemented and that the outcomes are as expected (i.e., contributing to PFC). The monitoring and feedback approach contained in the ODOT program, while being somewhat non-specific, is practicable and can provide enough information to assess compliance and effectiveness.

*Comment 216:* NMFS received one comment requesting that the limit set standards for road restoration and maintenance, as well as goals for maximum road densities.

*Response:* This comment is referring to forested watersheds and watershed conservation plans. NMFS is addressing those areas primarily through ESA mechanisms other than the road maintenance limits of the rule (i.e., application of ESA sections 7 and 10 for Federal and non-Federal land management practices, respectively).

*Comment 217:* One comment stated that there should be no specific limits for roads—just the normal section 9 prohibitions. The commenter was concerned that erosion caused by steep slopes and incorrectly built roads could potentially harm listed salmon populations.

*Response:* NMFS agrees that soil erosion from road projects can have adverse effects on salmon populations and their habitats. However, the limit only applies to routine road maintenance activities; that is, road repairs that increase the material profile are not covered under the rule. Any activity for which a COE permit is required is not covered by the routine maintenance program and would, in any event, require a section 7 consultation. The ODOT's manual recognizes the problems associated with erosion and addresses erosion repair (MMS 122). To minimize impacts, ODOT requires that erosion repair work consider bioengineering solutions. The maintenance program requires that ODOT maintenance staff take precautionary measures on identified erodible areas—provided the measures can be safely applied. Taken together with other measures ODOT is carrying out (e.g., mapping landslide-prone areas throughout the Oregon coast), the routine road maintenance program protects threatened salmon and steelhead adequately to warrant a limit.

#### *Integrated Pest Management (IPM) Activities in Portland, Oregon*

*Comment 218:* Several commenters indicated that NMFS led them to believe that pesticides would not be considered in this rulemaking and that it was, therefore, unfair to proceed with a limit that accounts solely for the Portland Parks and Recreation (PP&R) program. It was generally expressed that various states, local entities, and agencies should be allowed their own limit on take prohibitions as they relate to pesticide use. Other commenters stated that the PP&R IPM program was inadequate because it was too ambiguous, did not list the actual amounts of pesticide being used, allowed broadcast spraying in riparian buffers, and did not adequately address all potential pathways of contamination.

*Response:* The PP&R IPM program received a limit at this time because it is a fully-formed, conservative program. NMFS' decision process was based on careful scientific review, investigation of potential pathways of contamination (specific to PP&R-planned activities), and analysis. NMFS concluded that PP&R's plan addresses potential impacts and protects listed salmonids to an adequate degree. A subsequent review process will be conducted one year after PP&R's plan is adopted, additional reviews will occur every two years, and appropriate adjustments will be made throughout the process. As NMFS noted in the preamble to the proposed rule rates of application in buffer strips under the PP&R IPM program range from 8 percent to 100 percent of the individual chemical label restrictions. Moreover, these chemicals are not applied annually, rather only as needed and only as the last resort for controlling unwanted vegetation. Use of the term "broadcast spraying" may be misleading. The listed chemicals must be applied at low pressure (which results in large droplets to reduce airborne mists), by hand wand, and only in the area where a dense broadleaf outbreak is occurring—not the entire buffer area.

NMFS believes that with restrictions such as the ones cited here, and looking at the program as a whole, it sufficiently protects the listed salmonids.

*Comment 219:* One commenter asked if the PP&R IPM was intended to apply to maintenance activities adjacent to all streams, just water quality limited streams, or just fish-bearing streams.

*Response:* The PP&R IPM applies to all waters—regardless of their designation (moving, water quality compromised, fish/non-fish-bearing)—associated with PP&R managed lands.

The use of pesticides near flowing waters is more restricted than near still water (isolated ponds).

*Comment 220:* One commenter stated that the PP&R IPM should require public notice 48 hours before spraying.

*Response:* Currently PP&R does notify the public of tree spraying by posting signs in the affected area 24 hours in advance. Also, on any day other types of pesticides are being applied, signs are placed in the park and remain there until the application is complete and any product has dried. It should be noted, however, that this is essentially a public health issue and is, therefore, outside the scope of a rule making for threatened salmon and steelhead.

*Comment 221:* Several commenters stated that data generated by Oregon's pesticide tracking law should be integrated with the limit.

*Response:* We agree that it would be useful information. The PP&R's IPM requires an annual report to NMFS. When NMFS reviews PP&R's annual report it will take into account new scientific data on pesticides and their effects on listed fish (and the habitats that support them) when making its decision whether to continue with the program as written or require changes. Over the next year, NMFS will examine the question of whether incorporating the information collected through Oregon's pesticide tracking law (ORS 192.502, ORS 634.306, and ORS 634.372) into the review process would improve that annual analysis.

*Comment 222:* One commenter requested that NMFS clarify that the PP&R IPM applies only to city parks managed by PP&R.

*Response:* The commenter is correct. The PP&R IPM program limit applies only to activities conducted by PP&R in Portland city parks.

*Comment 223:* One commenter expressed concern that the list of chemicals does not appear to take into account chemicals already present in surface waters. It was also stated that NMFS needs to do more research on the impacts pesticides have on anadromous fish.

*Response:* NMFS agrees with the need for more research in this area. The NMFS Northwest Fisheries Science Center (NWFSC) has recently begun a research program to evaluate in greater detail the effects of pesticides in the environment and their effects on anadromous fish. This program will expand on earlier investigations by the NWFSC and will look at the sublethal effects, synergistic effects, cumulative effects, and effects of inert ingredients in pesticides in the aquatic environment. NMFS will work closely

with EPA and state authorities which have primary responsibility for ensuring the proper use of these products under relevant Federal and state regulatory regimes. Should information come forward to suggest that the otherwise-lawful use of a pesticide harms listed salmonids and is in violation of section 9 or this rule, NMFS anticipates addressing the concern through amendment of this rule, a section 7 consultation with EPA, or corresponding discussions with responsible state authorities. NMFS will employ this approach rather than favor enforcement actions against an individual applicator for the otherwise lawful use of the pesticide. Similarly, if NMFS finds that a limitation on the prohibition against take for the use of selected pesticides is necessary and advisable for the conservation of listed salmonids, it may amend this rule accordingly. Through such a programmatic approach NMFS believes that it will be able to achieve an orderly and comprehensive analysis of the use of pesticides and their effects on listed salmonids.

*Comment 224:* One commenter suggested that the best approach to evaluating pesticide use under the ESA was a toxicological risk assessment protocol based principally on the dose-response theory. Under this approach, the commenter concludes that "there is no evidence that take of salmon or steelhead has actually occurred as a result of pesticide use." The commenter further asserts that under a program managed by the California EPA's Department of Pesticide Regulation (DPR), "there should be zero take of any listed fish, including salmonids under NMFS' jurisdiction" if the protocols developed by the DPR are followed.

*Response:* NMFS disagrees. The NWFSC has been actively investigating the sublethal effects of pesticides on listed salmonids for more than two years. This research is specifically tailored to examine pesticide effects on the life histories of anadromous fish in California and the Pacific Northwest, and is designed to reduce the considerable scientific uncertainty associated with pesticides. NMFS will use the data arising out of this process to guide future decision making under the ESA.

*Comment 225:* Several commenters felt the rules may unduly restrict the critical function of noxious weed control. It was suggested that NMFS may be discouraging lawful and environmentally beneficial use of pesticides and herbicides.

*Response:* NMFS recognizes the importance of noxious weed control.

The final rule encourages development of local programs that conserve fish while placing priority on preventing pests (weeds, insects, disease) through non-chemical means. Noxious weeds may be controlled in a number of ways—both with and without the use of herbicides.

*Comment 226:* Some commenters asserted that a regional invasive species prevention program is needed—one that includes a protocol for addressing expedited responses to invasive species.

*Response:* NMFS agrees that a regional invasive species prevention program that includes response protocols would be beneficial. Such a program should be developed in cooperation with state and local government agencies, FWS, and EPA.

*Comment 227:* Several commenters stated that if a pesticide is used according to the directions on the label, or in compliance with various other state or Federal regulations, the applicator should receive a limit on the take prohibitions.

*Response:* Please see earlier responses on the same general subject. Currently, EPA has not consulted with NMFS on the use of pesticides and their impact on listed anadromous fish and their habitat. Therefore, applying pesticides in accordance with current label directives, EPA guidelines, or interim state measures for pesticide use, is not, de facto, exempt from the possibility of "take." EPA's Office of Pesticides Program will initiate consultation on a limited number of EPA-registered pesticides with NMFS SWR later this year and, depending on the outcome of that process, NMFS will continue to seek such consultations on registered pesticides. NMFS also hopes to begin consultations on those pesticides being considered for registration. In any case, NMFS recognizes that the above restrictions (labels, state guidance, etc.) constitute the only protective guidelines currently available to applicators. Therefore, NMFS will work with the responsible agencies to determine the extent to which restrictions on pesticide use need to be adapted to meet listed salmonid needs and, as that process goes forward, individual applicators may look to those agencies and NMFS to provide appropriate guidance in the future.

*Comment 228:* Two commenters suggested that NMFS should not rely on local solutions for pesticides, since three of the four states have laws preempting local pesticide regulation.

*Response:* The PP&R IPM program does not regulate pesticides. It directs the limited application of pesticides by a local government agency. NMFS is

confident that PP&R has the authority to direct its application program.

*Comment 229:* One commenter asked that NMFS clarify its definition of a pesticide to include any substance that is considered an herbicide.

*Response:* The commenter is correct about the definition of a pesticide. According to EPA, the term "pesticide" includes all herbicides, insecticides, fungicides, rodenticides, repellents, disinfectants, and other compounds that kill, control, or otherwise affect pests. The final 4(d) rule will incorporate this definition for the term "pesticide."

#### *Municipal, Residential, Commercial, and Industrial Development Limit*

##### *a. Clarification of Where and How This Limit Applies*

*Comment 230:* Many commenters requested that the final rule clarify where and how "this limit" applies. One commenter asserted that the rule was so unclear as to require that the limit be removed entirely.

*Response:* NMFS has attempted to remove vague and confusing language from this final rule and to clarify where the limit applies. This particular limit is intended to apply to a broad range of planning efforts, ordinances, regulations, and programs (promulgated by city, county, and regional governments) that conserve listed salmon and steelhead by regulating or otherwise limiting activities associated with MRCI development. Some examples are wetland protection ordinances, shoreline management and development programs, and urban growth management plans. Such activities are not necessarily limited to "urban" areas, because city, county, and regional governmental jurisdictions extend to suburban and rural areas as well. NMFS has, therefore, clarified the intended scope of this limit by replacing the term "new urban density development" with "municipal, residential, commercial and industrial (MRCI) development" to signify activities undertaken by cities, counties, and regional governmental entities in urban, suburban, and rural areas.

*Comment 231:* One commenter requested that the ESA 4(d) limit for urban development be more streamlined than the process for developing and approving an HCP.

*Response:* Once local ordinances or plans are approved, the process of implementing MRCI development activities will be very streamlined. The responsibility for subsequent project review, approval compliance, monitoring, and enforcement will rest with the local jurisdiction. NMFS will



review each project's monitoring plans; however, we will not have a role in individual project reviews. In addition, any subsequent ESA section 7 consultations for individual projects for which there is a Federal nexus should be greatly simplified because the consultation will be able to tier off the local jurisdiction's initial analysis. The initial ordinance approval process, while subject to the same review standard as a section 7 consultation or section 10 permit application (i.e., individual ordinances must allow for properly functioning habitat conditions) should be considerably more streamlined than the HCP process because the procedural requirements are less complex (e.g., implementing agreements and NEPA analysis are not required for programs under the take limit).

*Comment 232:* Several commenters questioned whether the limit applies to the redevelopment of areas that no longer support salmon, and recommended that development along piped segments of low gradient streams should receive a limit on the take prohibitions. Others contended that the rule should address current and ongoing impacts from urban developments.

*Response:* If a stream segment or aquatic feature does not currently and has not historically supported salmonids, the limit only applies to the extent that downstream areas which do support salmonids rely on appropriate input of ecological element (litter fall, gravel recruitment, cold water, large wood, etc.) from above to achieve PFC. As a local project goes through the permit process, the existing condition of a stream segment within a watershed and its contribution to the ecological conditions essential to listed fish must be taken into account when determining whether and how a redevelopment project meets the local ordinances. It is the local jurisdiction's responsibility to determine how ordinances are implemented during the redevelopment of degraded areas. At a minimum, the ordinances must delineate the process for considering the redevelopment of degraded areas.

*Comment 233:* Several commenters observed that recovering PFC in large urban core areas is unrealistic.

*Response:* PFC requires the maintenance of habitat functions essential to the survival and recovery of listed salmonids, wherever those requirements may be found. NMFS agrees that many of the rivers and streams that flow through heavily industrialized or otherwise developed city centers cannot practically be expected in the near-term to resemble a

rural river reach in PFC. The concept of PFC recognizes and accommodates the fact that essential ecological functions may be different in spawning and rearing habitats often found in forested environments, for instance, than in migratory corridors, often found in urban settings. Nevertheless, the highly modified habitat in urban settings still must maintain certain ecological functions that remain crucial to the listed species' survival and recovery. In the long run, most parcels in existing urban areas will eventually be redeveloped and restoration opportunities pursued. Urban rivers and streams will thus gradually recover more and more habitat functions over the upcoming decades.

*Comment 234:* Many commenters contended that the rules should include any (not just new) development (or redevelopment) inside or outside of the Urban Growth Boundary (UGB) or Urban Reserve Area (URA) in any of the affected states. In addition, many others stated that the proposed rule does not adequately distinguish between what is expected of the various kinds of development and redevelopment.

*Response:* NMFS agrees with the commenters that it is the activity, not necessarily the jurisdiction, that must contribute to achieving or maintaining PFC and has renamed and modified this limit to apply to MRCI development.

*Comment 235:* Some commenters questioned the need to treat development limits for urban and rural landscapes differently. They argued for the need to accommodate mature urban areas to protect the rural areas.

*Response:* NMFS agrees that properly functioning habitat, as described in section § 223.203(b)(12)(ii) of the regulatory language of this final rule, must be found in both urban and rural landscapes and is the foundation of this limit. NMFS also understands, however, that development in rural landscapes often requires different considerations than it does in urban landscapes. It is true that some rural developments, such as destination resorts or high-density residential development along rural shorelines, are quasi-urban in nature and have similar effects on salmonids and their habitats. The reverse can also be true. Conserving and restoring functional habitats depends largely on allowing natural processes to increase their ecological function, while at the same time removing adverse impacts from current practices. Those functional requirements apply regardless of where or how development takes place.

*Comment 236:* Some commenters requested that NMFS make clear that simply because the rule references the

Metro Functional Plan, it does not mean that local jurisdictions must follow that proprietary program.

*Response:* Metro's Urban Growth Management Functional Plan applies only to the Metro region, that is Clackamas, Multnomah, and Washington Counties and the 24 cities in the Portland, Oregon metropolitan area. In order to accomplish the Plan's goals, local jurisdictions will have to take a number of actions—primarily by changing local government comprehensive plans and implementing ordinances. Other jurisdictions wishing to apply for an ESA 4(d) limit must craft their own plans in the context of local circumstances. NMFS notes that Metro has not yet submitted its Urban Growth Management Functional Plan to NMFS for consideration as a limit to the take prohibition, nor has NMFS approved it for that purpose. If Metro applies for a limit under this final rule, it will be evaluated at that time using the review process described in this rule.

*Comment 237:* Some commenters stated that NMFS should not allow this limit for the Tri-County planning effort in Washington State because Tri-County's proposal is "business as usual," and because the Tri-County implementation process would take too long to provide for salmonid recovery. Others felt linkages should be created between the Urban Development limit and the watershed plans in the proposed Tri-County framework.

*Response:* NMFS strongly disagrees with the general tenor of this comment and continues to actively support and encourage the Tri-County process. Certainly the negotiations are addressing difficult and complex issues. NMFS remains hopeful that these negotiations will yield agreements consistent with the requirements of the ESA and the listed fish. If Tri-County applies for a limit under this final rule, it will be evaluated at that time using the review process published in this final rule.

*Comment 238:* One commenter urged NMFS to include a limit for the CALFED-Bay Delta Program and other California programs.

*Response:* Applying for a limit under the ESA 4(d) rule is a voluntary process. Any jurisdiction or organization may negotiate with NMFS to create a plan and submit that plan for consideration under the MRCI limit. Such entities are also encouraged to bring to the table other types of limits that could be covered in a subsequent 4(d) rule and develop other plans to conserve the listed species.

b. Local Government Cost and Staffing Resources

*Comment 239:* One commenter expressed concern that the cost of mandatory setbacks would discourage redevelopment of brownfield areas.

*Response:* Different jurisdictions have the flexibility to tailor riparian management areas in urban brownfield areas to match local needs and conditions, provided they result in properly functioning habitat conditions.

*Comment 240:* Many commenters expressed concern that smaller jurisdictions do not have the staff and resources needed to comply with the urban development limits. One commenter asked for an explanation of "adequate funding."

*Response:* Ordinances or plans under which activities will be evaluated must be shown to meet PFC as illustrated by the applicable 12 considerations listed in this final rule, including the fact that the jurisdiction in question must demonstrate that it has the ability to enforce, monitor, and fund its obligations under the ordinance.

c. Implementation of the 12 Considerations

*Comment 241:* Many commenters asked NMFS to clarify how the 12 considerations are to be implemented or applied. Some thought the rule was too cumbersome and onerous, and, therefore, should be delayed or phased in. Others requested that NMFS not allow a phase-in approach.

*Response:* As the rule describes, NMFS evaluates activities that produce or result in conditions on the landscape that contribute to properly functioning (habitat) condition. Under this limit, NMFS will analyze MRCI ordinances and plans and determine if they will affect a condition on the landscape that is important to essential habitat functions. NMFS will then determine if that effect actually results in conditions that are likely to provide essential habitat functions; if it does, then the ordinance or plan may qualify for a limitation of the take prohibition.

The 12 considerations described in the MRCI development limit describe specific considerations that NMFS will evaluate when looking at MRCI development ordinances and plans. They are based on current scientific understanding of salmonid biological requirements (e.g., Spence *et al.*, 1996; NMFS, 1996). By assessing these 12 considerations, NMFS expects to evaluate the ordinances' efficacy in attaining (or maintaining) essential habitat functions or properly functioning conditions in various physical settings.

*Comment 242:* Several commenters questioned whether the proposed rule requires compliance with all 12 considerations. Some stated that NMFS should not require that all 12 considerations in the urban limit be satisfied at once.

*Response:* NMFS acknowledges that in addition to the comprehensive Functional Plan being developed by the Metro regional government in Oregon, other local planning entities are making significant progress in developing innovative MRCI ordinances and programs (e.g., the efforts by the Tri Counties and Kitsap County in Washington State). Not all local or regional governments have the resources to assemble all of their relevant ordinances and planning provisions into a comprehensive MRCI growth management program. NMFS is willing to assist such entities by reviewing individual ordinances or regulations that local governments may choose to submit for consideration under this MRCI limit. NMFS will still apply the 12 considerations in evaluating the likelihood that any given ordinance or regulation will achieve properly functioning conditions for salmonid habitat, but will recognize that some criteria may be less relevant than others—depending on the scope of the particular ordinance.

Because NMFS has a relatively limited number of staff members to review a potentially significant number of individual MRCI planning ordinances, plans, and regulations, NMFS strongly encourages local and regional governments to assemble comprehensive planning packages such as Metro's Functional Plan. Not only is this a more expeditious and efficient approach, it results in a greater likelihood that the MRCI growth management program will protect the full suite of essential habitat functions. In any case, because staff resources are limited NMFS will generally give comprehensive plans rather than individual ordinances priority in the review process.

*Comment 243:* One commenter requested that NMFS state whether the Metro plan meets the 12 considerations.

*Response:* Metro has not yet submitted its Urban Growth Management Functional Plan to NMFS for consideration as a limit to the take prohibition, nor has NMFS approved it for that purpose. If Metro applies for a limit under this final rule, it will be evaluated at that time using the review process described in this final rule.

d. NMFS' Approval

*Comment 244:* Many commenters wanted to know how NMFS would approve applications for inclusion in the take limit. Some commenters suggested that NMFS needs to establish a rule with a minimum set of clear and objective performance standards. Other comments suggested that NMFS should work with state agencies to develop state programs that meet some or all of the limit in order to help small, financially challenged jurisdictions.

*Response:* The 12 considerations represent evaluation considerations that, if addressed, will help conserve listed salmonids. When a local jurisdiction has an MRCI ordinance or plan it believes will attain or maintain properly functioning conditions, it is encouraged to pursue approval. NMFS will work directly with that entity to develop a product that meets the listed species' needs. However, as noted earlier, local jurisdictions are strongly encouraged to assemble, to the greatest extent practicable, all relevant MRCI development ordinances, regulations, or plans into comprehensive packages that NMFS can review in total. Such an approach is not only more efficient, it has a much greater likelihood of ensuring adequate conservation of salmonid habitat conservation than do individual ordinances. Before approving any application, NMFS will publish a notice in the **Federal Register** announcing the availability of the application for public review and comment. The comment period will be not less than 30 days.

*Comment 245:* Some commenters desired to know what NMFS meant when it said it would evaluate the limit on a regular basis.

*Response:* NMFS anticipates that each limit will be monitored during the life of the plan to ensure that management actions are meeting their intended purposes. Specific management actions arising under the plan will be compared with the conservation objectives to ensure consistency with the intent of the plan. Annual monitoring reports will be required and formal plan evaluations will take place at broader intervals—though not greater than 5 years. These evaluations will assess the progress of the plan toward meeting PFC, determine if the management actions are making satisfactory progress toward achieving the stated objectives, ensure that the actions are consistent with current policy, check the original assumptions to see if they were correctly applied, assess whether the impacts were correctly predicted, ensure that the mitigation measures are

satisfactory, and determine whether new data are available that would require altering the plan.

e. Level of Protection Provided

*Comment 246:* Many commenters asked NMFS to clarify what parts of the limit are binding and what are not.

*Response:* The final rule does not establish any binding requirements or regulations on any prospective applicants with respect to measures that must be followed to qualify for the take limit. Instead, the final rule defines both the considerations and the process NMFS will use when reviewing any particular ordinance or plan. Once NMFS has reviewed and approved a proposal for inclusion in the limit, the applicant is bound by the substantive requirements established in the subject ordinance or plan; these will be documented in the relevant monitoring, reporting, and enforcement provisions. The final rule clearly describes NMFS' authority to withdraw the limit in instances where the applicant does not diligently implement the approved measures.

*Comment 247:* Many stated that the Metro Functional Plan was far too restrictive; many others thought it not restrictive enough.

*Response:* The limit does not hold out the Metro Functional Plan as a standard. Metro has not yet submitted its Urban Growth Management Functional Plan to NMFS for consideration as a limit to the take prohibition, nor has NMFS approved it for that purpose. In fact, NMFS understands that the plan is not yet complete. If Metro applies for a limit under this rule, it will be evaluated at that time using the review process described in this final rule.

*Comment 248:* One commenter asked NMFS to identify and give take prohibition limits to land development activities that will not harm listed salmonids.

*Response:* Development actions that do not harm salmonids or their habitats are not affected by the take prohibition. It is not within the scope of this final rule to identify the vast number of activities (including many development activities) that do not harm listed species. However, unmanaged development activities could frequently frustrate attempts to meet the 12 evaluation considerations within this rule and commonly are among those that have historically destroyed or adversely modified critical habitats. On the other hand, activities that are carried out according to limits provided by this final rule are expected to adequately protect listed salmonids and contribute to their conservation.

*Comment 249:* One commenter expressed concern that giving local jurisdictions a ESA 4(d) limit would not, by itself, help enforce local actions necessary to conserve listed salmonids.

*Response:* Local jurisdictions are charged with developing and carrying out land use programs within the range of listed salmonids. Although those plans can be revised to be consistent with scientific information used to develop this limit, those same plans are still defined and administered through laws and regulations. Ensuring compliance with these laws and regulations is a key factor in making the plans successful. Eligibility for this limit, therefore, requires those plans to include effective enforcement programs and measures to educate local citizens, encourage voluntary compliance, and detect and address violations.

*Comment 250:* One commenter asserted that limits for urban development should be analyzed within the cumulative impact context.

*Response:* NMFS agrees that cumulative effects should be an important consideration in MRCI effects analyses. NMFS is aware that comprehensive MRCI development plans frequently will rely upon watershed scale efforts to achieve PFC by managing rural and agricultural activities in coordination with the cumulative effects of more-urban development. To the extent that NMFS must prioritize the evaluation process, comprehensive MRCI plans with relatively broader scopes of activities, authorities, effects, and geography (and therefore greater flexibility in dealing with cumulative effects) will generally be evaluated before plans with relatively smaller scopes. Applicants with smaller-scale plans should take particular care that their effects analyses take cumulative impacts into account.

f. Habitat Restoration

*Comment 251:* One commenter felt the new urban density development limit should require local governments to address habitat restoration and rehabilitation.

*Response:* This limit applies to jurisdictions that carry out development in a way that adequately impacts on listed salmonids or contributes to their conservation. Habitat restoration would be applicable when it is necessary to rehabilitate former poorly designed or implemented practices to achieve properly functioning conditions for listed salmonids within that jurisdiction. A specific limit for habitat restoration activities is provided in this final rule.

g. Scientific Justification

*Comment 252:* Some commenters assert that NMFS has not provided adequate scientific justification for this limit. For example, one comment requested that NMFS justify why the little remaining habitat is important to listed fish, and specifically, what evidence exists to support the need for vegetative cover for the entire length of a stream.

*Response:* Neither **Federal Register** documents nor U.S. Code is written in scientific style, with its thorough support of factual assertions through citations. Nevertheless, NMFS is confident that its conservation approach in the MRCI limit (and elsewhere in this final rule) is scientifically credible. As starting points for investigators, NMFS recommends Simenstad *et al*, 1982, NRCC, 1996, Palmisano *et al*, 1993, Gregory and Bisson, 1997, Spence *et al*, 1996. Essential features of salmonid habitats include adequate substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space and safe passage conditions. In designating critical habitats, NMFS considers the following requirements of the species: (1) Space for individual and population growth, and for normal behavior; (2) food, water, air, light, mineral, or other nutritional or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, or rearing of offspring; and, generally, (5) habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of the species (65 FR 7764, February 16, 2000).

Vegetative cover is good for a number of essential habitat features such as water quality, water temperature, bank stability, stream complexity, cover/shelter, and food. In MRCI environments, the loss of riparian vegetation, coupled with reduced base flows, causes streams to heat up more during summer. In addition, the lack of large wood recruitment combined with increased peak flows heightens the severity of streambed scouring and downstream wood transport. This causes stream channel simplification and greater instability. In order to reverse the downward population trend for listed salmonids and steelhead, the structure and function of their aquatic habitats must be restored to whatever degree possible.



#### h. Specific Comments on the 12 Considerations

##### 12.i.A. Siting Development

*Comment 253:* One commenter requested a definition of "area of high habitat value."

*Response:* This phrase refers to an area in a PFC, one that is better functioning than neighboring sites, or one with the potential to be fully restored. To achieve properly functioning condition and high habitat values within an MRCI area, new and existing riparian management areas need to be connected across land ownerships and political jurisdictions whenever land is developed or redeveloped, or brought into an urban growth boundary.

Development activities should be sited in appropriate areas. They should avoid unstable slopes, wetlands, areas already in a PFC, areas that are more functional than neighboring sites, and areas with the potential to be fully restored. A description of particularly sensitive areas is included in the Fish and Forest Report cited elsewhere in this final rule. Such sites include, but are not limited to, soils perennially saturated from a headwall or a sideslope seep or spring, permanent initiation points of perennial (stream) flow, alluvial fans, the intersections of two perennial streams. Development activities in any particular jurisdiction need to be open to coordination with adjacent jurisdictions to ensure landscape-scale conditions are providing essential habitat function.

##### 12.i.B. Stormwater Management

*Comment 254:* Many commenters asserted that the stormwater consideration was poorly defined and urged that NMFS establish stronger and more specific stormwater standards. Others felt that NMFS should allow flexibility in regional performance standards and in areas where avoiding stormwater impacts is not feasible. One comment suggested replacing stormwater discharge language with specific methods for reducing development effects.

*Response:* NMFS believes that applying the same standards and considerations to all jurisdictions will not provide the most effective stormwater management because different methods will be more effective in different jurisdictions—depending on factors such as the existing land use in the subbasin or watershed, soil types, rainfall patterns, the degree to which the natural stream hydrograph has been altered, etc. NMFS will consider these factors, methodologies, and standards

when reviewing city, county, and regional government ordinances for approval.

*Comment 255:* Some commenters stated that in an urban setting, it may not be advisable or feasible to protect or restore historic stream hydrographs and meandering processes. They asserted that the phrase "where feasible" should be added to stormwater and meander provisions.

*Response:* It is NMFS' intention to use the best available technologies to determine the most economic means to contribute to the achievement and maintenance of properly functioning conditions. NMFS believes this provision is justified by the need to significantly improve habitat conditions in a given MRCI area and thereby reduce the risks to listed species and ensure that they have an adequate potential for recovery. This can be accomplished by guiding land use practices on the watershed scale in order to reduce impervious surfaces, maintain forest cover, and natural soils. These conditions will, in turn, maintain essential habitat processes such as natural water infiltration rates, transpiration rates, stormwater run-off rates, sediment filtering, and provide hydrographic conditions that maintain and sustain listed salmonids. Where stream hydrographs cannot be restored, compensatory mitigation should be provided to offset the loss of habitat function. Mitigation may include stream corridor restoration by reestablishing pre-development hydrological regimes, controlling pollution sources, stabilizing channel morphologies, engaging in sediment remediation, restoring instream structure, and reestablishing riparian cover. Many of these activities may be guided by watershed scale planning and analysis which includes management of rural and agricultural activities.

*Comment 256:* Some commenters requested further clarification on peak flows and desired that NMFS place emphasis on biologically significant flows (i.e., water velocities suitable for juvenile fish) instead of peak flows.

*Response:* Changes in hydrological processes associated with the effects of MRCI development typically result in a flow regime that is more episodic and generates higher peak flows, faster runoff, and reduced base flows during periods without precipitation. Peak flows and base flows are both ecologically significant. Peak flows are primary agents of instream and riparian habitat change during storm events. Base flows sustain aquatic life during dry portions of the year. Other hydrological characteristics are also

significant in the design of stormwater systems, for example, the need for water velocities suitable for juvenile salmonids.

Stormwater management programs associated with MRCI development activities should avoid impairing water quality and quantity. Such programs should preserve or move stream flow patterns (hydrograph) closer to historic hydrologic conditions (e.g., peak flows, base flows, durations, volumes, and velocities) that maintain properly functioning habitat conditions. This can be accomplished by guiding land-use practices at the watershed scale in order to reduce impervious surfaces, maintain forest cover, and retain natural soils. These conditions will, in turn, maintain essential habitat processes such as natural water infiltration rates, transpiration rates, stormwater run-off rates, sediment filtering, and provide hydrographic conditions that sustain aquatic life. NMFS will evaluate the effects that city and county ordinances (submitted for approval under this limit) have on relevant hydrologic processes.

##### 12.i.C. Riparian Management Areas

*Comment 257:* Many commenters were concerned that the riparian management requirements were vague and uncertain. Some viewed this as creating opportunities to evade the intent of the riparian provision, while others wanted NMFS to make clear the fact that the intent was to be flexible and non prescriptive.

*Response:* The goal of MRCI riparian management is to protect and restore properly functioning riparian condition. To achieve this goal, programs must protect and restore soil quality—including controlling erosion and conserving soil productivity—and ensure that a diverse plant community with a vigorous age class distribution is well-distributed across a riparian management area. This contributes to the natural succession of riparian vegetation, produces habitat features essential to fish health, and protects water quality and flow conditions needed to meet fish habitat needs downstream. In MRCI areas, where riparian areas are usually subject to frequent and pervasive disturbance, the overland movement of nutrients, pesticides, and sediment can be pervasive. Thus, properly functioning MRCI riparian areas must also intercept and immobilize large pollutant loads, reduce runoff energy, and decrease the amount of nutrients being delivered to the streams. NMFS is not able to define the specific management strategies needed to achieve PFC in every conceivable situation involving a

riparian area, particularly where a restoration component is necessary. The basic goal of riparian management is to establish management that allows the riparian area to proceed on a growth and succession pathway toward a mature riparian condition. As noted earlier, mitigation should be developed for functions that cannot be maintained or restored at the site level and may likely require watershed-scale planning. As several commenters requested, this allows different jurisdictions the flexibility to tailor riparian and wetland management to match local needs and conditions.

*Comment 258:* A large number of commenters addressed the appropriate width of urban riparian management areas. Many comments focused on management area width without regard for location, riparian composition, or management strategy. One comment noted that the width of the urban riparian management area was greater than for lands affected by the Washington forest practice limit.

*Response:* There are differences in ecological function among riparian areas in the MRCI and forest management settings. These include the relative importance of pollutant and runoff control, the distribution of nutrient cycling and energy flow, and the efficiency of natural recovery mechanisms. However, the need to define properly functioning condition based on the salmon's biological requirements does not vary by land use type.

NMFS' evaluations of MRCI development are significantly influenced by a body of science indicating that essential habitat functions are affected to varying (but significant) degrees by streamside activities conducted within a distance equal to the height of the tallest tree that can grow on that site (known as the site potential tree height). This was the basis for the example in the preamble to the proposed rule that used 200 feet (60.9 meters) as the approximate span of a site potential tree height. The distance is measured not from the stream itself, but from the edge of the area within which a stream naturally migrates back and forth over time (the channel migration zone).

NMFS believes that the most effective way to ensure PFC is to manage MRCI development activities in riparian areas so that their impacts on habitat functions are minimal at the streamside, but may gradually increase with distance from the stream. For example, the riparian area is often managed with two zones, an inner zone that has the highest level of protection and is

managed primarily to provide stream function by avoiding disturbance, and an outer zone managed for both stream function and as a transition to more heavily used upland areas. The width of each zone should be commensurate with the functions they are intended to provide and, in MRCI settings, reflect the need to buffer an upland disturbance regime that may be more severe than in forest lands; e.g., more frequent entry by humans and domestic animals or exposure to large amounts of nutrients, pesticides, and sediment.

*Comment 259:* Several commenters supported a preference for using native riparian vegetation.

*Response:* NMFS agrees that to meet the final rule's intent, existing native trees and other native vegetation in riparian areas should be protected and native vegetation should be used for restoration plantings wherever appropriate native stock are available to meet the project needs. Non-native stock or seed should only be used after a good faith attempt has been made to locate native materials. If native materials are unavailable, ecologically functional equivalents that are known not to be aggressive colonizers may be substituted. When the scope of an MRCI redevelopment activity may include modifying a riparian site with existing, non-native vegetation, it may be important to restore native vegetation on the site in order to generate the essential habitat functions discussed above.

#### 12.i.D. Stream Crossings

*Comment 260:* Several commenters requested clearer criteria for culvert installation and bridge crossings. Some wanted the referenced guidance document to be included in the final rule.

*Response:* Activities such as road and stormwater system design and construction or placement of utility corridors should avoid stream crossings wherever possible in order to prevent soil disturbance and sediment and flow problems in the stream. Where a crossing is unavoidable, the condition of the crossing should minimize its affect by preferring bridges over culverts; sizing bridges to a minimum width; designing bridges and culverts to pass at least the flow level and debris associated with a 100-year flood event; and meet ODFW or WDFW criteria (ODFW's Oregon Road/Stream Crossing Restoration Guide, Spring, 1999 and WDFW's Fish Passage Design at Road Culverts, March 3, 1999). These two documents will be included in a guidance document to be published by NMFS at the same time as this final rule.

*Comment 261:* Many commenters stated that new and existing linear facilities—such as utility corridors—that cross rivers and streams should be included in this section. Other commenters wanted the language “wherever possible” used in the sentence “avoid stream crossings by roads wherever possible” to be strengthened or deleted because it creates a loophole. In general, they desired that NMFS establish criteria to determine if a crossing is necessary.

*Response:* Linear facilities will be included in the stream crossing section of this final rule. As to the necessity of individual crossings, NMFS believes the city or county jurisdictions should perform the lead role in developing these criteria. The applicable state fish and wildlife agency can provide considerable guidance in developing these criteria—both through their existing codes and regulations and in their guidance documents (listed previously in this rule).

#### 12.i.E. Channel Migration Zones

*Comment 262:* One commenter requested an explanation of the term “channel migration zone” (CMZ) and asked that it be linked to landscape features that developers and planners can understand.

*Response:* A CMZ is defined by the lateral extent of active channel movement along a stream reach over the past 100 years. Evidence of active movement over the 100-year time frame can be inferred from aerial photos or from specific channel and valley bottom characteristics and it was chosen for that reason. Also, this time span typically represents the time it takes to grow mature trees that can provide functional large woody debris to streams. A CMZ is not typically present if the valley width is generally less than two bankfull widths, is confined by terraces, no current or historical aerial photographic evidence exists of significant channel movement, and there is no field evidence of secondary channels with recent scour from stream flow or progressive bank erosion at meander bends.

*Comment 263:* One commenter requested that no bank hardening be allowed within the CMZ.

*Response:* Gradual bank erosion and meander migration within the CMZ are important ecological processes that provide geomorphic diversity and enable habitat development. Constructing rigid bank protection structures within the CMZ can prevent properly functioning conditions from being attained because it disrupts natural channel processes and initiates

a cycle of altered erosion patterns flanked by new bank protection measures. The end result can be an entire reach being lined with rigid bank protection.

Where erosion within a CMZ is an issue, bank erosion should be controlled through vegetation, carefully bioengineered solutions, or other innovative "soft" bank protection techniques that allow eventual deformation by channel forming processes. Rip-rap blankets or similar hardening techniques should be avoided unless bioengineered solutions are not possible because of particular site constraints. NMFS finds that WDFW's publication, "Integrated Streambank Protection Guidelines" (June, 1998) can provide sound guidance with respect to controlling bank erosion, particularly in the area of mitigation for gravel recruitment.

*Comment 264:* One commenter supported the concept of protecting the CMZ in streams and floodplains, and requested that the same protection be extended to prevent bank hardening in lake, estuarine, and marine shorelines.

*Response:* NMFS agrees that natural geomorphic diversity and habitat development are important in all fish-bearing waters, including estuarine and marine systems where the habitat formation processes of many wetlands, shorelines, and waterways have been impaired by the construction of dikes, levees, breakwaters, sea walls, shore protection systems, ports, moorages, and other hardened structures. While the CMZ concept itself is only applicable to systems with a definable channel, it is NMFS' intent to address, avoid, and minimize these habitat threats whenever such structures are constructed or maintained.

#### 12.i.F. Wetlands

*Comment 265:* One commenter recommended that some wetlands be excluded from the take prohibitions and suggested that not every disturbance in a wetland management area should be prohibited.

*Response:* Take is prohibited. In general, MRCI development activities should protect wetlands and the vegetation surrounding them and thereby conserve natural wetland succession and function. The reason for this is that wetlands and their associated ecotypes support salmonid food chains, protect shorelines, purify water, store water during flood events, recharge groundwater, and provide specialized habitat for rearing and migrating salmonids.

Drained hydric soils that are now incapable of supporting hydrophytic

vegetation because of a change in a water regime are not considered wetlands. The basic goal is to establish management that allows wetlands to maintain ecological functions, not to exclude all disturbances. Activities conducted in a wetland management area are generally subject to the COEs' permitting process under section 404 of the CWA and are necessarily subject to ESA section 7 consultation.

#### 12.i.G. Hydrologic Capacity

*Comment 266:* Some commenters requested that NMFS clarify its intent in protecting hydrologic capacity.

*Response:* MRCI development activities should preserve intermittent and perennial streams' hydrologic capacity to pass peak flows. Decreasing the hydrologic capacity of stream systems by filling in the stream channel for road crossings or other development can increase water velocities, flood potential, and channel erosion, degrade water quality, disturb soils and groundwater flows, and alter vegetation adjacent to the stream. Preserving hydrologic capacity provides conditions needed to maintain essential habitat processes such as water quantity and quality, streambank and channel stability, groundwater flows, and riparian vegetation succession. Filling and dredging in stream channels should be avoided unless they occur in conjunction with an unavoidable stream crossing.

*Comment 267:* One commenter referred to the need to strengthen the Metro Title 3 flood management standards and ensure that riverine and floodplain systems are reconnected and historic floodplain functions are restored.

*Response:* Metro is currently seeking to improve Title 3 as part of a broader effort to comply with Oregon's statewide Planning Goal 5—the state's land use goal for natural resource and open space protection, and Oregon Administrative Rule 660, Division 23 (the "Goal 5 rule"). This effort is focused specifically on strengthening Title 3 by adding a program to protect, restore, and enhance fish and wildlife habitat functions in urban riparian corridors. NMFS is participating in a technical advisory role. Metro has not yet submitted its Urban Growth Management Functional Plan to NMFS for consideration as a limit to the take prohibition, nor has NMFS approved it for that purpose. If Metro applies for a limit under this final rule, it will be evaluated at that time using the review process described in this final rule.

#### 12.i.H. Landscaping

*Comment 268:* Two commenters suggested more stringent standards for landscaping. One commenter proposed that watering, as well as fertilizers, pesticides, and herbicides, be eliminated in urban landscapes; the second proposed regulations requiring the use of native vegetation to reduce water use.

*Response:* Residential and commercial landscaping can be designed, installed, and maintained to reduce the need for water, herbicides, pesticides and fertilizer. Doing so will help maintain essential habitat processes by conserving water, reducing flow demands that compete with fish needs, and decreasing the amount of chemicals that contribute to water pollution in streams and other water bodies that support salmonids. NMFS relies on local ordinances to address planting and water use.

#### 12.i.I. Erosion/Sedimentation

*Comment 269:* One commenter asked that NMFS clarify its expectations for erosion control measures.

*Response:* MRCI development activities should prevent erosion and sediment run-off during and after construction and thus prevent sediment and pollutant discharges. At a minimum, these activities should include detaining flows, stabilizing soils, protecting slopes, stabilizing channels and outlets, protecting drain inlets, maintaining BMPs, and controlling pollutants. This can be accomplished by applying seasonal work limits, phasing land clearing, maintaining undisturbed native top soil and vegetation, etc.

#### 12.i.J. Water Supply/Screening

*Comment 270:* Several comments called for caution and flexibility concerning water supply development and water diversion screening; others wanted specific restrictions not identified in the proposed rule or mandatory conservation measures for existing developments.

*Response:* Water supply development can profoundly affect surface and groundwater hydrological processes. Water supply demands should be met without impacting flows needed for threatened salmonids—either through direct withdrawals from the streams or through groundwater withdrawals. Water diversions should be positioned and screened to prevent salmonid injury or death. When existing regulations do not protect the stream flows that salmon need, appropriate additional measures will need to be identified before NMFS



approves an MRCI development ordinance.

12.i.K. Enforcement, Funding, Reporting, etc.

*Comment 271:* Several commenters supported the monitoring provisions and requested that specific monitoring and implementation programs be described. In contrast, others concluded that by including all necessary enforcement, reporting, and implementation mechanisms NMFS has the potential to be arbitrary in its review of programs. It was suggested that NMFS make the reporting requirement biennial instead of annual.

*Response:* During the ordinance or plan development and approval process, NMFS will work closely with the local jurisdiction to identify and develop those monitoring mechanisms applicable to the listed species, their habitat, and the local jurisdiction. The existing condition of the salmonid habitat in the watersheds, the rate of projected growth, and other factors will be used as a baseline for the monitoring.

12.i.L. Comply with Other State and Federal Laws

*Comment 272:* Some commenters wanted to exclude this provision because they believed it exceeded NMFS' authority and because other programs exist to assure compliance.

*Response:* This subsection notifies applicants of the continuing obligation to ensure that their developments comply with existing state and Federal rules and regulations, as well as with this final rule in order to be eligible for the limit to the take prohibition. Further, an applicant should automatically assume that compliance with this final rule necessarily meets existing regulatory requirements of local and state agencies.

#### *Forest Management Activities in Washington*

*Comment 273:* Many commenters wanted to know how the April 29, 1999, Forest and Fish Report (FFR) process under section 4(d) of the ESA compares with the process for issuing an incidental take permit issued under section 10. Some of these commenters misunderstood the intent of the FFR and others mistakenly believed that the proposed limit could result in issuing an incidental permit, or could be in effect for 50 years.

*Response:* While an ESA section 10 HCP may be developed by a non-Federal entity using many of the elements of the FFR, that process has not yet progressed to the point that NMFS has become involved. In other words, it would be

many months before anyone applies for an HCP based on the FFR. At this time, NMFS is simply describing the circumstances in which an entity or actor can be certain it is not at risk of violating the take prohibition or of consequent enforcement actions, because the take prohibition would not apply to programs within those limits. And, unlike an HCP with "No Surprises" assurances, under the 4(d) limit NMFS may require FFR to be adjusted in the future. For habitat-related limits on the take prohibitions, changes may be required if the program is not achieving desired habitat functions, or where even with the habitat characteristics and functions originally targeted, habitat is not supporting population productivity levels needed to conserve the ESU.

*Comment 274:* Some commenters wanted to know what role NMFS played in developing the FFR. Some commenters believed that NMFS had already approved the Washington State Forest Practice Emergency Rules without following the National Environmental Policy Act (NEPA), and other commenters wanted to know how NMFS interacted with other resource agencies.

*Response:* Along with other natural resource agencies at the state, tribal, and Federal levels, NMFS participated in multi-party negotiations with representatives of the commercial forest managers in Washington State from about April of 1997 through April of 1999. NMFS staff provided technical assistance to several of the work groups tasked with providing the scientific underpinnings for various elements of the FFR. Also, NMFS staff helped explain ESA procedures and implications to the entire negotiating group.

While NMFS considers the product of those negotiations—the FFR—to form the core of the ESA 4(d) limit for forestry on non-Federal lands in Washington State, the report will continue to be worked on for at least another year as various sections are refined and completed. Since the FFR was initially published in April of 1999, NMFS staff have made technical and policy contributions to many sections of the report. These include, but are not limited to, FFR "Schedules" (essentially, technical appendices) for Channel Migration Zones, Road Management, Placement of Large Woody Debris, Conversion of Hardwood Riparian Zones, Adaptive Management, and Resource Objectives. Some of these products are formalized as Washington Forest Practice Board (WFPB) Manuals associated with the Emergency Forest

Practice Rules (that became effective March 20, 2000) and have been evaluated by the Department of Natural Resources (DNR) in their State Environmental Policy Act Draft Environmental Impact Statement (SEPA DEIS). This document may be found on the web at [>](http://www.wa.gov/dnr/htdocs/fp/fpb/pdfiles/).

*Comment 275:* Many commenters stated that the FFR was severely flawed. As evidence, they pointed to a critique organized by the Society for Ecological Restoration.

*Response:* Four individual scientists participated in a review of the FFR that the Society for Ecological Restoration (SER) organized. The American Fisheries Society (AFS) was solicited to review SER's material, but contrary to purported statements on behalf of SER, AFS did not review or endorse any of the reviewers' work products. The AFS repeatedly asked the SER to retract and correct this inappropriate attribution. NMFS believes that, while there are useful parts of the report, the Society's critique of the FFR was flawed by: (1) a limited understanding of the policies, regulations and intent of the ESA (2) an incomplete understanding of all the elements of FFR, which led to (3) overstatements of the perceived weaknesses in the FFR.

Specifically, the report claimed the FFR could result in: too-warm waters flowing from some non-fish bearing streams into fish-bearing waters; a failure to identify some small fish-bearing streams; inadequate assessment of some potentially unstable slopes; potential increases in peak-flows that could generally harm incubating fish eggs; a potential reduction in future recruitment of woody material from some non-fish-bearing streams into fish-bearing streams; excessive disturbance and potential delivery of sediments from some non-fish-bearing streams into fish-bearing streams; and, inadequate identification of impaired watershed conditions that may need extra protection. NMFS has assessed all these concerns in light of the best available scientific and commercial information and generally agrees with the environmental analysis summarized in the SEPA DEIS. The moderate environmental risks and levels of uncertainty associated with the FFR are directly addressed by the adaptive management program and the adjustable nature of the ESA 4(d) limit.

*Comment 276:* Several commenters wanted pesticide application covered in the FFR 4(d) limitation while another commenter did not.

*Response:* The FFR proposes certain guidelines for pesticide applications

which can be found at: [www.wa.gov/dnr/htdocs/fp/fpb/forests&fish.html#APPE](http://www.wa.gov/dnr/htdocs/fp/fpb/forests&fish.html#APPE). Due to the lack of information on specific pesticides proposed for use under the FFR and their potential for lethal and sub-lethal effects on fish or, as one commenter put it, an uncertainty that needs to be addressed, the limitation associated with the FFR does not include pesticide application.

*Comment 277:* Many commenters questioned how NMFS could ensure that the riparian conditions essential to listed fish survival and recovery would continue to function properly. Other commenters asked for a clear description of Desired Future Condition for riparian forests. Some commenters asked that NMFS prepare forest management standards for watersheds.

*Response:* The riparian conservation elements in the FFR are expected to play a major role in conserving salmonids and creating properly functioning conditions on non-Federal forest lands in Washington State. The FFR offers detailed, protective management strategies for three different forest land ecotypes in Washington as well as for fish- and non-fish-bearing streams throughout the state. NMFS has carefully examined these protections and management strategies and has determined that they sufficiently conserve the listed salmonids and will promote properly functioning habitat condition wherever they are applied. The best place to examine these management measures is in the FFR itself.

*Comment 278:* Many commenters expressed the need to improve forest road management and desired to know how the question was addressed in the FFR.

*Response:* Forest roads have the potential to affect aquatic ecosystems primarily by: generating and delivering fine sediments from road surfaces and ditches; delivering catastrophic sediment inputs as a result of road-related slope failures; blocking fish passage; disrupting the downstream routing of sediments and organic materials; reducing floodplain function; and modifying hydrologic patterns (e.g., the timing and intensity of peak flows). The FFR addresses all of these effects through a revised set of BMPs that govern road construction and maintenance. The BMPs require road maintenance and abandonment plans, set a functional resource objective for hydrology that virtually disconnects road drainage from stream systems, and describe a functional resource objective for road-related fine sediment that limits the length of ditch line that can deliver

sediment to streams. Moreover, the FFR addresses existing road problems by requiring every forest landowner to produce a Washington State DNR-approved Road Maintenance and Abandonment Plan by 2005.

*Comment 279:* Many commenters did not believe that FFR or the Emergency Rules offered enough protection with regard to unstable slopes to meet the intent of the proposed limit.

*Response:* The goal for managing unstable slopes is to avoid increasing or accelerating the naturally occurring landslide rate (and volume) in forested watersheds, while still recognizing that mass-wasting is an essential watershed process element that helps route large woody debris through the stream system. The FFR provides general guidance about slope hazard by identifying four primary groups of land forms generally understood to be at risk for failure and potential sediment delivery: (1) Inner gorges, convergent headwalls, and bedrock hollows steeper than 70 percent; (2) toes of deep-seated landslides with slopes steeper than 65 percent; (3) groundwater recharge areas for deep-seated landslides in glacially formed terrain; and (4) the outer bends of meandering channels. The FFR lays out a detailed process for scrutinizing any proposed forest management activities in such areas and commits to support a team of geologists that will map any other potentially unstable areas in the state. NMFS has carefully considered these and the other basic protections set forth in the FFR and believes that the overall approach fits with the limit. Moreover, the risk from unstable slopes is expected to decrease as the adaptive management process moves forward and more and better tools are brought to bear on the problem of avoiding sediment inputs.

*Comment 280:* Some commenters stated that the FFR used a faulty system of stream-typing. They were concerned that an out dated system would continue to be used and, as a result, some fish-bearing streams might not be identified for protection.

*Response:* The FFR classifies streams and dictates levels of riparian and other protections based on the potential for a given channel to support fishes of any species at any time of the year. Seasonal fish-bearing streams are protected as if they were perennial. This habitat-based stream typing will replace the current emergency rule as GIS-based stream habitat models are developed (they are expected to be complete by June of 2001). For now, the older stream typing system—based on fish presence—will continue to be used; though it will also be upgraded through the WFPB

Emergency Rule (March 20, 2000). Both of these stream-typing systems are based on judgements of the geographic threshold of perennial flow. These are considered to be: a sub-watershed of 13 acres in western coastal Washington, 52 acres in all other regions of Western Washington, and 300 acres in eastern Washington.

*Comment 281:* How does the FFR address potential changes in watershed hydrology resulting from forest practices? Some commenters thought NMFS should add provisions that would help maintain natural hydrology by limiting clear cut areas. Others urged NMFS to set standards for tree regrowth to aid watershed recovery after logging.

*Response:* The FFR proposed that forested watersheds be managed to meet a functional Resource Objective (Schedule L-1, in the FFR) that limits increases in peak flows and other consequences of altered hydrology. This Hydrology Resource Objective is still undergoing development. When complete, it will provide both a quantitative approach (based on changes in peak flow intensity or duration) and an objective based on the actual streambed effects arising from altered hydrology to choose from—depending on which is appropriate to the area in question. In both cases the emphasis will be on those watershed portions susceptible to rain-on-snow events, which are widely considered to have the greatest potential to alter peak stream flows and cause scour.

The BMPs for roads are also closely related to this issue (see earlier discussion for road-related hydraulic and sediment effects). In addition, the parties to the FFR committed to revising the Hydrology Module in the Washington Forest Practice Board's (FPB's) Watershed Analysis Methodology in order to more accurately assess hydrologic effects. Finally, the DNR also maintains authority to place conditions on any proposed Forest Practice if there is cause to believe that altered hydrologic conditions are of concern. Therefore, NMFS does not believe it necessary at this time to proposed additional conservation measures relating to watershed hydrology.

*Comment 282:* Many commenters wanted to know how NMFS would monitor activities under the FFR and use that data to determine whether rule adjustments were necessary.

*Response:* The FFR proposes an elaborate process for designing and implementing a monitoring and research program that will be used to adapt forestry activities through changes in the Washington Forest Practice Rules.

The adaptive management process is presented in Appendix L of the FFR. Essentially, the protocols and procedures for conducting adaptive management research and monitoring must be approved by Washington's FPB. An administrator employed by Washington DNR will oversee the program and assist the FPB in its task.

*Comment 283:* Many commenters stated that the FFR was too cumbersome for the Washington DNR to be able to implement.

*Response:* The Washington Forest Practices Board described their version of FFR, as Alternative 2, in the space of about 18 pages in the SEPA DEIS. The agency responsible for ensuring compliance with state Forest Practices—the Washington DNR—was a full participant in the negotiating process that led to FFR development. Part of their role was to codify and implement the proposed conservation measures. The first step of that codification was completed in February, 2000, when the FFR was substantially instituted as “emergency rules” for state forest practices. All necessary Washington DNR staff have undergone extensive training to implement the Emergency Rules.

*Comment 284:* Several commenters were concerned about the level of protection provided to wetlands, specifically forested wetlands. Other wetland concerns revolved around potential impacts on hydrology and water temperature as a result of effects on groundwater in up-slope areas. Also, some commenters indicated that the CMZ definition was too narrow and would not provide adequate protection.

*Response:* NMFS agrees there is uncertainty associated with forest management activities near wetlands in terms of how those activities might impact fish habitat. NMFS generally agrees with the analysis provided in the Washington State SEPA DEIS, section 3.5.2. That document can provide commenters with further information about the effects certain activities may have on wetland areas. In addition, the rule outlines the process for adjusting itself—a process that may be necessary as new information on the effects of specific forest practices comes to light.

The March 2000, Board Manual for Emergency Rules, section 2, explains the standard method for measuring CMZs and offers revised Standard Methods guidance. In it, several different ways of determining the CMZ are described, e.g., using historic aerial photographs, intensive field exercises, and field review by a channel expert.

*Comment 285:* Several commenters wanted the limit to include alternative

plans that would give landowners managing areas less than 20 acres in size more operational flexibility. One commenter asked for clarification and requested that the limit include alternative plans that would help avoid any take liability.

*Response:* Within the construct of the FFR, alternate plans for forest management are allowed provided that the effect of these actions, as judged by the Washington DNR, conserves physical and biological processes at least as well as the base prescriptions. The purpose of this allowance was to address unique sites and operational configurations that required some departure from standard approaches. The alternative plan management strategy must protect public resources at least as effectively as the basic rules. If approved, the prescriptions set forth in an alternative plan would be substituted for the prescriptions in the corresponding basic rules. NMFS includes in this limit only those alternative plans in the FFR that have been demonstrated to adequately protect listed salmon, and that provide NMFS—or any resource agency or tribe NMFS designates—review opportunity at every stage of development and implementation. Such review may cause a plan to be excluded from this limit.

*Comment 286:* Many commenters asserted that NMFS had no scientific basis to expect that the limit would contribute to salmon recovery.

*Response:* As the proposed rule states, “this proposed rule restricts application of the take prohibitions when land and water management activities are conducted in a way that will help attain or protect properly functioning habitat. Properly functioning habitat conditions create and sustain the physical and biological features that are essential to conservation of the species. Properly functioning habitat conditions are conditions that sustain a watershed’s natural habitat-affecting processes (bedload transport, riparian community succession, precipitation runoff patterns, channel migration, etc.) over the full range of environmental variation, and that support salmonid productivity at a viable population level.” After carefully evaluating the various components of the FFR—as described in the proposed rule and discussed in previous responses, NMFS has concluded that applying the FFR will help maintain and attain properly functioning habitat conditions and will, therefore, contribute to recovery.

*Comment 287:* A number of commenters suggested that NMFS should include the state forest practice

rules from Oregon, California, and Idaho in the limit.

*Response:* At the time the limit was proposed for the FFR in Washington state, NMFS had not been presented with any other forest practices regulatory framework that was designed to conserve listed anadromous fish. For several years, NMFS has been discussing with state agencies in Oregon and California ways to strengthen the fish conservation aspect of forest practice rules in those states. NMFS wishes to continue working with all affected governmental entities in strengthening, identifying, and creating management programs that fulfill the listed salmonids’ biological requirements. For programs that meet those needs, NMFS can provide ESA coverage through 4(d) rules, section 10 research and enhancement permits or incidental take permits, or through section 7 consultations with Federal agencies. A 4(d) rule may be amended to add new limits on the take prohibitions, or to amend or delete limits as circumstances warrant.

#### General

*Comment 288:* A broad array of interests asserted that their activities were, at most, only minimally harmful to salmonids and that natural environmental fluctuations and activities being conducted by others were responsible for the recent drastic declines in salmonid numbers throughout the Northwest and California. Among the activities and causes listed as most harmful were logging, grazing and other agricultural practices, pesticide use, various habitat-altering actions, urban development, sport fishing, commercial fishing, drift net fishing, tribal fishing, recreational fishing, ocean and estuarine conditions, hydropower development, marine mammals, avian predators, other predators, and so forth.

*Response:* Comments of this nature have been made in response to essentially every listing and critical habitat proposal NMFS has put forth over the last decade. As a result there is a great deal of information on these factors available in any one of a number of **Federal Register** documents and it need not be repeated in detail here. Nonetheless, it should be pointed out that the very number of commenters and the range of the causes cited are themselves indicative of the breadth and depth of the problems facing Pacific salmonids. Therefore, NMFS acknowledges that all of these factors have played a role in the species’ recent declines; as evidence, most of the factors that commenters identified were



specifically cited as risk agents in the West Coast Chinook Salmon Status Review (Myers *et al.*, 1998).

The two primary themes that repeatedly arise in these comments revolve around whether the massive declines in salmonid abundance are brought on by natural conditions or human alteration of the environment. NMFS recognizes that natural environmental fluctuations and increasing numbers of natural predators have recently had negative impacts on the species. However, NMFS believes human-induced impacts (e.g., harvest and widespread habitat modification) have played at least an equally significant role in the salmonid declines up and down the West Coast. And because the very nature of this rule-making—the codification of take prohibitions and the limits placed on them—cannot apply to natural processes (by definition, the ocean cannot not “take” species), the rules necessarily address human activities.

*Comment 289:* Many commenters stated that the language of the rules needed to be more clear in a number of respects, particularly with regard to the terms found in the take guidance sections. Others felt there was too much detail in the rules and that NMFS should simply stick to principles and not offer too much in the way of specific guidance.

*Response:* In publishing the proposed rules, NMFS tried to strike a balance between these opposing views. The point was to avoid making the rules overly prescriptive—and thus allow local initiative to play a strong role—yet still give valuable guidance on how to proceed with numerous human activities in the areas inhabited by threatened salmonids. To continue in this spirit, NMFS has gone to some lengths to clarify the guidance language and it may be found in this final rule.

*Comment 290:* Several commenters requested clarification on NMFS’ use of the term “stock,” the definition of population segments, and the implications of these concepts for species conservation.

*Response:* The use of the term “stock,” following Ricker’s definition, is critical because it defines the appropriate management units for conserving the species. According to Ricker, stocks are made up of numerous populations which become uniquely adapted to specific environmental conditions, leading to local variations in morphology, behavior, and life history traits. As amended in 1978, the ESA allows the listing of “distinct population segments” where groups of populations are assembled for

conservation management purposes. NMFS’ policy states that a salmon population is considered “distinct” for purposes of the ESA if it represents an ESU of the biological species, where an ESU represents an important component of the evolutionary legacy of the species. Thus the health of an ESU depends upon the health of its component parts. This argues for developing protective regulations across an ESU’s entire range, even though some local populations may be thriving. The ESA 4(d) protective approach offers the flexibility to develop local protection programs which are cognizant of the species condition in the area.

*Comment 291:* A large number of commenters voiced general and specific support for and opposition to various rules.

*Response:* The proposed ESA 4(d) rules generated an amount of substantive public comment unprecedented since NMFS first began rule-making activities for salmonids on the West Coast 10 years ago. Many thousands of individual comments contained within the letters from well over one thousand respondents reflected the broadest possible spectrum of feeling—from full support to total opposition to the proposed rules. Though the very nature of the questions surrounding salmonid management in the Northwest and California precludes any possibility of pleasing everyone, NMFS has striven to use this public comment period—as well as every other input avenue at our disposal—to adapt the rules in a manner that more fully reflects the basic objectives to encourage state and local conservation efforts and to clear up the substantial confusions associated with certain elements of the earlier proposed rule.

*Comment 292:* Several commenters stated that NMFS should consult with tribal governments regarding actions by non-tribal entities, particularly those actions and limits contained in the salmon and steelhead ESA 4(d) rules.

*Response:* Throughout the development of the tribal and salmon/steelhead 4(d) rules NMFS has made a concerted effort to notify and confer with tribal representatives and technical staff throughout the Pacific Northwest and California. Contact regarding these rules goes back to before December of 1998, when draft rules were submitted for review by the affected tribes well in advance of the proposed rules. During that review, NMFS coordinated and attended a number of meetings and working sessions with tribal governments and representatives (including staff from inter-tribal fisheries commissions) to discuss

particular aspects of the ESA 4(d) rules. These meetings allowed NMFS to develop proposed ESA 4(d) rules that the agency believes address a wide range of issues highlighted by the tribes. Similar efforts were made to discuss the proposed 4(d) rules with key staff and tribal council members after the rules were published.

Clearly, NMFS recognizes the need to work closely with the tribes of the region to develop and improve upon information exchange and consultation opportunities relating to salmon and steelhead conservation. Since beginning work on these 4(d) rules NMFS has added a tribal liaison position to its staff to focus on improving communications with the tribes and developing consultation procedures that will meet both NMFS and tribal needs. It is the agency’s intent to continue working with tribal governments to develop regularly scheduled meetings between NMFS and tribal technical staff and policy makers to both provide more timely notice regarding NMFS activities and discuss how consultation might occur for future fisheries issues and ESA rulemaking. There remains the opportunity for the tribes and the agency to hold future discussions on applying the ESA 4(d) rules. Such future discussions can include identifying cultural and economic issues requiring the agency’s attention and ideas about how such analyses should be conducted. In response to tribal requests, NMFS will correspond with each commenting tribal government, clarify how its comments were addressed, and identify the need for additional meetings to discuss potential rule amendments and modifications.

*Comment 293:* Many people stated that any activities conducted in accordance with the Oregon Plan for Salmon and Watersheds should receive a specific limitation on the take prohibitions.

*Response:* NMFS has carefully reviewed the various versions of the Oregon Plan since its genesis over 4 years ago and remains a strong supporter of it as a hugely ambitious and comprehensive effort. While many portions of the Plan may sufficiently protect the salmon resource as they now stand, other components need further work and refinements, as is widely understood and altogether understandable. Therefore, because certain parts of the Plan do not offer the salmon enough protection, NMFS cannot adopt it wholesale as a limitation on the take prohibitions.

*Comment 294:* Several commenters requested that NMFS clarify how it will

add new limits and adjust programs that are already within a limit.

*Response:* NMFS will continue to work with local jurisdictions and other entities to develop and adopt new ESA 4(d) rule limits. In general, local entities will develop a proposed limit based on the guidance set forth in the rule and will bring it to NMFS for technical assistance and to undergo a negotiation and approval process. The approach is a flexible one and there are different time frames and administrative procedures for each limit—depending on the type being proposed (see the regulatory text of this final rule). Existing limits will be reviewed and evaluated according to the schedule established at the time the limit is finalized.

*Comment 295:* One commenter requested that NMFS identify in the final rules the “replicable” elements of any of the agency-specific programs.

*Response:* There are two types of limits available through the ESA 4(d) rule: (1) Stand alone programs, and (2) a set of criteria that will form the basis for future programs that NMFS will evaluate for further limits on the take prohibition. The first category of limits is made up of programs that can be adopted or adapted as “replicable” elements for other jurisdictions or entities. The criteria in the latter type of limit also serve as replicable elements that other programs can adapt to meet.

*Comment 296:* A number of respondents expressed a general concern that the ESA 4(d) rules were too coercive. They stated that the rules would engender third-party lawsuits or simply fragment and undermine local efforts rather than bolster them. A recurring theme was that NMFS should be more flexible in its approach than the rules would seem to indicate.

*Response:* One of the primary reasons NMFS has taken this ground-breaking approach in publishing ESA 4(d) rules is to allow for a maximum of local input and Federal flexibility. Rather than simply impose blanket take prohibitions of the sort normally promulgated under a final rule listing a species, NMFS has attempted to create a regulatory environment within which local initiatives and programs have sufficient leeway to remain focused on their own goals while simultaneously working toward the ultimate end of preserving salmonid stocks—both now and in the future. No agency can alter the simple fact that certain activities that harm listed salmonids must be regulated. Nonetheless, as the rules themselves demonstrate, NMFS is committed to an approach that focuses more on aiding

local efforts that conserve listed salmon and steelhead.

*Comment 297:* Some commenters stated that local entities should have little or no authority to carry out the measures because local initiatives have a very poor track record with respect to protecting salmonids.

*Response:* The task of protecting salmonids in the Pacific Northwest and California is perhaps the most complicated and far-reaching attempt to restore a species ever undertaken. In practical terms, the Federal government alone, using only Federal authorities and dollars, cannot hope to accomplish this ambitious task of salmon recovery without the additional active efforts of state and local authorities and the private sector. A wide mosaic of activities affect salmon habitat. Those activities fall under the responsibility of a range of Federal, state and local authorities. The practical ability to make changes in those activities will depend in part upon the willingness and ability of those separate authorities to encourage change. Therefore, NMFS is attempting, to the greatest extent practicable, to build opportunities for state and local initiatives in the implementation of the ESA program. This strategy has already proven successful in a few areas where watershed councils and other local bodies have made great strides in salmon conservation through habitat rehabilitation, community awareness seminars, and other projects. NMFS anticipates and welcomes further expansions of these efforts over time.

*Comment 298:* Many commenters stated that individual landowners should receive assurances in the rules that if they cooperated and followed the measures outlined, they would be free from any further restrictions under the ESA.

*Response:* As a matter of law, listed species may not be taken without legal authorization. Therefore, it is incumbent upon every individual and organization to be vigilant in terms of minimizing the impacts their activities have on listed salmonids. The 4(d) rules establish take prohibitions; that is their purpose. Secondarily they are an attempt to allow landowners and every other interested party a path by which they can have some assurance that their activities are in concert with the letter and intent of the ESA. It should be noted that no one will be forced to seek a 4(d) limitation, and no one need necessarily follow the limitations laid out in the rule. They are optional, flexible methods for ensuring that individual entities adhere to the mandated take prohibitions. The other routes for complying with the ESA are

still open; for example, landowners may still seek ESA section 10 incidental take permits through the process of developing habitat conservation plans—a process that offers them a good deal of assurance that their activities will continue to be in compliance with the ESA. Any program or activity that adheres to the criteria found in the limits described in these rules will receive a similar sort of assurance. Further, it is very likely that other programs will come forth in the future that similarly protect the salmon and, as a consequence, will receive their own limitations on the take prohibitions. Nonetheless, it must be stressed that the primary purpose of these rules is to fulfill the mandate of the ESA in issuing regulations deemed necessary and advisable to provide for the conservation of threatened species.

*Comment 299:* A number of commenters asserted that the original listings were in error—most the reasons given fell into two categories: either (a) the science was inaccurate, or (b) the concept of listing ESUs is faulty.

*Response:* Section 4(b)(1)(A) of the ESA requires that NMFS make its listing determinations solely on the basis of the best available scientific and commercial data after reviewing the status of the species and taking into account any efforts being made to protect such species. NMFS believes that information contained in the agency’s status review (Myers *et al.*, 1998), together with information cited in the final rule (NMFS, 1998a), represent the best scientific information presently available for the ESUs addressed in this final rule. NMFS made every effort to conduct an exhaustive review of all available information and solicited information and opinion from all interested parties in making the listing decisions. If in the future new data become available to change these conclusions, NMFS will act accordingly.

As to the validity of listing ESUs in the first place, general issues relating to ESUs and the ESA have been discussed extensively in past *Federal Register* documents—most recently in the final rule listing 4 ESUs of chinook salmon (64 FR 14308, September 9, 1999) and they need not be reiterated at length here. Nonetheless, the utility of the ESU concept is laid out in a 1991 document in which NMFS describes how it will apply the ESA definition of “species” to Pacific salmon (56 FR 58612, November 20, 1991). Guidance on applying this policy is contained in a NOAA Technical Memorandum entitled “Definition of ‘Species’ Under the Endangered Species Act: Application to Pacific Salmon” (Waples, 1991) and in

a recent scientific paper by Waples (1995). It should also be pointed out that the National Research Council generally endorses the concept (NRC, 1995).

*Comment 300:* Several commenters were concerned about the scientific standards used to justify the inclusion of the 13 limits and to judge future limits, and suggested the generation of uniform standards.

*Response:* NMFS evaluated the current limits based on best available science and the concepts of VSP and PFC, and will evaluate any future limit using the same and other, more site specific guidelines. Recognizing the variable nature of the geologic, hydrologic and aquatic ecosystems across all ESUs, and the consequent variability in strategies for salmon recovery, NMFS proposes an approach that allows local innovation through the development of local and regional programs that are protective of salmon and steelhead. These programs are monitored and evaluated for their effectiveness in meeting the conservation goal of the survival and recovery of the species. While NMFS offers general guidelines, the 13 limitations and new programs offer additional specificity and strategies for meeting the conservation goal.

*Comment 301:* Some commenters expressed the opinion that the rules are too costly and will involve too much red tape.

*Response:* Saving a species is neither an easy task nor a cheap one. Nonetheless, NMFS is committed to finding the most efficient and cost-effective way of preserving salmon and steelhead on the West Coast. To assist us in this, we have prepared initial regulatory flexibility analyses of the effects the rules are likely to have on small businesses, non-profit organizations, local governments, and other small entities. The purpose of these analyses is to help the agency consider all reasonable regulatory alternatives that would minimize the rules' economic impacts on affected small entities. It is thus our intent to make full use of these analyses and keep economic impacts to a minimum.

In addition, because this is a new approach to promulgating 4(d) rules under the ESA, we are aware that the process may impose some unforeseen burdens in terms of time investment and paperwork for all involved parties—including NMFS. To counter this, we will use the principles of adaptive management to streamline the process wherever and whenever possible.

*Comment 302:* A number of people stated that more time was needed for

completing and commenting on the rules.

*Response:* NMFS has been working with individual programs, tribes, and local governments all over the Northwest for well over 2 years to complete the 4(d) rule proposals. Twenty-five public meetings were held in order to get input. The statutory time line for commenting on the rules was doubled so that every interested person in the region would have a reasonable amount of time in which to formulate and submit their comments.

It is important to note, however, that one of the main premises of promulgating these rules is to build a maximally adaptive process for managing salmon on the West Coast. Therefore, it is expected that these rules will continue to change in response to incoming monitoring data, further public input, other proposed limitations on the take prohibitions, and the developing recovery plans for the listed species.

*Comment 303:* One commenter requested that the reference to a public comment period of 30 days for various plans and programs be included in every section of the rule in order to provide consistency in process between limits.

*Response:* All programs that are accepted as ESA 4(d) limits will be published in the **Federal Register** and the usual comment period is 30 days. NMFS makes clear in the regulatory text of this final rule where and when the 30-day comment period applies.

*Comment 304:* Many commenters agreed with various portions of the rules, but stated that it is imperative that they be enforced and that monitoring and oversight need to be accounted for in every limit. Further, monitoring must be built into the system in a way that allows the limits to be altered when evolving science shows it necessary.

*Response:* Change in response to new data is the very heart of the adaptive management process. NMFS is committed to continually bringing the best and latest information to bear on the question of how to best preserve declining salmon stocks—monitoring is a critical path for developing that information. Most of the programs given limitations in the 4(d) rules feature monitoring as an integral part. The language in the final rules has been changed slightly to further stress the importance of monitoring and to make clear that it will be used to alter the programs where necessary.

*Comment 305:* Some commenters suggested that the results from monitoring data for programs implemented under different limits

should be available for public comment. Another commenter urged that the process for reviewing the effectiveness of the fish protection measures include tribal managers, independent scientists, and the public.

*Response:* The results of monitoring data from programs within ESA 4(d) limits will be available for public review at the appropriate NMFS office. At this time, however, NMFS does not have a mechanism to seek formal public comment on the data. NMFS will continue to seek monitoring data, input, and other relevant information from co-managers and others as the programs are reviewed, evaluated, and adjusted.

*Comment 306:* Some commenters wanted to know why NMFS believes it is necessary to have such a detailed review and reporting process for the limits when FWS does not require anything like it for wildlife.

*Response:* As stated previously, this is a ground-breaking approach to managing threatened species. Its intent is to allow a maximum of local input while simultaneously offering the largest possible degree of protection for the species. It has never been tried before and, as a result, it is imperative that we keep a very close eye on its progress. Aside from the need for monitoring to allow the process to adapt, these rules will eventually become part of the larger recovery planning process. By closely examining the success of the proposed measures, we can get a much better idea of what it will take to fulfill the ultimate portion of our mandate: to recover the species.

*Comment 307:* One commenter recommended that NMFS work with FWS to make sure that Federal activities receive take prohibition limits under our ESA 4(d) rules similar to the ones being proposed for Bull trout. In addition, another commenter urged close coordination with FWS to prevent different interpretations of take and different limits being offered.

*Response:* NMFS always seeks to cooperate with FWS, and procedures have been established for joint consultation on ESA rulemaking and for reviewing Federal programs through section 7 of the ESA. NMFS anticipates that this cooperation will be strengthened as the 4(d) rule is implemented. NMFS will further work with FWS to ensure that the existing bull trout take prohibitions might be modified to reflect appropriate state or local efforts in parallel to this final rule.

*Comment 308:* Some tribal commenters were concerned that the 4(d) rules could serve as a "back door" to unfairly allocate the conservation burden on tribal governments. The



concern is that if the program is not scientifically rigorous enough, the Agency would be forced to turn to the tribes for additional conservation burden (i.e., limit fishing or development activities).

*Response:* NMFS intends to review all new proposed limitations rigorously for their contribution to the conservation of the species using existing criteria and additional site-specific tools. In addition, before any program is accepted, it will be published in the **Federal Register** for public review and comment. NMFS expects this process to be rigorous and open enough to permit the development of effective protective regulations and programs.

*Comment 309:* Some commenters stated that NMFS should delineate specific population parameters for several named populations (e.g., the Yuba River) so it can be determined if they may be excepted from having any take prohibitions placed on them. Some commenters wanted the rules to be eased when a viable population size is reached in order to give landowners an incentive to continue using protective measures.

*Response:* The limits on take prohibitions are given for specific activities, not for populations. If an activity helps conserve salmonids or if it adequately limits impacts on salmonids, it may receive a limitation on the take prohibitions. In the spirit of adaptive management, there may well come a point in the future where a population (and its ESU) has rebounded to the point where it is healthy enough, viable enough, that alternative management actions would be allowable. Of necessity, this would first take place in a highly controlled experimental environment that would allow researchers to determine the impacts of any new management scheme. Until that time, however, it is necessary to protect the salmonids while we get a better measure of population viability and place it firmly in the context of managing West Coast salmon. NMFS scientists are working diligently to accomplish that goal and will continue to use their results to adapt the agency's ongoing salmon management programs.

*Comment 310:* Some commenters stated that the overall regulatory scheme was too fragmented. They stated the need for a clear pathway for local and state governments to synthesize their programs with the ESA 4(d) approach. They also stated there should be a better recognition of the limitations local governments face in terms of staffing, funding, and ability to monitor.

*Response:* One of this final rule's purposes is to develop a process that is flexible, adaptable, and receptive to greater participation from local entities. In order to accomplish this, the regulatory scheme must remain somewhat open as well. Nonetheless, though NMFS desires to remain open to new approaches, we have also included a good deal of guidance as to what we believe any program should contain in terms of protective measures for salmon. Also, we will continue to do what we can to assist local entities, watershed councils, and others with instruction, technical assistance, and, whenever possible, funding.

*Comment 311:* Some commenters asserted that NMFS cannot anticipate how many states or local governments will be affected by the rule or how many entities or jurisdictions will apply for coverage under the new ESA 4(d) limits. Others commented that NMFS will be inundated and overwhelmed with requests for programs to come under a 4(d) limit and suggested simplified procedures streamlining the review and approval of future potential take limitations.

*Response:* NMFS is anticipating strong interest from state and local governments in the ESA 4(d) limits. We are encouraging jurisdictions to work together in developing plans that cover wide geographic scales and multiple activities—thus reducing the number of individual programs that need to be reviewed. Also, we anticipated that promulgating these rules would increase workloads and, as a result, we are evaluating our resource needs and are fully committed to meeting future program demands.

*Comment 312:* Several commenters suggested that NMFS provides no scientific basis to categorically apply the take prohibition to an entire category of activities such as agriculture, and that the agency provides no technical guidance on take avoidance.

*Response:* The take prohibitions do not apply to categories of activities, but to any activities that take listed species. The section on "Take Guidance" provides further information on those activities that have a high risk of take. NMFS stands ready to work with interested parties to provide further guidance, including guidance that could ultimately be included as a 4(d) limitation.

*Comment 313:* Several commenters were confused by multiple **Federal Register** documents and didn't realize that there were several separate ESA 4(d) rules.

*Response:* For the final rules, we have combined the chinook and the steelhead

rules to help reduce some of the confusion. We hope this, along with several changes in the rule's language will make things a bit more clear.

#### Changes to the Proposed ESA 4(d) Rules

The proposed rules included a lengthy preamble where NMFS provided technical guidance, description of the scientific principles upon which the limits on the take prohibition were based, and a description of the background and content of the 13 limits. The proposed regulatory language was included in sections 223.203 and 223.208.

Modifications to the proposed preamble sections based on written comments will be reflected in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000), while the actual changes to the regulatory language are described as follows.

An important change to highlight is that the final 4(d) rules for the different ESUs have different effective dates. In the final steelhead and salmon 4(d) rule the effective date for the steelhead ESUs (§ 223.102(a)(5) through (a)(9) and (a)(14) and (a)(15)) is September 8, 2000. The effective date for the salmon ESUs (§ 223.102(a)(10), (a)(12), (a)(13) and (a)(16) through (a)(19)) is January 8, 2001. NMFS recognizes that the final 4(d) rules are complex and that even the proposed rules created a certain amount of confusion among those who commented on them. The court-ordered settlement date requires NMFS to adopt protective regulations for the steelhead ESUs by June 19, 2000. NMFS, however, is not under a similar court-mandated time line for the salmon ESUs. Therefore, because of the rule's length and complexity, the diverse range of human activities that will potentially be affected, and the continued need to educate all sectors of the public, the effective date for the salmon ESUs will be six months after publication of this **Federal Register** document. This 6-month period will allow NMFS to educate and work with all jurisdictions, entities, and individuals affected by the rule. It will also provide additional time for them to review their activities and programs and adjust them (if needed) to avoid taking threatened species.

The general format of the proposed regulations included the prohibitions of section 9(a)(1) of the ESA (16 U.S.C. 1538) relating to endangered species being applied to the 14 listed threatened salmonid ESUs, except as provided in the 13 limits on application of the section 9(a)(1)(B) and 9(a)(1)(C) take prohibitions that are included in the regulation. The proposed rules listed the following 13 limit categories: (1) Activities conducted in accord with

ESA incidental take authorization; (2) ongoing scientific research activities, for a period of 6 months from the publication of the final rule; (3) emergency actions related to injured, stranded, or dead salmonids; (4) fishery management activities; (5) hatchery and genetic management programs; (6) activities in compliance with joint tribal/state plans developed within *U.S. v. Washington* or *U.S. v. Oregon*; (7) scientific research activities permitted or conducted by the states; (8) state, local, and private habitat restoration activities; (9) properly screened water diversion devices; (10) routine road maintenance activities in Oregon; (11) certain park maintenance activities in the City of Portland, Oregon; (12) certain municipal, residential, commercial and industrial (MRCI) development and redevelopment activities; and (13) forest management activities within the state of Washington.

NMFS is modifying the final ESA 4(d) protective regulations for these 14 ESUs based on comments and new information received on the proposed rules. The following section summarizes how the regulatory language for each limit and technical issues did or did not change. The actual regulatory descriptions of each limit and technical information can be found in the regulatory text at the end of this **Federal Register** document.

#### **Viable Salmonid Populations Paper**

The proposed rules solicited public comments on the draft NMFS VSP paper. The VSP paper is not a separate limit, but provides a technical framework for the fishery management and hatchery management limits. Based on public comments regarding the draft VSP paper, changes were made in the regulatory language for the fishery and hatchery management limits to clarify how the VSP data requirements will be addressed. Additional compliance guidance is available in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Properly Functioning Conditions**

For the reasons identified in the Comment and Responses section, language was added to the limits addressing habitat issues, i.e., habitat restoration, pest management and routine road maintenance, in order to define properly functioning condition and how NMFS will evaluate the limits with regard to meeting this biological standard.

#### **Legal and Affirmative Defense**

For the reasons identified in the Comment and Responses section, regulation language was modified to: (1) add new language to make explicit that

it would be the defendant's obligation to plead and prove application of and compliance with a limit as an affirmative defense; (2) clarify the question about whether the rule should be non-severable, by making it explicit that NMFS intends the provisions of this rule to be severable.

#### **Limit for Activities Conducted in Accord with ESA Incidental Take Authorization**

No changes were made to the regulations pertaining to this limit. Additional compliance guidance is available from NMFS in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Limit for Ongoing Scientific Research Activities**

No changes were made to the regulations pertaining to this limit. Additional compliance guidance is available from NMFS in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Limit for Rescue and Salvage Actions**

No changes were made to the regulations pertaining to this limit. Additional compliance guidance is available from NMFS in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Limit for Fishery Management Activities**

For the reasons identified in the comment and response section, this limit was modified to: (1) change the use of a MOA between states and NMFS to a letter of concurrence from NMFS; (2) clarify the use of viable and critical salmonid population thresholds consistent with the VSP paper; (3) clarify the timing of reports describing take of listed salmonids; and (4) explain that the prohibitions on take of threatened steelhead in recreational fisheries managed solely by the states of Oregon, Washington, Idaho and California will go into effect January 8, 2001.

#### **Limit for HGMPs**

For the reasons identified in the comment and response section, this limit was modified to change the use of a MOA between states and NMFS to a letter of concurrence from NMFS.

#### **Limit for Joint Tribal and State Plans**

No changes were made to the regulations pertaining to this limit. Additional compliance guidance is available from NMFS in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Limit for Scientific Research Activities Permitted or Conducted by the States**

NMFS has revised the limit to reflect commenter concerns about the feasibility of adequate oversight by state

fishery agencies. Additional compliance guidance is available from NMFS in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Limit for Habitat Restoration**

For the reasons identified in the Comment and Responses section, this limit was modified to: (1) clarify that take prohibitions do not apply to habitat restoration activities provided the activity is part of a WCP that meets criteria listed in the regulation; (2) change the time frame to complete a watershed conservation plan from 2 years to an undetermined time, so that the limit is available whenever the criteria described in the regulation are met; (3) delete the list of six categories of habitat restoration activities that would not have the ESA section 9 take prohibitions applied to them for 2 years; (4) clarify and revise the criteria NMFS will use to evaluate a state's watershed conservation plan guidelines; and (5) clarify that NMFS will not approve individual WCPs; instead, NMFS will approve the WCP guidelines with each state and periodically review the state watershed planning programs for consistency with the guidelines. Additional compliance guidance is available from NMFS in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Limit for Water Diversion Screening**

For the reasons identified in the comment and response section, this limit was modified to: (1) allow NMFS-authorized state agency engineers ("authorized officers") to review and recommend certification of screen designs to NMFS rather than NMFS' engineers solely having this responsibility; and (2) allow NMFS, on a case by case basis, to grant this limit to water diversion projects where NMFS has approved a design construction plan and schedule, including interim operation measures to reduce the likelihood of take. NMFS may also require a commitment of compensatory mitigation if implementation of a plan and schedule is terminated prior to completion.

#### **Limit for Routine Road Maintenance Activities**

For the reasons identified in the comment and response section, this limit was modified to: (1) allow this limit to be available to any state, county, city, or port once they have demonstrated in writing that their routine road maintenance activities are equivalent to those in the ODOT Guide which adequately protect threatened salmonid species; or by employees or



agents of a state, county, city or port that complies with a routine road maintenance program that meets proper functioning habitat conditions; (2) add language referring to state, city, county, and ports; (3) change the time frame for ODOT or another jurisdiction to respond to new information in the shortest amount of time feasible, but not longer than one year; (4) clarify that prior to approving any state, city, county, or port program as within this limit, or approving any substantive change in a program within this limit, NMFS will publish notification in the **Federal Register**; (5) clarify that any jurisdiction should first commit in writing to apply the management practices in the ODOT Guide, rather than the proposed language, which first required the jurisdiction to enter into a memorandum of agreement with NMFS; and (6) add new language regarding properly functioning condition. Additional compliance guidance is available from NMFS in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Limit for Certain Integrated Pesticide Management Activities**

For the reasons identified in the Comment and Responses section, this limit was modified to: (1) add new language regarding properly functioning conditions; and (2) clarify language regarding how NMFS will address future program changes and provide public notice that the limit is withdrawn. Additional compliance guidance is available from NMFS in "A Citizen's Guide to the 4(d) Rule" (NMFS, 2000).

#### **Limit for Municipal, Residential, Commercial and Industrial (MRCI) Development and Redevelopment Activities**

For the reasons identified in the Comment and Responses section, this limit was modified to: (1) clarify that this limit applies to MRCI development and redevelopment undertaken by cities, counties, and regional governmental entities; (2) expand and clarify the content of the 12 evaluation considerations NMFS will use to review MRCI development ordinances and plans; (3) add new language to emphasize the properly functioning habitat conditions NMFS considers adequate to conserve listed salmonids; (4) clarify that NMFS notes that not all 12 considerations described in the regulation will necessarily be relevant to all ordinances and plans submitted for review and approval; and (5) include language which clarifies the process NMFS will use to provide notice of availability of ordinances and plans for

public review, and NMFS' process to amend or withdraw limits.

#### **Limit for Forest Management Activities in the State of Washington**

For the reasons identified in the Comment and Responses section, this limit was modified to add new language stating that actions taken under alternative plans are included in this limit provided that they meet the requirements stated in the regulation and are submitted and approved by the authorized Washington state agency.

#### **Take Guidance**

These threatened species are in danger of becoming extinct in the foreseeable future. They have been depleted by over-fishing, past and ongoing freshwater and estuarine habitat destruction, hydropower development, hatchery practices, and other causes. It is, therefore, necessary and advisable to put into place ESA section 9(a)(1) prohibitions to aid in their conservation. Section 9(a)(1) prohibitions make it illegal for any person subject to the United States' jurisdiction to "take" these species without written authorization ("take" is defined to occur when a person engages in activities that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a species or attempt to do any of these). Impacts on a protected species' habitat may harm members of that species and, therefore, constitute a "take" under the ESA. Such an act may include significant habitat modification or degradation that actually kills or injures listed fish by significantly impairing essential behavioral patterns including breeding, spawning, rearing, migrating, feeding, or sheltering.

On July 1, 1994 (59 FR 34272), NMFS and FWS published a policy committing both agencies to identify, to the extent possible, those activities that would or would not violate section 9 of the ESA. The intent of this policy is to increase public awareness about ESA compliance and focus public attention on those actions needed to protect species.

Based on available information, NMFS believes the categories of activities listed here are those activities which as a general rule may be most likely to result in injury or harm to listed salmonids. NMFS wishes to emphasize at the outset that whether injury or harm is resulting from a particular activity is entirely dependent upon the facts and circumstances of each case. The mere fact that an activity may fall within one of these categories does not at all mean that that specific activity is causing harm or injury. These types of activities are, however, those

that may be most likely to cause harm and thus violate this rule. NMFS' ESA enforcement will therefore focus on these categories of activities.

Activities listed in A thru J below are as cited in NMFS' harm rule 64 FR 215 (November 8, 1999).

A. Constructing or maintaining barriers that eliminate or impede a listed species' access to habitat or ability to migrate.

B. Discharging pollutants, such as oil, toxic chemicals, radioactivity, carcinogens, mutagens, teratogens or organic nutrient-laden water including sewage water into a listed species' habitat.

C. Removing, poisoning, or contaminating plants, fish, wildlife, or other biota required by the listed species for feeding, sheltering, or other essential behavioral patterns.

D. Removing or altering rocks, soil, gravel, vegetation or other physical structures that are essential to the integrity and function of a listed species' habitat.

E. Removing water or otherwise altering streamflow when it significantly impairs spawning, migration, feeding or other essential behavioral patterns.

F. Releasing non-indigenous or artificially propagated species into a listed species' habitat or where they may access the habitat of listed species.

G. Constructing or operating dams or water diversion structures with inadequate fish screens or fish passage facilities in a listed species' habitat.

H. Constructing, maintaining, or using inadequate bridges, roads, or trails on stream banks or unstable hill slopes adjacent to or above a listed species' habitat.

I. Conducting timber harvest, grazing, mining, earth-moving, or other operations which result in substantially increased sediment input into streams.

J. Conducting land-use activities in riparian areas and areas susceptible to mass wasting and surface erosion, which may disturb soil and increase sediment delivered to streams, such as logging, grazing, farming, and road construction.

K. Illegal fishing. Harvest in violation of fishing regulations will be a top enforcement concern.

L. Various streambed disturbances may trample eggs or trap adult fish preparing to spawn. The disturbance could be mechanical disruption caused by constructing push-up dams, removing gravel, mining, or other work in a stream channel. It may also take the form of egg trampling or smothering by livestock in the streambed or by vehicles or equipment being driven

across or down the streambed (as well as any similar physical disruptions).

M. Interstate and foreign commerce dealing in listed salmonids and importing or exporting listed salmonids may harm the fish unless it can be shown—through an ESA permit—that they were harvested in a manner that complies with ESA requirements.

N. Altering lands or waters in a manner that promotes unusual concentrations of predators.

O. Shoreline and riparian disturbances (whether in the riverine, estuarine, marine, or floodplain environment) may retard or prevent the development of certain habitat characteristics upon which the fish depend (e.g., removing riparian trees reduces vital shade and cover, floodplain gravel mining, development, and armoring shorelines reduces the input of critical spawning substrates, and bulkhead construction can eliminate shallow water rearing areas).

P. Filling or isolating side channels, ponds, and intermittent waters (e.g., installing tide gates and impassable culverts) can destroy habitats that the fish depend upon for refuge areas during high flows.

The list provides examples of the types of activities that could have a high risk of resulting in take but it is by no means exhaustive. It is intended to help people avoid violating the ESA and to encourage efforts to save the species. Determination of whether take has actually occurred depends on the circumstances of a particular case.

Many activities that may kill or injure salmonids are regulated by state and/or Federal processes, such as fill and removal authorities, NPDES or other water quality permitting, pesticide use, and the like. For those types of activities, NMFS would not intend to concentrate enforcement efforts on those who operate in conformity with current permits. Rather, if the regulatory program does not provide adequate salmonid protection, NMFS intends to work with the responsible agency to make necessary changes in the program.

For instance, concentrations of pesticides may affect salmonid behavior and reproductive success. Current EPA label requirements were developed in the absence of information about some of these subtle but real impacts on aquatic species such as salmonids. Where new information indicates that label requirements are not adequately protective of salmonids, NMFS will work with EPA through the section 7 consultation process to develop more protective use restrictions, and thereby provide the best possible guidance to all users. Similarly, where water quality

standards or state authorizations lead to pollution loads that may cause take, NMFS intends to work with the state water quality agencies and EPA to bring those standards or permitting programs to a point that does protect salmonids.

Persons or entities who conclude that their activity is likely to injure or kill protected fish are encouraged to immediately adjust that activity to avoid take (or adequately limit any impacts on the species) and seek NMFS' authorization for incidental take under (a) an ESA section 10 incidental take permit; (b) an ESA section 7 consultation; or (c) a limit on the take prohibitions provided in this rule. The public is encouraged to contact NMFS (see **FOR FURTHER INFORMATION CONTACT**) for assistance in determining whether circumstances at a particular location (involving these activities or any others) constitute a violation of this rule.

State and local efforts like the Oregon Plan for Salmon and Watersheds, the State of Washington's Extinction is Not an Option Plan, Metro's Functional Plan, the Puget Sound Tri-County Initiative and Lower Columbia Fish Recovery Board in Washington state, the Eugene, Oregon-area Metro ESA Coordinating Team, and the Willamette Restoration Initiative (WRI) have stepped forward and assumed leadership roles in saving these species. NMFS reiterates its support for these efforts and encourages them to resolve critical uncertainties and further develop their programs so they can take the place of blanket ESA take prohibitions.

Impacts on listed salmonids resulting from actions in compliance with a permit issued by NMFS pursuant to section 10 of the ESA are not violations of this rule. Section 10 permits may be issued for research activities, enhancement of a species' survival, or to authorize incidental take occurring in the course of an otherwise lawful activity. NMFS consults on a broad range of activities conducted, funded, or authorized by Federal agencies. These include fisheries harvest, hatchery operations, silviculture activities, grazing, mining, road construction, dam construction and operation, discharge of fill material, and stream channelization and diversion. Federally-funded or approved activities that affect listed salmonids and for which ESA section 7 consultations have been completed and any take authorized, will not constitute violations of this rule—provided the activities are conducted in accord with all reasonable and prudent measures, terms, and conditions stated in the consultation and incidental take permit.

## References

A list of references cited in this final rule is available upon request (see **ADDRESSES**).

## Classification

### *Regulatory Flexibility Act*

The Regulatory Flexibility Act (RFA) (5 U.S.C. 601–612) was designed to ensure that agencies carefully assess whether aspects of a proposed regulatory scheme (record keeping, safety requirements, etc.) can be tailored to be less burdensome for small businesses while still achieving the agency's statutory responsibilities. NMFS prepared an initial regulatory flexibility analysis (IRFA) which was made available through the proposed rule. Several public comments were received related to the IRFA or to economic impacts generally. Those comments and NMFS responses to them are summarized in the Response to Comments section. NMFS has prepared a Regulatory Impact Review (RIR) and a Final Regulatory Flexibility Analysis (FRFA), taking into consideration the public comments received. A summary of the final FRFA follows. The FRFA is available upon request (see **ADDRESSES**), or may be accessed on NMFS web site at [www.nwr.noaa.gov](http://www.nwr.noaa.gov).

This ESA 4(d) rule has no specific requirements for regulatory compliance; it essentially sets an enforceable performance standard (do not take listed fish) that applies to all entities and individuals within the ESU unless that activity is within a carefully circumscribed set of activities on which NMFS will not impose the take prohibitions. Hence, the universe of entities reasonably expected to be directly or indirectly impacted by the prohibition is broad.

The geographic range of these regulations crosses four states and the number of entities potentially affected by imposition of take prohibitions is substantial. Activities potentially affecting salmonids are those associated with agriculture, forestry, fishing, mining, heavy construction, highway and street construction, logging, wood and paper mills, electric services, water transportation, tourism, real estate, and other industries. As many of these activities involve local, state, and Federal oversight, including permitting, governmental activities from the smallest towns or planning units to the largest cities will also be impacted. The activities of some nonprofit organizations will also be affected by these regulations.

NMFS examined in as much detail as practical the potential impact of the

regulation on a sector by sector basis. Unavailable or inadequate data leaves a high degree of uncertainty surrounding both the numbers of entities likely to be affected, and the characteristics of any impacts on particular entities. The problem is complicated by differences among entities even in the same sector as to the nature and size of their current operations, proximity to waterways, the degree to which the operation is already protective of salmonids, and individual strategies for dealing with the take prohibitions.

There are no recordkeeping or reporting requirements associated with the take prohibition and, therefore, it is not possible to simplify or tailor recordkeeping or reporting to be less burdensome for small entities. Some limits, for which NMFS has found it not necessary to prohibit take, involve recordkeeping and/or reporting to support that continuing determination. NMFS has attempted to minimize any burden associated with programs for which the take prohibitions are not enacted. The final rule does not duplicate, overlap, or conflict with any other relevant Federal rules.

In formulating this rule, NMFS considered several alternative approaches, described in more detail in the FRFA. These included:

(1) Enacting a "global" protective regulation for threatened species, through which section 9 take prohibitions are applied automatically to all threatened species at the time of listing; (2) ESA 4(d) protective regulations with no limits, or only a few limits, on the application of the take prohibition for relatively uncontroversial activities such as fish rescue/salvage; (3) take prohibitions in combination with detailed prescriptive requirements applicable to one or more sectors of activity; (4) ESA 4(d) protective regulations similar to the existing interim 4(d) protective regulations for Southern Oregon/Northern California coast coho, which includes four limits on the take prohibition for harvest plans, hatchery plans, scientific research, and habitat restoration projects, when in conformance with specified criteria; (5) a protective regulation similar to the interim rule, but with recognition of more programs and circumstances in which application of take prohibitions is not necessary and advisable; (6) an option earlier advocated by the State of Oregon and others, in which ESA section 9 take prohibitions would not be applied to any activity addressed by the Oregon Plan for Salmon and Watersheds, fundamentally deferring protections to the state; and (7) enacting

no protective regulations for threatened steelhead. The first four alternatives would place greater burdens on small entities. Alternative 6 would not provide sufficient protections (see response to comments), while alternative 7 would leave the ESUs without any protection other than provided by ESA section 7 consultations for actions with some Federal nexus. NMFS could not support that approach as being consistent with the obligation to enact such protective regulations as are "necessary and advisable to provide for the conservation of" the listed steelhead. Alternative 5 is the approach taken in this rule.

As a result of comments received related to the proposed rules and IRFAs, NMFS has modified the regulations to broaden the applicability of some limits, and to make them more flexible. For instance, the road maintenance limit is now generally available. The limit for development has been broadened to cover a greater range of types of plans or ordinances, and has been modified to allow for circumstances where a jurisdiction's ordinances may not address all of the evaluation criteria, but nonetheless are adequate for a limit for those aspects addressed. These types of adjustments provide additional options for jurisdictions that may wish to seek ESA compliance assurances.

NMFS concludes that at the present time there are no legally viable alternatives to the final rule, as modified from the proposals, that would have less impact on small entities and still fulfill the agency's obligations to protect listed salmonids. The first four alternatives may result in unnecessary impacts on economic activity of small entities, given NMFS' judgment that more limited protections would suffice to conserve the species.

#### *Executive Order 12866*

Under E.O. 12866 (58 FR 51735, October 4, 1993), NMFS has prepared a Regulatory Impact Review (RIR) which considers costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits where estimates cannot be meaningfully made for impacts that are essential to consider. We cannot quantify the economic effect of this rule, given the geographic scope and the size and economic dimensions of the potentially affected economic sectors that operate within the ESUs, but have considered costs and benefits qualitatively in structuring the rule.

Although only a share of the benefits from the recovery of threatened salmonids to a sustainable level would be attributable to this rule, it is clear that the potential costs associated with imposing take prohibitions to protect those salmonids are associated with substantial potential tangible and intangible returns.

The ESA limits NMFS to alternatives that lead to recovery, but in choosing among alternatives, we are obligated to consider taking the least cost path. NMFS has concluded that among the alternative regulatory approaches, the approach in this final rule (with changes made in response to public comment) will maximize net benefits (including potential economic, environmental, public health and safety, and other advantages, distributive impacts; and equity) and minimize costs, within the constraints of the ESA. Because this alternative exempts activities that fall within adequate state or local programs, NMFS' involvement will be more collaborative and less often require enforcement actions. This alternative has the greatest probability that compliance burdens will be equally shared, that economic incentives will be employed in appropriate cases, and that practical standards adapted to the particular characteristics of a state or region will aid citizens in reducing the risks of take in an efficient way. For these reasons, it is likely that this alternative will minimize the financial burden on the public of avoiding take over the long term.

#### *Executive Order 13084 Consultation and Coordination with Indian Tribal Governments*

E.O. 13084 requires that if NMFS issues a regulation that significantly or uniquely affects the communities of Indian tribal governments and imposes substantial direct compliance costs on those communities, NMFS must consult with those governments or the Federal government must provide the funds necessary to pay the direct compliance costs incurred by the tribal governments. This rule does not impose substantial direct compliance costs on the communities of Indian tribal governments. Accordingly, the requirements of section 3(b) of E.O. 13084 do not apply to this final rule.

Nonetheless, NMFS took several steps to inform tribal governments and solicit their input during development of the proposed rule, and made numerous adjustments to the proposal as a result of those contacts. A number of Indian tribal governments, as well as both the Columbia River Intertribal and Northwest Indian Fisheries



Commissions, commented formally on the proposed rules. In addition, NMFS has continued both informal exchanges with tribal representatives and meetings with tribal officials. These exchanges have resulted in some refinements of the rule, as well as greater appreciation by NMFS of the challenges ahead as it implements the rule. NMFS has proposed an ongoing, regular meeting schedule to assure continued exchange of information with the numerous tribal governments on matters of interest, including matters associated with this rule.

#### *Executive Order 13132—Federalism*

E.O. 13132 requires agencies to take into account any federalism impacts of regulations under development. It includes specific consultation directives for situations where a regulation will preempt state law, or impose substantial direct compliance costs on state and local governments (unless required by statute). Neither of those circumstances is applicable to this rule. In fact, this rule provides a route by which NMFS may defer to state and local government programs, where they provide necessary protections for threatened salmonids.

Although not required by E.O. 13132, in keeping with the intent of the Administration and Congress to provide continuing and meaningful dialogue on issues of mutual state and Federal interest, NMFS conferred with numerous state, local and other governmental entities while preparing the proposed rules, and has had continued informal and formal contacts with all affected states. We have held workshops explaining the rule to interested local or regional entities and exploring possible implementation strategies as well as options for future limits with those attending.

In addition to these efforts, NMFS staff have given numerous presentations to interagency forums, community groups, and others, and served on a number of interagency advisory groups or task forces considering conservation measures. Many cities, counties and other local governments have sought guidance and consideration of their planning efforts from NMFS, and NMFS staff have met with them as rapidly as our resources permit. Finally, NMFS' Sustainable Fisheries Division staff have continued close coordination with state fisheries agencies toward development of artificial propagation and harvest plans and programs that will be protective of listed salmonids and ultimately may be recognized within this rule. NMFS expects to continue to work with all of these entities in implementing this rule.

#### *Paperwork Reduction Act*

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

This rule contains collection-of-information requirements subject to the Paperwork Reduction Act (PRA) and which have been approved by OMB under control number 0648-0399. Public reporting burden per response for this collection of information is estimated to average 5 hours for a submission on diversion screenings or for a report on salmonids assisted, disposed of, or salvaged; 20 hours to prepare a road maintenance agreement; 30 hours for an urban ordinance development package; and 10 hours for an urban development annual report. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding these burden estimates, or any other aspect of this data collection, including suggestions for reducing the burden, to NMFS (see ADDRESSES) and to OMB at the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC. 20503 (Attention: NOAA Desk Officer).

#### *National Environmental Policy Act*

NMFS prepared an Environmental Assessment (EA), as defined under the authority of the National Environmental Policy Act (NEPA) of 1969, in connection with this regulation. Based on review and evaluation of the information contained in the EA, we determined that the proposed action to promulgate protective regulations for 14 threatened salmonid ESUs, and to create limits on the applicability of the prohibition on taking any of those salmonids would not be a major Federal action that would significantly affect the quality of the human environment within the meaning of section 102(2)(c) of NEPA of 1969. NMFS received a number of comments related to NEPA compliance, which are summarized together with responses elsewhere in this notice. NMFS believes the EA examined appropriate alternatives, and that preparation of an EIS is not required. Accordingly, we adhere to our prior Finding of No Significant Impact (FONSI) for this action. The EA and FONSI are available (see ADDRESSES).

#### **List of Subjects in 50 CFR Part 223**

Endangered and threatened species, Exports, Imports, Marine mammals, Transportation,

Dated: June 19, 2000.

**Andrew A. Rosenberg,**  
*Deputy Assistant Administrator for Fisheries,*  
*National Marine Fisheries Service.*

For reasons set out in the preamble, 50 CFR part 223 is amended as follows:

#### **PART 223—THREATENED MARINE AND ANADROMOUS SPECIES**

1. The authority citation for part 223 is revised to read as follows:

**Authority:** 16 U.S.C. 1531-1543; subpart B, § 223.12 also issued under 16 U.S.C. 1361 *et seq.*

2. Section 223.203 is revised to read as follows:

##### **§ 223.203 Anadromous fish.**

(a) *Prohibitions.* The prohibitions of section 9(a)(1) of the ESA (16 U.S.C. 1538(a)(1)) relating to endangered species apply to the threatened species of salmonids listed in § 223.102(a)(1) through (a)(10), and (a)(12) through (a)(19), except as provided in paragraph (b) of this section and § 223.209(a).

(b) *Limits on the prohibitions.* (1) The exceptions of section 10 of the ESA (16 U.S.C. 1539) and other exceptions under the Act relating to endangered species, including regulations in part 222 of this chapter II implementing such exceptions, also apply to the threatened species of salmonids listed in § 223.102(a)(1) through (a)(10), and (a)(12) through (a)(19).

(2) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) do not apply to activities specified in an application for a permit for scientific purposes or to enhance the conservation or survival of the species, provided that the application has been received by the Assistant Administrator for Fisheries, NOAA (AA), no later than October 10, 2000. The prohibitions of paragraph (a) of this section apply to these activities upon the AA's rejection of the application as insufficient, upon issuance or denial of a permit, or March 7, 2001, whichever occurs earliest.

(3) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102(a)(4) through (a)(10), and (a)(12) through (a)(19) do not apply to any employee or designee of NMFS, the United States Fish and Wildlife Service, any Federal land management agency, the Idaho Department of Fish and Game (IDFG), Washington Department of Fish

and Wildlife (WDFW), the Oregon Department of Fish and Wildlife (ODFW), California Department of Fish and Game (CDFG), or of any other governmental entity that has co-management authority for the listed salmonids, when the employee or designee, acting in the course of his or her official duties, takes a threatened salmonid without a permit if such action is necessary to:

- (i) Aid a sick, injured, or stranded salmonid,
- (ii) Dispose of a dead salmonid, or
- (iii) Salvage a dead salmonid which may be useful for scientific study.
- (iv) Each agency acting under this limit on the take prohibitions of paragraph (a) of this section is to report to NMFS the numbers of fish handled and their status, on an annual basis. A designee of the listed entities is any individual the Federal or state fishery agency or other co-manager has authorized in writing to perform the listed functions.

(4) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102 (a)(5) through (a)(10), and (a)(12) through (a)(19) do not apply to fishery harvest activities provided that:

(i) Fisheries are managed in accordance with a NMFS-approved Fishery Management and Evaluation Plan (FMEP) and implemented in accordance with a letter of concurrence from NMFS. NMFS will approve an FMEP only if it clearly defines its intended scope and area of impact and sets forth the management objectives and performance indicators for the plan. The plan must adequately address the following criteria:

(A) Define populations within affected listed ESUs, taking into account spatial and temporal distribution, genetic and phenotypic diversity, and other appropriate identifiable unique biological and life history traits. Populations may be aggregated for management purposes when dictated by information scarcity, if consistent with survival and recovery of the listed ESU. In identifying management units, the plan shall describe the reasons for using such units in lieu of population units, describe how the management units are defined, given biological and life history traits, so as to maximize consideration of the important biological diversity contained within the listed ESU, respond to the scale and complexity of the ESU, and help ensure consistent treatment of listed salmonids across a diverse geographic and jurisdictional range.

(B) Utilize the concepts of "viable" and "critical" salmonid population

thresholds, consistent with the concepts contained in the technical document entitled "Viable Salmonid Populations (NMFS, 2000b)." The VSP paper provides a framework for identifying the biological requirements of listed salmonids, assessing the effects of management and conservation actions, and ensuring that such actions provide for the survival and recovery of listed species. Proposed management actions must recognize the significant differences in risk associated with viable and critical population threshold states and respond accordingly to minimize the long-term risks to population persistence. Harvest actions impacting populations that are functioning at or above the viable threshold must be designed to maintain the population or management unit at or above that level. For populations shown with a high degree of confidence to be above critical levels but not yet at viable levels, harvest management must not appreciably slow the population's achievement of viable function. Harvest actions impacting populations that are functioning at or below critical threshold must not be allowed to appreciably increase genetic and demographic risks facing the population and must be designed to permit the population's achievement of viable function, unless the plan demonstrates that the likelihood of survival and recovery of the entire ESU in the wild would not be appreciably reduced by greater risks to that individual population.

(C) Set escapement objectives or maximum exploitation rates for each management unit or population based on its status and on a harvest program that assures that those rates or objectives are not exceeded. Maximum exploitation rates must not appreciably reduce the likelihood of survival and recovery of the ESU. Management of fisheries where artificially propagated fish predominate must not compromise the management objectives for commingled naturally spawned populations.

(D) Display a biologically based rationale demonstrating that the harvest management strategy will not appreciably reduce the likelihood of survival and recovery of the ESU in the wild, over the entire period of time the proposed harvest management strategy affects the population, including effects reasonably certain to occur after the proposed actions cease.

(E) Include effective monitoring and evaluation programs to assess compliance, effectiveness, and parameter validation. At a minimum, harvest monitoring programs must

collect catch and effort data, information on escapements, and information on biological characteristics, such as age, fecundity, size and sex data, and migration timing.

(F) Provide for evaluating monitoring data and making any revisions of assumptions, management strategies, or objectives that data show are needed.

(G) Provide for effective enforcement and education. Coordination among involved jurisdictions is an important element in ensuring regulatory effectiveness and coverage.

(H) Include restrictions on resident and anadromous species fisheries that minimize any take of listed species, including time, size, gear, and area restrictions.

(I) Be consistent with plans and conditions established within any Federal court proceeding with continuing jurisdiction over tribal harvest allocations.

(ii) The state monitors the amount of take of listed salmonids occurring in its fisheries and provides to NMFS on a regular basis, as defined in NMFS' letter of concurrence for the FMEP, a report summarizing this information, as well as the implementation and effectiveness of the FMEP. The state shall provide NMFS with access to all data and reports prepared concerning the implementation and effectiveness of the FMEP.

(iii) The state confers with NMFS on its fishing regulation changes affecting listed ESUs to ensure consistency with the approved FMEP. Prior to approving a new or amended FMEP, NMFS will publish notification in the **Federal Register** announcing its availability for public review and comment. Such an announcement will provide for a comment period on the draft FMEP of not less than 30 days.

(iv) NMFS provides written concurrence of the FMEP which specifies the implementation and reporting requirements. NMFS' approval of a plan shall be a written approval by NMFS Southwest or Northwest Regional Administrator, as appropriate. On a regular basis, NMFS will evaluate the effectiveness of the program in protecting and achieving a level of salmonid productivity commensurate with conservation of the listed salmonids. If it is not, NMFS will identify ways in which the program needs to be altered or strengthened. If the responsible agency does not make changes to respond adequately to the new information, NMFS will publish notification in the **Federal Register** announcing its intention to withdraw the limit for activities associated with that FMEP. Such an announcement will



provide for a comment period of not less than 30 days, after which NMFS will make a final determination whether to withdraw the limit so that the prohibitions would then apply to those fishery harvest activities. A template for developing FMEPs is available from NMFS Northwest Region's website ([www.nwr.noaa.gov](http://www.nwr.noaa.gov)).

(v) The prohibitions of paragraph (a) of this section relating to threatened species of steelhead listed in § 223.102 (a)(5) through (a)(9), (a)(14), and (a)(15) do not apply to fisheries managed solely by the states of Oregon, Washington, Idaho, and California until January 8, 2001.

(5) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102 (a)(5) through (a)(10), and (a)(12) through (a)(19) do not apply to activity associated with artificial propagation programs provided that:

(i) A state or Federal Hatchery and Genetics Management Plan (HGMP) has been approved by NMFS as meeting the following criteria:

(A) The HGMP has clearly stated goals, performance objectives, and performance indicators that indicate the purpose of the program, its intended results, and measurements of its performance in meeting those results. Goals shall address whether the program is intended to meet conservation objectives, contribute to the ultimate sustainability of natural spawning populations, and/or intended to augment tribal, recreational, or commercial fisheries. Objectives should enumerate the results desired from the program that will be used to measure the program's success or failure.

(B) The HGMP utilizes the concepts of viable and critical salmonid population threshold, consistent with the concepts contained in the technical document entitled "Viable Salmonid Populations" (NMFS, 2000b). Listed salmonids may be purposefully taken for broodstock purposes only if the donor population is currently at or above the viable threshold and the collection will not impair its function; if the donor population is not currently viable but the sole objective of the current collection program is to enhance the propagation or survival of the listed ESU; or if the donor population is shown with a high degree of confidence to be above critical threshold although not yet functioning at viable levels, and the collection will not appreciably slow the attainment of viable status for that population.

(C) Taking into account health, abundances, and trends in the donor population, broodstock collection

programs reflect appropriate priorities. The primary purpose of broodstock collection programs of listed species is to reestablish indigenous salmonid populations for conservation purposes. Such programs include restoration of similar, at-risk populations within the same ESU, and reintroduction of at-risk populations to underseeded habitat. After the species' conservation needs are met and when consistent with survival and recovery of the ESU, broodstock collection programs may be authorized by NMFS such for secondary purposes, as to sustain tribal, recreational, and commercial fisheries.

(D) The HGMP includes protocols to address fish health, broodstock collection, broodstock spawning, rearing and release of juveniles, deposition of hatchery adults, and catastrophic risk management.

(E) The HGMP evaluates, minimizes, and accounts for the propagation program's genetic and ecological effects on natural populations, including disease transfer, competition, predation, and genetic introgression caused by the straying of hatchery fish.

(F) The HGMP describes interrelationships and interdependencies with fisheries management. The combination of artificial propagation programs and harvest management must be designed to provide as many benefits and as few biological risks as possible for the listed species. For programs whose purpose is to sustain fisheries, HGMPs must not compromise the ability of FMEPs or other management plans to conserve listed salmonids.

(G) Adequate artificial propagation facilities exist to properly rear progeny of naturally spawned broodstock, to maintain population health and diversity, and to avoid hatchery-influenced selection or domestication.

(H) Adequate monitoring and evaluation exist to detect and evaluate the success of the hatchery program and any risks potentially impairing the recovery of the listed ESU.

(I) The HGMP provides for evaluating monitoring data and making any revisions of assumptions, management strategies, or objectives that data show are needed;

(J) NMFS provides written concurrence of the HGMP which specifies the implementation and reporting requirements. For Federally operated or funded hatcheries, the ESA section 7 consultation will achieve this purpose.

(K) The HGMP is consistent with plans and conditions set within any Federal court proceeding with

continuing jurisdiction over tribal harvest allocations.

(ii) The state monitors the amount of take of listed salmonids occurring in its hatchery program and provides to NMFS on a regular basis a report summarizing this information, and the implementation and effectiveness of the HGMP as defined in NMFS' letter of concurrence. The state shall provide NMFS with access to all data and reports prepared concerning the implementation and effectiveness of the HGMP.

(iii) The state confers with NMFS on a regular basis regarding intended collections of listed broodstock to ensure congruity with the approved HGMP.

(iv) Prior to final approval of an HGMP, NMFS will publish notification in the **Federal Register** announcing its availability for public review and comment for a period of at least 30 days.

(v) NMFS' approval of a plan shall be a written approval by NMFS Southwest or Northwest Regional Administrator, as appropriate.

(vi) On a regular basis, NMFS will evaluate the effectiveness of the HGMP in protecting and achieving a level of salmonid productivity commensurate with the conservation of the listed salmonids. If the HGMP is not effective, the NMFS will identify to the jurisdiction ways in which the program needs to be altered or strengthened. If the responsible agency does not make changes to respond adequately to the new information, NMFS will publish notification in the **Federal Register** announcing its intention to withdraw the limit on activities associated with that program. Such an announcement will provide for a comment period of no less than 30 days, after which NMFS will make a final determination whether to withdraw the limit so that take prohibitions, like all other activity not within a limit, would then apply to that program. A template for developing HGMPs is available from NMFS Northwest Region's website ([www.nwr.noaa.gov](http://www.nwr.noaa.gov)).

(6) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102 (a)(7), (a)(8), (a)(10), and (a)(12) through (a)(19) do not apply to actions undertaken in compliance with a resource management plan developed jointly by the States of Washington, Oregon and/or Idaho and the Tribes (joint plan) within the continuing jurisdiction of *United States v. Washington* or *United States v. Oregon*, the on-going Federal court proceedings to enforce and implement reserved treaty fishing rights, provided that:

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(i) The Secretary has determined pursuant to 50 CFR 223.209 and the government-to-government processes therein that implementing and enforcing the joint tribal/state plan will not appreciably reduce the likelihood of survival and recovery of affected threatened ESUs.

(ii) The joint plan will be implemented and enforced within the parameters set forth in *United States v. Washington* or *United States v. Oregon*.

(iii) In making that determination for a joint plan, the Secretary has taken comment on how any fishery management plan addresses the criteria in § 223.203(b)(4), or on how any hatchery and genetic management plan addresses the criteria in § 223.203(b)(5).

(iv) The Secretary shall publish notice in the **Federal Register** of any determination whether or not a joint plan, will appreciably reduce the likelihood of survival and recovery of affected threatened ESUs, together with a discussion of the biological analysis underlying that determination.

(v) On a regular basis, NMFS will evaluate the effectiveness of the joint plan in protecting and achieving a level of salmonid productivity commensurate with conservation of the listed salmonids. If the plan is not effective, then NMFS will identify to the jurisdiction ways in which the joint plan needs to be altered or strengthened. If the responsible agency does not make changes to respond adequately to the new information, NMFS will publish notification in the **Federal Register** announcing its intention to withdraw the limit on activities associated with that joint plan. Such an announcement will provide for a comment period of no less than 30 days, after which NMFS will make a final determination whether to withdraw the limit so that take prohibitions would then apply to that joint plan as to all other activity not within a limit.

(7) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) do not apply to scientific research activities provided that:

(i) Scientific research activities involving purposeful take is conducted by employees or contractors of the ODFW, WDFW (Agencies), IDFG, or CDFG (Agencies), or as a part of a monitoring and research program overseen by or coordinated with that Agency.

(ii) The Agencies provide for NMFS' review and approval a list of all scientific research activities involving direct take planned for the coming year,

including an estimate of the total direct take that is anticipated, a description of the study design, including a justification for taking the species and a description of the techniques to be used, and a point of contact.

(iii) The Agencies annually provide to NMFS the results of scientific research activities directed at threatened salmonids, including a report of the direct take resulting from the studies and a summary of the results of such studies.

(iv) Scientific research activities that may incidentally take threatened salmonids are either conducted by agency personnel, or are in accord with a permit issued by the Agency.

(v) The Agencies provide NMFS annually, for its review and approval, a report listing all scientific research activities it conducts or permits that may incidentally take threatened salmonids during the coming year. Such reports shall also contain the amount of incidental take of threatened salmonids occurring in the previous year's scientific research activities and a summary of the results of such research.

(vi) Electrofishing in any body of water known or suspected to contain threatened salmonids is conducted in accordance with NMFS "Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act" (NMFS, 2000a).

(vii) NMFS' approval of a research program shall be a written approval by NMFS Northwest or Southwest Regional Administrator.

(8) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102(a)(5) through (a)(10), and (a)(12), through (a)(19) do not apply to habitat restoration activities, as defined in paragraph (b)(8)(iv) of this section, provided that the activity is part of a watershed conservation plan, and:

(i) The watershed conservation plan has been certified by the State of Washington, Oregon, Idaho, or California (State) to be consistent with the state's watershed conservation plan guidelines.

(ii) The State's watershed conservation plan guidelines have been found by NMFS to provide for plans that:

(A) Take into account the potential severity of direct, indirect, and cumulative impacts of proposed activities in light of the status of affected species and populations.

(B) Will not reduce the likelihood of either survival or recovery of listed species in the wild.

(C) Ensure that any taking will be incidental.

(D) Minimize and mitigate any adverse impacts.

(E) Provide for effective monitoring and adaptive management.

(F) Use the best available science and technology, including watershed analysis.

(G) Provide for public and scientific review and input.

(H) Include any measures that NMFS determines are necessary or appropriate.

(I) Include provisions that clearly identify those activities that are part of plan implementation.

(J) Control risk to listed species by ensuring funding and implementation of the above plan components.

(iii) NMFS will periodically review state certifications of Watershed Conservation Plans to ensure adherence to approved watershed conservation plan guidelines.

(iv) "Habitat restoration activity" is defined as an activity whose primary purpose is to restore natural aquatic or riparian habitat conditions or processes. "Primary purpose" means the activity would not be undertaken but for its restoration purpose.

(v) Prior to approving watershed conservation plan guidelines under paragraph (b)(8)(ii) of this section, NMFS will publish notification in the **Federal Register** announcing the availability of the proposed guidelines for public review and comment. Such an announcement will provide for a comment period on the draft guidelines of no less than 30 days.

(9) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) do not apply to the physical diversion of water from a stream or lake, provided that:

(i) NMFS' engineering staff or any resource agency or tribe NMFS designates (authorized officer) has agreed in writing that the diversion facility is screened, maintained, and operated in compliance with Juvenile Fish Screen Criteria, National Marine Fisheries Service, Northwest Region, Revised February 16, 1995, with Addendum of May 9, 1996, or in California with NMFS' Southwest Region "Fish Screening Criteria for Anadromous Salmonids, January 1997" or with any subsequent revision.

(ii) The owner or manager of the diversion allows any NMFS engineer or authorized officer access to the diversion facility for purposes of inspection and determination of continued compliance with the criteria.

(iii) On a case by case basis, NMFS or an Authorized Officer will review and approve a juvenile fish screen design

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and construction plan and schedule that the water diverter proposes for screen installation. The plan and schedule will describe interim operation measures to avoid take of threatened salmonids. NMFS may require a commitment of compensatory mitigation if implementation of the plan and schedule is terminated prior to completion. If the plan and schedule are not met, or if a schedule modification is made that is not approved by NMFS or Authorized Officer, or if the screen installation deviates from the approved design, the water diversion will be subject to take prohibitions and mitigation.

(iv) This limit on the prohibitions of paragraph (a) of this section does not encompass any impacts of reduced flows resulting from the diversion or impacts caused during installation of the diversion device. These impacts are subject to the prohibition on take of listed salmonids.

(10) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102 (a)(5) through (a)(10), and (a)(12) through (a)(19) do not apply to routine road maintenance activities provided that:

(i) The activity results from routine road maintenance activity conducted by ODOT employees or agents that complies with ODOT's Transportation Maintenance Management System Water Quality and Habitat Guide (July, 1999); or by employees or agents of a state, county, city or port that complies with a program substantially similar to that contained in the ODOT Guide that is determined to meet or exceed the protections provided by the ODOT Guide; or by employees or agents of a state, county, city or port that complies with a routine road maintenance program that meets proper functioning habitat conditions as described further in subparagraph (ii) following. NMFS' approval of state, city, county, or port programs that are equivalent to the ODOT program, or of any amendments, shall be a written approval by NMFS Northwest or Southwest Regional Administrator, whichever is appropriate. Any jurisdiction desiring its routine road maintenance activities to be within this limit must first commit in writing to apply management practices that result in protections equivalent to or better than those provided by the ODOT Guide, detailing how it will assure adequate training, tracking, and reporting, and describing in detail any dust abatement practices it requests to be covered.

(ii) NMFS finds the routine road maintenance activities of any state, city,

county, or port to be consistent with the conservation of listed salmonids' habitat when it contributes, as does the ODOT Guide, to the attainment and maintenance of properly functioning condition (PFC). NMFS defines PFC as the sustained presence of natural habitat-forming processes that are necessary for the long-term survival of salmonids through the full range of environmental variation. Actions that affect salmonid habitat must not impair properly functioning habitat, appreciably reduce the functioning of already impaired habitat, or retard the long-term progress of impaired habitat toward PFC. Periodically, NMFS will evaluate an approved program for its effectiveness in maintaining and achieving habitat function that provides for conservation of the listed salmonids. Whenever warranted, NMFS will identify to the jurisdiction ways in which the program needs to be altered or strengthened. Changes may be identified if the program is not protecting desired habitat functions, or where even with the habitat characteristics and functions originally targeted, habitat is not supporting population productivity levels needed to conserve the ESU. If any jurisdiction within the limit does not make changes to respond adequately to the new information in the shortest amount of time feasible, but not longer than one year, NMFS will publish notification in the **Federal Register** announcing its intention to withdraw the limit so that take prohibitions would then apply to the program as to all other activity not within a limit. Such an announcement will provide for a comment period of no less than 30 days, after which NMFS will make a final determination whether to subject the activities to the ESA section 9(a)(1) prohibitions.

(iii) Prior to implementing any changes to a program within this limit the jurisdiction provides NMFS a copy of the proposed change for review and approval as within this limit.

(iv) Prior to approving any state, city, county, or port program as within this limit, or approving any substantive change in a program within this limit, NMFS will publish notification in the **Federal Register** announcing the availability of the program or the draft changes for public review and comment. Such an announcement will provide for a comment period of not less than 30 days.

(v) Pesticide and herbicide spraying is not included within this limit, even if in accord with the ODOT guidance.

(11) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102

(a)(5) through (a)(10), and (a)(12) through (a)(19) do not apply to activities within the City of Portland, Oregon Parks and Recreation Department's (PP&R) Pest Management Program (March 1997), including its Waterways Pest Management Policy updated December 1, 1999, provided that:

(i) Use of only the following chemicals is included within this limit on the take prohibitions: Round Up, Rodeo, Garlon 3A, Surfactant LI-700, Napropamide, Cutrine Plus, and Aquashade.

(ii) Any chemical use is initiated in accord with the priorities and decision processes of the Department's Pest Management Policy, including the Waterways Pest Management Policy, updated December 1, 1999.

(iii) Any chemical use within a 25 ft. (7.5 m) buffer complies with the buffer application constraints contained in PP&R's Waterways Pest Management Policy (update December 1, 1999).

(iv) Prior to implementing any changes to this limit, the PP&R provides NMFS with a copy of the proposed change for review and approval as within this limit.

(v) Prior to approving any substantive change in a program within this limit, NMFS will publish notification in the **Federal Register** announcing the availability of the program or the draft changes for public review and comment. Such an announcement will provide for a comment period of no less than 30 days.

(vi) NMFS' approval of amendments shall be a written approval by NMFS Northwest Regional Administrator.

(vii) NMFS finds the PP&R Pest Management Program activities to be consistent with the conservation of listed salmonids' habitat by contributing to the attainment and maintenance of properly functioning condition (PFC). NMFS defines PFC as the sustained presence of a watershed's natural habitat-forming processes that are necessary for the long-term survival of salmonids through the full range of environmental variation. Actions that affect salmonid habitat must not impair properly functioning habitat, appreciably reduce the functioning of already impaired habitat, or retard the long-term progress of impaired habitat toward PFC. Periodically, NMFS will evaluate the effectiveness of an approved program in maintaining and achieving habitat function that provides for conservation of the listed salmonids. Whenever warranted, NMFS will identify to the jurisdiction ways in which the program needs to be altered or strengthened. Changes may be identified if the program is not

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protecting desired habitat functions, or where even with the habitat characteristics and functions originally targeted, habitat is not supporting population productivity levels needed to conserve the ESU. If any jurisdiction within the limit does not make changes to respond adequately to the new information in the shortest amount of time feasible, but not longer than 1 year, NMFS will publish notification in the **Federal Register** announcing its intention to withdraw the limit so that take prohibitions would then apply to the program as to all other activity not within a limit. Such an announcement will provide for a comment period of no less than 30 days, after which NMFS will make a final determination whether to subject the activities to the ESA section 9(a)(1) prohibitions.

(12) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102 (a)(5) through (a)(10), and (a)(12) through (a)(19) do not apply to municipal, residential, commercial, and industrial (MRCI) development (including redevelopment) activities provided that:

(i) Such development occurs pursuant to city, county, or regional government ordinances or plans that NMFS has determined are adequately protective of listed species; or within the jurisdiction of the Metro regional government in Oregon and pursuant to ordinances that Metro has found comply with its Urban Growth Management Functional Plan (Functional Plan) following a determination by NMFS that the Functional Plan is adequately protective. NMFS approval or determinations about any MRCI development ordinances or plans, including the Functional Plan, shall be a written approval by NMFS Northwest or Southwest Regional Administrator, whichever is appropriate. NMFS will apply the following 12 evaluation considerations when reviewing MRCI development ordinances or plans to assess whether they adequately conserve listed salmonids by maintaining and restoring properly functioning habitat conditions:

(A) MRCI development ordinance or plan ensures that development will avoid inappropriate areas such as unstable slopes, wetlands, areas of high habitat value, and similarly constrained sites.

(B) MRCI development ordinance or plan adequately avoids stormwater discharge impacts to water quality and quantity or to the hydrograph of the watershed, including peak and base flows of perennial streams.

(C) MRCI development ordinance or plan provides adequately protective riparian area management requirements to attain or maintain PFC around all rivers, estuaries, streams, lakes, deepwater habitats, and intermittent streams. Compensatory mitigation is provided, where necessary, to offset unavoidable damage to PFC due to MRCI development impacts to riparian management areas.

(D) MRCI development ordinance or plan avoids stream crossings by roads, utilities, and other linear development wherever possible, and, where crossings must be provided, minimize impacts through choice of mode, sizing, and placement.

(E) MRCI development ordinance or plan adequately protects historical stream meander patterns and channel migration zones and avoids hardening of stream banks and shorelines.

(F) MRCI development ordinance or plan adequately protects wetlands and wetland functions, including isolated wetlands.

(G) MRCI development ordinance or plan adequately preserves the hydrologic capacity of permanent and intermittent streams to pass peak flows.

(H) MRCI development ordinance or plan includes adequate provisions for landscaping with native vegetation to reduce need for watering and application of herbicides, pesticides, and fertilizer.

(I) MRCI development ordinance or plan includes adequate provisions to prevent erosion and sediment run-off during construction.

(J) MRCI development ordinance or plan ensures that water supply demands can be met without impacting flows needed for threatened salmonids either directly or through groundwater withdrawals and that any new water diversions are positioned and screened in a way that prevents injury or death of salmonids.

(K) MRCI development ordinance or plan provides necessary enforcement, funding, reporting, and implementation mechanisms and formal plan evaluations at intervals that do not exceed 5 years.

(L) MRCI development ordinance and plan complies with all other state and Federal environmental and natural resource laws and permits.

(ii) The city, county or regional government provides NMFS with annual reports regarding implementation and effectiveness of the ordinances, including: any water quality monitoring information the jurisdiction has available; aerial photography (or some other graphic display) of each MRCI development or MRCI expansion

area at sufficient detail to demonstrate the width and vegetation condition of riparian set-backs; information to demonstrate the success of stormwater management and other conservation measures; and a summary of any flood damage, maintenance problems, or other issues.

(iii) NMFS finds the MRCI development activity to be consistent with the conservation of listed salmonids' habitat when it contributes to the attainment and maintenance of PFC. NMFS defines PFC as the sustained presence of a watershed's habitat-forming processes that are necessary for the long-term survival of salmonids through the full range of environmental variation. Actions that affect salmonid habitat must not impair properly functioning habitat, appreciably reduce the functioning of already impaired habitat, or retard the long-term progress of impaired habitat toward PFC. Periodically, NMFS will evaluate an approved program for its effectiveness in maintaining and achieving habitat function that provides for conservation of the listed salmonids. Whenever warranted, NMFS will identify to the jurisdiction ways in which the program needs to be altered or strengthened. Changes may be identified if the program is not protecting desired habitat functions, or where even with the habitat characteristics and functions originally targeted, habitat is not supporting population productivity levels needed to conserve the ESU. If any jurisdiction within the limit does not make changes to respond adequately to the new information in the shortest amount of time feasible, but not longer than 1 year, NMFS will publish notification in the **Federal Register** announcing its intention to withdraw the limit so that take prohibitions would then apply to the program as to all other activity not within a limit. Such an announcement will provide for a comment period of no less than 30 days, after which NMFS will make a final determination whether to subject the activities to the ESA section 9(a)(1) prohibitions.

(iv) Prior to approving any city, county, or regional government ordinances or plans as within this limit, or approving any substantive change in an ordinance or plan within this limit, NMFS will publish notification in the **Federal Register** announcing the availability of the ordinance or plan or the draft changes for public review and comment. Such an announcement will provide for a comment period of no less than 30 days.

(13) The prohibitions of paragraph (a) of this section relating to threatened

species of salmonids listed in § 223.102 (a)(12), (a)(13), (a)(16), (a)(17), and (a)(19) do not apply to non-Federal forest management activities conducted in the State of Washington provided that:

(i) The action is in compliance with forest practice regulations adopted and implemented by the Washington Forest Practices Board that NMFS has found are at least as protective of habitat functions as are the regulatory elements of the Forests and Fish Report dated April 29, 1999, and submitted to the Forest Practices Board by a consortium of landowners, tribes, and state and Federal agencies.

(ii) All non-regulatory elements of the Forests and Fish Report are being implemented.

(iii) Actions involving use of herbicides, pesticides, or fungicides are not included within this limit.

(iv) Actions taken under alternative plans are included in this limit provided that the Washington Department of Natural Resources (WDNR) finds that the alternate plans protect physical and biological processes at least as well as the state forest practices rules and provided that NMFS, or any resource agency or tribe NMFS designates, has the opportunity to review the plan at every stage of the development and implementation. A plan may be excluded from this limit if, after such review, WDNR determines that the plan is not likely to adequately protect listed salmon.

(v) Prior to determining that regulations adopted by the Forest Practice Board are at least as protective as the elements of the Forests and Fish Report, NMFS will publish notification in the *Federal Register* announcing the availability of the Report and regulations for public review and comment.

(vi) NMFS finds the activities to be consistent with the conservation of listed salmonids' habitat by contributing to the attainment and maintenance of PFC. NMFS defines PFC as the sustained presence of a watershed's natural habitat-forming processes that are necessary for the long-term survival of salmonids through the full range of environmental variation. Actions that affect salmonid habitat must not impair properly functioning habitat, appreciably reduce the functioning of already impaired habitat, or retard the long-term progress of impaired habitat toward PFC. Programs must meet this biological standard in order for NMFS to find they qualify for a habitat-related limit. NMFS uses the best available science to make these determinations. NMFS may review and revise previous findings as new scientific information

becomes available. NMFS will evaluate the effectiveness of the program in maintaining and achieving habitat function that provides for conservation of the listed salmonids. If the program is not adequate, NMFS will identify to the jurisdiction ways in which the program needs to be altered or strengthened. Changes may be identified if the program is not protecting desired habitat functions or where even with the habitat characteristics and functions originally targeted, habitat is not supporting population productivity levels needed to conserve the ESU. If Washington does not make changes to respond adequately to the new information, NMFS will publish notification in the *Federal Register* announcing its intention to withdraw the limit on activities associated with the program. Such an announcement will provide for a comment period of no less than 30 days, after which NMFS will make a final determination whether to subject the activities to the ESA section 9(a)(1) take prohibitions.

(vii) NMFS approval of regulations shall be a written approval by NMFS Northwest Regional Administrator.

(c) *Affirmative defense.* In connection with any action alleging a violation of the prohibitions of paragraph (a) of this section with respect to the threatened species of salmonids listed in § 223.102 (a)(5) through (a)(10), and (a)(12) through (a)(19), any person claiming the benefit of any limit listed in paragraph (b) of this section or § 223.209(a) shall have a defense where the person can demonstrate that the limit is applicable and was in force, and that the person fully complied with the limit at the time of the alleged violation. This defense is an affirmative defense that must be raised, pleaded, and proven by the proponent. If proven, this defense will be an absolute defense to liability under section (a)(1)(G) of the ESA with respect to the alleged violation.

(d) *Severability.* The provisions of this section and the various applications thereof are distinct and severable from one another. If any provision or the application thereof to any person or circumstances is stayed or determined to be invalid, such stay or invalidity shall not affect other provisions, or the application of such provisions to other persons or circumstances, which can be given effect without the stayed or invalid provision or application.

[FR Doc. 00-16933 Filed 7-7-00; 8:45 am]

BILLING CODE 3510-22-F

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 223

[Docket No. 991207318-0159-02; I.D. No 092799G]

RIN 0648-AG15

#### Limitation on Section 9 Protections Applicable to Salmon and Steelhead Listed as Threatened under the Endangered Species Act (ESA), for Actions Under Tribal Resource Management Plans

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

**SUMMARY:** The National Marine Fisheries Service (NMFS) is issuing a final rule to modify the ESA section 9 take prohibitions applied to threatened salmon and steelhead. The modification will create a section 4(d) limitation on those prohibitions for tribal resource management plans (Tribal Plans), where the Secretary of Commerce (Secretary) has determined that implementing that Tribal Plan will not appreciably reduce the likelihood of survival and recovery for the listed species. This rule intends to harmonize statutory conservation requirements with tribal rights and the Federal trust responsibility to tribes.

**DATES:** Effective September 8, 2000.

**ADDRESSES:** Branch Chief, NMFS, Northwest Region, Protected Resources Division, 525 NE Oregon St., Suite 500, Portland, OR 97232-2737; Assistant Regional Administrator, Protected Resources Division, NMFS, Southwest Region, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213; Salmon Coordinator, Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring, MD 20910.

**FOR FURTHER INFORMATION CONTACT:** Garth Griffin at 503-231-2005; Craig Wingert at 562-980-4021.

#### Electronic Access

Reference materials regarding this final rule can also be obtained from the internet at [www.nwr.noaa.gov](http://www.nwr.noaa.gov).

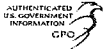
#### SUPPLEMENTARY INFORMATION:

##### Definitions

*Indian Tribe*—Any Indian tribe, band, nation, pueblo, community or other organized group within the United States which the Secretary of the Interior has identified on the most current list of tribes maintained by the

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an AD and, therefore, is not covered under Executive Order 12866, the Regulatory Flexibility Act, or DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979).

#### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

#### The Withdrawal

Accordingly, FAA withdraws the notice of proposed rulemaking, Docket No. 99-CE-04-AD, which was published in the *Federal Register* on February 18, 1999 (64 FR 8022).

Issued in Kansas City, Missouri, on September 7, 2000.

Michael Gallagher,

Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 00-23586 Filed 9-13-00; 8:45 am]

BILLING CODE 4910-13-U

## DEPARTMENT OF THE INTERIOR

### Bureau of Indian Affairs

#### 25 CFR Part 292

RIN 1076-AD93

#### Gaming on Trust Lands Acquired After October 17, 1988

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Proposed rule.

**SUMMARY:** This proposed rule establishes procedures that an Indian tribe must follow in seeking a Secretarial determination that a gaming establishment would be in the best interest of the Indian tribe and its members, and would not be detrimental to the surrounding community. The law requires Indian tribes to seek this determination if the gaming establishment will be located on land acquired in trust after October 17, 1988, unless the land is covered under another statutory exemption.

**DATES:** Comments must be received on or before November 13, 2000.

**ADDRESSES:** If you wish to comment, you may submit your comments by any one of several methods. See **SUPPLEMENTARY INFORMATION** section.

**FOR FURTHER INFORMATION CONTACT:** George Skibine, Director, Office of Indian Gaming Management, Bureau of Indian Affairs, 1849 C Street NW, MS-2070 MIB, Washington, DC 20240; by telephone at (202) 219-4066; or by telefax at (202) 273-3153.

**SUPPLEMENTARY INFORMATION:**

#### General Comments

You may mail comments to the Office of Indian Gaming Management, Bureau of Indian Affairs, 1849 C Street, NW, MS-2070 MIB, Washington, DC 20240.

#### Electronic Access and Filing

You may also comment via the Internet to [gamingcomments@BIA.GOV]. Please submit Internet comments as an ASCII file avoiding the use of special characters and any form of encryption. Please also include "Attn: 1076-AD93" and your name and return address in your Internet message. If you do not receive a confirmation from the system that we have received your Internet message, contact the Office of Indian Gaming Management directly at (202) 219-4066.

Finally, you may hand-deliver comments to the Office of Indian Gaming Management, Bureau of Indian Affairs, 1849 C Street NW, MS-2070 MIB, Washington, DC 20240.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the rulemaking record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comments. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

#### Background

The Indian Gaming Regulatory Act (IGRA), 25 U.S.C. 2701-2721, was signed into law on October 17, 1988. Section 20 of IGRA, 25 U.S.C. 2719, contains specific provisions for lands that the Secretary of the Interior acquired in trust for an Indian tribe after October 17, 1988. The section says that Indian tribes cannot conduct class II and class III gaming on these lands acquired in trust, unless one of several exceptions applies. If none of the exceptions in section 20 applies, section 20(b)(1)(A) of IGRA provides that gaming can still occur on the lands if:

(1) The Secretary consults with the Indian tribe and appropriate State and

local officials, including officials of other nearby tribes;

(2) After consultation, the Secretary determines that a gaming establishment on newly acquired (trust) lands would be in the best interest of the Indian tribe and its members, and would not be detrimental to the surrounding community; and

(3) The Governor of the State in which the gaming activity is to be conducted concurs in the Secretary's determination.

This proposed rule establishes a process for submitting and considering applications from Indian tribes seeking a Secretarial determination under section 20(b)(1)(A) of IGRA. The Bureau of Indian Affairs (BIA) issued a revised checklist for Secretarial determinations under this section on February 21, 1997. The proposed rule:

(1) Adopts the standards in the revised checklist, in modified form.

(2) Contains a process for BIA Central Office review of a tribal application for a Secretarial determination.

(3) Clarifies what consultation process the Department must follow when making a determination, and who must be consulted.

Since IGRA was enacted, only two tribes have successfully qualified to operate a gaming establishment on trust land under the exception to the gaming prohibition in section 20(b)(1)(A) of IGRA.

The proposed rule does not cover determinations of whether gaming on a specific parcel of land is exempt from the section 20 prohibition on gaming on after-acquired lands under any of the other exceptions contained in section 20 of IGRA. Tribal requests for such determinations will continue to be processed by BIA on a case-by-case basis.

#### Clarity of This Regulation

Executive Order 12866 requires each agency to write regulations that are easy to understand. We invite your comments on how to make this rule easier to understand, including answers to questions such as the following:

(1) Are the requirements in the rule clearly stated?

(2) Does the rule contain technical language or jargon that interferes with its clarity?

(3) Does the format of the rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity?

(4) Would the rule be easier to understand if it were divided into more (but shorter) sections? (A "section" appears in bold type and is preceded by the symbol "\$" and a numbered

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heading; for example, § 292.4 What are the exceptions to the prohibition on gaming on trust lands acquired after October 17, 1988)

(5) Is the description of the rule in the SUPPLEMENTARY INFORMATION section of the preamble helpful in understanding the proposed rule? What else could we do to make the rule easier to understand?

#### Regulatory Planning and Review (E.O. 12866)

In accordance with the criteria in Executive Order 12866, this rule is not a significant regulatory action and is not subject to review by the Office of Management and Budget (OMB).

This rule will not have an economic effect of \$100 million or adversely affect an economic sector, productivity, jobs, the environment, public health or safety, or State, local or tribal governments or communities. The annual number of requests for two-part Secretarial determinations under section 20 (b)(1)(A) of IGRA has been small. Since IGRA was enacted, only two tribes have successfully qualified to operate a gaming establishment on trust land under the exception to the gaming prohibition in section 20 (b)(1)(A) of IGRA. This rule will not create serious inconsistencies or otherwise interfere with an action taken or planned by another Federal agency. The Department of the Interior (DOI), BIA is the only governmental agency that makes the determination whether to take land into trust for Indian tribes.

This rule will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. This rule sets out the procedures for the submission of an application from an Indian tribe seeking a Secretarial determination that a gaming establishment on land acquired in trust after October 17, 1988, and not coming under one of the other statutory exemptions to the prohibition on gaming contained in section 20 of IGRA, would be in the best interest of the Indian tribe and its members, and would not be detrimental to the surrounding community.

This rule will not raise novel legal or policy issues. This rule is of an administrative, technical and procedural nature.

#### Regulatory Flexibility Act

This document will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.* Indian tribes are not considered to be small entities for purposes of this Act.

#### Small Business Regulatory Enforcement Fairness Act (SBREFA)

This rule is not a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act. This rule does not have an annual effect on the economy of \$100 million or more because it is expected that the number of requests will be small. This rule will not cause a major increase in costs or prices for consumers, individual industries, Federal, State or local government agencies or geographic regions and does not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability to U.S.-based enterprises to compete with foreign-based enterprises.

#### Unfunded Mandates Act of 1995

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1531 *et seq.*):

The rule will not significantly or uniquely affect small governments, or the private sector. A Small Government Agency Plan is not required. Additional expenses may be incurred by the requesting tribe to provide information to the Secretary. See OMB 83-I, 15a.

This rule will not produce a Federal mandate of \$100 million or greater in any year. The overall effect of this rule will be negligible to the State, local or tribal government or the private sector.

#### Takings (E.O. 12630)

In accordance with Executive Order 12630 this rule does not have significant "takings" implications. A takings implication assessment is not required because actions under this rule do not constitute a taking.

#### Federalism (E.O. 13132)

In accordance with Executive Order 13132 this proposed rule does not have significant Federalism effects to warrant the preparation of a Federalism Assessment. However, this rule should not affect the relationship between State and Federal governments because actions in this rule apply only to a relatively small amount of land.

#### Civil Justice Reform (E.O. 12988)

In accordance with Executive Order 12988, the Office of the Solicitor has determined that this rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. This rule contains no drafting errors or ambiguity and is written to minimize litigation, provides clear standards, simplifies procedures, reduces burden, and is clearly written. These regulations do not preempt any statute.

#### Paperwork Reduction Act of 1995

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the Department has submitted an information collection and a copy of the proposed rule to OMB for review. The collection of information is unique for each tribe even though each submission addresses the requirements found in §§ 292.8, 292.9, 292.10, 292.11, 292.13, 292.14, 292.17 and 292.18.

All information is collected in the tribe's application. Respondents submit information in order to obtain a benefit. Each response is estimated to take 1,000 hours to review instructions, search existing data sources, gather and maintain necessary data, and prepare in format for submission. We anticipate that two responses will be submitted annually for an annual burden of 2,000 hours.

Submit comments on the proposed information collection to the Attention: Desk Officer for the Department of the Interior, Office of Information and Regulatory Affairs, OMB, Room 10202, New Executive Office Building, Washington, DC 20503. You should also send comments to the BIA official as found in the ADDRESSES section. The BIA solicits comments in order to:

(1) Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the BIA, including whether the information will have practical utility;

(2) Evaluating the BIA's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;

(3) Enhancing the quality, utility, and clarity of the information to be collected; and

(4) Minimize the burden of the collection of information on those who are to respond.

OMB is required to make a decision between 30 and 60 days after publication of this document in the **Federal Register**. Therefore, your comment to OMB has the best chance of being considered if OMB receives it within 30 days of publication. This does not affect the deadline for the public to comment to BIA on the proposed rule.

#### National Environmental Policy Act of 1969 (NEPA) Statement

This proposed rule does not constitute a major Federal action significantly affecting the quality of the human environment and no detailed statement is required pursuant to NEPA because this rule is of an administrative, technical and procedural nature.

**Government-to-Government Relationship With Tribes**

In accordance with Executive Order 13084, issued on May 14, 1998, and 512 DM 2, we have evaluated the potential effects upon federally recognized Indian tribes and have determined that this proposed rule does not significantly or uniquely affect the communities of Indian tribal governments. No action is taken under this rule unless a tribe requests a determination that a gaming establishment on existing or proposed trust land is in the best interest of the tribe and its members and not detrimental to the surrounding community.

**Drafting Information:** The primary author of this document is George Skibine, Director, Office of Indian Gaming Management, Bureau of Indian Affairs, Department of the Interior.

**List of Subjects in 25 CFR Part 292**

Indians—gaming, Indians—lands.

For the reasons given in the preamble, part 292 is proposed to be added to Chapter I of Title 25 of the Code of Federal Regulations as follows:

**PART 292—GAMING ON TRUST LANDS ACQUIRED AFTER OCTOBER 17, 1988**

Sec.

- 292.1 What is the purpose of this part?
- 292.2 How are key terms defined in this part?
- 292.3 When can a tribe conduct gaming activities on trust lands acquired after October 17, 1988?
- 292.4 What criteria must trust land meet for gaming to be allowed?
- 292.5 Can a tribe conduct gaming activities on lands acquired in trust after October 17, 1988 if the land does not qualify under one of the exceptions?
- 292.6 Where must a tribe file an application for a Secretarial determination?
- 292.7 May a tribe request a Secretarial determination for lands not yet held in trust?
- 292.8 What must an application for a Secretarial determination contain?
- 292.9 What information must an application contain on the benefits of a proposed gaming activity?
- 292.10 What information must an application contain on the effects of a proposed gaming activity?
- 292.11 What additional documents must an application contain?

- 292.12 What must the Regional Director do upon receiving the application?
- 292.13 How will the Regional Director conduct the consultation process?
- 292.14 What criteria must the consultation letter meet?
- 292.15 What must the Regional Director do at the expiration of the comment period?
- 292.16 What must the ADO do upon receiving the Regional Director's recommendation?
- 292.17 If the ADO finds deficiencies, what must the Regional Director and the applicant tribe do?
- 292.18 What must the ADO do after receiving an adequate recommendation?
- 292.19 How does the ADO request the Governor's concurrence?
- 292.20 Do information collections under this part have Office of Management and Budget approval?

**Authority:** 5 U.S.C. 301, 25 U.S.C. 2, 9, and 2719.

**§ 292.1 What is the purpose of this part?**

This part contains procedures that the Department of the Interior will use to determine whether class II or class III gaming can occur on land acquired in trust for a tribe after October 17, 1988.

**§ 292.2 How are key terms defined in this part?**

All terms have the same meaning as set forth in the definitional section of the Indian Gaming Regulatory Act (IGRA), 25 U.S.C. 2703(1)–(10). In addition, the following terms have the meanings given in this section.

**Appropriate Departmental Official (ADO)** means the Department of Interior official with delegated authority to make a two-part Secretarial determination that a gaming establishment would be in the best interest of the Indian tribe and its members, and would not be detrimental to the surrounding community.

**Appropriate State and Local Officials** means the Governor of the State, and appropriate officials of units of local government within 10 miles of the site of the proposed gaming establishment.

**BIA** means Bureau of Indian Affairs.

**Contiguous** means land(s) sharing a common boundary, touching, next to or adjoining with nothing intervening.

However, parcels of land are contiguous even if separated by roads, railroads, or other rights of way, or streams.

**Day** means calendar day.

**Former reservation** means lands that are within the jurisdictional area of an

Oklahoma Indian tribe, and that are within the boundaries of the last reservation for that tribe established by treaty, Executive Orders, or Secretarial Orders.

**IGRA** means the Indian Gaming Regulatory Act of 1988, 25 U.S.C. 2701–2721.

**Nearby Indian tribe** means an Indian tribe with Indian lands, as defined in 25 U.S.C. 2703(4) of IGRA, located within a 50 mile radius of the location of the proposed gaming establishment.

**Regional Director** means the official in charge of the BIA Regional Office responsible for all BIA activities within the geographical area where the proposed gaming establishment is to be located.

**Reservation** means that area of land which has been set aside or which has been acknowledged as having been set aside by the United States for the use of the tribe, the exterior boundaries of which are more particularly defined in the final treaty, agreement, Executive order, Federal statute, Secretarial Order, or judicial determination.

**Secretarial determination** means a two-part determination that a gaming establishment on newly acquired lands:

- (1) Would be in the best interest of the Indian tribe and its members; and
- (2) Would not be detrimental to the surrounding community.

**§ 292.3 When can a tribe conduct gaming activities on trust lands acquired after October 17, 1988?**

In accordance with section 20 of the Indian Gaming Regulatory Act (25 U.S.C. 2719), a tribe can conduct class II or class III gaming activities on trust land acquired by the Secretary of the Interior in trust for the benefit of an Indian tribe after October 17, 1988, only if:

(a) The land meets the conditions in § 292.4; or

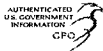
(b) The Secretary makes a determination under § 292.5 and the Governor of the State concurs in that determination.

**§ 292.4 What criteria must trust land meet for gaming to be allowed?**

(a) For class II or class III gaming to be allowed on trust land, the land must meet one of the criteria shown in the following table:

The land must * * *	as required by * * *
(1) Be located within or contiguous to the boundaries of the tribe's reservation as it existed on October 17, 1988 .....	25 U.S.C. 2719(a)(1).
(2) Be taken into trust as part of the settlement of a land claim .....	25 U.S.C. 2719(b)(1)(B)(i).
(3) Be taken into trust as part of the tribe's initial reservation that the Secretary acknowledged under the Federal acknowledgment process.	25 U.S.C. 2719(b)(1)(B)(ii).





*Applicant:* John J. Keslar Rector, PA,  
PRT-102694.

The applicant requests a permit to import a polar bear (*Ursus maritimus*) sport hunted from the Southern Beaufort Sea polar bear population in Canada for personal, noncommercial use.

Dated: May 6, 2005.

Monica Farris,

Senior Permit Biologist, Branch of Permits,  
Division of Management Authority.

[FR Doc. 05-10096 Filed 5-19-05; 8:45 am]

BILLING CODE 4310-55-P

## DEPARTMENT OF THE INTERIOR

### Geological Survey

#### Request for Public Comments on Extension of Existing Information Collection To Be Submitted to OMB for Review Under the Paperwork Reduction Act

A request extending the information collection described below will be submitted to the Office of Management and Budget (OMB) for approval under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35). Copies of the proposed collection may be obtained by contacting the USGS Clearance Officer at the phone number listed below. Comments on the proposal should be made within 60 days to the Bureau Clearance Officer, U.S. Geological Survey, 807 National Center, Reston, VA 20192.

As required by OMB regulations at 5 CFR 1320.8(d)(1), the USGS solicits specific public comments as to:

1. Whether the collection of information is necessary for the proper performance of the functions of the bureaus, including whether the information will have practical utility;
2. The accuracy of the bureau's estimate of the burden of the collection of information, including the validity of the methodology and assumptions used;
3. The quality, utility, and clarity of the information to be collected; and
4. How to minimize the burden of the collection of information on those who are to respond, including the use of appropriate automated, electronic, mechanical, or other forms of information technology.

*Title:* Earthquake Report.

*OMB Approval No:* 1028-0048.

*Summary:* The collection of information referred herein applies to a World-Wide Web site questionnaire that permits individuals to report on the effects of the shaking from an earthquake—on themselves personally, buildings, other man-made structures,

and ground effects such as faulting or landslides. The USGS may use the information to provide qualitative, quantitative, or graphical descriptions of earthquake damage.

*Estimated Completion Time:* 6 minutes.

*Estimated Annual Number of Respondents:* 100,000.

*Frequency:* After each earthquake.

*Estimated Annual Burden Hours:* 10,000 hours.

*Affected Public:* The general public.  
*For Further Information Contact:* To obtain copies of the survey, contact the Bureau clearance officer, U.S. Geological Survey, 807 National Center, 12201 Sunrise Valley Drive, Reston, Virginia 20192, telephone (703) 648-7313, or go to the Web site (<http://pasadena.wr.usgs.gov/shake/>).

Dated: May 16, 2005.

P. Patrick Leahy,

Associate Director for Geology.

[FR Doc. 05-10152 Filed 5-19-05; 8:45 am]

BILLING CODE 4310-47-M

## DEPARTMENT OF THE INTERIOR

### Bureau of Indian Affairs

#### Notice of Intent To Prepare an Environmental Impact Statement for the Proposed Enterprise Rancheria Fee-to-Trust Transfer and Casino-Hotel Project, Yuba County, CA

**AGENCY:** Bureau of Indian Affairs, Interior.

**ACTION:** Notice.

**SUMMARY:** This notice advises the public that the Bureau of Indian Affairs (BIA) as lead agency, with the Estom Yumeka Maidu Tribe (Enterprise Rancheria) as a cooperating agency, intends to gather information necessary for preparing an Environmental Impact Statement (EIS) for a proposed 40 acre fee-to-trust transfer and casino and hotel project to be located in Yuba County, California. The purpose of the proposed action is to help provide a land base for, and address the socio-economic needs of the Enterprise Rancheria. This notice also announces a public scoping meeting to identify potential issues, concerns and alternatives to be considered in the EIS.

**DATES:** Written comments on the scope and implementation of this proposal must arrive by June 20, 2005. The public scoping meeting, to be co-hosted by the BIA and the Enterprise Rancheria, will be held June 9, 2005, from 6 p.m. to 9 p.m., or until the last public comment is received.

**ADDRESSES:** You may mail or hand carry written comments to Clay Gregory,

Regional Director, Pacific Regional Office, Bureau of Indian Affairs, 2800 Cottage Way, Sacramento, California 95825. Please include your name, return address and caption, "DEIS Scoping Comments, Enterprise Rancheria, 40 Acre Fee-to-Trust Casino/Hotel Project, Yuba County, California," on the first page of your written comments.

The public scoping meeting will be held at the Elk's Lodge, 920 D Street, Marysville, California 95901-5322.

**FOR FURTHER INFORMATION CONTACT:** John Rydzik, (916) 978-6042.

**SUPPLEMENTARY INFORMATION:** The 40 acre project site is located 4 miles southeast of the Community of Olivehurst, California, near the intersection of Forty Mile Road and State Route 65, in unincorporated Yuba County. The site is currently undeveloped and in use for hay farming. Surrounding land uses include agriculture, open space and entertainment.

The proposed action consists of the placing of a 40 acre parcel, currently privately owned, into federal trust status and the construction of a casino-hotel project, for the benefit of the Enterprise Rancheria. The proposed construction would consist of a 207,760 square-foot gaming facility and a 107,125 square-foot hotel on the 40 acre parcel. The two-story gaming facility would include a casino floor, food and beverage areas (including a buffet, gourmet restaurant, and bar), meeting space, guest support services, offices and security area. The eight-story hotel would contain 170 rooms (152 standard rooms and 18 suites) and would feature a lobby area, retail space, exercise room and arcade.

The BIA previously prepared an Environmental Assessment (EA) that analyzed the potential environmental effects of the proposed action. The EA was made available for public comments in July 2004. Upon consideration of the public and agency comments received during the 30-day public comment period, the BIA, in consultation with the Enterprise Rancheria, decided to prepare an EIS to further analyze the environmental effects which may result from the proposed action.

Areas of environmental concern to be addressed in the EIS include land use, geology and soils, water resources, agricultural resources, biological resources, cultural resources, mineral resources, paleontological resources, traffic and transportation, noise, air quality, public health/environmental hazards, public services and utilities, hazardous waste and materials, socio-economics, environmental justice, and

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visual resources/aesthetics. In addition to the proposed action, a reasonable range of alternatives, including a no-action alternative, will be analyzed in the EIS. The range of issues and alternatives may be expanded based on comments received during the scoping process.

#### Public Comment Availability

Comments, including names and addresses of respondents, will be available for public review at the BLA address shown in the **ADDRESSES** section, during business hours, 8 a.m. to 4:30 p.m., Monday through Friday, except holidays. Individual respondents may request confidentiality. If you wish us to withhold your name and/or address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by the law. We will not, however, consider anonymous comments. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

#### Authority

This notice is published in accordance with sections 1501.7, 1506.6 and 1508.22 of the Council of Environmental Quality Regulations (40 CFR Parts 1500 through 1508) implementing the procedural requirements of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4371 *et seq.*), Department of the Interior Manual (516 DM 1-6), and is in the exercise of authority delegated to the Principal Deputy Assistant Secretary—Indian Affairs by 209 DM 8.1.

Dated: May 2, 2005.

**Michael D. Olsen,**  
*Acting Principal Deputy Assistant Secretary—Indian Affairs.*  
[FR Doc. 05-10138 Filed 5-19-05; 8:45 am]  
BILLING CODE 4310-W7-U

#### DEPARTMENT OF THE INTERIOR

##### Bureau of Land Management

[OR-936-1320-FL; HAG-05-0116; WAOR-60818]

#### Notice of Invitation—Federal Coal Exploration License Application, WAOR 60818; Correction

**AGENCY:** Bureau of Land Management, Interior.

**ACTION:** Notice of correction.

**SUMMARY:** In Federal Coal Exploration License Application, WAOR 60818, published February 25, 2005, as FR Doc. 05-3629, make the following correction:

On page 9377, T. 14 N., R. 10 W., Sec. 8, E $\frac{1}{2}$ SW $\frac{1}{4}$ , should read T. 14 N., R. 1 W., Sec 8, E $\frac{1}{2}$ NW $\frac{1}{4}$ .

Any party electing to participate in this exploration program shall notify, in writing, both the Oregon/Washington State Director, Bureau of Land Management at the address above and the Transalta Centralia Mining LLC, at 913 Big Hanaford Road, Centralia, Washington 98531. Such written notice must refer to serial number WAOR-60818 and be received no later than June 20, 2005, or 10 calendar days after the last publication of this notice in the Centralia Chronicle newspaper, whichever is later. This notice will be published once a week for two (2) consecutive weeks in the newspaper.

Dated: May 9, 2005.

**John S. Styduhar,**  
*Acting Chief, Branch of Land & Mineral Resources, Oregon/Washington.*  
[FR Doc. 05-10093 Filed 5-19-05; 8:45 am]  
BILLING CODE 4310-33-P

#### INTERNATIONAL TRADE COMMISSION

[Investigation Nos. 701-TA-302 and 731-TA-454 (Second Review)]

##### Fresh and Chilled Atlantic Salmon From Norway

**AGENCY:** United States International Trade Commission.

**ACTION:** Notice of Commission determinations to conduct full five-year reviews concerning the countervailing duty and antidumping duty orders on fresh and chilled Atlantic salmon from Norway.

**SUMMARY:** The Commission hereby gives notice that it will proceed with full reviews pursuant to section 751(c)(5) of the Tariff Act of 1930 (19 U.S.C. 1675(c)(5)) to determine whether revocation of the countervailing duty and antidumping duty orders on fresh and chilled Atlantic salmon from Norway would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. A schedule for the reviews will be established and announced at a later date. For further information concerning the conduct of these reviews and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through

E (19 CFR part 201), and part 207, subparts A, D, E, and F (19 CFR part 207).

**EFFECTIVE DATE:** May 9, 2005.

#### FOR FURTHER INFORMATION CONTACT:

Mary Messer (202-205-3193), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for these reviews may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

**SUPPLEMENTARY INFORMATION:** On May 9, 2005, the Commission determined that it should proceed to full reviews in the subject five-year reviews pursuant to section 751(c)(5) of the Act. The Commission found that both the domestic and respondent interested party group responses to its notice of institution (70 FR 5471, February 2, 2005) were adequate. A record of the Commissioners' votes, the Commission's statement on adequacy, and any individual Commissioner's statements will be available from the Office of the Secretary and at the Commission's Web site.

**Authority:** These reviews are being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.62 of the Commission's rules.

By order of the Commission.

Issued: May 17, 2005.

**Marilyn R. Abbott,**  
*Secretary to the Commission.*  
[FR Doc. 05-10103 Filed 5-19-05; 8:45 am]  
BILLING CODE 7020-02-P

#### INTERNATIONAL TRADE COMMISSION

[Investigation Nos. 731-TA-465, 466, and 468 (Second Review)]

##### Sodium Thiosulfate From China, Germany, and the United Kingdom

**AGENCY:** United States International Trade Commission.

**ACTION:** Termination of five-year reviews.

**SUMMARY:** The subject five-year reviews were initiated in February 2005 to



## DEPARTMENT OF COMMERCE

## National Oceanic and Atmospheric Administration

## 50 CFR Parts 223 and 224

[Docket No. 040525161-5155-02; I.D. 052104F]

RIN No. 0648-AR93

**Endangered and Threatened Species: Final Listing Determinations for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened Salmonid ESUs**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule.

**SUMMARY:** We, NOAA's National Marine Fisheries Service (NMFS), are issuing final determinations to list 16 Evolutionarily Significant Units (ESUs) of West Coast salmon (chum, *Oncorhynchus keta*; coho, *O. kisutch*, sockeye, *O. nerka*; Chinook, *O. tshawytscha*; pink, *O. gorbuscha*) under the Endangered Species Act (ESA) of 1973, as amended. We have concluded that four ESUs are endangered, and twelve ESUs are threatened, in California, Oregon, Washington, and Idaho. Fifteen of these ESUs were previously listed as threatened or endangered under the ESA, and one ESU was previously designated as a candidate species. With respect to the Oregon Coast coho ESU and ten *O. mykiss* ESUs, we have found that substantial disagreement regarding the sufficiency or accuracy of the relevant data precludes making final listing determinations at this time, and accordingly we are extending the deadline for making our final determinations for these 11 ESUs for an additional 6 months. The findings regarding the extension of the final listing determination for the Oregon Coast coho ESU and for the ten *O. mykiss* ESUs appear in the Proposed Rules section in today's **Federal Register** issue. The ten *O. mykiss* ESUs were previously listed and remain listed pending final agency action.

Also in this notice, we are finalizing amendments to the ESA 4(d) protective regulations for threatened salmonid ESUs. As part of the proposed listing determinations in June 2004, we proposed changes to these protective regulations to provide the necessary flexibility to ensure that fisheries and artificial propagation programs are managed consistently with the

conservation needs of ESA-listed ESUs, and to clarify the existing regulations so that they can be more efficiently and effectively interpreted and followed by all affected parties.

Finally, we are soliciting biological and economic information relevant to designating critical habitat for the Lower Columbia River coho salmon ESU.

**DATES:** This final rule is effective August 29, 2005.

**ADDRESSES:** Correspondence concerning this final rule may be addressed to Chief, Protected Resources Division, Northwest Region, NMFS, 1201 Lloyd Boulevard, Suite 1100, Portland, Oregon, 97232-1274; or Chief, Protected Resources Division, Southwest Region, NMFS, 501 West Ocean Blvd., Suite 4200, Long Beach, CA, 90802-4213.

Information relevant to designating critical habitat for the Lower Columbia River coho ESU may be submitted by: standard mail to Steve Stone, Protected Resources Division, Northwest Region, NMFS, 1201 Lloyd Boulevard, Suite 1100, Portland, Oregon, 97232-1274; e-mail to [LCRcoho\\_CH.nwr@noaa.gov](mailto:LCRcoho_CH.nwr@noaa.gov); or fax to (503) 230-5441. Please include the identifier "Information RE: Critical Habitat for Lower Columbia River Coho" with any information submitted.

**FOR FURTHER INFORMATION CONTACT:** For further information regarding the final listing determinations and the final amendments to the 4(d) protective regulations please contact Scott Rumsey, NMFS, Northwest Region, (503) 872-2791; Craig Wingert, NMFS, Southwest Region, (562) 980-4021; or Marta Nammack, NMFS, Office of Protected Resources, (301) 713-1401. For further information concerning the information request regarding critical habitat for Lower Columbia River coho salmon, please contact Steve Stone, NMFS, Northwest Region, (503) 231-2317.

**SUPPLEMENTARY INFORMATION:** The ESA listing determinations and the amended 4(d) protective regulations for threatened ESUs described in this document are effective August 29, 2005. The take prohibitions applicable to threatened species do not apply to activities specified in an application for a permit or a 4(d) approval for scientific purposes or to enhance the conservation or survival of the species, provided that the application has been received by the Assistant Administrator for Fisheries, NOAA (AA), no later than August 29, 2005. This "grace period" for pending research and enhancement applications will remain in effect until the issuance or denial of authorization, or December 28, 2005, whichever occurs earliest. Additionally, biological and economic

information regarding critical habitat for the Lower Columbia River coho ESU must be received no later than 5 p.m. P.S.T. on August 29, 2005 (see **ADDRESSES** and Information Solicited).

**Organization of This Final Rule**

This **Federal Register** notice describes the final listing determinations for 16 ESUs of West Coast salmon under the ESA, as well as final amendments to the 4(d) protective regulations for threatened ESUs. The pages that follow summarize the comments and information received in response to the proposed listing determinations and proposed protective regulations (69 FR 33102; June 14, 2004), describe any changes from the proposed listing determinations and proposed protective regulations, and detail the final listing determinations for 16 ESUs and the final protective regulations for threatened ESUs. To assist the reader, the content of this notice is organized as follows:

I. Review of Necessary Background Information.

- *Statutory basis for Listing Species Under the Endangered Species Act.*
- *Life History of West Coast Salmon.*
- *NMFS' Past Pacific Salmonid ESA Listings and the Alsea Decision.*
- *Initiation of Coast-Wide ESA Status Reviews for 27 ESUs of Pacific Salmonids.*

II. Summary of Comments and Information Received in Response to the Proposed Rule.

- *Comments on the Consideration of Artificial Propagation in Listing Determinations.*
- *Comments on the Consideration of Efforts Being Made to Protect the Species.*
- *Comments on the Proposed Take Prohibitions and Protective Regulations.*
- *Comments on ESU-Specific Issues.*

III. Summary of Changes from the Proposed Listing Determinations and Proposed Protective Regulations.

IV. Treatment of the Four Listing Determination Steps for Each ESU Under Review.

- (1) *Determination of "Species" under the ESA*
- (2) *Viability Assessments of ESUs and Summary of Factors Affecting the Species*
- (3) *Evaluation of Efforts Being Made to Protect West Coast Salmonids*
- (4) *Final Listing Determinations of "threatened," "endangered," or "not warranted," based on the foregoing information*

V. *Take Prohibitions and Protective Regulations*

VI. *Identification of Those Activities That Would Constitute a Violation of Section 9 of the ESA*

VII. *Effective Date of the Final Listing Determinations and Protective Regulations*

VIII. Summary of agency efforts in designating *Critical Habitat* for listed salmon and *O. mykiss* ESUs, and a summary of *Information Solicited* regarding critical

habitat for the Lower Columbia River coho ESU

IX. Description of the *Classification*, NMFS' compliance with various laws and executive orders with respect to this rulemaking (e.g., National Environmental Policy Act, Regulatory Flexibility Act)

X. Description of amendments to the Code of Federal Regulations (*List of Subjects*). This section itemizes the specific changes to Federal law being made based on the foregoing information:

- Amendments to the list of threatened and endangered species
- Amendments to the protective regulations for threatened West Coast salmonids

## Background

### *Listing Species Under the Endangered Species Act*

NMFS is responsible for determining whether species, subspecies, or distinct population segments (DPSs) of Pacific salmon and steelhead are threatened or endangered under the Endangered Species Act (ESA) (16 U.S.C. 1531 *et seq.*). To be considered for listing under the ESA, a group of organisms must constitute a "species," which is defined in section 3 of the ESA to include "any subspecies of fish or wildlife or plants, and any *distinct population segment* [emphasis added] of any species of vertebrate fish or wildlife which interbreeds when mature." In this notice, we are issuing final listing determinations for DPSs of Pacific salmon. To qualify as a DPS, a Pacific salmon population must be substantially reproductively isolated from other conspecific populations and represent an important component in the evolutionary legacy of the biological species. A population meeting these criteria is considered to be an ESU (56 FR 58612; November 20, 1991). In our previous listing determinations for Pacific salmonids under the ESA, we have treated an ESU as constituting a DPS, and hence a "species," under the ESA.

Section 3 of the ESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range" and a threatened species as one "which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The statute lists factors that may cause a species to be threatened or endangered (ESA section 4(a)(1)): (a) The present or threatened destruction, modification, or curtailment of its habitat or range; (b) overutilization for commercial, recreational, scientific, or educational purposes; (c) disease or predation; (d) the inadequacy of existing regulatory

mechanisms; or (e) other natural or manmade factors affecting its continued existence.

Section 4(b)(1)(A) of the ESA requires NMFS to make listing determinations based solely on the best scientific and commercial data available after conducting a review of the status of the species and after taking into account efforts being made to protect the species. We follow a four-step process in making listing determinations for Pacific salmon: (1) We first determine the ESU or species under listing consideration; (2) we determine the viability of the defined ESU and the factors that have led to its decline; (3) we assess efforts being made to protect the ESU, determining if these efforts adequately mitigate threats to the species; and (4) based on the foregoing steps and the statutory listing factors, we determine if the ESU is threatened or endangered, or does not warrant listing under the ESA.

### *Life History of West Coast Salmon*

The specific life-history characteristics of the subject species are summarized in the proposed listing determinations notice (69 FR 33102; June 14, 2004). These species addressed in this notice each exhibit anadromy, meaning that adults migrate from the ocean to spawn in freshwater lakes and streams where their offspring hatch and rear prior to migrating to the ocean to forage until maturity. The migration and spawning times vary considerably among and within species and populations. At spawning, adults pair to lay and fertilize thousands of eggs in freshwater gravel nests or "redds" excavated by females. Depending on lake/stream temperatures, eggs incubate for several weeks to months before hatching as "alevins" (a larval life stage dependent on food stored in a yolk sac). Following yolk sac absorption, alevins emerge from the gravel as young juveniles called "fry" and begin actively feeding. Depending on the species and location, juveniles may spend from a few hours to several years in freshwater areas before migrating to the ocean. The physiological and behavioral changes required for the transition to salt water result in a distinct "smolt" stage in most species. En route to the ocean the juveniles may spend from a few days to several weeks in the estuary, depending on the species. The highly productive estuarine environment is an important feeding and acclimation area for juveniles preparing to enter marine waters.

Juveniles and subadults typically spend from 1 to 5 years foraging over thousands of miles in the North Pacific

Ocean before returning to freshwater to spawn. Some species, such as coho and Chinook salmon, have precocious life-history types (primarily male fish) that mature and spawn after only several months in the ocean. Spawning migrations known as "runs" occur throughout the year, varying in time by species and location. Most adult fish return or "home" with great fidelity to spawn in their natal stream, although some do stray to non-natal streams. Salmon species die after spawning.

### *Past Pacific Salmonid ESA Listings and the Alsea Decision*

Pacific salmon ESUs in California and the Pacific Northwest have suffered broad declines over the past hundred years. Since 1991, we have conducted ESA status reviews of six species of Pacific salmonids in California, Oregon, Washington, and Idaho, identifying 52 ESUs, with 25 ESUs currently listed as threatened or endangered (see the Proposed Rule, 69 FR 33102; June 14, 2004, for a detailed summary of previous listing actions for West Coast salmonid ESUs). In past status reviews, we based our extinction risk assessments on whether the naturally spawned fish in an ESU are self-sustaining in their natural ecosystem over the long term. We listed as "endangered" those ESUs whose naturally spawned populations were found to have a present high risk of extinction, and listed as "threatened" those ESUs whose naturally spawned populations were found likely to become endangered in the foreseeable future.

In past status reviews we did not explicitly consider the contribution of hatchery fish to the overall viability of an ESU, or whether the presence of hatchery fish within the ESU might have the potential for reducing the risk of extinction of the ESU or the likelihood that the ESU would become endangered in the foreseeable future. We generally considered artificial propagation as a threat to the long-term persistence of the naturally spawned populations within an ESU. Under a 1993 Interim Policy on the consideration of artificially propagated Pacific salmon and steelhead under the ESA (58 FR 17573; April 5, 1993), if it was determined that an ESU warranted listing, we then reviewed the associated hatchery stocks to determine if they were part of the ESU. We did not include hatchery stocks in an ESU if: (1) Information indicated that the hatchery stock was of a different genetic lineage than the listed natural populations; (2) information indicated that hatchery practices had produced appreciable

changes in the ecological and life-history characteristics of the hatchery stock and these traits were believed to have a genetic basis; or (3) there was substantial uncertainty regarding the relationship between hatchery fish and the existing natural population(s). The Interim Policy provided that hatchery salmon and steelhead found to be part of an ESU would not be listed under the ESA unless they were found to be essential for the ESU's recovery (*i.e.*, if we determined that the hatchery stock contained a substantial portion of the genetic diversity remaining in the ESU). The result of the Interim Policy was that a listing determination for an ESU depended solely upon the relative health of the natural populations in an ESU, and that most hatchery stocks determined to be part of an ESU were excluded from any listing of the ESU.

Subsequently, in *Alesea Valley Alliance v. Evans*, 161 F. Supp. 2d 1154 (D. Or. 2001) (*Alesea*), the U.S. District Court in Eugene, Oregon, set aside our 1998 ESA listing of Oregon Coast coho salmon (*O. kisutch*) because it impermissibly excluded hatchery fish within the ESU from listing. The court ruled that the ESA does not allow listing a subset of a DPS and that, since we had found an ESU constitutes a DPS, we had improperly excluded stocks from the listing that we had determined were part of the ESU. Although the *Alesea* ruling affected only one ESU, the interpretive issue raised by the ruling called into question the validity of the Interim Policy implemented in nearly all of our Pacific salmonid listing determinations.

#### Initiation of Coast-Wide ESA Status Reviews

Following the *Alesea* ruling, NMFS received a total of nine petitions seeking to delist, or to redefine and list, 17 listed salmonid ESUs (see the Proposed Rule for a summary of the petitions; 69 FR 33102; June 14, 2004). We determined that seven of the petitions presented substantial scientific and commercial information that the petitioned actions may be warranted for 16 of the subject ESUs (67 FR 6215, February 11, 2002; 67 FR 40679, June 13, 2002; 67 FR 48601, July 25, 2002). As part of our response to the ESA interpretive issues raised by the *Alesea* ruling, we announced that we would revise the 1993 Interim Policy, and we elected to initiate status reviews for 11 ESUs in addition to the 16 ESUs for which we had accepted delisting/listing petitions (67 FR 6215, February 11, 2002; 67 FR 79898, December 31, 2002).

NMFS' Pacific Salmonid Biological Review Team (BRT) (an expert panel of

scientists from several Federal agencies including NMFS, FWS, and the U.S. Geological Survey) reviewed the viability and extinction risk of naturally spawning populations in the 27 ESUs, 16 of which are the subject of this proposed rule (NMFS, 2003b). The BRT evaluated the risk of extinction based on the performance of the naturally spawning populations in each of the ESUs under the assumption that present conditions will continue into the future. The BRT did not explicitly consider artificial propagation in its evaluations.

The BRT assessed ESU-level extinction risk (as indicated by the viability of the naturally spawning populations) at two levels: First, at the individual population level, then at the overall ESU level. The BRT used factors for "Viable Salmonid Populations" (VSP; McElhany *et al.*, 2000) to guide its risk assessments. The VSP factors were developed to provide a consistent and logical reference for making viability determinations and are based on a review and synthesis of the conservation biology and salmon literature. Individual populations were evaluated according to the four VSP factors: abundance, productivity, spatial structure (including connectivity), and diversity. These four parameters are universal indicators of species' viability, and individually and collectively function as reasonable predictors of extinction risk. After reviewing all relevant biological information for the populations in a particular ESU, the BRT ascribed an ESU-level risk score for each of the four VSP factors.

The BRT described and assessed ESU-level risk for each of the VSP factors and the ESU-level extinction risk based on the performance of the naturally spawning populations. The BRT's assessment of ESU-level extinction risk uses categories that correspond to the definitions of endangered species and threatened species, respectively, in the ESA: in danger of extinction throughout all or a significant portion of its range, likely to become endangered within the foreseeable future throughout all or a significant portion of its range, or neither. In general, these evaluations did not include consideration of the potential contribution of hatchery stocks to the viability of ESUs, or evaluate efforts being made to protect the species. Therefore, the BRT's findings are not recommendations regarding listing. The BRT's ESU-level extinction risk assessment reflects the BRT's professional scientific judgment, guided by the analysis of the VSP factors, as well as by expectations about the likely interactions among the individual VSP factors. For example, a single VSP factor

with a "High Risk" score might be sufficient to result in an overall extinction risk assessment of "in danger of extinction," but a combination of several VSP factors with more moderate risk scores could also lead to the same assessment, or a finding that the ESU is "likely to become endangered."

To assist in determining the ESU membership of individual hatchery stocks, a Salmon and Steelhead Hatchery Assessment Group (SSHAG), composed of NMFS scientists from the Northwest and Southwest Fisheries Science Centers, evaluated the best available information describing the relationships between hatchery stocks and natural ESA-listed salmon and anadromous *O. mykiss* populations in the Pacific Northwest and California. The SSHAG produced a report, entitled "Hatchery Broodstock Summaries and Assessments for Chum, Coho, and Chinook Salmon and Steelhead Stocks within Evolutionarily Significant Units Listed under the Endangered Species Act" (NMFS, 2003a), describing the relatedness of each hatchery stock to the natural component of an ESU on the basis of stock origin and the degree of known or inferred genetic divergence between the hatchery stock and the local natural population(s). We used the information presented in the SSHAG Report to determine the ESU membership of those hatchery stocks within the historical geographic range of a given ESU. Our assessment of individual hatchery stocks and our findings regarding their ESU membership are detailed in the Salmonid Hatchery Inventory and Effects Evaluation Report (NMFS, 2004b).

The assessment of the effects of ESU hatchery programs on ESU viability and extinction risk is also presented in the Salmonid Hatchery Inventory and Effects Evaluation Report (NMFS, 2004b). The Report evaluates the effects of hatchery programs on the likelihood of extinction of an ESU on the basis of the four VSP factors (*i.e.*, abundance, productivity, spatial structure, and diversity) and how artificial propagation efforts within the ESU affect those factors. In April 2004, we convened an Artificial Propagation Evaluation Workshop of Federal scientists and managers with expertise in salmonid artificial propagation. The Artificial Propagation Evaluation Workshop reviewed the BRT's findings (NMFS, 2003a), evaluated the Salmonid Hatchery Inventory and Effects Evaluation Report (NMFS, 2004b), and assessed the overall extinction risk of ESUs with associated hatchery stocks. The discussions and conclusions of the



Artificial Propagation Evaluation Workshop are detailed in a workshop report (NMFS, 2004c). In this document, the extinction risk of an ESU "in-total" refers to the assessed level of extinction risk after considering the contributions to viability by all components of the ESU (hatchery origin, natural origin, anadromous, and resident).

On June 3, 2004, we published in the *Federal Register* a proposed policy for the consideration of hatchery-origin fish in ESA listing determinations (Hatchery Listing Policy; 69 FR 31354). On June 14, 2004, we proposed listing determinations for the 27 ESUs under review, proposing that four ESUs be listed as threatened and 23 ESUs be listed as endangered (69 FR 33102). We proposed maintaining the existing ESA listing status for 22 ESUs: Two sockeye ESUs (the endangered Snake River and threatened Ozette Lake sockeye ESUs); eight Chinook ESUs (the endangered Upper Columbia River spring-run ESU, and the threatened Central Valley spring-run, California Coastal, Upper Willamette River, Lower Columbia River, Puget Sound, Snake River fall-run, and Snake River spring/summer-run Chinook ESUs); one coho ESU (the threatened Southern Oregon/Northern California Coast coho ESU); two chum ESUs (the threatened Columbia River and Hood Canal summer-run chum ESUs); and nine *O. mykiss* ESUs (the endangered Southern California *O. mykiss* ESU, and the threatened South-Central California Coast, Central California Coast, California Central Valley, Northern California, Upper Willamette River, Lower Columbia River, Middle Columbia River, and Snake River Basin *O. mykiss* ESUs). We proposed revising the status of three ESA-listed ESUs: The endangered Sacramento River winter-run Chinook and Upper Columbia River *O. mykiss* ESUs were proposed for threatened status; and the threatened Central California Coast coho ESU was proposed for endangered status. Finally, we proposed that two ESUs designated as candidate species be listed as threatened: the Oregon Coast coho and Lower Columbia River coho ESUs. Also as part of the proposed listing determinations, we proposed amending the section 4(d) protective regulations for threatened ESUs to: Exclude listed hatchery fish marked by a clipped adipose fin and resident fish from the ESA take prohibition; and simplify existing 4(d) protective regulations so that the same set of limits apply to all threatened ESUs.

#### Summary of Comments and Information Received in Response to the Proposed Rule

With the publication of the proposed listing determinations for 27 ESUs we announced a 90-day public comment period extending through September 13, 2004. In *Federal Register* notices published on August 31, 2004 (69 FR 53093), September 9, 2004 (69 FR 54637), and October 8, 2004 (69 FR 61347), we extended the public comment period for the proposed policy through November 12, 2004. The public comment period for the proposed listing determinations was open for 151 days. We held 14 public hearings (at eight locations in the Pacific Northwest, and six locations in California) to provide additional opportunities and formats to receive public input (69 FR 53039, August 31, 2004; 69 FR 54620, September 9, 2004; 69 FR 61347, October 8, 2004). Additionally, pursuant to the requirements of the National Environmental Policy Act (NEPA) of 1969, we conducted an Environmental Assessment (EA) analyzing the proposed amendments to the 4(d) protective regulations for threatened salmonids. As part of the proposed listing determinations and the proposed amendments to the 4(d) protective regulations, we announced that a draft of the EA was available from NMFS upon request (69 FR at 33172; June 14, 2004). Additionally, on November 15, 2004, we published a notice of availability in the *Federal Register* soliciting comment on the draft EA for an additional 30 days (69 FR 65582).

A joint NMFS/FWS policy requires us to solicit independent expert review from at least three qualified specialists, concurrent with the public comment period (59 FR 34270; July 1, 1994). We solicited technical review of the proposed listing determinations from over 50 independent experts selected from the academic and scientific community, Native American tribal groups, Federal and state agencies, and the private sector. In December 2004 the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review establishing minimum peer review standards, a transparent process for public disclosure, and opportunities for public input. The OMB Peer Review Bulletin, implemented under the Information Quality Act (Pub. L. 106-554), is intended to provide public oversight on the quality of agency information, analyses, and regulatory activities, and applies to information disseminated on or after June 16, 2005. The independent expert review under

the joint NMFS/FWS peer review policy, and the comments received from several academic societies and expert advisory panels, collectively satisfy the requirements of the OMB Peer Review Bulletin (NMFS, 2005a).

In response to the requests for information and comments on the proposed hatchery listing policy, the proposed listing determinations, and the proposed amendments to the 4(d) protective regulations, we received over 28,250 comments by fax, standard mail, and e-mail. The majority of the comments received were from interested individuals who submitted form letters or form e-mails. Comments were also submitted by state and tribal natural resource agencies, fishing groups, environmental organizations, home builder associations, academic and professional societies, expert advisory panels (including NMFS' Recovery Science Review Panel, the Independent Science Advisory Board, and the State of Oregon's Independent Multidisciplinary Science Team), farming groups, irrigation groups, and individuals with expertise in Pacific salmonids. The majority of respondents focused on the proposed Hatchery Listing Policy, although many respondents also included comments relevant to the proposed listing determinations and the proposed amendments to the 4(d) protective regulations. The public comments were generally critical of the proposed hatchery listing policy, for a variety of reasons, but were generally favorable of the proposed listing determinations and the manner in which the proposed hatchery listing policy was implemented. Those few comments that addressed the proposed amendments to the 4(d) protective regulations expressed concerns about the practical implications of the proposed changes on the management of hatchery programs as well as on tribal, recreational, and commercial salmon and steelhead fisheries.

We also received comments from four of the independent experts from whom we had requested technical review of the proposed listing determinations. The independent expert reviews were generally supportive of the scientific principles underlying the application of the proposed Hatchery Listing Policy in the proposed listing determinations. However, the reviewers noted several concerns with the proposed Hatchery Listing Policy including: Vague and imprecise policy language; an apparent de-emphasis of the importance of naturally spawned self-sustaining populations for the conservation and recovery of salmonid ESUs, and the goal

of the ESA to conserve the ecosystems upon which they depend; accumulating long-term adverse impacts of artificial propagation due to unavoidable artificial selection and domestication in the hatchery environment; and the lack of scientific evidence that artificial propagation can contribute to the productivity and conservation of viable natural populations over the long term. Two of the reviewers felt that hatchery fish are inherently different from wild fish and should not be included in ESUs, and were concerned that the inclusion of hatchery fish in ESUs would jeopardize the conservation and recovery of native salmonid populations in their natural ecosystems. The other two reviewers were supportive of the scientific basis for including hatchery fish in ESUs, but felt that the policy did not appropriately emphasize that the conservation and recovery of listed ESUs depends upon the viability of wild populations and natural ecosystems over the long term.

There was substantial overlap between the comments from the independent expert reviewers, the independent scientific panels and academic societies, and the substantive public comments. Some of the comments received were not directly pertinent to the proposed listing determinations or the proposed amendments to the 4(d) protective regulations. We will consider and address comments relating to other determinations (for example, the proposed Hatchery Listing Policy (69 FR 31354, June 3, 2004), the proposed critical habitat designations for 20 West Coast salmonid ESUs (69 FR 71880, December 10, 2004; 69 FR 74572, December 14, 2004), and the remanded biological opinion on the Federal Columbia River Power System (see [http://www.salmonrecovery.gov/R\\_biop\\_final.shtml](http://www.salmonrecovery.gov/R_biop_final.shtml))) in the context of those determinations. With respect to comments received on the Hatchery Listing Policy, the summary of and response to comments below is confined to the implementation of the policy in delineating the ESUs for consideration, and determining their ESA listing status. The reader is referred to the final Hatchery Listing Policy elsewhere in this edition of the **Federal Register** for a summary of the comments received regarding the legal and policy interpretations articulated in the policy.

The summary of comments and our responses below are organized into four general categories: (1) General comments on the consideration of artificial propagation in the proposed listing determinations; (2) general comments on the consideration of

efforts being made to protect the species; (3) comments on the proposed amendments to the protective regulations; and (4) comments on ESU-specific issues (for example, the ESU membership of specific hatchery stocks, level of extinction risk assessed for an ESU, and the consideration of specific conservation efforts being made to protect and conserve an ESU).

#### *General Comments on the Consideration of Artificial Propagation*

*Issue 1:* Several commenters felt that our implementation of the Hatchery Listing Policy's threshold for including hatchery stocks in a given ESU was inconsistent among hatchery programs both within and among ESUs. The commenters felt that in most circumstances quantitative information on the genetic differentiation of a specific hatchery stock relative to the local natural population(s) is not available. The commenters argued that, given the poor availability of genetic data, determinations of whether a given hatchery stock is part of an ESU are ambiguous, highly subjective, and arbitrary.

*Response:* We agree with the commenters that in many cases empirical genetic data are not available to quantitatively assess the level of genetic differentiation and reproductive isolation of a hatchery stock relative to the local natural population(s) in an ESU. The ESA requires that we review the status of the species based upon the "best available" scientific and commercial information, and in many instances the agency must rely on qualitative analyses of surrogate information when quantitative genetic data are not available to assist in determining the "species" under consideration. For this rulemaking, in lieu of empirical genetic data, we relied on a number of strong biological indicators to inform a qualitative assessment of the level of reproductive isolation and evolutionary divergence, such as stock isolation, selection of run timing, the magnitude and regularity of incorporating natural broodstock, the incorporation of out-of-basin or out-of-ESU eggs or fish, mating protocols, behavioral and life-history traits, *etc.*

*Issue 2:* One commenter disapproved of our approach of evaluating the ESU membership of hatchery fish in terms of individual hatchery programs. The commenter recommended that ESU membership be based on broodstock source, recognizing that a given broodstock may be propagated at several hatchery facilities. The commenter felt that our approach of evaluating hatchery programs confused three important

issues: the broodstock source, history, and genetic management of the hatchery fish; the management practices of the hatchery program producing the hatchery fish (such as the timing and location of releasing hatchery fish); and the life-history characteristics of the local natural population where a hatchery stock is being released. The commenter was concerned that evaluating and listing hatchery fish by hatchery program could erroneously result in one group of hatchery fish from a given broodstock source being included in an ESU, and another group of hatchery fish from the same broodstock source not being included in the ESU.

*Response:* The commenter is correct that our approach could, and did, result in hatchery programs being excluded from an ESU despite having been derived from the same broodstock lineage as other hatchery programs included in the ESU. However, we feel it would be inappropriate to determine the ESU membership of hatchery fish solely on the basis of broodstock lineage to the exclusion of a case-by-case analysis of the past and present practices of hatchery programs producing fish within the geographic range of an ESU. The commenter correctly points out that individual hatchery programs may differ in their broodstock lineage, hatchery practices, and the specific ecological conditions into which the hatchery fish are released. The broodstock used represents the raw genetic resources brought into a hatchery program, and provides one useful predictor of ESU membership. How these raw genetic resources are managed and the specific environmental and ecological conditions into which the hatchery fish are released are also key determinants of whether a group of hatchery fish is part of an ESU. Critical considerations in evaluating the relationship of hatchery fish to an ESU include whether it reflects: (1) The level of reproductive isolation characteristic of the natural populations in the ESU; and (2) the ecological, life-history, and genetic diversity that compose the ESU's evolutionary legacy. Information regarding the origin, isolation, and broodstock source and mating protocols of a hatchery program help determine its level of reproductive isolation from the local natural population(s) in an ESU. Information regarding the behavioral and life-history traits of the hatchery fish produced by a program relative to the locally adapted natural populations help inform evaluations of whether the hatchery fish are



representative of the ESU's evolutionary legacy. We feel that it is appropriate to evaluate the ESU membership of hatchery fish with respect to the specific hatchery programs producing them.

*Issue 3:* Many commenters felt that hatchery-origin fish should not be included in ESUs. The commenters discussed scientific studies demonstrating that hatchery-origin fish differ from naturally-spawned fish in physical, physiological, behavioral, reproductive and genetic traits. Commenters argued that hatchery-origin and natural-origin fish should not be included in the same ESU because of these differences.

*Response:* We do not agree that hatchery-origin fish should be universally excluded from ESUs. As articulated in the final Hatchery Listing Policy in this edition of the **Federal Register**, important genetic resources for the conservation and recovery of an ESU can reside in fish spawned in a hatchery as well as in fish spawned in the wild. The established practice of incorporating local natural-origin fish into hatchery broodstock can result in hatchery stocks and natural populations that are not reproductively isolated and that share the same genetic and ecological evolutionary legacy. Under the final Hatchery Listing Policy we determine the ESU membership of hatchery fish by conducting a case-by-case evaluation of the relationship of individual hatchery stocks to the local natural population(s) on the basis of: Stock origin and the degree of known or inferred genetic divergence between the hatchery stock and the local natural population(s); and the similarity of hatchery stocks to natural populations in ecological and life-history traits. Although certain hatchery programs will be determined to be reproductively isolated and not representative of the evolutionary legacy of an ESU (and hence not part of the ESU), we do not believe that such a conclusion is universally warranted for all hatchery stocks. Many hatchery stocks are reproductively integrated with natural populations in an ESU and continue to exhibit the local adaptations composing the ESU's ecological and genetic diversity. We recognize that artificial selection in the hatchery environment may be unavoidable, that a well-managed hatchery stock could eventually diverge from the evolutionary lineage of an ESU, and that a poorly managed hatchery stock could quickly diverge from the evolutionary lineage of an ESU. However, the potential for divergence is not adequate justification for the universal exclusion of hatchery fish from an ESU. Consistent

with the ESU policy, a hatchery program should be excluded from an ESU if the hatchery stock exhibits genetic, ecological or life-history traits indicating that it has diverged from the evolutionary legacy of the ESU.

*Issue 4:* Many commenters felt that hatchery-origin fish should be considered only as a threat to the persistence of Pacific salmon and *O. mykiss* ESUs. The commenters cited scientific studies indicating that artificial selection in hatcheries can result in diminished reproductive fitness in hatchery-origin fish in only one generation. Commenters also noted scientific studies describing negative ecological, reproductive, and genetic effects of hatchery stocks on natural populations. The commenters were concerned that including hatchery fish in assessments of extinction risk reduces the importance of conserving self-sustaining populations in the wild, and inappropriately equates naturally produced fish and fish produced with ease in a hatchery.

*Response:* We do not agree that all hatchery programs, and the hatchery fish they produce, can be universally regarded as threats to salmon and *O. mykiss* ESUs. There are so many different ways in which hatchery-origin fish interact with natural populations and the environment that there can be no uniform conclusion about the potential contribution of hatchery-origin fish to the survival of an ESU. As described in the final Hatchery Listing Policy elsewhere in this edition of the **Federal Register**, the consideration of hatchery-origin fish in evaluating the level of extinction risk of an ESU requires a case-by-case analysis of the risks, benefits, and uncertainties of specific hatchery stocks within the geographical area of an ESU. The risks and benefits of artificial propagation to the survival of an ESU over the long term are highly uncertain. The presence of well distributed self-sustaining natural populations that are ecologically and genetically diverse provides the most certain predictor that an ESU is not likely to become endangered in the foreseeable future. The presence of carefully designed and operated hatchery programs, under certain circumstances, may mitigate the risk of extirpation for severely depressed populations in the short term, and thereby reduce an ESU's immediate risk of extinction. Whether the contributions of a hatchery program or group of hatchery programs will warrant an ESU being listed as "threatened" rather than "endangered" will depend upon the specific demographic risks facing natural populations within the ESU, the

availability and condition of the surrounding natural habitat, as well as the factors that led to the ESU's decline and current threats limiting the ESU's recovery.

*Issue 5:* A few commenters felt that extinction risk should be evaluated based on the total abundance of fish within the defined ESU without discriminating between fish of hatchery or natural origin. These commenters contended that the District Court in *Alsea* ruled that once an ESU is defined, risk determinations should not discriminate among its components. The commenters described the risk of extinction as the chance that there will be no living representatives of the species, and that such a consideration must not be biased toward a specific means of production (artificial or natural).

*Response:* The *Alsea* ruling does not require any particular approach to assessing extinction risk. The court ruled that if it is determined that a DPS warrants listing, all members of the defined species must be included in the listing. The court did not rule on how the agency should determine whether the species is in danger of extinction or likely to become so in the foreseeable future. The commenters assert that the viability of an ESU is determined by the total numbers of fish. The risk of extinction of an ESU depends not just on the abundance of fish, but also on the productivity, spatial distribution, and diversity of its component populations (Viable Salmonid Populations (VSP) factors; McElhany *et al.*, 2000; Ruckelshaus *et al.*, 2002). In addition to having sufficient abundance, viable ESUs and populations have sufficient productivity, diversity, and a spatial distribution to survive environmental variation and natural and human catastrophes. The commenters also assume that hatchery managers will continue to produce the same numbers of the same stock and quality of fish with the same success as in the past. In many cases, such assumptions are not warranted.

*Issue 6:* One commenter noted that the proposed ESU delineations included "naturally spawned fish" within a given geographical area, and was concerned that as defined the ESUs might be misinterpreted to include the naturally spawned progeny of hatchery fish not included in the ESU. The commenter was concerned that the naturally-spawned progeny of these out-of-ESU hatchery fish would inadvertently be afforded the protections of the ESA, potentially constraining conservation measures intended to reduce the

negative impacts of these fish on listed local natural populations.

*Response:* The final rule defines ESUs as naturally spawned fish originating from a defined geographic area, plus hatchery fish from certain enumerated hatchery programs. It is possible that within any geographic area there may be out-of-ESU hatchery strays spawning with other out-of-ESU hatchery strays to produce progeny that biologically would not be considered part of the ESU. As a practical matter, however, it is seldom possible to distinguish the progeny of these matings from the progeny of within-ESU natural spawners, without elaborate (and potentially inconclusive) tests. Accordingly, we have defined the ESUs to make the listings unambiguous and the ESA protections easily enforceable.

Of the 16 ESUs addressed in this final rule, four ESUs have associated out-of-ESU hatchery programs: the Lower Columbia River Chinook, Upper Columbia River spring-run Chinook, Puget Sound Chinook, and Snake River spring/summer-run Chinook ESUs. In some instances the progeny of out-of-ESU hatchery fish may be distinguished by distinct patterns of habitat use, spawning location, run timing, or other means. In such a case we may determine that protection of those fish is not necessary for conservation of the ESU and approve actions that result in take, through sections 4(d), 7(a)(2), 10(a)(1)(A) or 10(a)(1)(B) of the ESA, as appropriate. NMFS will also use these statutory authorities to minimize harmful impacts to the listed ESUs from out-of-ESU hatchery fish spawning in the wild.

#### *General Comments on the Consideration of Protective Efforts*

*Issue 7:* Several commenters criticized the evaluation of efforts being made to protect the species in the proposed listing determinations (see 69 FR at 33142 through 33157; June 14, 2004). The commenters argued that the joint NMFS/FWS "Policy for Evaluation of Conservation Efforts When Making Listing Decisions" ("PECE"; 68 FR 15100; March 28, 2003) does not apply to currently listed species. In addition to this criticism the commenters felt that our treatment of protective efforts in the proposed listing determinations failed to address the criteria required under PECE for evaluating the certainty of implementation and effectiveness of protective efforts. (The commenters also provided criticisms specific to the consideration of protective efforts for the Sacramento River winter-run Chinook ESU, see Issue 13 in the

"Comments on ESU-specific Issues" section, below).

*Response:* Section 4(b)(1)(A) of the ESA requires the Secretary of Commerce to make listing determinations "solely on the basis of the best scientific and commercial data available \* \* \* after conducting a review of the status of the species and after taking into account those efforts, if any, being made \* \* \* to protect such species" (emphasis added). When making listing determinations, we therefore evaluate efforts being made to protect the species to determine if those measures reduce the threats facing an ESU and ameliorate its assessed level of extinction risk. In judging the efficacy of protective efforts, we rely on the guidance provided in PECE. PECE provides direction for the consideration of protective efforts identified in conservation agreements, conservation plans, management plans, or similar documents (developed by Federal agencies, state and local governments, tribal governments, businesses, organizations, and individuals) that have not yet been implemented, or have been implemented but have not yet demonstrated effectiveness. The policy articulates 15 criteria for evaluating the certainty of implementation and effectiveness of protective efforts to aid in determination of whether a species should be listed as threatened or endangered. Evaluations of the certainty an effort will be implemented include whether: The necessary resources (e.g., funding and staffing) are available; the requisite agreements have been formalized such that the necessary authority and regulatory mechanisms are in place; there is a schedule for completion and evaluation of the stated objectives; and (for voluntary efforts) the necessary incentives are in place to ensure adequate participation. The evaluation of the certainty of an effort's effectiveness is made on the basis of whether the effort or plan: establishes specific conservation objectives; identifies the necessary steps to reduce threats or factors for decline; includes quantifiable performance measures for the monitoring of compliance and effectiveness; incorporates the principles of adaptive management; and is likely to improve the species' viability at the time of the listing determination.

The commenters are correct that PECE does not explicitly apply to changing a species' listing status from endangered to threatened, or to delisting actions. NMFS and FWS noted that recovery planning is the appropriate vehicle to provide case-by-case guidance on the actions necessary to delist or change a species' listing status. The agencies left

open whether specific policy guidance would be developed to instruct the consideration of conservation efforts for the purposes of changing a species' listing status or delisting a species, and such guidance has not yet been developed. Recovery planning efforts for the listed ESUs under review have not progressed to the point that they can provide guidance on the specific actions that would inform a decision to delist or change an ESU's listing status. In lieu of further policy guidance, PECE provides a useful and appropriate general framework to guide consistent and predictable evaluations of protective efforts.

We agree with the commenters that the regional summary of protective efforts provided as part of the proposed listing determinations does not provide a detailed treatment of the fifteen criteria articulated in PECE. However, only one of the proposed listings for the 16 ESUs addressed in this notice relied on the determination that protective efforts ameliorated risks to an ESU's abundance, productivity, spatial structure, and diversity as a basis for proposing that a previously endangered species be listed as threatened (the Sacramento River winter-run Chinook ESU). (The final listing determination for the Sacramento River winter-run Chinook ESU does not rely on an evaluation of protective efforts.) Our review of protective efforts provided in the proposed listing determinations concluded that the efforts do not as yet individually or collectively provide sufficient certainty of implementation and effectiveness to alter the assessed level of extinction risk for the other ESUs under review. A detailed documentation of the fifteen criteria articulated in PECE is not necessary unless we rely on protective efforts to overcome our assessment of extinction risk and the five factors identified in ESA section 4(a)(1).

#### *Comments on Protective Regulations*

*Issue 8:* Several commenters believe the ESA does not allow us to apply different levels of protections to hatchery and natural-origin fish in an ESU by not applying the take prohibitions to threatened hatchery fish that have had their adipose fin removed prior to release into the wild. The commenters argue that the *Alsea* ruling found that all fish included in an ESU must be protected equally if it is found that the ESU in-total warrants listing.

*Response 14:* The *Alsea* ruling does not require us to implement protective regulations equally among components of threatened ESUs. The *Alsea* ruling found that the ESA does not allow us to

list a subset of a DPS or ESU, and that all components of an ESU (natural populations, hatchery stocks, and resident populations) must be included in a listing if it is determined that an ESU warrants listing as threatened or endangered.

The section 9(a) take prohibitions (16 U.S.C. 1538(a)(1)(B)) apply to species listed as endangered. In the case of threatened species, ESA Section 4(d) leaves it to the Secretary's discretion whether and to what extent to promulgate protective regulations. Section 4(d) of the ESA states that "[w]henver a species is listed as a threatened species \* \* \*, the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species" [emphasis added]. "The Secretary may \* \* \* prohibit with respect to any threatened species any act prohibited under section 9(a)(1) \* \* \* with respect to endangered species." This gives the Secretary flexibility under section 4(d) to tailor protective regulations that appropriately reflect the biological condition of each threatened ESU and the intended role of listed hatchery fish.

We find that it is necessary and advisable for conservation of the ESUs to prohibit take only of natural-origin fish and hatchery fish with the adipose fin left intact. The majority of hatchery programs produce fish for harvest rather than for conservation. Protecting those fish intended for harvest is not necessary for the conservation of the ESU. To the contrary, if too many hatchery fish are allowed to spawn naturally, it may pose ecological and genetic risks to the natural populations in the ESU. Removal of some hatchery fish before they are allowed to spawn may thus be necessary for the conservation of some ESUs. This concern is discussed in more detail in the final Hatchery Listing Policy elsewhere in this edition of the **Federal Register**.

Hatchery production that is surplus to conservation needs may thus create population pressures that cannot be relieved except through harvest of the surplus. An alternative approach to conservation would be to simply produce fewer hatchery fish. While reducing hatchery production might be another option for addressing this threat, the hatchery production itself is in many cases important for redressing lost treaty harvest opportunities (as well as meeting other societal values). Allowing the continued production of hatchery fish for harvest, and not prohibiting the take of listed marked hatchery fish, balances the conservation

needs of listed ESUs against other Federal obligations.

*Issue 9:* Several commenters were concerned that excluding threatened hatchery fish with a clipped adipose fin (hereafter, "ad-clipped") from 4(d) protections would be perceived by managers as strong pressure to expand the use of mark-selective fisheries. (A "mark-selective" fishery is one in which anglers can retain only ad-clipped hatchery fish, while any unmarked fish that are caught must be released. Mark-selective fisheries are intended to protect the weaker stock(s) in a mixed-stock fishery, while allowing for harvest opportunities on stronger stocks. Mass-marking by clipping the adipose fins of hatchery fish that are intended for harvest is used to provide an easily distinguished visual cue for anglers). Some of these commenters suggested an alternative would be to prohibit the take of "naturally spawned fish," and fish from specified conservation hatcheries.

Commenters also noted that many ad-clipped hatchery fish are released from conservation programs for recovery purposes and thus merit take prohibitions. The commenters were concerned that the proposed 4(d) protective regulations would require conservation hatchery managers to release hatchery fish with their adipose fins intact so that the take prohibitions would apply. The commenters argued that this would force hatchery managers to use alternative marking methods that are more expensive, more difficult to implement, and less effective.

*Response:* The amended prohibitions do not mandate that listed hatchery fish be ad-clipped, nor do they mandate the use of mark-selective fisheries. State and tribal hatchery and fishery managers use an array of management tools depending on the needs of individual salmonid populations and resource use objectives. Among these tools are mass marking and mark-selective fisheries. Although the amended protective regulations do not require it, ad-clipping may be the best strategy to achieve their goals for some hatchery programs. These ad-clipped hatchery fish can be harvested in fisheries that have appropriate ESA authorization, including, but not limited to, mark-selective fisheries. However, the amended 4(d) protective regulations do not mandate any particular management strategy provided the strategy is consistent with the conservation and recovery objectives of listed ESUs. An alternative approach would have been to prohibit the take of naturally spawned fish and fish from specific conservation hatcheries. We have instead chosen to rely on the adipose-fin clip because it provides a

readily identifiable and enforceable feature for distinguishing those fish protected by the ESA take prohibitions.

The commenters are correct that hatchery fish intended for conservation purposes will not be afforded ESA protection against take if they are released with a clipped adipose fin. Managers of conservation hatchery programs may choose to use alternative marking methods to assist research and monitoring efforts such that the take prohibitions apply to the fish they produce. We acknowledge that the prospect of listing more than 130 West Coast hatchery programs presents challenges to hatchery and fishery management in California, Oregon, Washington, and Idaho. We believe that exempting ad-clipped fish from the take prohibitions is the preferable regulatory option, as compared to the alternative of prohibiting take of all listed hatchery fish. Allowing for the take of listed ad-clipped hatchery fish provides a clearly enforceable distinction for when take prohibitions apply, and provides additional flexibility to more effectively manage fisheries, control the number and proportion of hatchery fish spawning in the wild, and minimize potentially adverse impacts of hatchery fish on natural populations. Although the proposed approach provides management flexibility, we recognize that it may present some challenges. We will continue to work with state and tribal managers to address any challenges in a way that minimizes adverse impacts on affected parties, while achieving conservation and resource use objectives for listed ESUs.

*Issue 10:* A few commenters felt that NMFS should extend the "grace period" for applications for coverage under the 4(d) limits to: Apply to applications for all limits rather than just for scientific research and enhancement activities; allow for more than 60 days to submit an application; and allow for more than 6 months to obtain approval under a 4(d) limit. The commenters felt sufficient time must be allowed for entities to prepare and process applications for 4(d) coverage. The commenters were concerned that NMFS does not have the necessary resources to process applications and issue authorizations within 6 months, given the likely high volume of new 4(d) applications and the significant administrative burden associated with processing and authorizing 4(d) applications. The commenters stressed that any delays in issuing authorizations under 4(d) would disrupt important fisheries and would also risk impeding progress on important recovery efforts.

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*Response:* We are concerned about the potential for disruption of ongoing scientific research, monitoring, and conservation activities, especially during the coming summer/fall field seasons. Consistent with the previously promulgated 4(d) protective regulations, the amended regulations finalized in this notice include a "temporary" limit or 6-month grace period for ongoing scientific research and enhancement activities provided a permit application is received by NMFS within 60 days of this notice (see **DATES**, above). Applicants will be subject to the take prohibitions if their permit application is denied, rejected as insufficient, or the 6-month grace period expires, whichever occurs earliest.

We do not feel that a similar 6-month grace period is warranted for limits addressing other activities affecting threatened ESUs. In this notice we are amending existing 4(d) protective regulations for threatened ESUs that are already listed under the ESA (except for the Lower Columbia River coho ESU, which is a new threatened listing). Thus, activities affecting the subject ESUs already have ESA coverage through the existing 4(d) protective regulations, through section 10 permits, as a result of section 7 consultation, or are in the process of obtaining such authorization. The amended 4(d) protective regulations will become effective within 60 days of the publication of this notice (see **DATES**, above). We believe that the grace period allows sufficient time to amend existing ESA authorizations consistent with the revised 4(d) protective regulations. Some activities will not need ESA coverage immediately after the amended protective regulations go into effect because the actions do not affect listed species. We will work with regional co-managers to prioritize activities and programs on the basis of how urgently each needs ESA coverage.

We have anticipated that processing new 4(d) applications submitted in response to the amended 4(d) protective regulations will increase agency workload. As a result, we are evaluating our resource needs and are fully committed to meeting future program demands. We encourage entities to work together in developing plans for 4(d) approval that cover wide geographic scales and multiple activities, thus reducing the number of individual programs that need to be reviewed. While enforcement may be initiated against activities that take protected salmonids, our clear preference is to work with persons or entities to promptly shape their programs and activities to include credible and

reliable conservation measures for listed salmon and *O. mykiss* ESUs.

*Issue 11:* Two Federal agencies (the Bureau of Land Management (BLM), and the U.S. Forest Service (FS)) requested that we amend the limits concerning land management activities on state, private, and tribal lands to include activities on Federal lands that implement regional Land Resource Management Plans (LRMPs) and aquatic conservation strategies. The BLM and FS recognized that including Federal lands in these limits on the take prohibitions would not eliminate their requirement to consult under section 7 of the ESA. However, BLM and FS felt that extending these limits to Federal lands would make the section 7 consultation process more efficient, and minimize or eliminate the need to develop and implement reasonable and prudent measures, as well as mandatory terms and conditions for actions covered under a section 7 Incidental Take Statement.

*Response:* It is not possible to extend existing 4(d) limits to cover Federal activities implemented under FS and BLM LRMPs because the existing limits address land management activities conducted under differing regulatory authorities and relationships. If we were to adopt a new 4(d) limit covering the LRMPs, it would require review and approval of specific activities, similar to the current 4(d) limits. The LRMPs address general classes of FS and BLM actions, and lack the specificity required for a 4(d) limit. For a 4(d) limit to cover future unidentified actions, without subsequent review and approval, the limit would have to specify narrowly defined activities to be conducted according to strict guidelines within stringent project management conditions. Adopting limits that require subsequent review and approval would not provide any relief to Federal agencies and would, to the contrary, increase regulatory review.

As the BLM and FS acknowledged, the 4(d) limits on the take prohibitions do not relieve Federal agencies of their duty under section 7 of the ESA to consult with NMFS if actions they fund, authorize, or carry out may affect listed species. The various 4(d) limits may be useful to Federal agencies as guidance in developing and implementing their conservation programs. To the extent that Federal actions subject to section 7 consultation are consistent with the terms of a 4(d) limit, the consultation process may be greatly simplified. However, granting BLM's and FS' request to explicitly include certain Federal activities in several 4(d) limits

would not diminish their section 7 obligations.

#### *Comments on ESU-Specific Issues*

*Issue 12:* We received many helpful ESU-specific comments of an editorial nature. These comments noted inadvertent errors in the proposed listing determinations and offered non-substantive but nonetheless clarifying changes to wording.

*Response:* We have incorporated these editorial-type comments in the ESU definitions, descriptions of ESU status, and the final listing determinations. As these comments do not result in substantive changes to this final rule, we have not detailed the changes made.

#### *Sacramento River Winter-Run Chinook ESU*

*Issue 13:* Several commenters contended that our proposal to reclassify the endangered Sacramento River winter-run Chinook ESU as threatened was not justified because the BRT concluded it was at a high risk of extinction and we overstated the benefits of protective efforts such as the Battle Creek restoration project. They argued that this program in particular was uncertain to be fully implemented, funded, or successful in establishing a second population of this ESU in Battle Creek. In addition, they argued that 2004 changes in the Central Valley Project operations criteria (CVP-OCAP) provided less protection for this ESU than did the previous water project operational criteria.

*Response:* We acknowledge the BRT concluded this ESU still continues to be at a high risk of extinction, primarily because of concerns about the spatial structure (the ESU is represented by a single population) and the loss of diversity. As indicated in the proposed rule, however, we believe that many important protective efforts have been implemented over the past 10 to 15 years that have contributed to the increased abundance and productivity of this ESU in recent years, as have favorable ocean conditions. These protective efforts include changes in the operation of the Central Valley and State Water Projects, implementation of many CALFED Bay-Delta Program (CALFED) and other habitat restoration projects (e.g., screening of water diversions), changes in ocean and freshwater harvest management, and successful implementation of the hatchery supplementation program at Livingston Stone National Fish Hatchery (NFH). We agree with commenters, however, that the Battle Creek restoration project, which was cited in the proposed rule to support the proposed reclassification,

has not been fully implemented and that its funding and future success are uncertain at this time.

We disagree, however, that the 2004 CVP-OCAP provides less protection to this ESU than previous water project operations criteria. The new CVP-OCAP continues to provide adequate control of temperatures for spawning in the upper Sacramento River despite changes in the temperature control point and carryover storage requirements. We fully analyzed the new CVP-OCAP operations in a biological opinion issued in 2004 and concluded that these operational changes would not jeopardize the continued existence of this ESU.

In light of the concerns raised about the adequacy and benefits of protective efforts for this ESU, particularly the Battle Creek restoration project, we are withdrawing our proposal to reclassify this ESU as threatened. We conclude that the Sacramento River winter-run Chinook ESU continues to warrant listing as an endangered species. We will continue to monitor the status of this ESU and the implementation of protective efforts throughout the California Central Valley. We may reconsider reclassification of the ESU's listing status in the future as these protective efforts mature (the Battle Creek restoration project in particular) and are fully implemented, and their certainty of effectiveness can be more fully assessed.

#### *Central Valley Spring-Run Chinook*

*Issue 14:* Several commenters questioned whether naturally spawning spring-run Chinook in the Feather River should be included in the listed ESU given that they are genetically similar to the Feather River Hatchery stock which was not proposed as part of the Central Valley spring-run Chinook ESU.

*Response:* We agree with the commenters that naturally spawning spring-run Chinook in the Feather River are genetically similar to the Feather River Hatchery spring-run Chinook stock. Although the hatchery stock shows evidence of introgression with Central Valley fall-run Chinook and is divergent from other within-ESU naturally spawning populations in Deer, Mill and Butte Creeks, both the Feather River naturally spawning population and the Feather River Hatchery spring-run Chinook stock continue to exhibit a distinct early-returning spring-run phenotype. NMFS' SSHAG report (NMFS, 2003a) found that if it was determined that the naturally spawning spring-run Chinook population in the Feather River was part of the ESU, then the Feather River Hatchery spring-run Chinook stock might also be considered

part of the ESU. NMFS' Central Valley Technical Recovery Team believes that this early run timing in the Feather River represents the evolutionary legacy of the spring-run Chinook populations that once spawned above Oroville Dam, and that the extant population in the Feather River may be the only remaining representative of this important ESU component (NMFS, 2004d). The Feather River Hatchery spring-run Chinook stock may play an important role in the recovery of spring-run Chinook in the Feather River Basin as efforts progress to restore natural spring-run populations in the Feather and Yuba Rivers. The California Department of Fish and Game (CDFG) has recently initiated marking of all early returning fish to the Feather River Hatchery, and is incorporating only those early-run fish into the Feather River Hatchery spring-run Chinook stock. The California Department of Water Resources also plans to construct a weir to create geographic isolation for spring-run Chinook in the Feather River. These efforts are intended to reduce introgression by Central Valley fall-run Chinook, thereby further isolating and preserving this important early-returning spring-run Chinook phenotype in the Feather River. Recent results indicate that a small percentage of these marked early-run hatchery fish (*i.e.*, those that do not return to the hatchery or are not harvested) are spawning naturally in the Feather River. Based on a consideration of this information, we have determined that: (1) The naturally spawning population of spring-run Chinook in the Feather River represents the level of reproductive isolation and the evolutionary legacy of the ESU, and thus warrants inclusion in the ESU; and (2) the Feather River Hatchery spring-run Chinook stock is no more divergent relative to this local natural population than would be expected between two closely related populations in the ESU, and thus it also warrants inclusion in the ESU. Accordingly, we have revised the ESU definition of the Central Valley spring-run Chinook ESU in this final rule to include the natural population of spring-run Chinook in the Feather River as well as the Feather River Hatchery spring-run Chinook stock (see the "Determination of 'Species' under the ESA" section, below).

#### *Upper Willamette River Chinook ESU*

*Issue 15:* The Oregon Department of Fish and Wildlife (ODFW) felt that the Clackamas Hatchery spring-run Chinook program (ODFW stock #19), which was proposed for inclusion in the Upper Willamette River Chinook ESU, should

not be included as part of the ESU. ODFW contended that the Clackamas Hatchery should be excluded from the ESU because the program consists of a long-term domesticated broodstock founded from a mix of non-local (but within ESU) populations, and the program is managed for isolation between the hatchery stock and the local natural populations.

*Response:* The Clackamas spring Chinook broodstock (ODFW stock #19) was initiated in 1976 and is the most recently founded broodstock in the entire ESU. Since hatchery fish released from this program were not all externally marked until 1997, it is unknown how many natural-origin fish have been incorporated into the broodstock since the program was initiated. However, based on the number of natural-origin fish that have entered the hatchery over the last 3 years since all hatchery returns have been marked, it is likely some natural-origin fish have been incorporated regularly into the broodstock since it was established. When this hatchery program began, naturally-produced spring Chinook numbered in the hundreds. It is likely that the subsequent increases in the number of natural-origin Clackamas spring-run Chinook includes the progeny of naturally spawning hatchery-origin fish from the Clackamas Hatchery. Based on this information, the Clackamas Hatchery stock is likely no more divergent from the local natural population than are closely related natural populations in the ESU, and thus it is appropriate for this hatchery stock to be included as part of the Upper Willamette River Chinook ESU.

#### *Lower Columbia River Chinook ESU*

*Issue 16:* ODFW felt that the Big Creek tule (Big Creek, OR) fall-run Chinook hatchery program, which was proposed for inclusion in the Lower Columbia River Chinook ESU, should not be included in the ESU. ODFW contended that the Big Creek tule Chinook program is substantially divergent from the local natural populations in the ESU because it has incorporated non-local (but within ESU) fish in the hatchery broodstock, and the program is unable to actively collect and incorporate natural-origin fish into the broodstock because returning hatchery-origin fish are unmarked and indistinguishable from returning natural-origin fish.

*Response:* We respectfully disagree with ODFW's contention that the Big Creek Tule fall-run Chinook hatchery program should be excluded from the Lower Columbia River Chinook ESU. The Big Creek Hatchery program has



been releasing hatchery tulle fall-run Chinook into Big Creek since 1941 and has incorporated non-local (but within-ESU) hatchery and naturally produced fall-run Chinook into the hatchery broodstock. The program is currently using only hatchery-origin and natural-origin fish returning to Big Creek Hatchery. The level of natural-origin tulle fall-run Chinook that are used in the broodstock is unknown due to the low marking rate of hatchery fall-run Chinook released from the facility. However, natural production within this population has been swamped by a high proportion of naturally spawning hatchery-origin fish, and available spawning habitat is constrained by the weir at the hatchery. Consequently, the distinction between the natural-origin and hatchery-origin fall Chinook is minimal. Presently, Big Creek Hatchery fall Chinook are probably not distinguishable from the existing natural population, and thus it is appropriate for this hatchery stock to be included as part of the ESU.

#### *Puget Sound Chinook ESU*

*Issue 17:* Two commenters felt that the Issaquah Creek (Cedar River, Washington), George Adams and Rick's Pond (Skokomish River, Washington), and Hamma Hamma (Westside Hood Canal, Washington) hatchery fall-run Chinook programs, which were not proposed for inclusion in the Puget Sound Chinook ESU, should be included and listed as part of the ESU. The commenters contended that recent genetic analyses (Spidle and Currens, 2005; Marshall, 2000a, 2000b), the broodstock source for the hatchery programs, and their spawning migration timing supported their inclusion in the ESU.

*Response:* The commenters reach different conclusions regarding the ESU membership of the subject hatchery programs largely because they evaluated their level of divergence relative to different reference natural populations than we did in the proposed listing determination for the Puget Sound Chinook ESU. After reviewing the comments received, other recently available scientific information, and the guidance provided in the final Hatchery Listing Policy, we agree with the commenters that the Issaquah Creek, George Adams, Rick's Pond, and Hamma Hamma fall-run Chinook hatchery programs should be included and listed as part of the ESU. Accordingly we have revised the defined ESU (see the "Determination of 'Species' under the ESA" section below) in this final listing determination. In the following paragraphs we provide a brief

summary of the information considered in making this change from the proposed listing determination.

Each of the four hatchery programs addressed by the commenters presents a unique challenge in determining what the appropriate "local natural population" is for evaluating the level of genetic divergence exhibited by a hatchery program and for determining its ESU membership. These four hatchery programs produce hatchery stocks that are non-indigenous to the local area, but were derived from hatchery stocks founded elsewhere in the Puget Sound Chinook ESU (principally from the Green River hatchery stock lineage). If any existed, the historically native natural populations in the areas where these hatchery programs release their production have been extirpated and replaced by the introduced hatchery stocks (Ruckelshaus *et al.*, in press). Available genetic and tagging information indicates that the existing natural populations are derived from the introduced hatchery stocks and do not represent the historically present local populations. In evaluating the level of divergence exhibited by such a hatchery stock one might compare it to: (1) What is believed to have been the historically native natural population; (2) the out-of-basin natural population from which the hatchery stock was derived; or (3) the existing natural population in the local area that is largely, if not completely, derived from naturally spawning introduced hatchery fish. The commenters argue that the existing local natural population is the appropriate benchmark against which to evaluate a hatchery program's level of divergence. In developing the proposed ESU delineations, however, we evaluated hatchery programs relative to the natural populations from which they were founded, and considered several factors in determining their level of divergence (such as the incorporation of natural-origin fish into the hatchery broodstock, rearing and release practices, whether hatchery fish exhibit locally adaptive life-history traits reflective of the natural population, etc.).

The final Hatchery Listing Policy states that "hatchery stocks with a level of genetic divergence relative to the *local natural population(s)* that is no more than what would be expected between closely related natural populations within the ESU \* \* \* are considered part of the ESU" [emphasis added]. In the proposed ESU delineation for the Puget Sound Chinook ESU we concluded that the Issaquah Creek, George Adams, Rick's

Pond, and Hamma Hamma fall-run Chinook hatchery programs should not be included due to their non-indigenous origin, and their likely substantial divergence from the founding natural population and hatchery lineage. These programs are intended to produce fish for harvest in an isolated setting, and have not been designed or managed with the intention of seeding the local watersheds with hatchery fish that ecologically and genetically represent natural Chinook (WDFW, 2003a). Despite the intent of these programs, the existing natural populations are likely the progeny of naturally spawning hatchery fish from these non-local programs. Available information indicates that these four hatchery programs are no more diverged from the (existing) local natural populations than what would be expected between closely related natural populations within the ESU, and thus we conclude that they are part of the ESU.

In the proposed ESU determination for the Puget Sound Chinook ESU, we proposed excluding the Hoodspout fall-Chinook hatchery program from the ESU. Our conclusion, similar to the four hatchery programs discussed above, was based on an evaluation of divergence of the Hoodspout hatchery program relative to the stock from which it was derived. Upon re-evaluation consistent with the revised findings for the Issaquah Creek, George Adams, Rick's Pond, and Hamma Hamma hatchery programs, we conclude that the Hoodspout Hatchery program is not part of the ESU. Finch Creek, where the Hoodspout Hatchery program is located, historically and currently lacks an extant local natural Chinook salmon population.

#### *Southern Oregon/Northern California Coast Coho ESU*

*Issue 18:* One commenter disagreed with the proposed determination that the Southern Oregon/Northern California Coast coho ESU is threatened. The commenter asserted that the available data are inadequate to rigorously assess the risk of extinction of the ESU. The commenter further argued that the available data show increasing abundance in the ESU, and do not indicate that Southern Oregon/Northern California Coast coho salmon are likely to become endangered in the foreseeable future throughout all or a significant portion of its range. In addition, the commenter felt that the State of California's coho salmon recovery plan provides sufficient protections to remove the threat that the ESU will become endangered.

*Response:* We respectfully disagree with the commenter's conclusion that

the Southern Oregon/Northern California Coast coho ESU does not warrant listing. The commenter is correct that there are few data available for naturally spawned populations in the ESU, particularly for the portion of the ESU in California. (The Rogue River population in Oregon is the notable exception, providing the only robust time series of natural-origin abundance in the ESU.) The BRT's status review update report and our proposed threatened determination for this ESU acknowledged this paucity of data for populations in California. However, the ESA requires that we make listing determinations "solely on the basis of the best scientific and commercial data available \* \* \*" [emphasis added] (ESA section 4(b)(1)(A)). The BRT evaluated all available indices of spawner abundance, and historical and current distribution. The strong majority of the BRT concluded that the ESU is "likely to become endangered in the foreseeable future." The recent increases in ESU abundance noted by the commenter were fully considered by the BRT and in the proposed listing determination. The BRT was encouraged by indications of strong returns in 2001 for several California populations and an apparent increase in the distribution of coho in historically occupied streams. However, the BRT cautioned that the recent increase in abundance and distribution, presumably due to a combination of favorable freshwater and marine conditions, must be evaluated in the context of more than a decade of poor ESU performance, remaining concerns regarding the high level of hatchery production in the ESU, and the loss of local populations in several river systems.

In developing the proposed threatened listing determination for the Southern Oregon/Northern California Coast coho ESU, we considered the potential contributions of many conservation measures, including California's 2003 State listing of coho, and its subsequent efforts in developing and implementing a comprehensive recovery plan for coho in the State (69 FR at 33148; June 14, 2004). We concluded that if "successfully implemented the State recovery plan will provide substantial benefits to both the Central California Coast and Southern Oregon/Northern California Coast coho ESUs, however, the long-term prospects for plan funding and implementation are uncertain." Although a wide range of important protective efforts have been implemented in both Oregon and California, these protective efforts, as

yet, do not sufficiently reduce threats to the ESU. Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the conclusion that the Southern Oregon/Northern California Coast coho ESU is threatened.

#### *Lower Columbia River Coho ESU*

*Issue 19:* The Washington Department of Fish and Wildlife (WDFW) argued that the Kalama River Type-N and Type-S hatchery coho programs, which were not proposed for inclusion in the Lower Columbia River coho ESU, should be considered part of the ESU. WDFW acknowledged that the number of local natural-origin fish incorporated in the broodstock for these hatcheries is unknown prior to 1998, and for the Kalama River Type-N hatchery program, non-local sources of broodstock have been used when there were insufficient returns of local fish to meet the program's broodstock needs. However, WDFW noted that adults returning to the Kalama Basin are given priority for incorporation into the hatchery broodstock, and for the Kalama River Type-S hatchery these fish have been sufficient to meet the broodstock needs of the program. In 2004 WDFW proposed integrating the maximum possible level of natural-origin fish into the respective broodstocks for these programs.

WDFW also noted that the Washougal Type-N hatchery coho program was evaluated in NMFS' Salmonid Hatchery Inventory and Effects Evaluation Report (NMFS, 2004b) and recommended for inclusion in the ESU, but apparently was inadvertently omitted from the proposed listing determination. WDFW recommended that the Washougal Type-N hatchery coho program be included as part of the Lower Columbia River coho ESU.

ODFW opposed the inclusion of Oregon hatchery coho programs in the Lower Columbia River coho ESU. ODFW argued that the Big Creek Hatchery (ODFW stock # 13), Sandy Hatchery (ODFW stock # 11), Bonneville/Cascade/Oxbow Complex (ODFW stock # 14), and Eagle Creek NFH (ODFW stock # 19) broodstocks propagated at the Oregon hatchery facilities should not be regarded as part of the ESU as all are long-term domesticated broodstocks, all have incorporated various levels of out-of-basin (but within ESU) stocks, and all are managed for isolation between the hatchery stocks and any local natural coho populations. For these reasons ODFW recommended excluding the following Oregon hatchery coho programs from the Lower Columbia

River coho ESU: Big Creek Hatchery (Big Creek, Oregon), Astoria High School STEP (Youngs Bay, Oregon), Warrenton High School STEP (Youngs Bay, Oregon), CEDC Coho Salmon Program (Youngs Bay, Oregon), Sandy Hatchery (Sandy River, Oregon), and the Bonneville/Cascade/Oxbow Complex (Lower Columbia River Gorge, Oregon) hatchery coho programs. ODFW also noted that the Eagle Creek NFH (Clackamas River, Oregon) coho hatchery program was apparently inadvertently omitted from the proposed listing determination.

*Response:* The commenters are correct that the Washougal Type-N and Eagle Creek NFH hatchery coho programs were inadvertently omitted from the proposed listing determinations. We have fixed that oversight by including these two programs as part of the Lower Columbia River coho ESU in the final listing determination (see "Determination of Species under the ESA" section, below).

We concur with WDFW that the Kalama River Type-N and Type-S hatchery coho programs should be included within the ESU (see "Determination of Species under the ESA" section, below). Although it is unknown if these programs represent the populations that were historically present, they do represent the current populations within the basin. Both Type-N and Type-S coho were historically present in the Kalama River but not in great abundance, with habitat limited to the area below Kalama Falls. Both natural and hatchery-origin Type-N and Type-S coho salmon were used in the broodstocks prior to 1998. Subsequently all hatchery production has been marked, and broodstocks were limited to only hatchery-origin coho from 1998 to 2004. In 2004, WDFW proposed to begin incorporating natural-origin coho into the broodstocks. The incorporation of Type-N coho salmon released into the Kalama River from other basins has occurred in recent years, though the origin of the Type-N coho is representative of the Type-N coho within the ESU. With implementation of WDFW's proposal to incorporate natural-origin coho salmon into the broodstock, the hatchery stock will become even more similar to the extant natural populations. The Type-S program has been self-sustaining (*i.e.*, it has not had to incorporate fish from other basins) since 1992.

We disagree with ODFW that the Big Creek Hatchery, Astoria High School STEP, Warrenton High School STEP, Sandy Hatchery, and the Bonneville/Cascade/Oxbow Complex hatchery coho programs should be excluded from the

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Lower Columbia River coho ESU. We acknowledge that these programs have incorporated within-ESU hatchery coho from outside the local historical population(s) and that the hatcheries have been managed as isolated programs. However, these programs originated from within-ESU natural coho stocks and incorporated local natural-origin coho into the broodstock until the late 1990s (when the practice of mass marking hatchery coho was implemented and only marked hatchery-origin fish were incorporated into the broodstock). The Sandy Hatchery program has been the exception, having been developed from only Sandy River natural coho salmon with limited introductions from non-local ESU populations (the last of which occurred in 1952). Within the populations where these hatchery coho programs release their production, returning hatchery-origin adults contribute substantially to natural spawning. As described in the Salmonid Hatchery Inventory and Effects Evaluation Report (NMFS, 2004b; 2005b) and by the BRT (NMFS, 2003b) all of these hatchery programs represent the existing local spawning populations, and they also represent a large proportion of the remaining genetic material for many of the smaller tributaries within the ESU.

*Issue 20:* Several commenters were opposed to the proposed listing of the Lower Columbia River coho ESU. WDFW and ODFW suggested that conservation measures for coho and other salmonids in the Lower Columbia region, if evaluated pursuant to PECE, might substantially mitigate risks to the Lower Columbia River coho ESU such that it would not warrant ESA listing. In particular, the commenters highlighted the beneficial contributions of: (1) The Lower Columbia Fish Recovery Board's (LCFRB) recovery plan for salmonids in the Lower Columbia region; (2) the 1999 listing of Lower Columbia River coho as an "endangered" species on the State of Oregon's Endangered Species List; and (3) the recovery plan for Lower Columbia River coho developed and adopted by the Oregon Fish and Wildlife Commission in 2001, which specifies State conservation measures with respect to harvest, hatchery operations, fish passage, and habitat restoration necessary to achieve recovery goals.

*Response:* We respectfully disagree with the suggestion that conservation measures under the LCFRB and Oregon recovery plans substantially reduce risks to the ESU to the point that Lower Columbia River coho are not in danger of extinction or likely to become

endangered in the foreseeable future. Of an estimated 23 historical populations in the ESU, there are only two extant populations in the Sandy and Clackamas Rivers, and approximately 40 percent of historical habitat is currently inaccessible. Of the extant populations, the total recent mean abundance is less than 1,500 naturally spawning adults, posing significant risks due to depensatory and stochastic demographic processes. The BRT found extremely high levels of risk to the ESU's abundance, productivity, spatial structure, and diversity, and the majority concluded that the ESU is "in danger of extinction." In proposing Lower Columbia River coho as threatened, we concluded that the genetic reserve represented by the 21 hatchery programs within this ESU mitigated the immediacy of extinction risk in the short term. However, we cautioned that long-term reliance on the continued operation of these hatchery programs is inherently risky.

The commenters suggest that the LCFRB recovery plan and Oregon's Lower Columbia River coho recovery plan satisfy the criteria under PECE for certainty of implementation and effectiveness. PECE requires that conservation efforts provide such certainty at the time of a listing determination, and although we are very supportive of these recovery planning efforts, we feel that these efforts lack this certainty. For example, while the LCFRB and Oregon coho recovery plans lay out actions that, if implemented, would address threats to Lower Columbia River coho, all the laws and regulations necessary to implement those actions are not yet in place, nor is there a high level of certainty that the actions will be funded. Similarly, while the plans identify the nature and extent of threats to Lower Columbia River coho, they do not as yet address the full suite of PECE criteria for certainty of effectiveness (such as establishing quantifiable performance measures for monitoring compliance and effectiveness, and employing adaptive management). While we expect that as the plans evolve these elements will be developed, our listing determination must be based on whether the plans are *currently* certain to improve the status of the species.

As noted in PECE, "there are circumstances in which the threats to a species are so imminent and/or complex that it will be almost impossible to develop an agreement or plan that includes conservation efforts that will result in making the listing unnecessary" (68 FR at 15101; March 28, 2003). We are concerned that the

severity of the demographic risks facing the two extant natural populations in the ESU makes it extremely unlikely that any conservation program or suite of programs could sufficiently mitigate extinction risk such that the ESU would not warrant listing.

*Issue 21:* In their comments on the proposed threatened determination for the Lower Columbia River coho ESU, ODFW noted that it was unclear whether the defined ESU includes naturally produced coho in the Willamette River Basin upstream of Willamette Falls (Oregon City, Oregon). ODFW noted that an apparently robust and self-sustaining population of coho has been established above the falls as a result of introductions of Lower Columbia River hatchery coho. These hatchery releases have been stopped, and the coho returning above the falls are naturally produced. ODFW recommended against including the coho population above Willamette Falls in the Lower Columbia River coho ESU because they occur outside of the native range of coho, and may pose a potential threat to native Upper Willamette spring-run Chinook and winter steelhead listed as threatened.

*Response:* The historical upstream extent of coho in the Willamette River Basin was Willamette Falls. Coho salmon returning to spawn in fall during low-flow conditions were unable to pass above the falls (only species with early spring migration timing during higher flow conditions, spring-run Chinook and winter steelhead, were historically able to pass above Willamette Falls (Myers *et al.*, 2001)). However, as early as 1885, fish ladders were constructed at the falls to aid the passage of anadromous fish in low flow conditions. The ladders have subsequently been modified and rebuilt, as recently as 1971 and 1975 (Bennett, 1987; PGE, 1994).

Although the coho population in the Upper Willamette River Basin is outside of the historical geographic range of the Lower Columbia River coho ESU, the question remains whether this population satisfies the criteria for inclusion in the ESU: (1) It is not substantially reproductively isolated from the ESU; and (2) it reflects the ESU's evolutionary legacy. The technical paper describing the ESU concept (Waples, 1991) notes that an introduced population outside of the historic range of the species may be considered part of an ESU if it supports natural production in areas that are ecologically similar to and geographically near the source natural population(s). The Upper Willamette River Basin is ecologically complex and



arguably shares ecological features with extant and historical coho populations in the Lower Columbia River coho ESU. However, it is worth noting that all of the anadromous salmonid species that historically spawned in the Upper Willamette River (*O. mykiss*, cutthroat trout, spring-run Chinook) are delineated into separate ESUs from lower Columbia River populations of the same species. The delineation of separate Upper Willamette River ESUs is based in part on historic genetic differences reflecting reproductive isolation, but also because of distinct ecological features.

We are uncertain whether the Upper Willamette River coho population is representative of the genetic lineage of the Lower Columbia River coho ESU. Introductions of coho into the Upper Willamette River Basin began on a regular basis in 1952 (Williams, 1983). Coho salmon (at various life-history stages) were released in the Willamette River and 17 major tributaries above Willamette Falls from thirteen different hatchery programs. The predominant hatchery stock released was from the Bonneville/Cascade/Oxbow Complex (considered within the ESU); however, several out-of-ESU hatchery stocks from the northern Oregon Coast were also introduced at several locations through the early 1970s. There is insufficient information to determine if this introduced coho population reflects the level of reproductive isolation in the Lower Columbia River coho ESU given the mixture of within-ESU and out-of-ESU hatchery stocks used to found the population, and the lack of genetic data to evaluate its level of divergence relative to the extant populations in the Sandy and Clackamas Rivers. Given this uncertainty, we do not feel that there is sufficient information to support including the Upper Willamette River coho population as part of the Lower Columbia River coho ESU at this time. If information becomes available indicating that the Upper Willamette River coho population is not substantially reproductively isolated from the Lower Columbia River coho ESU, we may take such opportunity to review the ESU membership of the introduced population.

**Issue 22:** Several commenters felt that we lack sufficient site-specific information to justify including co-occurring resident and anadromous *O. mykiss* in the same ESU. The commenters acknowledged that there is general evidence indicating that where the two life-history forms co-occur they interbreed, are genetically and phenotypically indistinguishable, and can produce offspring of the alternate

life-history form. However, the commenters felt that we lack the population-specific genetic and behavioral information to extrapolate these observations universally to all populations and ESUs where resident and anadromous *O. mykiss* have overlapping distributions.

The commenters further noted that in the proposed listing determinations resident populations included in *O. mykiss* ESUs were determined to have minor contributions to the viability of the ESUs. (In the proposed listing determinations we concluded that, despite the reduced risk to abundance for certain *O. mykiss* ESUs due to qualitatively abundant rainbow trout populations, the collective contribution of the resident life-history form to the viability of an ESU in-total is unknown and may not substantially reduce an ESU's risk of extinction (NMFS, 2004; 69 FR 33102, June 14, 2004)). The commenters questioned why resident *O. mykiss* populations should be included in an ESU given that they have little, if any, contribution to the viability of the ESU.

**Response:** We believe that the best available scientific information indicates that: (1) Where resident and anadromous *O. mykiss* co-occur they share a common gene pool, and collectively exhibit the adaptive life-history, ecological, and behavioral traits composing an important component in the evolutionary legacy of the species; and (2) some components of an *O. mykiss* ESU will (on average) have a larger contribution to its viability, while other components will have a comparatively weaker contribution to the ESU's viability, with a persistence that may be dependent upon their connectivity with other more productive components of the ESU. However, we agree that substantial disagreement exists regarding the sufficiency and accuracy of the data. Several efforts are underway that may resolve scientific disagreement regarding the sufficiency and accuracy of data relevant to these ESUs (*i.e.*, the relationship between resident rainbow trout and anadromous steelhead and the contribution of resident rainbow trout to the viability of *O. mykiss* ESUs). We will gather more data and engage further debate among scientific experts before making final determinations regarding these ESUs. A separate notice of 6-month extension of the deadline for making final listing determinations on the *O. mykiss* ESUs appears in today's issue of the **Federal Register**.

**Issue 23:** In March 2005 the State of Oregon released a draft Oregon Coastal Coho Assessment (draft assessment) of

the viability of the Oregon Coast coho ESU, as well as of the contributions of the Oregon Plan for Salmon and Watersheds to conserving the Oregon Coast coho ESU. Oregon's draft assessment concluded that the Oregon Coast coho ESU is viable. We announced in a **Federal Register** notice that we would be considering the information presented by Oregon in determining the final listing status for the ESU, and we solicited public comment on Oregon's draft assessment during a 30-day public comment period (70 FR 6840; February 9, 2005). The comments received by NMFS and Oregon raised a number of concerns regarding the sufficiency and adequacy of the data and analyses used in the draft assessment. On May 6, 2005, Oregon released a final Oregon Coastal Coho Assessment (final assessment) that incorporates and responds to the comments received, and includes several substantive changes intended to address the concerns raised regarding the sufficiency and adequacy of the draft assessment.

**Response:** We will extend the deadline for the final listing determination for the Oregon Coast coho ESU for 6 months to analyze Oregon's final assessment in light of the comments received on the draft assessment. Additionally, we are soliciting additional information regarding the sufficiency and adequacy of the final assessment. This extension will enable us to make a final listing determination based upon the best available scientific information. A separate notice of 6-month extension of the deadline for making a final listing determination on the Oregon Coast coho ESU appears in this issue of the **Federal Register**.

#### Summary of Changes From the Proposed Listing Determinations and Proposed Protective Regulations

Based on the comments received, we have made several substantive changes to the proposed ESU definitions and listing determinations, as discussed in the response to comments (above), and detailed below. We do not detail minor changes of an editorial nature (see Response to Issue 12, above).

The listing determination for the Sacramento River winter-run Chinook ESU has been changed from "threatened" (as proposed), to "endangered" (see Issue 13, above). The ESU is currently listed as an endangered species.

For the Central Valley spring-run Chinook ESU we have included the natural population of spring-run Chinook in the Feather River, as well as

the Feather River Hatchery spring-run Chinook program, in the ESU. The Feather River Hatchery spring-run Chinook program and the associated natural population were not proposed as part of the ESU (see Issue 14, above).

For the Puget Sound Chinook ESU we have included the following hatchery programs as part of the ESU: the Issaquah Creek (Cedar River, Washington), George Adams and Rick's Pond (Skokomish River, Washington), and Hamma Hamma (Westside Hood Canal, Washington) hatchery fall-run Chinook programs. These hatchery programs were not proposed as part of the ESU (see Issue 17, above).

For the Lower Columbia River coho ESU we have included the following programs as part of the ESU: Kalama River Type-N (Washington), Kalama River Type-S (Washington), Washougal River Type-N (Washington), and Eagle Creek NFH (Clackamas River, Oregon) hatchery coho programs. The Eagle Creek NFH and Washougal River Type-N hatchery programs were inadvertently omitted from the proposed listing determination (see Issue 19, above). The Kalama River Type-N and Type-S hatchery coho programs were not proposed as part of the ESU (see Issue 19, above).

#### Treatment of the Four Listing Determination Steps for Each ESU Under Review

##### Determination of "Species" Under the ESA

To qualify for listing as a threatened or endangered species, a population (or group of populations) of West Coast salmonids must be considered a "species" as defined under the ESA. The ESA defines a species to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature" (ESA section 3(16)). NMFS published a policy (56 FR 58612; November 20, 1991) describing the agency's application of the ESA definition of "species" to anadromous Pacific salmonid species. This policy provides that a Pacific salmonid population (or group of populations) will be considered a DPS, and hence a "species" under the ESA, if it represents an ESU of the biological species. An ESU must be reproductively isolated from other conspecific population units, and it must represent an important component in the evolutionary legacy of the biological species. The first criterion, reproductive isolation, need not be absolute, but must be strong enough to permit evolutionarily

important differences to accrue in different population units. The second criterion is met if the population unit contributes substantially to the ecological and genetic diversity of the species. Guidance on the application of this policy is contained in 56 FR 58612 (November 20, 1991) and Waples (1991). As noted in the "Past Pacific Salmonid ESA Listings and the Alesse Decision" section above, all components included in an ESU (natural populations, hatchery stocks, resident populations, etc.) must be listed if it is determined that the ESU in-total is threatened or endangered under the ESA.

We have reviewed the ESU relationships of hatchery salmon stocks (NMFS, 2003a; 2004b; 2005b). Hatchery stocks are included in an ESU if it is determined that they are not reproductively isolated from populations in the ESU, and they are representative of the evolutionary legacy of the ESU (see the "Consideration of Artificial Propagation in Listing Determinations" section above). Hatchery stocks are considered representative of the evolutionary legacy of an ESU, and hence included in the ESU, if it is determined that they are genetically no more than moderately divergent from the natural population (see final Hatchery Listing Policy elsewhere in this edition of the *Federal Register*). If a hatchery stock is more divergent from the local natural population, this indicates that the hatchery stock is reproductively isolated from the ESU.

The hatchery components are detailed below for each ESU, as applicable. More detailed descriptions of the hatchery stocks included in the ESUs below can be found in the revised Salmonid Hatchery Inventory and Effects Evaluation Report (NMFS, 2005b). A given hatchery stock determined to be part of an ESU may be propagated at multiple sites. To more clearly convey the hatchery fish that are included in a given ESU, the ESU descriptions below list the artificial propagation programs that propagate hatchery stocks determined to be part of the 16 ESUs addressed in this final rule. A list of those specific artificial propagation programs by ESU is provided for reference in Table 1 at the end of this section.

**Snake River Sockeye ESU**—The Snake River sockeye ESU includes populations of anadromous sockeye salmon in the Snake River Basin, Idaho (extant populations occur only in the Stanley Basin) (56 FR 58619; November 20, 1991), residual sockeye salmon in Redfish Lake, Idaho, as well as one captive propagation hatchery program

(Table 1). Artificially propagated sockeye salmon from the Redfish Lake Captive Propagation program are considered part of this ESU. We have determined that this artificially propagated stock is no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

Subsequent to the 1991 listing determination for the Snake River sockeye ESU, a "residual" form of Snake River sockeye (hereafter "residuals") was identified. The residuals often occur together with anadromous sockeye salmon and exhibit similar behavior in the timing and location of spawning. Residuals are thought to be the progeny of anadromous sockeye salmon, but are generally nonanadromous. In 1993 NMFS determined that the residual population of Snake River sockeye that exists in Redfish Lake is substantially reproductively isolated from kokanee (i.e., nonanadromous populations of *O. nerka* that become resident in lake environments over long periods of time), represents an important component in the evolutionary legacy of the biological species, and thus merits inclusion in the Snake River sockeye ESU. Constituents and co-managers were subsequently advised that residual sockeye salmon in Redfish Lake are part of the ESU and are listed as an endangered species "subject to all the protection, prohibitions, and requirements of the ESA that apply to Snake River sockeye salmon" (letter from Acting NMFS Director Nancy Foster to Constituents, dated March 19, 1993).

**Ozette Lake Sockeye ESU**—The Ozette Lake sockeye ESU includes all naturally spawned populations of sockeye salmon in Ozette Lake and streams and tributaries flowing into Ozette Lake, Washington (64 FR 14528; March 25, 1999). Two artificial propagation programs are considered to be part of this ESU (Table 1): The Umbrella Creek and Big River sockeye hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

**Sacramento Winter-run Chinook ESU**—The Sacramento winter-run Chinook ESU includes all naturally spawned populations of winter-run Chinook salmon in the Sacramento River and its tributaries in California (59 FR 440; January 1, 1994), as well as two



artificial propagation programs (Table 1): Winter-run Chinook from the Livingston Stone National Fish Hatchery (NFH), and winter run Chinook in a captive broodstock program maintained at Livingston Stone NFH and the University of California Bodega Marine Laboratory. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Central Valley Spring-run Chinook ESU*—The Central Valley spring-run Chinook ESU includes all naturally spawned populations of spring-run Chinook salmon in the Sacramento River and its tributaries in California, including the Feather River (64 FR 50394; September 16, 1999). One artificial propagation program is considered part of the ESU (Table 1): The Feather River Hatchery spring run Chinook program (see response to Issue 14 in the “Summary of Comments and Information Received” section, above). We have determined that this artificially propagated stock is no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*California Coastal Chinook ESU*—The California Coastal Chinook ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River to the Russian River, California (64 FR 50394; September 16, 1999). Seven artificial propagation programs are considered to be part of the ESU (Table 1): The Humboldt Fish Action Council (Freshwater Creek), Yager Creek, Redwood Creek, Hollow Tree, Van Arsdale Fish Station, Mattole Salmon Group, and Mad River Hatchery fall-run Chinook hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Upper Willamette River Chinook ESU*—The Upper Willamette River Chinook ESU includes all naturally spawned populations of spring-run Chinook salmon in the Clackamas River and in the Willamette River, and its tributaries, above Willamette Falls, Oregon (64 FR 14208; March 24, 1999). Seven artificial propagation programs are considered to be part of the ESU (Table 1): The McKenzie River Hatchery

(Oregon Department of Fish and Wildlife (ODFW) stock # 24), Marion Forks/North Fork Santiam River (ODFW stock # 21), South Santiam Hatchery (ODFW stock # 23) in the South Fork Santiam River, South Santiam Hatchery (ODFW stock # 23) in the Calapooia River, South Santiam Hatchery (ODFW stock # 23) in the Mollala River, Willamette Hatchery (ODFW stock # 22), and Clackamas hatchery (ODFW stock # 19) spring-run Chinook hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Lower Columbia River Chinook ESU*—The Lower Columbia River Chinook ESU includes all naturally spawned populations of Chinook salmon from the Columbia River and its tributaries from its mouth at the Pacific Ocean upstream to a transitional point between Washington and Oregon east of the Hood River and the White Salmon River, and includes the Willamette River to Willamette Falls, Oregon, exclusive of spring-run Chinook salmon in the Clackamas River (64 FR 14208; March 24, 1999). Seventeen artificial propagation programs are considered to be part of the ESU (Table 1): The Sea Resources Tule Chinook Program, Big Creek Tule Chinook Program, Astoria High School (STEP) Tule Chinook Program, Warrenton High School (STEP) Tule Chinook Program, Elochoman River Tule Chinook Program, Cowlitz Tule Chinook Program, North Fork Toutle Tule Chinook Program, Kalama Tule Chinook Program, Washougal River Tule Chinook Program, Spring Creek NFH Tule Chinook Program, Cowlitz spring Chinook Program in the Upper Cowlitz River and the Cispus River, Friends of the Cowlitz spring Chinook Program, Kalama River spring Chinook Program, Lewis River spring Chinook Program, Fish First spring Chinook Program, and the Sandy River Hatchery (ODFW stock #11) Chinook hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Upper Columbia River Spring-run Chinook ESU*—The Upper Columbia River spring-run Chinook ESU includes all naturally spawned populations of Chinook salmon in all river reaches accessible to Chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of

Chief Joseph Dam in Washington, excluding the Okanogan River (64 FR 14208; March 24, 1999). Six artificial propagation programs are considered to be part of the ESU (Table 1): The Twisp River, Chewuch River, Methow Composite, Winthrop NFH, Chiwawa River, and White River spring-run Chinook hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Puget Sound Chinook ESU*—The Puget Sound Chinook ESU includes all naturally spawned populations of Chinook salmon from rivers and streams flowing into Puget Sound including the Straits of Juan De Fuca from the Elwha River, eastward, including rivers and streams flowing into Hood Canal, South Sound, North Sound and the Strait of Georgia in Washington (64 FR 14208; March 24, 1999). Twenty-six artificial propagation programs are considered to be part of the ESU (Table 1): The Kendal Creek Hatchery, Marblemount Hatchery (fall, spring yearlings, spring subyearlings, and summer run), Harvey Creek Hatchery, Whitehorse Springs Pond, Wallace River Hatchery (yearlings and subyearlings), Tulalip Bay, Issaquah Hatchery, Soos Creek Hatchery, Icy Creek Hatchery, Keta Creek Hatchery, White River Hatchery, White Acclimation Pond, Hupp Springs hatchery, Voights Creek Hatchery, Diru Creek, Clear Creek, Kalama Creek, George Adams Hatchery, Rick's Pond Hatchery, Hamma Hamma Hatchery, Dungeness/Hurd Creek Hatchery, and Elwha Channel Hatchery Chinook hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b; and see Response to Issue 17, above).

*Snake River Fall-run Chinook ESU*—The Snake River fall-run Chinook ESU includes all naturally spawned populations of fall-run Chinook salmon in the mainstem Snake River below Hells Canyon Dam, and in the Tucannon River, Grande Ronde River, Imnaha River, Salmon River, and Clearwater River subbasins (57 FR 14653, April 22, 1992; 57 FR 23458, June 3, 1992). Four artificial propagation programs are considered to be part of the ESU (Table 1): The Lyons Ferry Hatchery, Fall Chinook Acclimation Ponds Program, Nez Perce Tribal Hatchery, and Oxbow Hatchery fall-run

Chinook hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Snake River Spring/Summer Chinook ESU*—The Snake River spring/summer-run Chinook ESU includes all naturally spawned populations of spring/summer-run Chinook salmon in the mainstem Snake River and the Tucannon River, Grande Ronde River, Imnaha River, and Salmon River subbasins (57 FR 23458; June 3, 1992). Fifteen artificial propagation programs are considered to be part of the ESU (Table 1): The Tucannon River conventional Hatchery, Tucannon River Captive Broodstock Program, Lostine River, Catherine Creek, Lookingglass Hatchery Reintroduction Program (Catherine Creek stock), Upper Grande Ronde, Imnaha River, Big Sheep Creek, McCall Hatchery, Johnson Creek Artificial Propagation Enhancement, Lemhi River Captive Rearing Experiment, Pahsimeroi Hatchery, East Fork Captive Rearing Experiment, West Fork Yankee Fork Captive Rearing Experiment, and the Sawtooth Hatchery spring/summer-run Chinook hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Central California Coast Coho ESU*—The Central California Coast coho ESU includes all naturally spawned populations of coho salmon from Punta Gorda in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system (61 FR 56138; October 31, 1996). Four artificial propagation programs are considered part of this ESU (Table 1): The Don Clausen Fish Hatchery Captive Broodstock Program, Scott Creek/King Fisher Flats Conservation Program, Scott Creek Captive Broodstock Program, and the Noyo River Fish

Station egg-take Program coho hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Southern Oregon/Northern California Coast Coho ESU*—The Southern Oregon/Northern California Coast coho ESU includes all naturally spawned populations of coho salmon in coastal streams between Cape Blanco, Oregon, and Punta Gorda, California (62 FR 24588; May 6, 1997). Three artificial propagation programs are considered to be part of the ESU (Table 1): The Cole Rivers Hatchery (ODFW stock # 52), Trinity River Hatchery, and Iron Gate Hatchery coho hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Lower Columbia River Coho ESU*—The Lower Columbia River coho ESU includes all naturally spawned populations of coho salmon in the Columbia River and its tributaries from the mouth of the Columbia up to and including the Big White Salmon and Hood Rivers, and includes the Willamette River to Willamette Falls, Oregon. Twenty-five artificial propagation programs are considered to be part of the ESU (Table 1): The Grays River, Sea Resources Hatchery, Peterson Coho Project, Big Creek Hatchery, Astoria High School (STEP) Coho Program, Warrenton High School (STEP) Coho Program, Elochoman Type-S Coho Program, Elochoman Type-N Coho Program, Cathlamet High School FFA Type-N Coho Program, Cowlitz Type-N Coho Program in the Upper and Lower Cowlitz Rivers, Cowlitz Game and Anglers Coho Program, Friends of the Cowlitz Coho Program, North Fork Toutle River Hatchery, Kalama River Type-N Coho Program, Kalama River Type-S Coho Program, Lewis River Type-N Coho Program, Lewis River Type-S Coho Program, Fish First Wild Coho Program, Fish First Type-N Coho

Program, Syverson Project Type-N Coho Program, Washougal River Type-N Coho Program, Eagle Creek NFH, Sandy Hatchery, and the Bonneville/Cascade/Oxbow complex coho hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b; see Response to Issue 19, above).

*Columbia River Chum ESU*—The Columbia River chum ESU includes all naturally spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon (64 FR 14508; March 25, 1999). Three artificial propagation programs are considered to be part of the ESU (Table 1): The Chinook River (Sea Resources Hatchery), Grays River, and Washougal River/Duncan Creek chum hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

*Hood Canal Summer-run Chum ESU*—The Hood Canal summer-run chum includes all naturally spawned populations of summer-run chum salmon in Hood Canal and its tributaries as well as populations in Olympic Peninsula rivers between Hood Canal and Dungeness Bay, Washington (64 FR 14508; March 25, 1999). Eight artificial propagation programs are considered to be part of the ESU (Table 1): The Quilcene NFH, Hamma Hamma Fish Hatchery, Lilliwaup Creek Fish Hatchery, Union River/Tahuya, Big Beef Creek Fish Hatchery, Salmon Creek Fish Hatchery, Chimacum Creek Fish Hatchery, and the Jimmycomelately Creek Fish Hatchery summer-run chum hatchery programs. We have determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (NMFS, 2005b).

TABLE 1.—LIST OF ARTIFICIAL PROPAGATION PROGRAMS INCLUDED IN EVOLUTIONARILY SIGNIFICANT UNITS (ESUS) OF WEST COAST SALMON

Evolutionary significant unit (ESU) and included artificial propagation program(s)	Run timing	Location (state)
Snake River sockeye ESU: Redfish Lake Captive Propagation Program .....	n/a .....	Stanley Basin (Idaho).
Ozette Lake sockeye ESU: Umbrella Creek Hatchery—Makah Tribe .....	n/a .....	Ozette Lake (Washington).
Big River Hatchery—Makah Tribe .....	n/a .....	Ozette Lake (Washington).

TABLE 1.—LIST OF ARTIFICIAL PROPAGATION PROGRAMS INCLUDED IN EVOLUTIONARILY SIGNIFICANT UNITS (ESUS) OF WEST COAST SALMON—Continued

Evolutionary significant unit (ESU) and included artificial propagation program(s)	Run timing	Location (state)
<b>Sacramento River winter-run Chinook ESU:</b>		
Livingston Stone National Fish Hatchery (NFH) Conservation Program	Winter	Sacramento River (California).
Captive Broodstock Program	Winter	Livingston Stone NFH & Univ. of Calif. Bodega Marine Laboratory (California).
<b>Central Valley spring-run Chinook ESU:</b>		
Feather River Hatchery	Spring	Feather River (California).
<b>California Coastal Chinook ESU:</b>		
Freshwater Creek/Humboldt Fish Action Council	Fall	Freshwater Creek, Humboldt Bay (California).
Yager Creek Hatchery	Fall	Yager Creek, Van Duzen River (California).
Redwood Creek Hatchery	Fall	Redwood Creek, South Fork Eel River (California).
Hollow Tree Creek Hatchery	Fall	Eel River (California).
Mattole Salmon Group Hatchery	Fall	Squaw Creek, Mattole River (California).
Van Arsdale Fish Station	Fall	Eel River (California).
Mad River Hatchery	Fall	Mad River (California).
<b>Upper Willamette River Chinook ESU:</b>		
McKenzie River Hatchery (Oregon Department of Fish & Wildlife (ODFW) stock #24).	Spring	McKenzie River (Oregon).
Marion Forks Hatchery (ODFW stock #21)	Spring	North Fork Santiam River (Oregon).
South Santiam Hatchery (ODFW stock #23)	Spring	South Fork Santiam River (Oregon).
South Santiam Hatchery (ODFW stock #23)	Spring	Calapooia River (Oregon).
South Santiam Hatchery (ODFW stock #23)	Spring	Mollala River (Oregon).
Willamette Hatchery (ODFW stock #22)	Spring	Middle Fork Willamette River (Oregon).
Clackamas Hatchery (ODFW stock #19)	Spring	Clackamas River (Oregon).
<b>Lower Columbia River Chinook ESU:</b>		
Sea Resources Tule Chinook Program	Fall	Chinook River (Washington).
Big Creek Tule Chinook Program	Fall	Big Creek (Oregon).
Astoria High School (STEP) Tule Chinook Program	Fall	Big Creek (Oregon).
Warrenton High School (STEP) Tule Chinook Program	Fall	Big Creek (Oregon).
Elochoman River Tule Chinook Program	Fall	Elochoman River (Washington).
Cowlitz Tule Chinook Program	Fall	Lower Cowlitz River (Washington).
North Fork Toutle Tule Chinook Program	Fall	Cowlitz River (Washington).
Kalama Tule Chinook Program	Fall	Kalama River (Washington).
Washougal River Tule Chinook Program	Fall	Washougal River (Washington).
Spring Creek NFH Tule Chinook Program	Fall	Upper Columbia River Gorge (Washington).
Cowlitz spring Chinook Program	Fall	Upper Cowlitz River (Washington).
Cowlitz spring Chinook Program	Spring	Cispus River (Washington).
Friends of Cowlitz spring Chinook Program	Spring	Upper Cowlitz River (Washington).
Kalama River spring Chinook Program	Spring	Kalama River (Washington).
Lewis River spring Chinook Program	Spring	Lewis River (Washington).
Fish First spring Chinook Program	Spring	Lewis River (Washington).
Sandy River Hatchery (ODFW stock #11)	Spring	Sandy River (Oregon).
<b>Upper Columbia River spring Chinook ESU:</b>		
Twisp River	Spring	Methow River (Washington).
Chewuch River	Spring	Methow River (Washington).
Methow Composite	Spring	Methow River (Washington).
Winthrop NFH (Methow Composite stock)	Spring	Methow River (Washington).
Chiwawa River	Spring	Wenatchee River (Washington).
White River	Spring	Wenatchee River (Washington).
<b>Puget Sound Chinook ESU:</b>		
Kendall Creek Hatchery	Spring	North Fork Nooksack River (Washington).
Marblemount Hatchery	Fall	Lower Skagit River (Washington).
Marblemount Hatchery (yearlings)	Spring	Upper Skagit River (Washington).
Marblemount Hatchery (sub-yearlings)	Spring	Upper Skagit River (Washington).
Marblemount Hatchery	Summer	Upper Skagit River (Washington).
Harvey Creek Hatchery	Summer	North Fork Stillaguamish River (Washington).
Whitehorse Springs Pond	Summer	North Fork Stillaguamish River (Washington).
Wallace River Hatchery (yearlings)	Summer	Skykomish River (Washington).
Wallace River Hatchery (sub-yearlings)	Summer	Skykomish River (Washington).
Tulalip Bay (Bernie Kai-Kai Gobin Hatchery/Tulalip Hatchery)	Summer	Skykomish River/Tulalip Bay (Washington).
Issaquah Hatchery	Fall	Cedar River (Washington).
Soos Creek Hatchery	Fall	Green River (Washington).
Icy Creek Hatchery	Fall	Green River (Washington).
Keta Creek—Muckelshoote Tribe	Fall	Green River (Washington).
White River Hatchery	Spring	White River (Washington).
White Acclimation Pond	Spring	White River (Washington).
Hupp Springs Hatchery	Spring	White River (Washington).
Voights Creek Hatchery	Fall	Puyallup River (Washington).
Diru Creek	Fall	Puyallup River (Washington).
Clear Creek	Fall	Nisqually River (Washington).
Kalama Creek	Fall	Nisqually River (Washington).

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TABLE 1.—LIST OF ARTIFICIAL PROPAGATION PROGRAMS INCLUDED IN EVOLUTIONARILY SIGNIFICANT UNITS (ESUs) OF WEST COAST SALMON—Continued

Evolutionary significant unit (ESU) and included artificial propagation program(s)	Run timing	Location (state)
George Adams Hatchery .....	Fall .....	Skokomish River (Washington).
Rick's Pond Hatchery .....	Fall .....	Skokomish River (Washington).
Hamma Hamma Hatchery .....	Fall .....	Westside Hood Canal (Washington).
Dungeness/Hurd Creek Hatchery .....	Fall .....	Dungeness River (Washington).
Elwha Channel Hatchery .....	Fall .....	Elwha River (Washington).
Snake River fall-run Chinook ESU:		
Lyons Ferry Hatchery .....	Fall .....	Snake River (Washington).
Fall Chinook Acclimation Ponds Program—Pittsburg, Captain John, and Big Canyon ponds.	Fall .....	Snake River (Washington).
Nez Perce Tribal Hatchery—including North Lapwai Valley, Lakes Gulch, and Cedar Flat Satellite facilities.	Fall .....	Snake and Clearwater Rivers (Idaho).
Oxbow Hatchery .....	Fall .....	Snake River (Oregon, Idaho).
Snake River spring/summer-run Chinook ESU:		
Tucannon River Hatchery (conventional) .....	Spring .....	Tucannon River (Washington).
Tucannon River Captive Broodstock Program .....	Spring .....	Tucannon River (Washington).
Lostine River (captive/conventional) .....	Summer .....	Grande Ronde (Oregon).
Catherine Creek (captive/conventional) .....	Summer .....	Grande Ronde (Oregon).
Lookingglass Hatchery (reintroduction) .....	Summer .....	Grande Ronde (Oregon).
Upper Grande Ronde (captive/conventional) .....	Summer .....	Grande Ronde (Oregon).
Imnaha River .....	Spring/ Summer.	Imnaha River (Oregon).
Big Sheep Creek .....	Spring/ Summer.	Imnaha River (Oregon).
McCall Hatchery .....	Spring .....	South Fork Salmon River (Idaho).
Johnson Creek Artificial Propagation Enhancement .....	Spring .....	East Fork South Fork Salmon River (Idaho).
Lemhi River Captive Rearing Experiment .....	Spring .....	Lemhi River (Idaho).
Pahsimeroi Hatchery .....	Summer .....	Salmon River (Idaho).
East Fork Captive Rearing Experiment .....	Spring .....	East Fork Salmon River (Idaho).
West Fork Yankee Fork Captive Rearing Experiment .....	Spring .....	Salmon River (Idaho).
Sawtooth Hatchery .....	Spring .....	Upper Mainstem Salmon River (Idaho).
Central California Coast coho ESU:		
Don Clausen Fish Hatchery Captive Broodstock Program .....	n/a .....	Dry Creek, Russian River (California).
Scott Creek/Kingfisher Flat Hatchery Conservation Program (Monterey Bay Salmon and Trout Project).	n/a .....	Big Creek, Scott Creek (California).
Scott Creek Captive Broodstock Program .....	n/a .....	NOAA Southwest Fisheries Science Center, Santa Cruz (California).
Noyo River Fish Station egg-take program .....	n/a .....	Nonoyo River (California).
Southern Oregon/Northern California Coast coho ESU:		
Cole Rivers Hatchery (ODFW stock #52) .....	n/a .....	Rogue River (Oregon).
Trinity River Hatchery .....	n/a .....	Trinity River (California).
Iron Gate Hatchery .....	n/a .....	Klamath River (California).
Lower Columbia River coho ESU:		
Grays River .....	Type-S .....	Grays River (Washington).
Sea Resources Hatchery .....	Type-S .....	Grays River (Washington).
Peterson Coho Project .....	Type-S .....	Grays River (Washington).
Big Creek Hatchery (ODFW stock #13) .....	n/a .....	Big Creek (Oregon).
Astoria High School (STEP) Coho Program .....	n/a .....	Youngs Bay (Oregon).
Warrenton High School (STEP) Coho Program .....	n/a .....	Youngs Bay (Oregon).
Elochoman Type-S Coho Program .....	Type-S .....	Elochoman River (Washington).
Elochoman Type-N Coho Program .....	Type-N .....	Elochoman River (Washington).
Cathlamet High School FFA Type-N Coho Program .....	Type-N .....	Elochoman River (Washington).
Cowlitz Type-N Coho Program .....	Type-N .....	Upper Cowlitz River (Washington).
Cowlitz Type-N Coho Program .....	Type-N .....	Lower Cowlitz River (Washington).
Cowlitz Game and Anglers Coho Program .....	n/a .....	Lower Cowlitz River (Washington).
Friends of the Cowlitz Coho Program .....	n/a .....	Lower Cowlitz River (Washington).
North Fork Toutle River Hatchery .....	Type-S .....	Cowlitz River (Washington).
Kalama River Type-N Coho Program .....	Type-N .....	Kalama River (Washington).
Kalama River Type-S Coho Program .....	Type-S .....	Kalama River (Washington).
Lewis River Type-N Coho Program .....	Type-N .....	North Fork Lewis River (Washington).
Lewis River Type-S Coho Program .....	Type-S .....	North Fork Lewis River (Washington).
Fish First Wild Coho Program .....	n/a .....	North Fork Lewis River (Washington).
Fish First Type-N Coho Program .....	Type-N .....	North Fork Lewis River (Washington).
Syerson Project Type-N Coho Program .....	Type-N .....	Salmon River (Washington).
Washougal River Type-N Coho Program .....	Type-N .....	Washougal River (Washington).
Eagle Creek NFH .....	n/a .....	Clackamas River (Oregon).
Sandy Hatchery (ODFW stock #11) .....	Late .....	Sandy River (Oregon).
Bonneville/Cascade/Oxbow Complex (ODFW stock #14) .....	n/a .....	Lower Columbia River Gorge (Oregon).
Columbia River chum ESU:		
Chinook River/Sea Resources Hatchery .....	Fall .....	Chinook River (Washington).
Grays River .....	Fall .....	Grays River (Washington).

TABLE 1.—LIST OF ARTIFICIAL PROPAGATION PROGRAMS INCLUDED IN EVOLUTIONARILY SIGNIFICANT UNITS (ESUS) OF WEST COAST SALMON—Continued

Evolutionary significant unit (ESU) and included artificial propagation program(s)	Run timing	Location (state)
Washougal Hatchery/Duncan Creek .....	Fall .....	Washougal River (Washington).
Hood Canal summer-run chum ESU:		
Quilcene/ Quilcene NFH .....	Summer ...	Big Quilcene River (Washington).
Hamma Hamma Fish Hatchery .....	Summer ...	Western Hood Canal (Washington).
Lilliwaup Creek Fish Hatchery .....	Summer ...	Southwestern Hood Canal (Washington).
Union River/Tahuya .....	Summer ...	Union River (Washington).
Big Beef Creek Fish Hatchery .....	Summer ...	North Hood Canal (Washington).
Salmon Creek Fish Hatchery .....	Summer ...	Discovery Bay (Washington).
Chimacum Creek Fish Hatchery .....	Summer ...	Port Townsend Bay (Washington).
Jimmycomelately Creek Fish Hatchery .....	Summer ...	Sequim Bay (Washington).

#### Viability Assessments of ESUs

The Pacific Salmonid BRT evaluated the risk of extinction faced by naturally spawning populations in each of the ESUs addressed in this proposed rule (NMFS, 2003b). As noted above, the BRT did not explicitly consider potential contributions of hatchery stocks or protective efforts in their evaluations. For each ESU the BRT evaluated overall extinction risk after assessing ESU-level risk for the four VSP factors: abundance, productivity, spatial structure, and diversity. We then assessed the effects of ESU hatchery programs on ESU viability and extinction risk relative to the BRT's assessment for the naturally spawning component of the ESU (NMFS, 2004b, 2005b). The effects of hatchery programs on the extinction risk of an ESU in-total were evaluated on the basis of the factors that the BRT determined are currently limiting the ESU (e.g., abundance, productivity, spatial structure, and diversity), and how artificial propagation efforts within the ESU affect those factors. The Artificial Propagation Evaluation Workshop (NMFS, 2004c) reviewed the BRT's findings (NMFS, 2003a), evaluated the Salmonid Hatchery Inventory and Effects Evaluation Report (NMFS, 2004b), and assessed the overall extinction risk of ESUs with associated hatchery stocks. The BRT and the Artificial Propagation Evaluation Workshop assessed the extinction risk for the naturally spawning populations in an ESU, and for the ESU in-total, respectively. The level of extinction risk was categorized into three categories: "in danger of extinction;" "likely to become endangered within the foreseeable future;" or "not in danger of extinction or likely to become endangered within the foreseeable future." Although these overall risk categories resemble the definitions of "endangered" and "threatened" as defined in the ESA, the BRT and the

Workshop did not evaluate protective efforts in assessing ESU extinction risk (efforts being made to protect the species are evaluated in the "Evaluation of Protective Efforts" section, below). Thus, the extinction risk assessments described in this section are not necessarily indicative of whether an ESU warrants listing as a threatened or endangered species. The reader is referred to the BRT's report (NMFS, 2003b), the Salmonid Hatchery Inventory and Effects Evaluation Report (NMFS, 2004b, 2005b), and the Workshop Report (NMFS, 2004c) for more detailed descriptions of the viability of individual natural populations and hatchery stocks within these ESUs.

*Snake River Sockeye ESU*—The residual form of Redfish Lake sockeye, determined to be part of the ESU in 1993, is represented by a few hundred fish. Snake River sockeye historically were distributed in four lakes within the Stanley Basin, but the only remaining population resides in Redfish Lake. Only 16 naturally produced adults have returned to Redfish Lake since the Snake River sockeye ESU was listed as an endangered species in 1991. All 16 fish were taken into the Redfish Lake Captive Propagation Program, which was initiated as an emergency measure in 1991. The return of over 250 adults in 2000 was encouraging; however, subsequent returns from the captive program in 2001 and 2002 have been fewer than 30 fish.

The BRT found extremely high risks for each of the four VSP categories. Informed by this assessment, the BRT unanimously concluded that the Snake River sockeye ESU is "in danger of extinction."

There is a single artificial propagation program producing Snake River sockeye salmon in the Snake River basin. The Redfish Lake sockeye salmon stock was originally founded by collecting the entire anadromous adult return of 16

fish between 1990 and 1997, a small number of residual sockeye salmon, and a few hundred smolts migrating from Redfish Lake. These fish were put into a Captive Broodstock program as an emergency measure to prevent extinction of this ESU. Since 1997, nearly 400 hatchery-origin anadromous sockeye adults have returned to the Stanley Basin from juveniles released by the program. Redfish Lake sockeye salmon have also been reintroduced into Alturas and Pettit Lakes using progeny from the captive broodstock program. The captive broodstock program presently consists of several hundred fish of different year classes maintained at facilities in Eagle (Idaho) and Manchester (Washington).

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that the Redfish Lake Captive Broodstock Program does not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). The Artificial Propagation Evaluation Workshop noted that the Captive Broodstock Program has prevented likely extinction of the ESU. This program has increased the total number of anadromous adults, attempted to increase the number of lakes in which sockeye salmon are present in the upper Salmon River (Stanley Basin), and preserved what genetic diversity remains in the ESU. Although the program has increased the number of anadromous adults in some years, it has yet to produce consistent returns. The majority of the ESU now resides in the captive program composed of only a few hundred fish. The long-term effects of captive rearing are unknown. The consideration of artificial propagation does not substantially mitigate the BRT's assessment of extreme risks to ESU abundance, productivity, spatial structure, and diversity. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation on the viability of the ESU



(NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Snake River sockeye ESU in-total is "in danger of extinction" (NMFS, 2004c).

*Ozette Lake Sockeye ESU*—Evaluating extinction risk for the Ozette Lake sockeye ESU is complicated by incomplete historical data with uncertain errors and biases. The Makah Tribe's fisheries program, however, is engaged in significant efforts to improve sampling techniques and to adjust for biases in historical data. The number of returning adults has increased in recent years, but is believed to be well below historical levels. Prior to 2002 an uncertain fraction of the returns was of hatchery origin, generating uncertainty in evaluating trends in the abundance and productivity of the naturally spawned component of the ESU. Accurately assessing trends in natural spawners is further complicated by the poor visibility in the lake. Habitat degradation, siltation, and alterations in the lake level regime have resulted in the loss of numerous beach spawning sites. The BRT expressed concern that the reduction in the number of spawning aggregations poses risks for ESU spatial structure and diversity.

The BRT expressed moderately high concern for each of the VSP risk categories. Informed by this risk assessment, the majority opinion of the BRT was that the naturally spawned component of the Ozette Lake sockeye ESU is "likely to become endangered within the foreseeable future," with the minority being split between "in danger of extinction" and "not in danger of extinction or likely to become endangered within the foreseeable future."

There are two artificially propagated stocks considered to be part of the Ozette Lake sockeye salmon ESU (Table 1). The program, operated by the Makah Tribe, is derived from native broodstock and has the primary objective of establishing viable sockeye salmon spawning aggregations in two Ozette Lake tributaries where spawning has not been observed for many decades, if ever. The program includes research, monitoring, and evaluation activities designed to determine success in recovering the propagated populations to viable levels, and to determine the demographic, ecological, and genetic effects on target and non-target (*i.e.*, Ozette Lake beach) spawning aggregations. The Makah Program will be reevaluated for termination (or continuation) after 12 years of operation.

Our assessment of the effects of artificial propagation on ESU extinction

risk concluded that the Makah supplementation program at Umbrella Creek and Big River does not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). The program has increased the abundance of natural spawners and natural-origin sockeye in the Ozette Lake tributaries. However, it is unknown whether these tributaries were historically spawning habitat. The program (by design) has not increased the abundance of natural spawners or natural origin beach spawners in Ozette Lake. Despite the relative increases in abundance due to the supplementation program, the total ESU abundance remains small for a single sockeye population. The contribution of artificial propagation to the ESU's productivity is uncertain. Only since 2000 have the hatchery returns been sufficient to meet the program's broodstock goals. The Makah program at present serves as an important genetic reserve with the continuing loss of beach spawning habitat. The reintroduction of spawners to Ozette Lake tributaries reduces risks to ESU spatial structure. Although there currently is no evidence of genetic divergence between the hatchery program and the founding population, the isolation of the hatchery program and adaptation to tributary habitats may in time cause the tributary spawning aggregations to diverge from founding beach spawning aggregations. Although the program has a beneficial effect on ESU abundance and spatial structure, it has neutral or uncertain effects on ESU productivity and diversity. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Ozette Lake sockeye ESU in-total is "likely to become endangered within the foreseeable future" (NMFS, 2004c).

*Sacramento River Winter-run Chinook ESU*—The Sacramento River winter-run ESU is represented by a single extant naturally spawning population that has been completely displaced from its historical spawning habitat by the construction of Shasta and Keswick Dams. The remaining spawning habitat is artificially maintained by cold-water releases from the reservoir behind Shasta Dam. The naturally spawning component of the ESU has exhibited marked improvements in abundance and productivity in recent years. The recent increases in abundance are encouraging, relative to the years of critically low abundance of the 1980s and early 1990s; however, the recent 5-

year geometric mean is only 3 percent of the peak post-1967 5-year geometric mean. The BRT was particularly concerned about risks to the ESU's diversity and spatial structure. Construction of Shasta Dam merged at least four independent winter-run Chinook populations into a single population, representing a substantial loss of genetic diversity, life-history variability, and local adaptation. Episodes of critically low abundance, particularly in the early 1990s, for the single remaining population imposed "bottlenecks" that further reduced genetic diversity. The BRT found extremely high risk for each of the four VSP risk categories. Informed by this risk assessment, the majority opinion of the BRT was that the naturally spawned component of the Sacramento winter-run ESU is "in danger of extinction." The minority opinion of the BRT was that the ESU is "likely to become endangered within the foreseeable future."

Two artificial propagation programs are considered to be part of the Sacramento River winter-run Chinook ESU (Table 1; NMFS, 2005b). The artificial propagation of winter-run Chinook is carried out at the Livingston Stone National Fish Hatchery (NFH) on the mainstem Sacramento River above Keswick Dam. The captive broodstock program is maintained at two locations: the Livingston Stone NFH and at the University of California's Bodega Marine Laboratory. These programs have been operated for conservation purposes since the early 1990s and both were identified as high priority recovery actions in NMFS' 1997 Draft Recovery Plan for this ESU. The artificial propagation program was established to supplement the abundance of the naturally spawning winter-run Chinook population and thereby assist in its population growth and recovery. The captive broodstock program was established in the early 1990s when the naturally spawning population was at critically low levels (less than 200 spawners) in order to preserve the ESU's remaining genetic resources and to establish a reserve for potential use in the artificial propagation program. Because of increased natural escapement over the last several years, consideration is being given to terminating the captive broodstock program.

An assessment of the effects of these artificial propagation programs on the viability of the ESU in-total concluded that they decrease risk to some degree by contributing to increased ESU abundance and diversity, but have a neutral or uncertain effect on

productivity and spatial structure of the ESU (NMFS, 2005b). Spawning escapement of winter-run Chinook has increased since the inception of the program and may account for up to 10 percent of the total number of fish spawning naturally in a given year. Improvements in freshwater habitat conditions, harvest management, as well as improved ocean conditions, however, are thought to be the major factors responsible for the increased abundance of the ESU since the early 1990s. Effects on productivity are uncertain, but studies are underway to assess the effect of artificial propagation on fitness and productivity of artificially propagated fish. Although abundance of spawners has increased, in part due to artificial propagation, the spatial distribution of spawners has not expanded. The primary reason is that the naturally spawning population is artificially maintained by cool water releases from Shasta/Keswick dams, and the spatial distribution of spawners is largely governed by water year type and the ability of the Central Valley Project to manage water temperatures in the upper Sacramento River. A second naturally spawning population is considered critical to the long-term viability of this ESU, and plans are underway to eventually establish a second population in the upper Battle Creek watershed using the artificial propagation program as a source of fish. However, the program has yet to be implemented because of the need to complete habitat restoration efforts in that watershed. The artificial propagation program has contributed to maintaining diversity of the ESU through careful use of spawning protocols and other tools that maximize genetic diversity of propagated fish and minimize impacts on naturally spawning populations. In addition, the artificial propagation and captive broodstock programs collectively serve as a genetic repository which serves to preserve the genome of the ESU.

Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that this ESU in-total is "in danger of extinction" (NMFS, 2004c).

*Central Valley Spring-run Chinook ESU*—Extensive construction of dams throughout the Sacramento-San Joaquin Basin has reduced the California Central Valley spring Chinook ESU to only a small portion of its historical distribution, generating concerns about risks to the spatial structure and diversity of the ESU. The ESU has been

reduced to only three naturally spawning independent populations that are free of hatchery influence from an estimated 17 historical populations. These three populations (Deer, Mill and Butte Creek which are tributaries to the Sacramento River) are in close geographic proximity, increasing the ESU's vulnerability to disease or catastrophic events. There are other natural populations (*i.e.* Clear, Antelope, Big Chico, and Beegum Creeks) of spring Chinook, but the Central Valley Technical Recovery Team considers them to be dependent upon the populations in Deer, Mill, and Butte Creek. As discussed in the Summary of Comments and Information Received (see Issue 14), the naturally spawning spring Chinook of hatchery origin in the Feather and Yuba Rivers are also considered to be part of this ESU as is the spring-run Chinook hatchery stock at Feather River Hatchery. The BRT was concerned that the Feather River spring-run Chinook hatchery population represents a risk factor for the naturally spawning populations in Deer, Mill and Butte Creeks. The Feather River Hatchery produces spring-run Chinook that are genetically more similar to fall-run Chinook, probably due to hybridization at the hatchery, though these fish still exhibit an early returning "spring" behavior. The off-site release location for fish produced at the hatchery is believed to contribute to a high straying rate of hatchery fish which increases the likelihood the Feather River hatchery origin fish could interact negatively with the extant natural populations in the ESU. To address these concerns, CDFG initiated efforts in 2002 to restore and enhance the spring run genotype at the Feather River Hatchery. Although the recent 5-year mean abundance for the three naturally spawning populations in the ESU remains small (ranging from nearly 500 to over 4,500 spawners), short- and long-term productivity trends are positive, and population sizes have shown continued increases over the abundance levels of the 1980s (with 5-year mean population sizes of 67 to 243 spawners). The BRT noted moderately high risk for the abundance, spatial structure, and diversity VSP factors, and a lower risk for the productivity factor reflecting recent positive trends. Informed by this risk assessment, the strong majority opinion of the BRT was that the Central Valley spring-run Chinook ESU is "likely to become endangered within the foreseeable future." The minority opinion of the BRT was that the ESU is "in danger of extinction." There Feather

River Hatchery spring-run Chinook stock included in this ESU does not mitigate the BRT's assessment that the ESU is "likely to become endangered within the foreseeable future."

*California Coastal Chinook ESU*—Evaluation of the viability of the naturally spawning component of the California Coastal Chinook ESU is hindered by the limited availability of data, particularly regarding the abundance and spatial distribution of natural populations within the ESU. Additionally, the data that are available are of varying type, quality and temporal coverage, and are generally not amenable to rigorous estimation of abundance or robust statistical analyses of trends. The little historical and current abundance information that is available indicates that (putative) natural ESU population abundance levels remain depressed relative to historical levels. Evidence suggests that populations have been extirpated or nearly extirpated in the southern part of the ESU, or are extremely low in abundance. This observation, in combination with the apparent loss of the spring-run Chinook life history in the Eel River Basin and elsewhere in the ESU, indicates risks to the diversity of the ESU. Recently available natural abundance estimates in the Russian River are in excess of 1,300 fish for 2000–2002. These data suggest either the presence of a naturally producing population in the Russian River, or represent straying from other basins or ESUs. No data are available to assess the genetic relationship of the Russian River fish to populations in this or other ESUs. The BRT found moderately high risks for all VSP risk categories, and underscored a strong concern due to the paucity of information and the resultant uncertainty generated in evaluating the ESU's viability. Informed by this risk assessment and the related uncertainty, the majority opinion of the BRT was that the naturally spawned component of the California Coastal Chinook ESU is "likely to become endangered within the foreseeable future." The minority opinion of the BRT was that the naturally spawned component of the ESU is "in danger of extinction."

Seven artificial propagation programs that produce Chinook salmon are considered to be part of the California Coastal Chinook ESU (Table 1; NMFS, 2005b). Six of these programs (Freshwater Creek, Yager Creek, Redwood Creek, Hollow Tree Creek, Mattole River Salmon Group, and Mad River Hatchery) are relatively small programs with production goals of less than 80,000 fish that have been operated for restoration purposes for more than

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20 years. Because of State funding limitations, it is likely that these programs will be terminated after 2004. These programs are small-scale supplementation facilities operated by local groups or companies in cooperation with the CDFG under its cooperative hatchery program. The Van Arsdale Fish Station has been operated for over 30 years by CDFG for supplementation purposes in the upper Eel River. Because of State funding limitations, the operations at the Station were terminated in 2003. The seven hatchery programs are primarily located in the northern portion of the ESU's range and most are in the Eel River.

An assessment of the effects of these small artificial propagation programs on the viability of the ESU in-total concluded that they collectively decrease risk to some degree by contributing to local increases in abundance, but have a neutral or uncertain effect on productivity, spatial structure or diversity of the ESU (NMFS, 2005b). There have been no demonstrable increases in natural abundance from the five cooperative hatchery programs, with the possible exception of increased abundance in the Freshwater Creek natural population and as a result of the rescue and rearing activities by the Mattole Salmon Group. In part, this is because there is limited natural population monitoring in the watersheds where the hatchery programs are located. No efforts have been undertaken to assess the productivity of hatchery produced fish or to assess the effects of hatchery produced fish on natural origin fish productivity. The seven hatchery populations in this ESU are primarily located in the northern portion of the ESU's range and overlap with natural origin fish populations. With the exception of Freshwater Creek where local distribution may have expanded in association with the natural population increase, there are no demonstrable beneficial effects on spatial structure. The six cooperative programs use only natural-origin fish as broodstock and mark all production with an adipose fin clip to ensure that hatchery-origin fish are not incorporated into the broodstock.

Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that this ESU in-total is "likely to become endangered within the foreseeable future" (NMFS, 2004c).

*Upper Willamette River Chinook ESU*—There are no direct estimates of

natural-origin spawner abundance for the Upper Willamette River Chinook ESU. The abundance of adult spring Chinook salmon (hatchery and natural fish) passing Willamette Falls has remained relatively steady over the past 50 years (ranging from approximately 20,000 to 70,000 fish), but is only a fraction of peak abundance levels observed in the 1920s (approximately 300,000 adults). Interpretation of abundance levels is confounded by a high but uncertain fraction of hatchery produced fish. The McKenzie River population has shown substantial increases in total abundance (hatchery origin and natural origin fish) in the last 2 years, while trends in other natural populations in the ESU are generally mixed. With the relatively large incidence of naturally spawning hatchery fish in the ESU, it is difficult to determine trends in productivity for natural-origin fish. The BRT estimated that despite improving trends in total productivity (including hatchery origin and natural origin fish) since 1995, productivity would be below replacement in the absence of artificial propagation. The BRT was particularly concerned that approximately 30 to 40 percent of total historical habitat is now inaccessible behind dams. These inaccessible areas, however, represent a majority of the historical spawning habitat. The restriction of natural production to just a few areas increases the ESU's vulnerability to environmental variability and catastrophic events. Losses of local adaptation and genetic diversity through the mixing of hatchery stocks within the ESU, and the introgression of out-of-ESU hatchery fall-run Chinook, have represented threats to ESU diversity. However, the BRT was encouraged by the recent cessation of releases of the fall-run hatchery fish, as well as by improved marking rates of hatchery fish to assist in monitoring and in the management of a marked-fish selective fishery.

The BRT found moderately high risks for all VSP categories. Informed by this risk assessment, the strong majority opinion of the BRT was that the naturally spawned component of the Upper Willamette River Chinook ESU is "likely to become endangered within the foreseeable future." The minority opinion was that this ESU is "in danger of extinction."

Seven artificial propagation programs in the Willamette River produce fish that are considered to be part of the Upper Willamette River Chinook ESU. All of these programs are funded to mitigate for lost or degraded habitat and produce fish for harvest purposes.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that these hatchery programs collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). An increasing proportion of hatchery-origin returns has contributed to increases in total ESU abundance. However, it is unclear whether these returning hatchery and natural fish actually survive overwintering to spawn. Estimates of pre-spawning mortality indicate that a high proportion (>70 percent) of spring Chinook die before spawning in most ESU populations. In recent years, hatchery fish have been used to reintroduce spring Chinook back into historical habitats above impassible dams (e.g., in the South Santiam, North Santiam, and McKenzie Rivers), slightly decreasing risks to ESU spatial structure. Within-ESU hatchery fish exhibit differing life-history characteristics from natural ESU fish. High proportions of hatchery-origin natural spawners in remaining natural production areas (i.e., in the Clackamas and McKenzie Rivers) may thereby have negative impacts on within and among population genetic and life-history diversity. Collectively, artificial propagation programs in the ESU have a slight beneficial effect on ESU abundance and spatial structure, but neutral or uncertain effects on ESU productivity and diversity. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Upper Willamette River Chinook ESU in-total is "likely to become endangered in the foreseeable future" (NMFS, 2004c).

*Lower Columbia River Chinook ESU*—

Many populations within the Lower Columbia River Chinook ESU have exhibited pronounced increases in abundance and productivity in recent years, possibly due to improved ocean conditions. Abundance estimates of naturally spawned populations in this ESU, however, are uncertain due to a high (approximately 70 percent) fraction of naturally spawning hatchery fish and a low marking rate (only 1 to 2 percent) of hatchery produced fish. Abundance estimates of naturally produced spring Chinook have improved since 2001 due to the marking of all hatchery spring Chinook releases, allowing for the enumeration of hatchery spring Chinook at weirs, traps and on spawning grounds. Despite recent improvements, long-term trends in productivity are below replacement for the majority of



populations in the ESU. It is estimated that 8 to 10 of approximately 31 historical populations in the ESU have been extirpated or nearly extirpated. Although approximately 35 percent of historical habitat has been lost in this ESU due to the construction of dams and other impassable barriers, this ESU exhibits a broad spatial distribution in a variety of watersheds and habitat types. Natural production currently occurs in approximately 20 populations, although only one population has a mean spawner abundance exceeding 1,000 fish. The BRT expressed concern that the spring-run populations comprise most of the extirpated populations. The disproportionate loss of the spring-run life history represents a risk for ESU diversity. Additionally, of the four hatchery spring-run Chinook populations considered to be part of this ESU, two are propagated in rivers that are within the historical geographic range of the ESU but that likely did not support spring-run populations. High hatchery production in the Lower Columbia River poses genetic and ecological risks to the natural populations in the ESU, and complicates assessments of their performance. The BRT also expressed concern over the introgression of out-of-ESU hatchery stocks.

The BRT found moderately high risks for all VSP categories. Informed by this risk assessment, the majority opinion of the BRT was that the naturally spawned component of the Lower Columbia River Chinook ESU is "likely to become endangered within the foreseeable future," with the minority being split between "in danger of extinction" and "not in danger of extinction or likely to become endangered within the foreseeable future."

There are 17 artificial propagation programs releasing hatchery Chinook salmon that are considered to be part of the Lower Columbia River Chinook ESU (Table 1). All of these programs are designed to produce fish for harvest, with three of these programs also being implemented to augment the naturally spawning populations in the basins where the fish are released. These three programs integrate naturally produced spring Chinook salmon into the broodstock in an attempt to minimize the genetic effects of returning hatchery adults that spawn naturally.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that these hatchery programs collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Hatchery programs have increased total returns and numbers of fish spawning

naturally, thus reducing risks to ESU abundance. Although these hatchery programs have been successful at producing substantial numbers of fish, their effect on the productivity of the ESU in-total is uncertain. Additionally, the high level of hatchery production in this ESU poses potential genetic and ecological risks to the ESU, and confounds the monitoring and evaluation of abundance trends and productivity. The Cowlitz River spring Chinook salmon program produces parr for release into the upper Cowlitz River Basin in an attempt to re-establish a naturally spawning population above Cowlitz Falls Dam. Such reintroduction efforts increase the ESU's spatial distribution into historical habitats, and slightly reduce risks to ESU spatial structure. The few programs that regularly integrate natural fish into the broodstock may help preserve genetic diversity within the ESU. However, the majority of hatchery programs in the ESU have not converted to the regular incorporation of natural broodstock, thus limiting this risk reducing feature at the ESU scale. Past and ongoing transfers of broodstock among hatchery programs in different basins represent a risk to within and among population diversity. Collectively, artificial propagation programs in the ESU provide slight benefits to ESU abundance, spatial structure, and diversity, but have neutral or uncertain effects on ESU productivity. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Lower Columbia River Chinook ESU in-total is "likely to become endangered in the foreseeable future" (NMFS, 2004c).

*Upper Columbia River Spring-run Chinook ESU*—All populations in the Upper Columbia River spring-run Chinook ESU exhibited pronounced increases in abundance in 2001. These increases are particularly encouraging following the last decade of steep declines to record, critically low escapements. Despite strong returns in 2001, both recent 5-year and long term productivity trends remain below replacement. The five hatchery spring-run Chinook populations considered to be part of this ESU (Table 1) are programs aimed at supplementing natural production areas. These programs have contributed substantially to the abundance of fish spawning naturally in recent years. However, little information is available to assess the impact of these high levels of

supplementation on the long-term productivity of natural populations. Spatial structure in this ESU was of little concern as there is passage and connectivity among almost all ESU populations, although it is estimated that approximately 58 percent of historical habitat has been lost. During years of critically low escapement (1996 and 1998) extreme management measures were taken in one of the three major spring Chinook producing basins by collecting all returning adults into hatchery supplementation programs. Such actions reflect the ongoing vulnerability of certain segments of this ESU. The BRT expressed concern that these actions, while appropriately guarding against the catastrophic loss of populations, may have compromised ESU population structure and diversity.

The BRT's assessment of risk for the four VSP categories reflects strong concerns regarding abundance and productivity, and comparatively less concern for ESU spatial structure and diversity. The BRT's assessment of overall extinction risk faced by the naturally spawned component of the Upper Columbia River spring-run Chinook ESU was divided between "in danger of extinction" and "likely to become endangered within the foreseeable future," with a slight majority opinion that the ESU is "in danger of extinction."

Six artificial propagation programs in the Upper Columbia River Basin produce spring-run Chinook in the Methow and Wenatchee Rivers that are considered to be part of the Upper Columbia River spring-run Chinook ESU (Table 1). The Entiat NFH operating in the Entiat River is not included in the ESU, and is intended to remain isolated from the local natural population. The within ESU hatchery programs are conservation programs intended to contribute to the recovery of the ESU by increasing the abundance and spatial distribution of naturally spawned fish, while maintaining the genetic integrity of populations within the ESU. Three of the conservation programs incorporate local natural broodstock to minimize adverse genetic effects, and follow broodstock protocols guarding against the overcollection of the natural run. The remaining within-ESU hatchery programs are captive broodstock programs. These programs also adhere to strict protocols for the collection, rearing, maintenance, and mating of the captive brood populations. All of the six artificial propagation programs considered to be part of the ESU include extensive monitoring and evaluation efforts to continually evaluate the extent and implications of

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any genetic and behavioral differences that might emerge between the hatchery and natural stocks.

Genetic evidence suggests that the within-ESU programs remain closely related to the naturally spawned populations and maintain local genetic distinctiveness of populations within the ESU. The captive broodstock programs may exhibit lower fecundity and younger average age-at-maturity compared to the natural populations from which they were derived. However, the extensive monitoring and evaluation efforts employed afford the adaptive management of any unintended adverse effects. Habitat Conservation Plans (HCPs) with the Chelan and Douglas Public Utility Districts and binding mitigation agreements ensure that these programs will have secure funding and will continue into the future. These hatchery programs have undergone ESA section 7 consultation to ensure that they do not jeopardize the continued existence of the ESU, and they have received ESA section 10 permits for production through 2007. Annual reports and other specific information reporting requirements ensure that the terms and conditions as specified by NMFS are followed. These programs, through adherence to best professional practices, have not experienced disease outbreaks or other catastrophic losses.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that these hatchery programs collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Overall, the hatchery programs in the ESU have increased the total abundance of fish considered to be part of the ESU. Specifically, the two hatchery programs in the Wenatchee Basin have contributed to reducing abundance risk. However, it is uncertain whether the four programs in the Methow Basin have provided a net benefit to abundance. The contribution of ESU hatchery programs to the productivity of the ESU in-total is uncertain. The overall impact of the hatchery programs on ESU spatial structure is neutral. The Wenatchee Basin programs are managed to promote appropriate spatial structure, and they likely reduce spatial structure risk in that basin. The Methow Basin hatchery programs, however, concentrate spawners near the hatchery facilities, altering population spatial structure and increasing vulnerability to catastrophic events. Overall, within-ESU hatchery programs do not moderate risks to ESU diversity. The Wenatchee Basin programs do help preserve population diversity though the

incorporation of natural-origin fish into broodstock. The Methow Basin programs, however, incorporate few natural fish with hatchery-origin fish predominating on the spawning grounds. Additionally, the presence of out-of-ESU Carson stock Chinook in the Methow Basin remains a concern, although the stock is in the process of being terminated. The out-of-ESU Entiat hatchery program is a source of significant concern to the ESU. The Entiat stock may have introgressed significantly with or replaced the native population. Although the artificial propagation programs in the ESU have a slight beneficial effect on ESU abundance, they do not mitigate other key risk factors identified by the BRT. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Upper Columbia River spring-run Chinook ESU in-total is "in danger of extinction" (NMFS, 2004c).

*Puget Sound Chinook ESU—* Assessing extinction risk for the Puget Sound Chinook ESU is complicated by high levels of hatchery production and a limited availability of information on the fraction of natural spawners that are of hatchery-origin. Although populations in the ESU have not experienced the dramatic increases in abundance in the last 2 to 3 years that have been evident in many other ESUs, more populations have shown modest increases in escapement in recent years than have declined (13 populations versus nine). Most populations have a recent 5-year mean abundance of fewer than 1,500 natural spawners, with the Upper Skagit population being a notable exception (the recent 5-year mean abundance for the Upper Skagit population approaches 10,000 natural spawners). Currently observed abundances of natural spawners in the ESU are several orders of magnitude lower than estimated historical spawner capacity, and well below peak historical abundance (approximately 690,000 spawners in the early 1900s). Recent 5-year and long-term productivity trends remain below replacement for the majority of the 22 extant populations of Puget Sound Chinook. The BRT was concerned that the concentration of the majority of natural production in just a few subbasins represents a significant risk. Natural production areas, due to their concentrated spatial distribution, are vulnerable to extirpation due to catastrophic events. The BRT was concerned by the disproportionate loss

of early run populations and its impact on the diversity of the Puget Sound Chinook ESU. The Puget Sound Technical Recovery Team has identified 31 historical populations (Ruckelshaus *et al.*, 2002), nine of which are believed to be extinct, most of which were "early run" or "spring" populations. Past hatchery practices that transplanted stocks among basins within the ESU and present programs using transplanted stocks that incorporate little local natural broodstock represent additional risk to ESU diversity. In particular, the BRT noted that the pervasive use of Green River stock, and stocks subsequently derived from the Green River stock, throughout the ESU may reduce the genetic diversity and fitness of naturally spawning populations.

The BRT found moderately high risks for all VSP categories. Informed by this risk assessment, the strong majority opinion of the BRT was that the naturally spawned component of the Puget Sound Chinook ESU is "likely to become endangered within the foreseeable future." The minority opinion was in the "not in danger of extinction or likely to become endangered within the foreseeable future" category.

There are currently 26 programs artificially propagating Puget Sound Chinook salmon that are considered to be part of the ESU (Table 1). Eight of the programs are directed at conservation, and are specifically implemented to preserve and increase the abundance of native populations in their natal watersheds where habitat needed to sustain the populations naturally at viable levels has been lost or degraded. Each of these conservation hatchery programs includes research, monitoring, and evaluation activities designed to determine success in recovering the propagated populations to viable levels, and to determine the demographic, ecological, and genetic effects of each program on target and non-target salmonid populations. The remaining programs considered to be part of the ESU are operated primarily for fisheries harvest augmentation purposes (some of which also function as research programs) using transplanted within-ESU-origin Chinook salmon as broodstock.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that these hatchery programs collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). The conservation and hatchery augmentation programs collectively have increased the total abundance of the ESU. The conservation programs

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have increased the abundance of naturally spawning Chinook, and likely have reduced abundance risks for these populations. The large numbers of Chinook produced by the harvest augmentation programs, however, have resulted in considerable numbers of strays. Any potential benefits from these programs to abundance likely are offset by increased ecological and genetic risks. There is no evidence that any of the 26 ESU hatchery programs have contributed to increased abundances of natural-origin Chinook, despite decades of infusing natural spawning areas with hatchery fish. The contribution of ESU hatchery programs to the productivity of the ESU in-total is uncertain. Four programs are planting hatchery fish above impassible dams, providing some benefit to ESU spatial structure. However, the ongoing practice of transplanting stocks within the ESU and incorporating little natural local-origin broodstock continues to pose significant risks to ESU spatial structure and diversity. The conservation hatchery programs function to preserve remaining genetic diversity, and likely have prevented the loss of several populations. Among the harvest augmentation programs are yearling Chinook release programs. Yearling Chinook programs may be harmful to local natural-origin populations due to increased risks of predation and the reduction of within-population diversity. Collectively, artificial propagation programs in the ESU provide a slight beneficial effect to ESU abundance and spatial structure, but neutral or uncertain effects to ESU productivity and diversity. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Puget Sound Chinook ESU in-total is "likely to become endangered in the foreseeable future" (NMFS, 2004c).

*Snake River Fall-run Chinook ESU*—The abundance of natural-origin spawners in the Snake River fall-run Chinook ESU for 2001 (2,652 adults) was in excess of 1,000 fish for the first time since counts began at the Lower Granite Dam in 1975. The recent 5-year mean abundance of 871 naturally produced spawners, however, generated concern that despite recent improvements, the abundance level is very low for an entire ESU. With the exception of the marked increase in 2001, the ESU has fluctuated between approximately 500 to 1,000 natural spawners since 1975, suggesting a

higher degree of stability in growth rate at low population levels than is seen in other salmonid populations. Increasing returns reflect improved ocean conditions, improved management of the mainstem hydrosystem flow regime, decreased harvest, and an increasing contribution from the Lyons Ferry Hatchery supplementation program. However, due to the large fraction of naturally spawning hatchery fish, it is difficult to assess the productivity of the natural population. Depending upon the assumption made regarding the reproductive contribution of hatchery fish, long-term and short-term trends in productivity are at or above replacement. It is estimated that approximately 80 percent of historical spawning habitat was lost (including the most productive areas) with the construction of a series of Snake River mainstem dams. The loss of spawning habitats and the restriction of the ESU to a single extant naturally spawning population increase the ESU's vulnerability to environmental variability and catastrophic events. The diversity associated with populations that once resided above the Snake River dams has been lost, and the impact of straying out-of-ESU fish has the potential to further compromise ESU diversity. Recent improvements in the marking of out-of-ESU hatchery fish and their removal at Lower Granite Dam have reduced the impact of these strays. However, introgression below Lower Granite Dam remains a concern. The BRT voiced concern that the practice of collecting fish below Lower Granite Dam for broodstock incorporates non-ESU strays into the Lyons Ferry Hatchery program, and poses additional risks to ESU diversity. Straying of out-of-ESU hatchery fall Chinook salmon from outside the Snake River Basin was identified as a major risk factor in the late 1980s to mid 1990s. Out-of-ESU hatchery strays have been much reduced due to the removal of hatchery strays at downstream dams, and a reduction in the number of fish released into the Umatilla River (where the majority of out-of-ESU strays originated).

The BRT found moderately high risk for all VSP categories. Informed by this risk assessment, the majority opinion of the BRT was that the naturally spawned component of the Snake River fall-run Chinook ESU is "likely to become endangered within the foreseeable future." The minority opinion assessed ESU extinction risk as "in danger of extinction," although a slight minority fell in the "not in danger of extinction

or likely to become endangered within the foreseeable future" category.

There are four artificial propagation programs producing Snake River fall Chinook salmon in the Snake River basin, all based on the Lyons Ferry Hatchery stock and considered to be part of the Snake River fall-run Chinook ESU (Table 1). When naturally spawning fall Chinook declined to fewer than 100 fish in 1991, most of the genetic legacy of this ESU was preserved in the Lyons Ferry Hatchery broodstock (NMFS, 1991c). These four hatchery programs are managed to enhance listed Snake River fall Chinook salmon and presently include the Lyons Ferry Hatchery, Fall Chinook Acclimation Ponds Program, Nez Perce Tribal Hatchery, and Oxbow Hatchery (an Idaho Power Company mitigation hatchery). These existing programs release fish into the mainstem Snake River and Clearwater River which represent the majority of the remaining habitat available to this ESU.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that these hatchery programs collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). These hatchery programs have contributed to the recent substantial increases in total ESU abundance, including both natural-origin and hatchery-origin ESU components. Spawning escapement has increased to several thousand adults (from a few hundred in the early 1990s) due in large part to increased releases from these hatchery programs. These programs collectively have had a beneficial effect on ESU abundance in recent years. The BRT noted, however, that the large but uncertain fraction of naturally spawning hatchery fish complicates assessments of ESU productivity. The contribution of ESU hatchery programs to the productivity of the ESU in-total is uncertain. As ESU abundance has increased in recent years, ESU spatial distribution has increased. The Snake River fall-run Chinook hatchery programs contributed to this reduction in risk to ESU spatial distribution. The Lyons Ferry stock has preserved genetic diversity during critically low years of abundance. However, the ESU-wide use of a single hatchery broodstock may pose long-term genetic risks, and may limit adaptation to different habitat areas. Although the ESU presently consists of a single independent population, it was most likely composed of diverse production centers. Additionally, the broodstock collection practices employed pose risks to ESU spatial structure and diversity. Release

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strategies practiced by the ESU hatchery programs (e.g., extended captivity for about 15 percent of the fish before release) are in conflict with the Snake River fall-run Chinook life history, and may compromise ESU diversity. Collectively, artificial propagation programs in the ESU provide slight benefits to ESU abundance, spatial structure, and diversity, but have neutral or uncertain effects on ESU productivity. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Snake River fall-run Chinook ESU in-total is "likely to become endangered in the foreseeable future" (NMFS, 2004c).

**Snake River Spring/Summer Chinook ESU**—The aggregate return (including hatchery and natural-origin fish) of Snake River spring/summer-run Chinook in 2001 exhibited a large increase over recent abundances. Many, but not all, of the 29 natural production areas within the ESU experienced large abundance increases in 2001 as well, with two populations nearing the abundance levels specified in NMFS' 1995 Proposed Snake River Recovery Plan (NMFS, 1995b). However, approximately 79 percent of the 2001 return of spring-run Chinook was of hatchery origin. Short-term productivity trends were at or above replacement for the majority of natural production areas in the ESU, although long-term productivity trends remain below replacement for all natural production areas, reflecting the severe declines since the 1960s. Although the number of spawning aggregations lost in this ESU due to the establishment of the Snake River mainstem dams is unknown, this ESU has a wide spatial distribution in a variety of locations and habitat types. The BRT considered it a positive sign that the out-of-ESU Rapid River broodstock has been phased out of the Grande Ronde system. There is no evidence of wide-scale straying by hatchery stocks, thereby alleviating diversity concerns somewhat. Nonetheless, the high level of hatchery production in this ESU complicates the assessments of trends in natural abundance and productivity.

The BRT found moderately high risk for the abundance and productivity VSP factors, and comparatively lower risk for spatial structure and diversity. Informed by this risk assessment, the majority opinion of the BRT was that the naturally spawned component of the Snake River spring/summer-run Chinook ESU is "likely to become

endangered within the foreseeable future." The minority opinion assessed ESU extinction risk as "in danger of extinction," although a slight minority concluded that the ESU is in the "not in danger of extinction or likely to become endangered within the foreseeable future" category.

There are 15 artificial propagation programs producing spring/summer-run Chinook salmon that are considered to be part of the Snake River spring/summer-run Chinook ESU (Table 1). A portion of these programs are managed to enhance listed natural populations, including the use of captive broodstock hatcheries in the upper Salmon River, Lemhi River, East Fork Salmon River, and Yankee Fork populations. These enhancement programs all use broodstocks founded from the local native populations. Currently, the use of non-ESU broodstock sources is restricted to Little Salmon/Rapid River (lower Salmon River tributary), mainstem Snake River at Hells Canyon, and the Clearwater River.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that these hatchery programs collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Overall, these hatchery programs have contributed to the increases in total ESU abundance and in the number of natural spawners observed in recent years. The contribution of ESU hatchery programs to the productivity of the ESU in-total is uncertain. Some reintroduction and outplanting of hatchery fish above barriers and into vacant habitat has occurred, providing a slight benefit to ESU spatial structure. All of the within-ESU hatchery stocks are derived from local natural populations and employ management practices designed to preserve genetic diversity. The Grande Ronde Captive Broodstock programs likely have prevented the extirpation of the local natural populations. Additionally, hatchery releases are managed to maintain wild fish reserves in the ESU in an effort to preserve natural local adaptation and genetic variability. Collectively, artificial propagation programs in the ESU provide benefits to ESU abundance, spatial structure, and diversity, but have neutral or uncertain effects on ESU productivity. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Snake River spring/summer-run Chinook ESU in-total is

"likely to become endangered in the foreseeable future" (NMFS, 2004c).

**Central California Coast Coho ESU**—Information on the abundance and productivity trends for the naturally spawning component of the Central California Coast coho ESU is extremely limited. There are no long-term time series of spawner abundance for individual river systems. Analyses of juvenile coho presence-absence information, juvenile density surveys, and irregular adult counts for the South Fork Noyo River indicate low abundance and long-term downward trends for the naturally spawning populations throughout the ESU. Improved ocean conditions coupled with favorable stream flows and harvest restrictions have contributed to increased returns in 2001 in streams in the northern portion of the ESU, as indicated by an increase in the observed presence of fish in historically occupied streams. Data are particularly lacking for many river basins in the southern two-thirds of the ESU where naturally spawning populations are considered to be at the greatest risk. The extirpation or near extirpation of natural coho salmon populations in several major river basins, and across most of the southern historical range of the ESU, represents a significant risk to ESU spatial structure and diversity. Artificial propagation of coho salmon within the Central California Coast ESU has declined since the ESU was listed in 1996 though it continues at the Noyo River and Scott Creek facilities, and two captive broodstock populations have recently been established. Genetic diversity risk associated with out-of-basin transfers appears to be minimal, but diversity risk from domestication selection and low effective population sizes in the remaining hatchery programs remains a concern. An out-of-ESU artificial propagation program for coho was operated at the Don Clausen hatchery on the Russian River through the mid 1990s, but was terminated in 1996. Termination of this program was considered by the BRT as a positive development for naturally produced coho in this ESU. For the naturally spawning component of the ESU, the BRT found very high risk for the abundance, productivity, and spatial structure VSP parameters and comparatively moderate risk with respect to the diversity VSP parameter. The lack of direct estimates of the performance of the naturally spawned populations in this ESU, and the associated uncertainty this generates, was of specific concern to the BRT. Informed by the VSP risk assessment

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and the associated uncertainty, the strong majority opinion of the BRT was that the naturally spawned component of the Central California Coast coho ESU was "in danger of extinction." The minority opinion was that this ESU is "likely to become endangered within the foreseeable future."

Four artificial propagation programs are considered to be part of the Central California Coast coho ESU (Table 1; NMFS, 2005b). The Noyo River program is an augmentation program located in the northern portion of the ESU which regularly incorporates local natural-origin fish into the broodstock and releases fish into the Noyo River watershed. The program has been in operation for over 50 years, but the program has recently been discontinued. The Monterey Bay Salmon and Trout Project is an artificial propagation program that is operated as a conservation program designed to supplement the local natural population, located in the southern portion of the ESU (south of San Francisco) where natural populations are at the highest risk of extinction. Relatively small numbers of fish are spawned and released from this program on Scott Creek, but natural-origin fish are routinely incorporated into the broodstock. Recently, captive broodstock programs have been established for the Russian River and Scott Creek populations in order to preserve the genetic resources of these two naturally spawning populations and for use in artificial programs. Artificially propagated fish from these two captive broodstock programs will be outplanted in the Russian River and Scott Creek watersheds to supplement local natural populations. The Russian River program is integrated with a habitat restoration program designed to improve habitat conditions and subsequent survival for outplanted coho juveniles.

An assessment of the effects of these four artificial propagation programs on the viability of the ESU in-total concluded that they decrease risk of extinction to some degree by contributing to increased ESU abundance and diversity, but have a neutral or uncertain effect on the productivity or spatial structure of the ESU (NMFS, 2005b). The three conservation programs are considered crucial to the recovery of this ESU, but it is unclear if they have had any beneficial effect on natural spawner abundance. The Noyo River program which had been operated for over 50 years is being terminated because it has not met CDFG's goal of increasing coho salmon abundance. Productivity of coho salmon in the Noyo River is thought to

be reduced or unaffected by long term artificial propagation in that watershed. It is uncertain how effective the captive broodstock and rearing programs in the Russian River and Scott Creek will be in increasing productivity, but efforts in the Russian River are coupled with a major habitat restoration effort which may improve natural population productivity. The two captive broodstock programs will hopefully contribute to future abundance and improved spatial structure of the ESU, but out-planting has yet to be implemented so long term benefits are uncertain. The Monterey Bay Salmon and Trout Program is thought to be responsible for sustaining the presence of natural origin coho salmon in Scott Creek, which is at the southern extent of the ESU's range. Both of the captive broodstock programs, particularly the Scott Creek program, are genetic repositories which serve to preserve the genome of the ESU thereby reducing genetic diversity risks. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Central California Coast coho ESU in-total is "in danger of extinction" (NMFS, 2004c).

*Southern Oregon/Northern California Coast Coho ESU*—The only reliable time series of adult abundance for the naturally spawning component of the Southern Oregon/Northern California Coast coho ESU is for the Rogue River population in southern Oregon. The California portion of the ESU is characterized by a paucity of data, with only a few available spawner indices and presence-absence surveys. The recent 5-year mean abundance for the Rogue River is approximately 5,000 natural spawners and is the highest such abundance for the Rogue River data series (since 1980). Both long- and short-term productivity trends for Rogue River natural spawners are above replacement. The BRT concluded, based on an analysis of pre-harvest abundance, however, that these positive trends for the Rogue River population reflect the effects of reduced harvest rather than improved freshwater conditions and population productivity. Less reliable indices of spawner abundance in several California populations suggest flat or declining trends. Relatively low levels of observed presence in historically occupied coho streams (32–56 percent from 1986 to 2000) indicate continued low abundance in the California portion of this ESU. Indications of stronger 2001

returns in several California populations, presumably due to favorable freshwater and ocean conditions, is encouraging but must be evaluated in the context of more than a decade of generally poor performance. Nonetheless, the high occupancy rate of historical streams in 2001 suggests that much habitat remains accessible to coho salmon. Although extant populations reside in all major river basins within the ESU, the BRT was concerned about the loss of local populations in the Trinity, Klamath, and Rogue river systems. The high hatchery production in these systems may mask trends in ESU population structure and pose risks to ESU diversity. The recent termination of several out-of-ESU hatcheries in California is expected to result in decreased risks to ESU diversity. The BRT found moderately high risks for abundance and productivity VSP categories, with comparatively lower risk for spatial structure and diversity. Informed by this risk assessment, the strong majority opinion of the BRT was that the naturally spawned component of the Southern Oregon/Northern California Coast coho ESU is "likely to become endangered within the foreseeable future." The minority opinion assessed ESU extinction risk as "in danger of extinction," although a slight minority concluded that the ESU is in the "not in danger of extinction or likely to become endangered within the foreseeable future" category.

There are three artificial propagation programs releasing hatchery coho salmon that are considered to be part of the Southern Oregon/Northern California Coast Coho ESU. The Rogue River hatchery in Oregon and the Trinity River and Iron Gate hatcheries (Klamath River) in California are all mitigation programs designed to produce fish for harvest, but they integrate naturally produced coho salmon into the broodstock in an attempt to minimize the genetic effects of returning hatchery adults that spawn naturally. All three programs have been in operation for several decades with smolt production goals ranging from 75,000 to 500,000 fish.

An assessment of the effects of these three artificial propagation programs on the viability of the ESU in-total concluded that they decrease risk of extinction by contributing to increased ESU abundance, but have a neutral or uncertain effect on the productivity, spatial structure and diversity of the ESU (NMFS, 2005b). Abundance of the ESU in-total has been increased as a result of these artificial propagation programs, particularly in the Rogue and Trinity Rivers. In the Rogue River,

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hatchery origin fish have averaged approximately half of the returning spawners over the past 20 years. In the Trinity River, most naturally spawning fish are thought to be of hatchery origin based on weir counts at Willow Creek. The effects of these artificial propagation programs on ESU productivity and spatial structure are limited. Only three rivers have hatchery populations and natural populations are depressed throughout the range of the ESU. The effects of these hatchery programs on ESU diversity are likely limited. Natural origin fish have been incorporated into the broodstock but the magnitude of natural fish use is unknown. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Southern Oregon/Northern California Coast coho ESU in-total is "likely to become endangered in the foreseeable future" (NMFS, 2004c).

*Lower Columbia River Coho ESU*—There are only two extant populations in the Lower Columbia River coho ESU with appreciable natural production (the Clackamas and Sandy River populations), from an estimated 23 historical populations in the ESU. Although adult returns in 2000 and 2001 for the Clackamas and Sandy River populations exhibited moderate increases, the recent 5-year mean of natural-origin spawners for both populations represents less than 1,500 adults. The Sandy River population has exhibited recruitment failure in 5 of the last 10 years, and has exhibited a poor response to reductions in harvest. During the 1980s and 1990s natural spawners were not observed in the lower tributaries in the ESU. Coincident with the 2000–2001 abundance increases in the Sandy and Clackamas populations, a small number of coho spawners of unknown origin have been surveyed in some lower tributaries. Short- and long-term trends in productivity are below replacement. Approximately 40 percent of historical habitat is currently inaccessible, which restricts the number of areas that might support natural production, and further increases the ESU's vulnerability to environmental variability and catastrophic events. The extreme loss of naturally spawning populations, the low abundance of extant populations, diminished diversity, and fragmentation and isolation of the remaining naturally produced fish confer considerable risks to the ESU. The paucity of naturally produced spawners in this ESU is

contrasted by the very large number of hatchery produced adults. The abundance of hatchery coho returning to the Lower Columbia River in 2001 and 2002 exceeded one million and 600,000 fish, respectively. The BRT expressed concern that the magnitude of hatchery production continues to pose significant genetic and ecological threats to the extant natural populations in the ESU. However, these hatchery stocks at present collectively represent a significant portion of the ESU's remaining genetic resources. The 25 hatchery stocks considered to be part of the ESU (Table 1), if appropriately managed, may prove essential to the restoration of more widespread naturally spawning populations.

The BRT found extremely high risks for each of the VSP categories. Informed by this risk assessment, the strong majority opinion of the BRT was that the naturally spawned component of the Lower Columbia River coho ESU is "in danger of extinction." The minority opinion was that the ESU is "likely to become endangered within the foreseeable future."

All of the 25 hatchery programs included in the Lower Columbia River coho ESU are designed to produce fish for harvest, with two small programs designed to also augment the natural spawning populations in the Lewis River Basin. Artificial propagation in this ESU continues to represent a threat to the genetic, ecological, and behavioral diversity of the ESU. Past artificial propagation efforts imported out-of-ESU fish for broodstock, generally did not mark hatchery fish, mixed broodstocks derived from different local populations, and transplanted stocks among basins throughout the ESU. The result is that the hatchery stocks considered to be part of the ESU represent a homogenization of populations. Several of these risks have recently begun to be addressed by improvements in hatchery practices. Out-of-ESU broodstock is no longer used, and near 100-percent marking of hatchery fish is employed to afford improved monitoring and evaluation of broodstock and (hatchery- and natural-origin) returns. However, many of the within-ESU hatchery programs do not adhere to best hatchery practices. Eggs are often transferred among basins in an effort to meet individual program goals, further compromising ESU spatial structure and diversity. Programs may use broodstock that does not reflect what was historically present in a given basin, limiting the potential for artificial propagation to establish locally adapted naturally spawning populations. Many

programs lack Hatchery and Genetic Management Plans that establish escapement goals appropriate for the natural capacity of each basin, and that identify goals for the incorporation of natural-origin fish into the broodstock.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that hatchery programs collectively mitigate the immediacy of extinction risk for the Lower Columbia River coho ESU in-total in the short term, but that these programs do not substantially reduce the extinction risk of the ESU in the foreseeable future (NMFS, 2004c). At present, within ESU hatchery programs significantly increase the abundance of the ESU in-total. Without adequate long-term monitoring, the contribution of ESU hatchery programs to the productivity of the ESU in-total is uncertain. The hatchery programs are widely distributed throughout the Lower Columbia River, reducing the spatial distribution of risk to catastrophic events. Additionally, reintroduction programs in the Upper Cowlitz River may provide additional reduction of ESU spatial structure risks. As mentioned above, the majority of the ESU's genetic diversity exists in the hatchery programs. Although these programs have the potential of preserving historical local adaptation and behavioral and ecological diversity, the manner in which these potential genetic resources are presently being managed poses significant risks to the diversity of the ESU in-total. At present, the Lower Columbia River coho hatchery programs reduce risks to ESU abundance and spatial structure, provide uncertain benefits to ESU productivity, and pose risks to ESU diversity. Overall, artificial propagation mitigates the immediacy of ESU extinction risk in the short-term, but is of uncertain contribution in the long term.

Over the long term, reliance on the continued operation of these hatchery programs is risky (NMFS, 2005b). Several Lower Columbia River coho hatchery programs have been terminated, and there is the prospect of additional closures in the future. With each hatchery closure, any potential benefits to ESU abundance and spatial structure are reduced. Risks of operational failure, disease, and environmental catastrophes further complicate assessments of hatchery contributions over the long term. Additionally, the two extant naturally spawning populations in the ESU were described by the BRT as being "in danger of extinction." Accordingly, it is likely that the Lower Columbia River coho ESU may exist in hatcheries only

within the foreseeable future. It is uncertain whether these isolated hatchery programs can persist without the incorporation of natural-origin fish into the broodstock. Although there are examples of salmonid hatchery programs having been in operation for relatively long periods of time, these programs have not existed in complete isolation. Long-lived hatchery programs historically required infusions of wild fish in order to meet broodstock goals. The long-term sustainability of such isolated hatchery programs is unknown. It is uncertain whether the Lower Columbia River coho isolated hatchery programs are capable of mitigating risks to ESU abundance and productivity into the foreseeable future. In isolation, these programs may also become more than moderately diverged from the evolutionary legacy of the ESU, and hence no longer merit inclusion in the ESU. Under either circumstance, the ability of artificial propagation to buffer the immediacy of extinction risk over the long-term is uncertain. Informed by the BRT's findings (NMFS, 2003b) and our assessment of the short- and long-term effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Lower Columbia coho ESU in-total is "likely to become endangered in the foreseeable future" (NMFS, 2004c).

*Columbia River Chum ESU*— Approximately 90 percent of the historical populations in the Columbia River chum ESU are extirpated or nearly so. During the 1980s and 1990s, the combined abundance of natural spawners for the Lower and Upper Columbia River Gorge, Washougal, and Grays River populations was below 4,000 adults. In 2002, however, the abundance of natural spawners exhibited a substantial increase evident at several locations in the ESU. The preliminary estimate of natural spawners is approximately 20,000 adults. The cause of this dramatic increase in abundance is unknown. Improved ocean conditions, the initiation of a supplementation program in the Grays River, improved flow management at Bonneville Dam, favorable freshwater conditions, and increased survey sampling effort may all have contributed to the elevated 2002 abundance. However, long- and short-term productivity trends for ESU populations are at or below replacement. The loss of off-channel habitats and the extirpation of approximately 17 historical populations increase the ESU's vulnerability to

environmental variability and catastrophic events. The populations that remain are low in abundance, and have limited distribution and poor connectivity.

The BRT found high risks for each of the VSP categories, particularly for ESU spatial structure and diversity. Informed by this risk assessment, the majority opinion of the BRT was that the naturally spawned component of the Columbia River chum ESU is "likely to become endangered within the foreseeable future," with a minority opinion that it is "in danger of extinction."

There are three artificial propagation programs producing chum salmon considered to be part of the Columbia River chum ESU. These are conservation programs designed to support natural production. The Washougal Hatchery artificial propagation program provides artificially propagated chum salmon for re-introduction into recently restored habitat in Duncan Creek, Washington. This program also serves as a genetic reserve for the naturally spawning population in the mainstem Columbia River below Bonneville Dam, which can access only a portion of spawning habitat during low flow conditions. The other two programs are designed to augment natural production in the Grays River and the Chinook River in Washington. All these programs use naturally produced adults for broodstock. These programs were only recently established (1998–2002), with the first hatchery chum returning in 2002.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that these hatchery programs collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). The Columbia River chum hatchery programs have only recently been initiated, and are beginning to provide benefits to ESU abundance. The contribution of ESU hatchery programs to the productivity of the ESU in-total is uncertain. The Sea Resources and Washougal Hatchery programs have begun to provide benefits to ESU spatial structure through reintroductions of chum salmon into restored habitats in the Chinook River and Duncan Creek, respectively. These three programs have a neutral effect on ESU diversity. Collectively, artificial propagation programs in the ESU provide a slight beneficial effect to ESU abundance and spatial structure, but have neutral or uncertain effects on ESU productivity and diversity. Informed by the BRT's findings (NMFS, 2003b) and our

assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Columbia River chum ESU in-total is "likely to become endangered in the foreseeable future" (NMFS, 2004c).

*Hood Canal Summer Chum ESU*— Adult returns for some populations in the Hood Canal summer-run chum ESU showed modest improvements in 2000, with upward trends continuing in 2001 and 2002. The recent 5-year mean abundance is variable among populations in the ESU, ranging from one fish to nearly 4,500 fish. Hood Canal summer-run chum are the focus of an extensive rebuilding program developed and implemented since 1992 by the state and tribal co-managers. Two populations (the combined Quilcene and Union River populations) are above the conservation thresholds established by the rebuilding plan. However, most populations remain depressed. Estimates of the fraction of naturally spawning hatchery fish exceed 60 percent for some populations, indicating that reintroduction programs are supplementing the numbers of total fish spawning naturally in streams. Long-term trends in productivity are above replacement for only the Quilcene and Union River populations. Buoyed by recent increases, seven populations are exhibiting short-term productivity trends above replacement. Of an estimated 16 historical populations in the ESU, seven populations are believed to have been extirpated or nearly extirpated. Most of these extirpations have occurred in populations on the eastern side of Hood Canal, generating additional concern for ESU spatial structure. The widespread loss of estuary and lower floodplain habitat was noted by the BRT as a continuing threat to ESU spatial structure and connectivity. There is some concern that the Quilcene hatchery stock is exhibiting high rates of straying, and may represent a risk to historical population structure and diversity. However, with the extirpation of many local populations, much of this historical structure has been lost, and the use of Quilcene hatchery fish may represent one of a few remaining options for Hood Canal summer-run chum conservation.

The BRT found high risks for each of the VSP categories. Informed by this risk assessment, the majority opinion of the BRT was that the naturally spawned component of the Hood Canal summer-run chum ESU is "likely to become endangered within the foreseeable

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future,” with a minority opinion that the ESU is “in danger of extinction.”

There are currently eight programs releasing summer chum salmon that are considered to be part of the Hood Canal summer chum ESU (Table 1). Six of the programs are supplementation programs implemented to preserve and increase the abundance of native populations in their natal watersheds. These supplementation programs propagate and release fish into the Salmon Creek, Jimmycomelately Creek, Big Quilcene River, Hamma Hamma River, Lilliwaup Creek, and Union River watersheds. The remaining two programs use transplanted summer-run chum salmon from adjacent watersheds to reintroduce populations into Big Beef Creek and Chimacum Creek, where the native populations have been extirpated. Each of the hatchery programs includes research, monitoring, and evaluation activities designed to determine success in recovering the propagated populations to viable levels, and to determine the demographic, ecological, and genetic effects of each program on target and non-target salmonid populations. All the Hood Canal summer-run chum hatchery programs will be terminated after 12 years of operation.

Our assessment of the effects of artificial propagation on ESU extinction risk concluded that these hatchery programs collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). The hatchery programs are reducing risks to ESU abundance by increasing total ESU abundance as well as the number of naturally spawning summer-run chum salmon. Several of the programs have likely prevented further population extirpations in the ESU. The contribution of ESU hatchery programs to the productivity of the ESU in-total is uncertain. The hatchery programs are benefiting ESU spatial structure by increasing the spawning area used in several watersheds and by increasing the geographic range of the ESU through reintroductions. These programs also provide benefits to ESU diversity. By bolstering total population sizes, the hatchery programs have likely stemmed adverse genetic effects for populations at critically low levels. Additionally, measures have been implemented to maintain current genetic diversity, including the use of native broodstock and the termination of the programs after 12 years of operation to guard against long-term domestication effects. Collectively, artificial propagation programs in the ESU presently provide a slight beneficial effect to ESU abundance, spatial structure, and

diversity, but uncertain effects to ESU productivity. The long-term contribution of these programs after they are terminated is uncertain. Despite the current benefits provided by the comprehensive hatchery conservation efforts for Hood Canal summer-run chum, the ESU remains at low overall abundance with nearly half of historical populations extirpated. Informed by the BRT’s findings (NMFS, 2003b) and our assessment of the effects of artificial propagation programs on the viability of the ESU (NMFS, 2005b), the Artificial Propagation Evaluation Workshop concluded that the Hood Canal summer-run chum ESU in-total is “likely to become endangered in the foreseeable future” (NMFS, 2004c).

#### Summary of Factors Affecting the Species

Section 4(a)(1) of the ESA and our implementing regulations (50 CFR part 424) set forth procedures for listing species. The Secretary of Commerce (Secretary) must determine, through the regulatory process, if a species is endangered or threatened because of any one or a combination of the following factors: (1) The present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or human-made factors affecting its continued existence. We have previously detailed the impacts of various factors contributing to the decline of Pacific salmon and *O. mykiss* (e.g., see summary of previous ESU listing determinations in the proposed rule, 69 FR 33102, June 14, 2004; NMFS 1998c, “Factors Contributing to the Decline of Chinook Salmon—An Addendum to the 1996 West Coast Steelhead Factors for Decline Report;” NMFS 1996a, “Factors for Decline—A Supplement to the Notice of Determination for West Coast Steelhead Under the Endangered Species Act”). These **Federal Register** notices and technical reports conclude that all of the factors identified in section 4(a)(1) of the ESA have played a role in the decline of West Coast salmon and *O. mykiss* ESUs. The reader is referred the summary of factors affecting the species provided in the proposed rule (69 FR at 33141 through 33142; June 14, 2004), and references therein, for a more detailed treatment of the species’ factors for decline.

#### Efforts Being Made to Protect West Coast Salmonids

Section 4(b)(1)(A) of the ESA requires the Secretary to make listing determinations solely on the basis of the best scientific and commercial data available after taking into account efforts being made to protect a species. Therefore, in making ESA listing determinations, we first assess an ESU’s level of extinction risk and identify factors that have led to its decline. We then assess existing efforts being made to protect the species to determine if those measures ameliorate the risks faced by the ESU.

In judging the efficacy of existing protective efforts, we rely on the joint NMFS–FWS “Policy for Evaluation of Conservation Efforts When Making Listing Decisions” (“PECE;” 68 FR 15100; March 28, 2003). PECE provides direction for the consideration of protective efforts identified in conservation agreements, conservation plans, management plans, or similar documents (developed by Federal agencies, state and local governments, Tribal governments, businesses, organizations, and individuals) that have not yet been implemented, or have been implemented but have not yet demonstrated effectiveness. The policy articulates several criteria for evaluating the certainty of implementation and effectiveness of protective efforts to aid in determination of whether a species warrants listing as threatened or endangered.

During our update of the status for the 16 ESUs addressed in this final rule, we reviewed protective efforts ranging in scope from regional conservation strategies to local watershed initiatives. The principal protective efforts affecting these West Coast salmonid ESUs were summarized in the June 14, 2004, proposed rule (69 FR 33102). Informed by the public comments received and based on our review, we conclude that collectively protective efforts do not provide sufficient certainty of implementation and effectiveness to substantially ameliorate the level of assessed extinction risk for all of the 16 ESUs addressed in this notice. While we acknowledge that many of the ongoing protective efforts are likely to promote the conservation of listed salmonids, most efforts are relatively recent, have yet to indicate their effectiveness, and few address conservation needs at scales sufficient to conserve entire ESUs. We conclude that existing protective efforts lack the certainty of implementation and effectiveness to preclude listing the 16 ESUs addressed in this final rule. Nonetheless, we will continue to

encourage these and other future protective efforts, and we will continue to collaborate with tribal, federal, state, and local entities to promote and improve efforts being made to protect the species.

#### Final Listing Determinations

The ESA defines an endangered species as any species in danger of extinction throughout all or a significant portion of its range, and a threatened species as any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Section 4(b)(1) of the ESA requires that the listing determination be based solely on the best scientific and commercial data available, after conducting a review of the status of the species and taking into account those efforts, if any, being made to protect such species.

We conclude that for the 16 West Coast salmon and *O. mykiss* ESUs addressed in this final rule, four ESUs are endangered, and 12 ESUs are threatened. Collectively, these 16 ESUs include 132 artificial propagation programs. Informed by the *Alesea* ruling and consistent with the final Hatchery Listing Policy, which appears elsewhere in this edition of the **Federal Register**, any artificial propagation programs considered to be part of an ESU will be included in the listing if it is determined that the ESU in-total is threatened or endangered. Table 2 at the end of this section provides a summary of these final listing determinations.

#### *Snake River Sockeye ESU*

The BRT unanimously concluded that the Snake River sockeye ESU is "in danger of extinction." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the Redfish Lake captive broodstock program does not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "in danger of extinction." We conclude that the ESU in-total is in danger of extinction throughout all or a significant portion of its range, and determine that the Snake River sockeye ESU continues to warrant listing under the ESA as an endangered species.

#### *Ozette Lake Sockeye ESU*

The BRT concluded that the naturally spawned component of the Ozette Lake sockeye ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of

artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Ozette Lake sockeye ESU continues to warrant listing under the ESA as a threatened species.

#### *Sacramento River Winter-Run Chinook ESU*

The BRT concluded that the naturally spawned component of the Sacramento winter-run Chinook ESU is "in danger of extinction." Informed by the BRT's findings (NMFS, 2003b) and the assessment of artificial propagation programs on the viability of the ESU (NMFS, 2004b), the Artificial Propagation Evaluation Workshop concluded that the Sacramento River winter-run Chinook ESU in-total is presently "in danger of extinction" (NMFS, 2004c). Major efforts have been undertaken by NMFS and others over the past decade to assess the viability of, and conduct research on, the winter-run Chinook population; implement freshwater and ocean harvest management conservation efforts; and implement a wide range of habitat conservation measures. The State of California has listed winter-run Chinook under the California Endangered Species Act, implemented freshwater harvest management conservation measures, and increased monitoring and evaluation efforts in support of conserving this ESU. Harvest and habitat conservation efforts have improved the ESU's abundance and productivity over the past decade. These efforts include: Changes in Central Valley Project and State Water Project operations and other actions undertaken pursuant to implementation of the Central Valley Project biological opinions that have increased freshwater survival; changes in salmon ocean harvest pursuant to the ocean harvest biological opinion that have increased ocean survival and adult escapement; and implementation of habitat restoration efforts (e.g. Ecosystem Restoration Program) throughout the Central Valley as a result of the CVPIA and CALFED programs and other central valley habitat restoration projects. A key

concern of the BRT was the lack of diversity within this ESU and the fact that it is represented by a single extant population at present. Although significant efforts are underway through the CALFED ecosystem restoration program to restore habitat and anadromous fish access to Battle Creek which would provide an opportunity for this ESU to establish a second population, it is uncertain whether this program will be fully implemented, funded or successful in achieving the goal of establishing a second population. Although many important efforts have been and continue to be implemented, we do not believe that the protective efforts being implemented for this ESU, as evaluated pursuant to PECE, provide sufficient certainty of implementation and effectiveness to alter the BRT's and Artificial Propagation Workshop's assessments that the ESU is "in danger of extinction." We find, therefore, that the Sacramento River winter-run Chinook ESU in-total is in danger of extinction throughout all or a significant portion of its range and conclude that the ESU continues to warrant listing as an endangered species under the ESA.

#### *Central Valley Spring-Run Chinook ESU*

The BRT concluded that the Central Valley spring-run Chinook ESU is "likely to become endangered within the foreseeable future" (NMFS, 2003b). Because the Feather River Hatchery spring Chinook stock was not considered to be part of the ESU at the time, the Artificial Propagation Evaluation Workshop did not address this ESU. Although consideration of the naturally spawning spring-run Chinook in the Feather River and the hatchery stock would likely reduce ESU risk in terms of abundance, it is unlikely to benefit any other VSP factors such as productivity, spatial structure, or diversity. If ongoing efforts to further isolate the spring-run phenotype in the Feather River are successful, the risks to the ESU's spatial structure and diversity would likely be reduced. Substantial protective efforts have been implemented to benefit this ESU, but as evaluated pursuant to PECE, they do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Central Valley spring-run Chinook ESU continues to warrant listing as threatened under the ESA.

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*California Coastal Chinook ESU*

The BRT concluded that the naturally spawned component of the California Coastal Chinook ESU is "likely to become endangered within the foreseeable future." Our assessment of artificial propagation programs on the viability of the ESU concluded that the California Coastal Chinook ESU in-total is "likely to become endangered within the foreseeable future" (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the California Coastal Chinook ESU continues to warrant listing as a threatened species under the ESA.

*Upper Willamette River Chinook ESU*

The BRT concluded that the naturally spawned component of the Upper Willamette River Chinook ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Upper Willamette River Chinook ESU continues to warrant listing under the ESA as a threatened species.

*Lower Columbia River Chinook ESU*

The BRT concluded that the naturally spawned component of the Lower Columbia River Chinook ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become

endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Lower Columbia River Chinook ESU continues to warrant listing under the ESA as a threatened species.

*Upper Columbia River Spring-Run Chinook ESU*

The BRT was divided on the extinction risk faced by the naturally spawned component of the Upper Columbia River spring-run Chinook ESU between "in danger of extinction" and "likely to become endangered within the foreseeable future," with a slight majority finding that the ESU is "in danger of extinction." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is in danger of extinction or likely to become so in the foreseeable future. We conclude that the ESU in-total is in danger of extinction throughout all or a significant portion of its range, and determine that the Upper Columbia River spring-run Chinook ESU continues to warrant listing under the ESA as an endangered species.

*Puget Sound Chinook ESU*

The BRT concluded that the naturally spawned component of the Puget Sound Chinook ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Puget Sound Chinook ESU continues to warrant listing under the ESA as a threatened species.

*Snake River Fall-Run Chinook ESU*

The BRT concluded that the Snake River fall-run Chinook ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Snake River fall-run Chinook ESU continues to warrant listing under the ESA as a threatened species.

*Snake River Spring/Summer Chinook ESU*

The BRT concluded that the Snake River spring/summer-run Chinook ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Snake River spring/summer-run Chinook ESU continues to warrant listing under the ESA as a threatened species.

*Central California Coast Coho ESU*

The BRT concluded that the naturally spawned component of the Central California Coast coho ESU is "in danger of extinction." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "in danger of extinction." We conclude that the ESU in-total is in danger of extinction throughout all or a



significant portion of its range. We determine that the Central California Coast coho ESU, presently listed as a threatened species, warrants listing as an endangered species under the ESA.

*Southern Oregon/Northern California Coast Coho ESU*

The BRT concluded that the naturally spawned component of the Southern Oregon/Northern California Coast coho ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Southern Oregon/Northern California Coast coho ESU continues to warrant listing under the ESA as a threatened species.

*Lower Columbia River Coho ESU*

The BRT concluded that the naturally spawned component of the Lower Columbia River coho ESU is "in danger of extinction." The BRT observed that although the scale of artificial propagation poses genetic and ecological threats to the two extant

natural populations in the ESU, the within-ESU hatchery programs represent a substantial proportion of the genetic resources remaining in the ESU. However, the manner in which the majority of these hatchery fish are being produced does not adhere to best management practices, and may be compromising the integrity of these genetic resources. Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that hatchery programs collectively mitigate the immediacy of extinction risk for the Lower Columbia River coho ESU in-total in the short term, but that these programs do not substantially reduce the extinction risk of the ESU in the foreseeable future (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that Lower Columbia River coho ESU warrants listing under the ESA as a threatened species.

*Columbia River Chum ESU*

The BRT concluded that the Columbia River chum ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not

substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Columbia River chum ESU continues to warrant listing under the ESA as a threatened species.

*Hood Canal Summer Chum ESU*

The BRT concluded that the naturally spawned component of the Hood Canal summer-run chum ESU is "likely to become endangered within the foreseeable future." Our assessment of the effects of artificial propagation on the ESU's extinction risk concluded that the within-ESU hatchery programs do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004c). Protective efforts, as evaluated pursuant to PECE, do not provide sufficient certainty of implementation and effectiveness to alter the assessment that the ESU is "likely to become endangered within the foreseeable future." We conclude that the ESU in-total is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and determine that the Hood Canal summer chum ESU continues to warrant listing under the ESA as a threatened species.

TABLE 2.—SUMMARY OF THE PREVIOUS ENDANGERED SPECIES ACT (ESA) STATUS AND THE FINAL LISTING DETERMINATIONS FOR 16 EVOLUTIONARY SIGNIFICANT UNITS (ESUS) OF WEST COAST SALMON

Evolutionarily significant unit (ESU)	Previous ESA listing status	Final listing determination	Number of artificial propagation programs included in the ESU
Snake River sockeye ESU .....	Endangered .....	Endangered .....	1
Ozette Lake sockeye ESU .....	Threatened .....	Threatened .....	2
Sacramento River winter-run Chinook ESU .....	Endangered .....	Endangered .....	2
Central Valley spring-run Chinook ESU .....	Threatened .....	Threatened .....	1
California Coastal Chinook ESU .....	Threatened .....	Threatened .....	7
Upper Willamette River Chinook .....	Threatened .....	Threatened .....	7
Lower Columbia River Chinook ESU .....	Threatened .....	Threatened .....	17
Upper Columbia River spring-run Chinook ESU .....	Endangered .....	Endangered .....	6
Puget Sound Chinook ESU .....	Threatened .....	Threatened .....	26
Snake River fall-run Chinook ESU .....	Threatened .....	Threatened .....	4
Snake River spring/summer-run Chinook ESU .....	Threatened .....	Threatened .....	15
Central California Coast coho ESU .....	Threatened .....	Endangered .....	4
Southern Oregon/Northern California Coast coho ESU .....	Threatened .....	Threatened .....	3
Lower Columbia River coho ESU .....	Threatened .....	Threatened .....	25
Columbia River chum ESU .....	Threatened .....	Threatened .....	3
Hood Canal summer-run chum ESU .....	Threatened .....	Threatened .....	8

**Prohibitions and Protective Regulations**

ESA section 9(a) take prohibitions (16 U.S.C. 1538(a)(1)(B)) apply to all species listed as endangered. Hatchery stocks determined to be part of endangered ESUs are afforded the full protections of the ESA. In the case of threatened species, ESA section 4(d) leaves it to the Secretary's discretion to determine whether and to what extent conservation measures may be appropriate, and directs the agency to issue regulations it considers necessary and advisable for the conservation of the species. NMFS has flexibility under section 4(d) to tailor protective regulations based on the contributions of available conservation measures. The 4(d) protective regulations may prohibit, with respect to threatened species, some or all of the acts which section 9(a) of the ESA prohibits with respect to endangered species.

**Previously Promulgated 4(d) Protective Regulations**

NMFS has already adopted ESA 4(d) rules that exempt or "limit" a range of activities from the take prohibitions for certain threatened salmon and *O. mykiss* ESUs (62 FR 38479, July 18, 1997; 65 FR 42422, July 10, 2000; 65 FR 42485, July 10, 2000; 67 FR 1116, January 9, 2002). Currently there are a total of 29 "limits" to ESA Section 9(a) "take" prohibitions for threatened salmonid ESUs (see the proposed rule, and references therein, for a more detailed description of the specific 4(d) limits; 69 FR at 33166; June 14, 2004). The previously promulgated limits do not apply to all threatened ESUs, and several of the limits are redundant, outdated, or are located disjunctly in the Code of Federal Regulations (CFR).

The first six of these limits (50 CFR 223.204(b)(1) through (b)(6)) were published as an interim rule in 1997 for the Southern Oregon/Northern California Coast coho ESU (62 FR 38479, July 18, 1997). These six limits allow for the take of coho salmon in Oregon and California, under certain circumstances, if the take is: Part of approved fisheries management plans; part of an approved hatchery program; part of approved fisheries research and monitoring activities; or part of approved habitat restoration activities.

In 2000, NMFS promulgated 13 limits affecting, in total, 14 ESUs in California, Oregon, and Washington (65 FR 42422, July 10, 2000; 50 CFR 223.203(b)(1) through (b)(13)). These "limits" include: Paragraph (b)(1) activities conducted in accordance with ESA section 10 take authorization; paragraph (b)(2) scientific or artificial propagation activities with

pending applications at the time of rulemaking; paragraph (b)(3) emergency actions related to injured, stranded, or dead salmonids; paragraph (b)(4) fishery management activities; paragraph (b)(5) hatchery and genetic management plans; paragraph (b)(6) activities in compliance with joint tribal/state plans developed within *United States (U.S.) v. Washington or U.S. v. Oregon*; paragraph (b)(7) scientific research activities permitted or conducted by the states; paragraph (b)(8) state, local, and private habitat restoration activities; paragraph (b)(9) properly screened water diversion devices; paragraph (b)(10) routine road maintenance activities; paragraph (b)(11) certain park pest management activities in Portland, Oregon; paragraph (b)(12) certain municipal, residential, commercial, and industrial development and redevelopment activities; and paragraph (b)(13) forest management activities on state and private lands within the State of Washington. The Southern Oregon/Northern California Coasts coho ESU was included under two of these 13 limits (limits 50 CFR 223.203(b)(1) and (b)(3)). The limits published in 2000 that addressed fishery and harvest management, scientific research, and habitat restoration activities did not supersede the six limits for the Southern Oregon/Northern California Coast coho ESU promulgated in the 1997 interim rule, despite addressing the same types of activities (although for different ESUs). Also in 2000, NMFS issued a limit for all threatened ESUs exempting activities undertaken consistent with an approved tribal resource management plan (65 FR 42485, July 10, 2000; 50 CFR 223.209).

In 2002, NMFS added an additional nine limits (67 FR 1116, January 9, 2002; 50 CFR 223.203(b)(14) through (b)(22)) addressing four salmonid ESUs in California: the Central Valley spring-run Chinook, California Coastal Chinook, Central California Coast coho, and Northern California *O. mykiss* ESUs. These limits are essentially identical to limits previously promulgated in 2000. These additional nine limits similarly address emergency actions, fishery management activities, artificial propagation programs, scientific research, habitat restoration activities, properly screened water diversions, routine road maintenance activities, and development and redevelopment activities. Rather than including the four California ESUs under the limits promulgated in 2000, these ESUs were treated under separate limits.

**Final Amendments to the 4(d) Protective Regulations**

As part of this final rulemaking we are amending the existing 4(d) protective regulations for threatened salmon and *O. mykiss* ESUs to: (1) Provide needed flexibility in fisheries and hatchery management, and (2) simplify and clarify the existing regulations so that they may be more efficiently and effectively accessed and interpreted by all affected parties. The specific changes being made to the application of the take prohibitions and limits under 4(d) are described in the following two subsections ("Changes in the Application of the Take Prohibitions," and "Clarifying Amendments to the 4(d) Protective Regulations").

**Changes in the Application of the Take Prohibitions**—We are finalizing an amendment to the existing 4(d) protective regulations to provide the necessary flexibility to ensure that fisheries and artificial propagation programs are managed consistently with the conservation needs of ESA-listed ESUs. For threatened salmon and *O. mykiss* ESUs, we will apply section 4(d) protections to natural and hatchery fish with an intact adipose fin, but not to listed hatchery fish that have had their adipose fin removed prior to release into the wild. (The removal ("clipping") of the adipose fin from hatchery fish prior to their release into the natural environment is a commonly employed method for the marking of hatchery production.) Many hatcheries produce fish that are not part of a listed ESU, while others produce fish that are part of a listed ESU (and thus also listed in this final rule) but are surplus to conservation and recovery needs, for the purpose of contributing to sustainable fisheries. With their adipose fin removed, these non-listed and surplus listed hatchery fish can be visually distinguished from listed fish requiring protection for conservation and/or recovery purposes. Exempted from take prohibitions, these adipose-fin-clipped hatchery fish can be harvested in fisheries, including but not limited to mark selective fisheries, that have appropriate ESA authorization. In addition to adipose-fin-clipped hatchery fish, other listed hatchery fish (with intact adipose fins) that are surplus to the recovery needs of an ESU and that are otherwise distinguishable from naturally spawned fish in the ESU (e.g., by run timing, location, or other marking methods) may be exempted from the section 4(d) protections under the available limits. NMFS believes this approach provides needed flexibility to appropriately manage artificial



propagation and direct take of threatened salmon and *O. mykiss* for the conservation and recovery of these ESUs.

Not all hatchery stocks considered to be part of listed ESUs are of equal value for use in conservation and recovery. Certain ESU hatchery stocks may comprise a substantial portion of the genetic diversity remaining in a threatened ESU, and thus are essential assets for ongoing and future recovery efforts. If released with adipose fins intact, hatchery fish in these populations would be afforded protections under the amended 4(d) protective regulations. NMFS, however, may need to approve the take of listed hatchery stocks to manage the number of naturally spawning hatchery fish to limit potential adverse effects on the local natural population(s). Other hatchery stocks, although considered to be part of a threatened ESU, may be of limited or uncertain conservation value at the present time. Artificial propagation programs producing within-ESU hatchery populations could release adipose-fin-clipped fish, such that protections under 4(d) would not apply, and these hatchery fish could fulfill other purposes (e.g., fulfilling Federal trust and tribal treaty obligations) while preserving all future recovery options. If it is later determined through ongoing recovery planning efforts that these hatchery stocks are essential for recovery, the relevant hatchery program(s) could discontinue removal of the adipose fin from all or a sufficient portion of its production as necessary to meet recovery needs.

This amendment also does not apply the take prohibitions to resident or residualized fish in salmonid ESUs, principally affecting *O. nerka* and *O. mykiss* ESUs. The kokanee (resident *O. nerka*) population that co-occurs with threatened Ozette Lake sockeye is not considered part of the ESU, and residualized sockeye are believed to be a minor components of the ESU. We believe that extending the take prohibitions to resident or residualized *O. nerka* is not necessary for the conservation and recovery of the Ozette Lake sockeye ESU. Furthermore, extending the take prohibitions to resident *O. nerka* would result in considerable confusion given the presence of a co-occurring resident kokanee population that is not listed under the ESA. We do not have sufficient information to suggest that extending the ESA take prohibitions to resident *O. mykiss* populations would confer any additional conservation benefits to listed *O. mykiss* ESUs.

Rainbow trout stocks are presently being managed conservatively under state regulations in support of conserving listed steelhead, and additional conservation benefits would not be accrued by extending Federal take prohibitions to these resident populations.

*Clarifying Amendments to the 4(d) Protective Regulations*—Although the existing ESA section 4(d) regulations for threatened salmonids have proven effective at appropriately protecting threatened salmonid ESUs and authorizing certain activities, several of the limits described therein are redundant, outdated, or are located disjointly in the Code of Federal Regulations (CFR). The resulting complexity of the existing 4(d) regulations unnecessarily increases the administrative and regulatory burden of managing protective regulations for threatened ESUs, and does not effectively convey to the public the specific ESUs for which certain activities may be exempted from the take prohibitions under 4(d). As part of this final rulemaking, we are clarifying the existing section 4(d) regulations for threatened salmonids so that they can be more efficiently and effectively accessed and interpreted by all affected parties. These clarifying amendments are: (1) To amend the expired 4(d) limit (§ 223.203(b)(2)), which provided a temporary exemption for ongoing research and enhancement activities with pending applications during the 2000 4(d) rulemaking, to temporarily exempt ongoing research and enhancement activities affected by the current rulemaking process; (2) to move the description of the limit for Tribal Resource Management Plans (§ 223.209) so that the text would appear next to the 4(d) rule in the CFR, improving the clarity of the 4(d) regulations; (3) to apply the amended 4(d) take prohibitions and the 14 limits promulgated in 2000 (as modified by these amendments) to the Lower Columbia River coho ESU which is newly being listed as threatened; and (4) to apply the amended 4(d) take prohibitions and the 14 limits promulgated in 2000 (as modified by these amendments) to all threatened salmon and *O. mykiss* ESUs, thus bringing them under the same 4(d) protective regulations.

#### *Other Protective Regulations*

Section 7(a)(4) of the ESA requires that Federal agencies confer with NMFS on any actions likely to jeopardize the continued existence of a species proposed for listing and on actions likely to result in the destruction or

adverse modification of proposed critical habitat. For listed species, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or conduct are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a proposed Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with NMFS. Examples of Federal actions likely to affect salmon include authorized land management activities of the FS and the BLM, as well as operation of hydroelectric and storage projects of the BOR and the USACE. Such activities include timber sales and harvest, permitting livestock grazing, hydroelectric power generation, and flood control. Federal actions, including the USACE section 404 permitting activities under the Clean Water Act, USACE permitting activities under the River and Harbors Act, Federal Energy Regulatory Commission (FERC) licenses for non-Federal development and operation of hydropower, and Federal salmon hatcheries, may also require consultation.

Sections 10(a)(1)(A) and 10(a)(1)(B) of the ESA provide NMFS with authority to grant exceptions to the ESA's "take" prohibitions. Section 10(a)(1)(A) scientific research and enhancement permits may be issued to entities (Federal and non-Federal) conducting research that involves a directed take of listed species. A directed take refers to the intentional take of listed species. NMFS has issued section 10(a)(1)(A) research/enhancement permits for currently listed ESUs for a number of activities, including trapping and tagging, electroshocking to determine population presence and abundance, removal of fish from irrigation ditches, and collection of adult fish for artificial propagation programs. Section 10(a)(1)(B) incidental take permits may be issued to non-Federal entities performing activities which may incidentally take listed species. The types of activities potentially requiring a section 10(a)(1)(B) incidental take permit include the operation and release of artificially propagated fish by state or privately operated and funded hatcheries, state or academic research that may not incidentally take listed species and is receiving Federal authorization or funding, the implementation of state fishing regulations, logging, road building, grazing, and diverting water into private lands.

We are concerned about the potential for disruption of ongoing scientific

research, monitoring, and conservation activities, especially during the coming summer/fall field seasons. Consistent with the “grace period for pending applications for 4(d) approval of research and enhancement activities,” we are extending a similar grace period for pending permit applications under sections 10(a)(1)(a) and 10(a)(1)(B). The take prohibitions applicable to threatened species will not apply to activities specified in an application for a permit for scientific purposes or to enhance the conservation or survival of the species, provided that the application has been received by the NOAA Assistant Administrator for Fisheries no later than 60 days from the date of publication of this notice. This grace period for pending scientific research and enhancement applications will remain in effect until the issuance or denial of authorization, or 6 months from the date of publication of this notice, whichever occurs earliest.

#### Identification of Those Activities That Would Constitute a Violation of Section 9 of the ESA

NMFS and the FWS published in the *Federal Register* on July 1, 1994 (59 FR 34272), a policy that NMFS shall identify, to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the ESA. The intent of this policy is to increase public awareness of the effect of this listing on proposed and ongoing activities within the species’ range. At the time of the final rule, NMFS must identify to the extent known, specific activities that will not be considered likely to result in violation of section 9, as well as activities that will be considered likely to result in violation. We believe that, based on the best available information, the following actions will not result in a violation of section 9:

1. Possession of fish from any ESU listed as threatened or endangered that are acquired lawfully by permit issued by NMFS pursuant to section 10 of the ESA, or by the terms of an incidental take statement issued pursuant to section 7 of the ESA; or
2. Federally funded or approved projects that involve activities such as silviculture, grazing, mining, road construction, dam construction and operation, discharge of fill material, stream channelization or diversion for which section 7 consultation has been completed, and when activities are conducted in accordance with any terms and conditions provided by NMFS in an incidental take statement accompanying a biological opinion.

There are many activities that we believe could potentially “harm” salmon, which is defined by our regulations as “an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering” (50 CFR 222.102 [harm]). Activities that may harm the listed ESUs, resulting in a violation of the section 9 take prohibition, include, but are not limited to:

1. Land-use activities that adversely affect habitats for any-listed ESU (e.g., logging, grazing, farming, urban development, road construction in riparian areas and areas susceptible to mass wasting and surface erosion);
2. Destruction/alteration of the habitats for any listed ESU, such as removal of large woody debris and “sinker logs” or riparian shade canopy, dredging, discharge of fill material, draining, ditching, diverting, blocking, or altering stream channels or surface or ground water flow;
3. Discharges or dumping of toxic chemicals or other pollutants (e.g., sewage, oil, gasoline) into waters or riparian areas supporting listed ESUs;
4. Violation of discharge permits;
5. Application of pesticides affecting water quality or riparian areas for listed ESUs;
6. Interstate and foreign commerce of fish from any of the listed ESUs and import/export of fish from any listed ESU without a threatened or endangered species permit;
7. Collecting or handling of fish from any of the listed ESUs. Permits to conduct these activities are available for purposes of scientific research or to enhance the conservation or survival of the species; or
8. Introduction of non-native species likely to prey on fish from any listed ESU or displace them from their habitat.

These lists are not exhaustive. They are intended to provide some examples of the types of activities that might or might not be considered by NMFS as constituting a take of fish in any of the listed ESUs under the ESA and its regulations. Questions regarding whether specific activities will constitute a violation of the section 9 take prohibition, and general inquiries regarding prohibitions and permits, should be directed to NMFS (see ADDRESSES).

#### Effective Date of the Final Listing Determinations and Protective Regulations

Given the cultural, scientific, and recreational importance of West Coast salmon, and the broad geographic range of these ESUs, we recognize that numerous parties may be affected by these listing determinations and by the final amendments to the 4(d) protective regulations. Therefore, to permit an orderly implementation of the consultation requirements and take prohibitions associated with these actions, the final listings and protective regulations will take effect on August 29, 2005. The take prohibitions applicable to threatened species do not apply to activities specified in an application for a permit or 4(d) approval for scientific purposes or to enhance the conservation or survival of the species, provided that the application has been received by the Assistant Administrator for Fisheries, NOAA (AA), no later than August 29, 2005. This “grace period” for pending research and enhancement applications will remain in effect until the issuance or denial of authorization, or December 28, 2005, whichever occurs earliest.

#### Critical Habitat

Critical habitat is either designated or proposed for designation for all but one of the ESUs (the Lower Columbia River coho ESU) addressed in this *Federal Register* notice. Final critical habitat designations exist for: the Sacramento River winter-run Chinook ESU (58 FR 33212, June 16, 1993); the Snake River sockeye, spring/summer Chinook, and fall-run Chinook ESUs (58 FR 68543, December 28, 1993); and the Southern Oregon/Northern California Coasts and Central California Coast coho ESUs (64 FR 24049, May 5, 1999). Critical habitat was recently proposed for the following 20 ESUs (69 FR 71880, December 10, 2004; 69 FR 74572, December 14, 2004): Puget Sound Chinook; Lower Columbia River Chinook; Upper Willamette River Chinook; Upper Columbia River spring-run Chinook; California Coastal Chinook; Central Valley spring-run Chinook; Oregon Coast coho; Hood Canal summer-run chum; Columbia River chum; Ozette Lake sockeye; Upper Columbia River *O. mykiss*; Snake River Basin *O. mykiss*; Middle Columbia River *O. mykiss*; Lower Columbia River *O. mykiss*; Upper Willamette River *O. mykiss*; Northern California *O. mykiss*; Central California Coast *O. mykiss*; South-Central California Coast *O. mykiss*; Southern California *O. mykiss*; and Central Valley *O. mykiss*. In keeping with a Consent Decree and

Stipulated Order of Dismissal approved by the D.C. District Court (*Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, Center for Biological Diversity, Oregon Natural Resources Council, Pacific Rivers Council and the Environmental Protection Information Center v. NMFS*, Civ. No. 031833), on or before August 15, 2005, we will submit to the **Federal Register** for publication the final rules designating critical habitat for those of the 20 ESUs identified above that are included on the lists of threatened and endangered species as of that date.

Section 4(a)(3)(A) of the ESA requires that, to the maximum extent prudent and determinable, critical habitat be designated concurrently with the listing of a species. Section 4(b)(6)(C)(ii) provides that, where critical habitat is not determinable at the time of final listing, we may extend the period for designating critical habitat by not more than one additional year. In keeping with agency regulations at 50 CFR 424.12, we conclude that critical habitat is not presently determinable for the Lower Columbia River coho ESU. Specifically, we lack biological and mapping information sufficient to perform required analyses of the impacts of critical habitat designation to determine which areas may qualify as critical habitat for this ESU. Therefore, we have decided to proceed with the final listing determination now and propose critical habitat in a separate rulemaking. In this notice we are soliciting information necessary to inform the designation of critical habitat for this ESU (see Information Solicited and ADDRESSES) and will consider such information in support of a future proposed designation.

#### Information Solicited

As noted previously, we are soliciting biological and economic information relevant to making critical habitat designations for the Lower Columbia River coho ESU. Data reviewed may include, but are not limited to, scientific or commercial publications, administrative reports, maps or other graphic materials, information received from experts, and comments from interested parties. Comments and data particularly are sought concerning:

(1) Maps and specific information describing the amount, distribution, and use type (e.g., spawning, rearing, or migration) of coho salmon habitat in the lower Columbia River; as well as any additional information on occupied and unoccupied habitat areas;

(2) The reasons why any habitat should or should not be determined to

be critical habitat as provided by sections 3(5)(A) and 4(b)(2) of the ESA;

(3) Information regarding the benefits of excluding lands covered by Habitat Conservation Plans (ESA section 10(a)(1)(B) permits), including the regulatory burden designation may impose on landowners and the likelihood that exclusion of areas covered by existing plans will serve as an incentive for other landowners to develop plans covering their lands;

(4) Information regarding the benefits of excluding Federal and other lands covered by habitat conservation strategies and plans (e.g. Northwest Forest Plan, Washington's Forest and Fish Plan, and the Oregon Plan), including the regulatory burden designation may impose on land managers and the likelihood that exclusion of areas covered by existing plans will serve as an incentive for land users to implement the conservation measures covering the lands subject to these plans;

(5) Information regarding the benefits of designating particular areas as critical habitat;

(6) Current or planned activities in the areas proposed for designation and their possible impacts on proposed critical habitat;

(7) Any foreseeable economic or other potential impacts resulting from the proposed designations, in particular, any impacts on small entities;

(8) Whether specific unoccupied areas (e.g., areas behind dikes or dams) not presently proposed for designation may be essential for conservation of this ESU; and

(9) Potential peer reviewers for a proposed critical habitat designation, including persons with biological and economic expertise relevant to the designations.

NMFS seeks information regarding critical habitat for the Lower Columbia River coho ESU as soon as possible, but by no later than August 29, 2005 (see ADDRESSES, above).

#### Classification

##### *National Environmental Policy Act*

ESA listing decisions are exempt from the requirement to prepare an environmental assessment or environmental impact statement under the NEPA. See NOAA Administrative Order 216-6.03(e)(1) and *Pacific Legal Foundation v. Andrus*, 675 F. 2d 825 (6th Cir. 1981). Thus, we have determined that the final listing determinations for 16 ESUs of Pacific salmonids described in this notice are exempt from the requirements of the NEPA of 1969. We conducted an

Environmental Assessment (EA) under the NEPA analyzing the proposed amendments to the 4(d) protective regulations for Pacific salmonids. We solicited comment on the EA as part of the proposed rule, as well as during a subsequent comment period following formal notice in the **Federal Register** of the availability of the draft EA for review. Informed by the comments received, we have finalized the EA, and issued a Finding of No Significant Impact for the amended 4(d) protective regulations.

##### *Regulatory Flexibility Act*

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration that the proposed rule issued under authority of ESA section 4, if adopted, would not have a significant economic impact on a substantial number of small entities. The factual basis for this certification was published with the proposed rule, and is not repeated here. No comments were received regarding that certification. As a result, no final regulatory flexibility analysis for the listing determinations or 4(d) protective regulations contained in this final rule has been prepared.

##### *Paperwork Reduction Act (PRA)*

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid Office of Management and Budget (OMB) Control Number.

This final rule does not contain a collection-of-information requirement for purposes of the PRA of 1980.

##### *Executive Order (E.O.) 12866*

The final listing determinations and amendments to the ESA 4(d) protective regulations addressed in this rule have been determined to be significant for the purposes of E.O. 12866. We prepared a Regulatory Impact Review which was provided to the OMB with the publication of the proposed rule.

##### *E.O. 13084—Consultation and Coordination With Indian Tribal Governments*

E.O. 13084 requires that if NMFS issues a regulation that significantly or uniquely affects the communities of Indian tribal governments and imposes substantial direct compliance costs on those communities, NMFS must consult with those governments or the Federal government must provide the funds

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necessary to pay the direct compliance costs incurred by the tribal governments. This final rule does not impose substantial direct compliance costs on the communities of Indian tribal governments. Accordingly, the requirements of section 3(b) of E.O. 13084 do not apply to this proposed rule. Nonetheless, we intend to inform potentially affected tribal governments and to solicit their input and coordinate on future management actions.

*E.O. 13132—Federalism*

E.O. 13132 requires agencies to take into account any federalism impacts of regulations under development. It includes specific consultation directives for situations where a regulation will preempt state law, or impose substantial direct compliance costs on state and local governments (unless required by statute). Neither of those circumstances is applicable to this final rule. In fact, this notice provides mechanisms by which NMFS, in the form of 4(d) limits to take prohibitions, may defer to state and local governments where they

provided necessary protections for threatened salmonids.

**References**

A complete list of all references cited herein is available upon request (see ADDRESSES), or can be obtained from the Internet at: <http://www.nwr.noaa.gov>.

**List of Subjects**

*50 CFR Part 223*

Enumeration of threatened marine and anadromous species, restrictions applicable to threatened marine and anadromous species.

*50 CFR Part 224*

Enumeration of endangered marine and anadromous species.

**Authority:** 16 U.S.C. 1531 *et seq.*

**Dated:** June 16, 2005.

**John Oliver,**

*Deputy Assistant Administrator for Operations, National Marine Fisheries Service.*

■ For the reasons set out in the preamble, 50 CFR parts 223 and 224 are amended as follows:

**PART 223—THREATENED MARINE AND ANADROMOUS SPECIES**

■ 1. The authority citation for part 223 continues to read as follows:

**Authority:** 16 U.S.C. 1531–1543; subpart B, § 223.12 also issued under 16 U.S.C. 1361 *et seq.*

■ 2. In § 223.102, paragraph (a) is revised to read as follows:

**§ 223.102 Enumeration of threatened marine and anadromous species.**

\* \* \* \* \*

(a) *Marine and anadromous fish.* The following table lists the common and scientific names of threatened species, the locations where they are listed, and the citations for the listings and critical habitat designations.

Species <sup>1</sup>		Where Listed	Citation(s) for listing determination(s)	Citation for critical habitat designation
Common name	Scientific name			
(1) Gulf sturgeon .....	<i>Acipenser oxyrinchus desotoi.</i>	Everywhere .....	56 FR 49653, Sep. 30, 1991.	68 FR 13370, Mar. 19, 2003.
(2) Ozette Lake sockeye	<i>Oncorhynchus nerka</i> .....	U.S.A., WA, including all naturally spawned populations of sockeye salmon in Ozette Lake and streams and tributaries flowing into Ozette Lake, Washington, as well as two artificial propagation programs: the Umbrella Creek and Big River sockeye hatchery programs.	64 FR 14528, Mar. 25, 1999. June 28, 2005.	NA [vacated 9/29/03, 68 FR 55900].
(3) Central Valley spring-run Chinook.	<i>Oncorhynchus tshawytscha.</i>	U.S.A., CA, including all naturally spawned populations of spring-run Chinook salmon in the Sacramento River and its tributaries in California, including the Feather River, as well as the Feather River Hatchery spring-run Chinook program.	64 FR 50394, Sep. 16, 1999. June 28, 2005.	NA [vacated 9/29/03, 68 FR 55900].
(4) California Coastal Chinook.	<i>Oncorhynchus tshawytscha.</i>	U.S.A., CA, including all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River to the Russian River, California, as well as seven artificial propagation programs: the Humboldt Fish Action Council (Freshwater Creek), Yager Creek, Redwood Creek, Hollow Tree, Van Arsdale Fish Station, Mattole Salmon Group, and Mad River Hatchery fall-run Chinook hatchery programs.	64 FR 50394, Sep. 16, 1999. June 28, 2005.	NA [vacated 9/29/03, 68 FR 55900].

Species <sup>1</sup>		Where Listed	Citation(s) for listing determination(s)	Citation for critical habitat designation
Common name	Scientific name			
(5) Upper Willamette River Chinook.	<i>Oncorhynchus tshawytscha</i> .	U.S.A., OR, including all naturally spawned populations of spring-run Chinook salmon in the Clackamas River and in the Willamette River, and its tributaries, above Willamette Falls, Oregon, as well as seven artificial propagation programs: the McKenzie River Hatchery (Oregon Department of Fish and Wildlife (ODFW) stock #24), Marion Forks/North Fork Santiam River (ODFW stock #21), South Santiam Hatchery (ODFW stock #23) in the South Fork Santiam River, South Santiam Hatchery in the Calapooia River, South Santiam Hatchery in the Mollala River, Willamette Hatchery (ODFW stock #22), and Clackamas hatchery (ODFW stock #19) spring-run Chinook hatchery programs.	64 FR 14308, Mar. 24, 1999. June 28, 2005.	NA [vacated 9/29/03, 68 FR 55900].
(6) Lower Columbia River Chinook.	<i>Oncorhynchus tshawytscha</i> .	U.S.A., OR, WA, including all naturally spawned populations of Chinook salmon from the Columbia River and its tributaries from its mouth at the Pacific Ocean upstream to a transitional point between Washington and Oregon east of the Hood River and the White Salmon River, and includes the Willamette River to Willamette Falls, Oregon, exclusive of spring-run Chinook salmon in the Clackamas River, as well as seventeen artificial propagation programs: the Sea Resources Tule Chinook Program, Big Creek Tule Chinook Program, Astoria High School (STEP) Tule Chinook Program, Warrenton High School (STEP) Tule Chinook Program, Elochoman River Tule Chinook Program, Cowlitz Tule Chinook Program, North Fork Toutle Tule Chinook Program, Kalama Tule Chinook Program, Washougal River Tule Chinook Program, Spring Creek NFH Tule Chinook Program, Cowlitz spring Chinook Program in the Upper Cowlitz River and the Cispus River, Friends of the Cowlitz spring Chinook Program, Kalama River spring Chinook Program, Lewis River spring Chinook Program, Fish First spring Chinook Program, and the Sandy River Hatchery (ODFW stock #11) Chinook hatchery programs.	64 FR 14308, Mar. 24, 1999. June 28, 2005.	NA [vacated 9/29/03, 68 FR 55900].

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Species <sup>1</sup>		Where Listed	Citation(s) for listing determination(s)	Citation for critical habitat designation
Common name	Scientific name			
(7) Puget Sound Chinook	<i>Oncorhynchus tshawytscha.</i>	U.S.A., WA, including all naturally spawned populations of Chinook salmon from rivers and streams flowing into Puget Sound including the Straits of Juan De Fuca from the Elwha River, eastward, including rivers and streams flowing into Hood Canal, South Sound, North Sound and the Strait of Georgia in Washington, as well as twenty-six artificial propagation programs: the Kendal Creek Hatchery, Marblemount Hatchery (fall, spring yearlings, spring subyearlings, and summer run), Harvey Creek Hatchery, Whitehorse Springs Pond, Wallace River Hatchery (yearlings and subyearlings), Tulalip Bay, Issaquah Hatchery, Soos Creek Hatchery, Icy Creek Hatchery, Keta Creek Hatchery, White River Hatchery, White Acclimation Pond, Hupp Springs Hatchery, Voights Creek Hatchery, Diru Creek, Clear Creek, Kalama Creek, George Adams Hatchery, Rick's Pond Hatchery, Hamma Hamma Hatchery, Dungeness/Hurd Creek Hatchery, Elwha Channel Hatchery Chinook hatchery programs.	64 FR 14308, Mar. 24, 1999. June 28, 2005.	NA [vacated 9/29/03, 68 FR 55900].
(8) Snake River fall-run Chinook.	<i>Oncorhynchus tshawytscha.</i>	U.S.A., OR, WA, ID, including all naturally spawned populations of fall-run Chinook salmon in the mainstem Snake River below Hells Canyon Dam, and in the Tucannon River, Grande Ronde River, Imnaha River, Salmon River, and Clearwater River, as well as four artificial propagation programs: the Lyons Ferry Hatchery, Fall Chinook Acclimation Ponds Program, Nez Perce Tribal Hatchery, and Oxbow Hatchery fall-run Chinook hatchery programs.	57 FR 14653, Apr. 22, 1992, 57 FR 23458, Jun. 3, 1992. June 28, 2005.	58 FR 68543, Dec. 28, 1993.
(9) Snake River spring/summer-run Chinook.	<i>Oncorhynchus tshawytscha.</i>	U.S.A., OR, WA, ID, including all naturally spawned populations of spring/summer-run Chinook salmon in the mainstem Snake River and the Tucannon River, Grande Ronde River, Imnaha River, and Salmon River sub-basins, as well as fifteen artificial propagation programs: the Tucannon River conventional Hatchery, Tucannon River Captive Broodstock Program, Lostine River, Catherine Creek, Lookingglass Hatchery, Upper Grande Ronde, Imnaha River, Big Sheep Creek, McCall Hatchery, Johnson Creek Artificial Propagation Enhancement, Lemhi River Captive Rearing Experiment, Pahsimeroi Hatchery, East Fork Captive Rearing Experiment, West Fork Yankee Fork Captive Rearing Experiment, and the Sawtooth Hatchery spring/summer-run Chinook hatchery programs.	57 FR 14653, Apr. 22, 1992, 57 FR 23458, Jun. 3, 1992. June 28, 2005	58 FR 68543, Dec. 28, 1993. 64 FR 57399, Oct. 25, 1999.
(10) Southern Oregon/ Northern California Coast coho.	<i>Oncorhynchus kisutch</i> ...	U.S.A., CA, OR, including all naturally spawned populations of coho salmon in coastal streams between Cape Blanco, Oregon, and Punta Gorda, California, as well three artificial propagation programs: the Cole Rivers Hatchery (ODFW stock #52), Trinity River Hatchery, and Iron Gate Hatchery coho hatchery programs.	62 FR 24588, May 6, 1997. June 28, 2005.	64 FR 24049, May 5, 1999.

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Species <sup>1</sup>		Where Listed	Citation(s) for listing determination(s)	Citation for critical habitat designation
Common name	Scientific name			
(11) Lower Columbia River coho.	<i>Oncorhynchus kisutch</i> ...	U.S.A., OR, WA, including all naturally spawned populations of coho salmon in the Columbia River and its tributaries in Washington and Oregon, from the mouth of the Columbia up to and including the Big White Salmon and Hood Rivers, and includes the Willamette River to Willamette Falls, Oregon, as well as twenty-five artificial propagation programs: the Grays River, Sea Resources Hatchery, Peterson Coho Project, Big Creek Hatchery, Astoria High School (STEP) Coho Program, Warrenton High School (STEP) Coho Program, Elochoman Type-S Coho Program, Elochoman Type-N Coho Program, Cathlamet High School FFA Type-N Coho Program, Cowlitz Type-N Coho Program in the Upper and Lower Cowlitz Rivers, Cowlitz Game and Anglers Coho Program, Friends of the Cowlitz Coho Program, North Fork Toutle River Hatchery, Kalama River Type-N Coho Program, Kalama River Type-S Coho Program, Lewis River Type-N Coho Program, Lewis River Type-S Coho Program, Fish First Wild Coho Program, Fish First Type-N Coho Program, Syverson Project Type-N Coho Program, Eagle Creek National Fish Hatchery, Sandy Hatchery, and the Bonneville/Cascade/Oxbow complex coho hatchery programs.	June 28, 2005. ....	NA
(12) Columbia River chum.	<i>Oncorhynchus keta</i> .....	U.S.A., OR, WA, including all naturally spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon, as well as three artificial propagation programs: the Chinook River (Sea Resources Hatchery), Grays River, and Washougal River/Duncan Creek chum hatchery programs.	64 FR 14508, Mar. 25, 1999. June 28, 2005.	NA [vacated 9/29/03, 68 FR 55900].
(13) Hood Canal summer-run chum.	<i>Oncorhynchus keta</i> .....	U.S.A., WA, including all naturally spawned populations of summer-run chum salmon in Hood Canal and its tributaries as well as populations in Olympic Peninsula rivers between Hood Canal and Dungeness Bay, Washington, as well as eight artificial propagation programs: the Quilcene NFH, Hamma Hamma Fish Hatchery, Lilliwaup Creek Fish Hatchery, Union River/Tahuya, Big Beef Creek Fish Hatchery, Salmon Creek Fish Hatchery, Chimacum Creek Fish Hatchery, and the Jimmycomelately Creek Fish Hatchery summer-run chum hatchery programs.	64 FR 14508, Mar. 25, 1999. June 28, 2005.	NA [vacated 9/29/03, 68 FR 55900].
(14) South-Central California Coast Steelhead.	<i>Oncorhynchus mykiss</i> ....	U.S.A., CA, including all naturally spawned populations of steelhead (and their progeny) in streams from the Pajaro River (inclusive), located in Santa Cruz County, California, to (but not including) the Santa Maria River.	62 FR 49397, Aug. 18, 1997.	NA [vacated 9/29/03, 68 FR 55900].

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Species <sup>1</sup>		Where Listed	Citation(s) for listing determination(s)	Citation for critical habitat designation
Common name	Scientific name			
(15) Central California Coast Steelhead.	<i>Oncorhynchus mykiss</i> ....	U.S.A., CA, including all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, Californian (inclusive), and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), Napa County, California. Excludes the Sacramento- San Joaquin River Basin of the Central Valley of California.	62 FR 43937, Aug. 18, 1997.	NA [vacated 9/29/03, 68 FR 55900].
(16) California Central Valley Steelhead.	<i>Oncorhynchus mykiss</i> ....	U.S.A., CA, including all naturally spawned populations of steelhead (and their progeny) in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries.	63 FR 13347; Mar. 19, 1998.	NA [vacated 9/29/03, 68 FR 55900].
(17) Northern California Steelhead.	<i>Oncorhynchus mykiss</i> ....	U.S.A., CA, including all naturally spawned populations of steelhead (and their progeny) in California coastal river basins from Redwood Creek in Humboldt County, California, to the Gualala River, inclusive, in Mendocino County, California.	65 FR 36074, June 7, 2000.	NA
(18) Upper Willamette River Steelhead.	<i>Oncorhynchus mykiss</i> ....	U.S.A., OR, including all naturally spawned populations of winter-run steelhead in the Willamette River, Oregon, and its tributaries upstream from Willamette Falls to the Calapooia River, inclusive.	62 FR 43937, Aug. 18, 1997.	NA [vacated 9/29/03, 68 FR 55900].
(19) Lower Columbia River Steelhead.	<i>Oncorhynchus mykiss</i> ....	U.S.A., OR, WA, including all naturally spawned populations of steelhead (and their progeny) in streams and tributaries to the Columbia River between the Cowlitz and Wind Rivers, Washington, inclusive, and the Willamette and Hood Rivers, Oregon, inclusive. Excluded are steelhead in the upper Willamette River Basin above Willamette Falls, Oregon, and from the Little and Big White Salmon Rivers, Washington.	62 FR 13347, Mar. 19, 1998.	NA [vacated 9/29/03, 68 FR 55900].
(20) Middle Columbia River Steelhead.	<i>Oncorhynchus mykiss</i> ....	U.S.A., OR, WA, including all naturally spawned populations of steelhead in streams from above the Wind River, Washington, and the Hood River, Oregon (exclusive), upstream to, and including, the Yakima River, Washington. Excluded are steelhead from the Snake River Basin.	57 FR 14517, Mar. 25, 1999.	NA [vacated 9/29/03, 68 FR 55900].
(21) Snake River Basin Steelhead.	<i>Oncorhynchus mykiss</i> ....	U.S.A., OR, WA, ID, including all naturally spawned populations of steelhead (and their progeny) in streams in the Snake River Basin of southeast Washington, northeast Oregon, and Idaho.	62 FR 43937, Aug. 18, 1997.	NA [vacated 9/29/03, 68 FR 55900].

<sup>1</sup> Species includes taxonomic species, subspecies, distinct population segments (DPSs) (for a policy statement, see 61 FR 4722, February 7, 1996), and evolutionarily significant units (ESUs) (for a policy statement, see 56 FR 58612, November 20, 1991).

■ 3. In § 223.203, paragraphs (a), (b) introductory text, and (b)(2) are revised and paragraphs (b)(14) through (22) are removed.

The revisions read as follows:

**§ 223.203 Anadromous fish.**

(a) *Prohibitions.* The prohibitions of section 9(a)(1) of the ESA (16 U.S.C. 1538(a)(1)) relating to endangered

species apply to anadromous fish with an intact adipose fin that are part of the threatened species of salmonids listed in § 223.102(a)(2) through (a)(21).

\* \* \* \* \*

(b) *Limits on the prohibitions.* The limits to the prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102(a) are described in the

following paragraphs (b)(1) through (b)(13):

\* \* \* \* \*

(2) The prohibitions of paragraph (a) of this section relating to threatened species of salmonids listed in § 223.102(a)(2) through (a)(21) do not apply to activities specified in an application for 4(d) authorization for scientific purposes or to enhance the

conservation or survival of the species, provided that the application has been received by the Assistant Administrator for Fisheries, NOAA (AA), no later than August 29, 2005. The prohibitions of this section apply to these activities upon the AA's rejection of the

application as insufficient, upon issuance or denial of authorization, or December 28, 2005, whichever occurs earliest.

\* \* \* \* \*

**§ 223.203 [Amended]**

■ 4. In § 223.203, paragraphs (b)(1) through (b)(13), and (c), the references in the sections listed in the first column below are revised according to the directions in the second and third columns.

Section	Remove	Add
§ 223.203(b)(1) .....	§ 223.102(a)(1) through (a)(10), and (a)(12) through (a)(22) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(3) .....	§ 223.102(a)(4) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(4) .....	§ 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(5) .....	§ 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(6) .....	§ 223.102(a)(7), (a)(8), (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(7) .....	§ 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(8) .....	§ 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(9) .....	§ 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(10) .....	§ 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(11) .....	§ 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(12) .....	§ 223.102(a)(5) through (a)(10), and (a)(12) through (a)(19) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(b)(13) .....	§ 223.102(a)(12), (a)(13), (a)(16), (a)(17), and (a)(19) .....	§ 223.102(a)(2) through (a)(22).
§ 223.203(c) .....	§ 223.102(a)(3), (a)(5) through (a)(10), and (a)(12) through (a)(22) .....	§ 223.102(a)(2) through (a)(21).
§ 223.203(c) .....	§ 223.209(a) .....	§ 223.204(a).

**§ 223.204 [Removed]**

■ 5. Remove § 223.204.

**§ 223.209 [Redesignated as § 223.204]**

■ 6. Redesignate § 223.209 as § 223.204, and add and reserve new § 223.209.

**PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES**

■ 7. The authority citation for part 224 continues to read as follows:

Authority: 16 U.S.C. 1531–1543 and 16 U.S.C. 1361 *et seq.*

■ 8. Revise § 224.101(a) to read as follows:

**§ 224.101 Enumeration of endangered marine and anadromous species.**

\* \* \* \* \*

(a) *Marine and anadromous fish.* The following table lists the common and scientific names of endangered species, the locations where they are listed, and the citations for the listings and critical habitat designations.

Species <sup>1</sup>		Where listed	Citation(s) for listing determination(s)	Citation for critical habitat designation
Common name	Scientific name			
Shortnose sturgeon .....	<i>Acipenser brevirostrum</i> ..	Everywhere .....	32 FR 4001, Mar. 11, 1967.	NA.
Smalltooth sawfish .....	<i>Pristis pectinata</i> .....	U.S.A. ....	68 FR 15674, Apr. 1, 2003.	NA.
Totoaba .....	<i>Cynoscion macdonaldi</i> ...	Everywhere .....	44 FR 29480, May 21, 1979.	NA.
Atlantic salmon .....	<i>Salmon salar</i> .....	U.S.A., ME, Gulf of Maine population, which includes all naturally reproducing populations and those river-specific hatchery populations cultured from them.	65 FR 69459, Nov. 17, 2000.	NA.
Snake River sockeye .....	<i>Oncorhynchus nerka</i> .....	U.S.A., ID, including all anadromous and residual sockeye salmon from the Snake River Basin, Idaho, as well as artificially propagated sockeye salmon from the Redfish Lake captive propagation program.	56 FR 58619, Nov. 20, 1991. June 28, 2005.	58 FR 68543, Dec. 28, 1993.
Sacramento River winter-run Chinook.	<i>Oncorhynchus tshawytscha</i> .	U.S.A., CA, including all naturally spawned populations of winter-run Chinook salmon in the Sacramento River and its tributaries in California, as well as two artificial propagation programs: winter-run Chinook from the Livingston Stone National Fish Hatchery (NFH), and winter run Chinook in a captive broodstock program maintained at Livingston Stone NFH and the University of California Bodega Marine Laboratory.	52 FR 6041; Feb. 27, 1987, 55 FR 49623; Nov. 30, 1990. 59 FR 440; Jan. 1, 1994. June 28, 2005.	58 FR 33212, June 16, 1993.

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Species <sup>1</sup>		Where listed	Citation(s) for listing determination(s)	Citation for critical habitat designation
Common name	Scientific name			
Upper Columbia spring-run Chinook.	<i>Oncorhynchus tshawytscha</i> .	U.S.A., WA, including all naturally spawned populations of Chinook salmon in all river reaches accessible to Chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of Chief Joseph Dam in Washington (excluding the Okanogan River), the Columbia River from a straight line connecting the west end of the Clatsop jetty (south jetty, Oregon side) and the west end of the Peacock jetty (north jetty, Washington side) upstream to Chief Joseph Dam in Washington, as well as six artificial propagation programs: the Twisp River, Chewuch River, Methow Composite, Winthrop NFH, Chiwawa River, and White River spring-run Chinook hatchery programs.	64 FR 14308, Mar. 24, 1999. June 28, 2005.	NA. [vacated 9/29/03; 68 FR 55900].
Central California Coast coho.	<i>Oncorhynchus kisutch</i> ...	U.S.A., CA, including all naturally spawned populations of coho salmon from Punta Gorda in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system, as well four artificial propagation programs: the Don Clausen Fish Hatchery Captive Broodstock Program, Scott Creek/King Fisher Flats Conservation Program, Scott Creek Captive Broodstock Program, and the Noyo River Fish Station egg-take Program coho hatchery programs.	61 FR 56138, Oct. 31, 1996. June 28, 2005.	64 FR 24049, May 5, 1999.
Southern California Steelhead.	<i>Oncorhynchus mykiss</i> ...	U.S.A., CA, including all naturally spawned populations of steelhead (and their progeny), in streams from the Santa Maria River, San Luis Obispo County, California, (inclusive) to the United States—Mexico Border.	62 FR 43937, Aug. 18, 1997. 67 FR 21586, May 1, 2002.	NA. [vacated 9/29/03; 68 FR 55900].
Upper Columbia River Steelhead.	<i>Oncorhynchus mykiss</i> ...	U.S.A., WA, including the Wells Hatchery stock all naturally spawned populations of steelhead (and their progeny) in streams in the Columbia River Basin upstream from the Yakima River, Washington, to the United States-Canada border.	62 FR 43937, Aug. 18, 1997.	NA. [vacated 9/29/03, 68 FR 55900].

<sup>1</sup> Species includes taxonomic species, subspecies, distinct population segments (DPSs) (for a policy statement, see 61 FR 4722, February 7, 1996), and evolutionarily significant units (ESUs) (for a policy statement, see 56 FR 58612, November 20, 1991).

\* \* \* \* \*  
[FR Doc. 05-12351 Filed 6-27-05; 8:45 am]  
BILLING CODE 3510-22-P

**DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**

**50 CFR Parts 223 and 224**

[Docket No. 040511148-5151-02; I.D. 050304B]

**Policy on the Consideration of Hatchery-Origin Fish in Endangered Species Act Listing Determinations for Pacific Salmon and Steelhead**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and

Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final policy.

**SUMMARY:** We, the National Marine Fisheries Service (NMFS), announce a final policy addressing the role of artificially propagated (hatchery produced) Pacific salmon (*Oncorhynchus gorbuscha*, *O. keta*, *O. kisutch*, *O. nerka*, *O. tshawytscha*) and steelhead (*O. mykiss*) in listing determinations under the Endangered Species Act of 1973 (ESA), as amended. This final policy supersedes the Interim Policy on Artificial Propagation of Pacific Salmon under the Endangered



**No. 17-15245**

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IN THE UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT

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CACHIL DEHE BAND OF WINTUN INDIANS OF THE COLUSA  
INDIAN COMMUNITY, a federally recognized Indian Tribe,  
Plaintiff-Appellant,

v.

KENNETH LEE SALAZAR, Secretary of the Interior, *et al.*,  
Defendants-Appellees.

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APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE  
EASTERN DISTRICT OF CALIFORNIA (No. 2:12-cv-03021-TLN-AC)

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**PLAINTIFF-APPELLANT'S ADDENDUM TO OPENING BRIEF**

**VOLUME 3**

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**FEDERAL REGISTER**

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**DEPARTMENT OF COMMERCE****National Oceanic and Atmospheric Administration****50 CFR Part 226**

[Docket No. 041123329-5202-02; I.D. No.110904F]

RIN 0648-A004

**Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration, Commerce.

**ACTION:** Final rule.

**SUMMARY:** We, the National Marine Fisheries Service (NMFS), are issuing a final rule designating critical habitat for two Evolutionarily Significant Units (ESUs) of chinook salmon (*Oncorhynchus tshawytscha*) and five ESUs of steelhead (*O. mykiss*) listed as of the date of this designation under the Endangered Species Act of 1973, as amended (ESA). The specific areas designated in the rule text set out below include approximately 8,935 net mi (14,269 km) of riverine habitat and 470 mi<sup>2</sup> (1,212 km<sup>2</sup>) of estuarine habitat (primarily in San Francisco-San Pablo-Suisun Bays) in California. Some of the areas designated are occupied by two or more ESUs. The annual net economic impacts of changes to Federal activities as a result of the critical habitat designations (regardless of whether those activities would also change as a result of the ESA's jeopardy requirement) are estimated to be approximately \$81,647,439. We solicited information and comments from the public in an Advanced Notice of Proposed Rulemaking and on all aspects of the proposed rule. This rule is being issued to meet the timeline established in litigation between NMFS and Pacific Coast Federation of Fishermen's Associations (*PCFFA et al. v. NMFS* (Civ.No. 03-1883)). In the proposed rule, we identified a number of potential exclusions we were considering including exclusions for federal lands subject to the Pacific Northwest Forest Plan, PACFISH and INFISH. We are continuing to analyze whether exclusion of those federal lands is appropriate.

**DATES:** This rule becomes effective January 2, 2006.

**ADDRESSES:** Comments and materials received, as well as supporting

documentation used in the preparation of this final rule, are available for public inspection by appointment, during normal business hours, at the National Marine Fisheries Service, NMFS, Protected Resources Division, 501 W. Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213. The final rule, maps, and other materials relating to these designations can be found on our Web site at <http://swr.nmfs.noaa.gov>.

**FOR FURTHER INFORMATION CONTACT:** Craig Wingert at the above address, at 562/980-4021, or Marta Nammack at 301/713-1401 ext. 180.

**SUPPLEMENTARY INFORMATION:****Organization of the Final Rule**

This **Federal Register** notice describes the final critical habitat designations for seven ESUs of West Coast salmon and steelhead listed under the ESA. The pages that follow summarize the comments and information received in response to proposed designations published on December 10, 2004 (69 FR 71880), describe any changes from the proposed designations, and detail the final designations for seven ESUs. To assist the reader, the content of this notice is organized as follows:

- I. Background and Previous Federal Action
- II. Summary of Comments and Recommendations
  - Notification and General Comments*
  - Identification of Critical Habitat Areas*
  - Economics Methodology*
  - Weighing the Benefits of Designation vs. Exclusion*
  - Effects of Designating Critical Habitat ESU-specific Issues*
- III. Summary of Revisions
- IV. Methods and Criteria Used to Identify Critical Habitat
  - Salmon Life History*
  - Identifying the Geographical Area Occupied by the Species and Specific Areas within the Geographical Area*
  - Primary Constituent Elements*
  - Special Management Considerations or Protections*
  - Unoccupied Areas*
  - Lateral Extent of Critical Habitat*
  - Military Lands*
  - Critical Habitat Analytical Review Teams*
- V. Application of ESA Section 4(b)(2)
  - Exclusions Based on "Other Relevant Impacts"*
  - Impacts to Tribes*
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- VI. Critical Habitat Designation
- VII. Effects of Critical Habitat Designation
  - Section 7 Consultation*
  - Activities Affected by Critical Habitat Designation*
- VIII. Required Determinations
- IX. References Cited

**I. Background and Previous Federal Action**

We are responsible for determining whether species, subspecies, or distinct population segments of Pacific salmon and steelhead (*Oncorhynchus* spp.) are threatened or endangered, and for designating critical habitat for them under the ESA (16 U.S.C. 1531 *et seq.*). To qualify as a distinct population segment, a Pacific salmon or steelhead population must be substantially reproductively isolated from other conspecific populations and represent an important component in the evolutionary legacy of the biological species. According to agency policy, a population meeting these criteria is considered to be an Evolutionarily Significant Unit (ESU) (56 FR 58612, November 20, 1991).

We are also responsible for designating critical habitat for species listed under our jurisdiction. Section 3 of the ESA defines critical habitat as (1) specific areas within the geographical area occupied by the species at the time of listing, on which are found those physical or biological features that are essential to the conservation of the listed species and that may require special management considerations or protection, and (2) specific areas outside the geographical area occupied by the species at the time of listing that are essential for the conservation of a listed species. Our regulations direct us to focus on "primary constituent elements," or PCEs, in identifying these physical or biological features. Section 7(a)(2) of the ESA requires that each Federal agency shall, in consultation with and with the assistance of NMFS, ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened salmon or steelhead ESU or result in the destruction or adverse modification of critical habitat. Section 4 of the ESA requires us to consider the economic impacts, impacts on national security, and other relevant impacts of specifying any particular area as critical habitat.

The timeline for completing the critical habitat designations described in this **Federal Register** notice was established pursuant to litigation between NMFS and the Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, the Center for Biological Diversity, the Oregon Natural Resources Council, the Pacific Rivers Council, and the Environmental Protection Information Center (PCFFA, *et al.*) and is subject to a Consent Decree and Stipulated Order

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of Dismissal (Consent Decree) approved by the D.C. District Court. A complete summary of previous court action regarding these designations can be found in the proposed rule (69 FR 71880; December 10, 2004).

In keeping with the Consent Decree, on December 10, 2004 (69 FR 71880), we published proposed critical habitat designations for two ESUs of Chinook salmon and five ESUs of *O. mykiss*. (For the latter ESUs we used the species' scientific name rather than "steelhead" because at the time they were being proposed for revision to include both anadromous (steelhead) and resident (rainbow/redband) forms of the species—see 69 FR 33101, June 14, 2004). The seven ESUs addressed in the proposed rule were: (1) California Coastal Chinook salmon; (2) Northern California *O. mykiss*; (3) Central California Coast *O. mykiss*; (4) South-Central Coast *O. mykiss*; (5) Southern California *O. mykiss*; (6) Central Valley spring run Chinook salmon; and (7) Central Valley *O. mykiss*. The comment period for the proposed critical habitat designations was originally opened until February 8, 2005. On February 7, 2005 (70 FR 6394), we announced a court-approved Amendment to the Consent Decree which revised the schedule for completing the designations and extended the comment period until March 14, 2005, and the date to submit final rules to the **Federal Register** as August 15, 2005.

In the critical habitat proposed rule we stated that "the final critical habitat designations will be based on the final listing decisions for these seven ESUs due by June 2005 and thus will reflect occupancy "at the time of listing" as the ESA requires." All of these ESUs had been listed as threatened or endangered between 1997–2000, but in 2002 we announced that we would reassess the listing status of these and other ESUs (67 FR 6215; February 11, 2002). We recently published final listing decisions for the two Chinook salmon, but not for the five ESUs of *O. mykiss* (70 FR 37160; June 28, 2005). Final listing determinations for these five ESUs are expected by December 2005 (70 FR 37219; June 28, 2005). However, the Consent Decree governing the schedule for our final critical habitat designations requires that we complete final designations for those of the seven ESUs identified above that are listed as of August 15, 2005. Because anadromous forms (*i.e.*, "steelhead") of the five *O. mykiss* ESUs have been listed since 1997–2000 (*see* summary in June 14, 2004 **Federal Register** notice, 69 FR 33103), we are now issuing final critical habitat designations for them in this

notice in accordance with the Consent Decree. We are able to do so because in developing critical habitat designations for this species we have focused on the co-occurring range of both the anadromous and resident forms. Therefore, both the proposed and final designations were restricted to the species' anadromous range, although we did consider and propose to designate some areas occupied solely by resident fish in upper Alameda Creek in the San Francisco Bay area. We focused on the co-occurring range due to uncertainties about: (1) The distribution of resident fish outside the range of co-occurrence, (2) the location of natural barriers impassable to steelhead and upstream of habitat areas proposed for designation, and (3) the final listing status of the resident form. Section 4(a)(3)(B) of the ESA provides for the revision of critical habitat designations as appropriate, and we will do so (if necessary) after making final listing determinations for these five *O. mykiss* ESUs. Moreover, we intend to actively revise critical habitat as needed for all seven ESUs to keep them as up-to-date as possible.

In an Advance Notice of Proposed Rulemaking (ANPR) (68 FR 55926; September 29, 2003), we noted that the ESA and its supporting regulations require the agency to address a number of issues before designating critical habitat: "What areas were occupied by the species at the time of listing? What physical and biological features are essential to the species' conservation? Are those essential features ones that may require special management considerations or protection? Are areas outside those currently occupied 'essential for conservation'? What are the benefits to the species of critical habitat designation? What economic and other relevant impacts would result from a critical habitat designation, even if coextensive with other causes such as listing? What is the appropriate geographic scale for weighing the benefits of exclusion and benefits of designation? What is the best way to determine if the failure to designate an area as critical habitat will result in the extinction of the species concerned?" We recognized that "[a]nswering these questions involves a variety of biological and economic considerations" and therefore were seeking public input before issuing a proposed rule. As we stated in the proposed rule that followed: "We received numerous comments in response to the ANPR and considered them during development of this proposed rulemaking. Where applicable, we have referenced these comments in

this **Federal Register** notice as well as in other documents supporting this proposed rule." In the proposed rule, we described the methods and criteria we applied to address these questions, relying upon the unique life history traits and habitat requirements of salmon and steelhead.

In issuing the final rule, we considered the comments we received to determine whether a change in our proposed approach to designating critical habitat for salmon and steelhead was warranted. In some instances, we concluded based on comments received that a change was warranted. For example, in this final rule we have revised our approach to allow us to consider excluding areas covered by habitat conservation plans in those cases where the benefits of exclusion outweigh the benefits of designation.

In other instances, we believe the approach taken is supported by the best available scientific information, and that given the time and additional analyses required, changes to the methods and criteria we applied in the proposed rule were not feasible. We recognize there are other equally valid approaches to designating critical habitat and for answering the myriad questions described above. Nevertheless, issuance of the final rule for designating critical habitat for these ESUs is subject to a Court Order that requires us to submit the final regulation to the **Federal Register** no later than August 15, 2005, less than 5 months after the close of the public comment period. Taking alternative approaches to designating critical habitat would have required a retooling of multiple interrelated analyses and undertaking additional new analyses in support of the final rule, and was not possible given the time available to us. We will continue to study alternative methods and criteria and may apply them in future rulemakings designating critical habitat for these or other species.

## II. Summary of Comments and Recommendations

As described in agency regulations at 50 CFR 424.16(c)(1), in the critical habitat proposed rule we requested that all interested parties submit written comments on the proposals. We also contacted the appropriate Federal, state, and local agencies, scientific organizations, and other interested parties and invited them to comment on the proposed rule. To facilitate public participation we made the proposed rule available via the internet as soon as it was signed (approximately 2 weeks prior to actual publication) and accepted comments by standard mail



and fax as well as via e-mail and the internet (e.g., *www.regulations.gov*). In addition, we held four public hearings between January 13, 2005, and February 1, 2005, in the following locations: Arcata, Rohnert Park, Sacramento, and Santa Barbara, CA. We received 3,762 written comments (3,627 of which were form letters or in the form of e-mails with nearly identical verbiage) during the comment period on the proposed rule.

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review establishing minimum peer review standards, a transparent process for public disclosure, and opportunities for public input (70 FR 2664; January 14, 2005). The OMB Peer Review Bulletin, implemented under the Information Quality Act (Pub. L. 106-554), is intended to provide public oversight on the quality of agency information, analyses, and regulatory activities, and applies to information disseminated on or after June 16, 2005. Prior to publishing the proposed rule we submitted the initial biological assessments of our Critical Habitat Analytical Review Teams (hereafter referred to as CHART) to state co-managers and asked them to review those findings. These co-manager reviews resulted in some changes to the CHARTs' preliminary assessments (e.g., revised fish distribution as well as conservation value ratings) and helped to ensure that the CHARTs' revised findings (NMFS, 2004b) incorporated the best available scientific data. We later solicited technical review of the entire critical habitat proposal (biological, economic, and policy bases) from several independent experts selected from the academic and scientific community, Native American tribal groups, Federal and state agencies, and the private sector. We also solicited opinions from three individuals with economics expertise to review the draft economics analysis supporting the proposed rule. All three of the economics reviewers and one of the biological reviewers submitted written opinions on our proposal. We have determined that the independent expert review and comments received regarding the science involved in this rulemaking constitute adequate prior review under section II.2 of the OMB Peer Review Bulletin (NMFS, 2005b).

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding critical habitat for the various ESUs, and we address them in the following summary. Peer reviewer comments were sufficiently

similar to public comments that we have responded to them through our general responses below. For readers' convenience we have assigned comments to major issue categories and where possible have combined similar comments into single comments and responses.

#### *Notification and General Comments*

*Comment 1:* Some commenters raised concerns or complained about the adequacy of public notification and time to comment.

*Response:* We made all reasonable attempts to communicate our rulemaking process and the critical habitat proposal to the affected public. Prior to the proposed rule we published an ANPR in which we identified issues for consideration and evaluation, and solicited comments regarding these issues and information regarding the areas and species under consideration (68 FR 55926; September 29, 2003). We considered comments on the ANPR during our development of the proposed rule. As soon as the proposed rule was signed on November 29, 2004 (2 weeks before actual publication in the **Federal Register**), we posted it and supporting information on the agency's internet site to facilitate public review, and we have provided periodic updates to that site (see **ADDRESSES**). In response to numerous requests—in particular from plaintiffs as well as private citizens, counties, farm bureaus, and state legislators in Washington—the original 60-day public comment period was extended by 30 days (70 FR 6394; February 7, 2005) to allow additional time for the public to submit comments on the critical habitat proposals.

Additionally, we realize that the statute provides a short time frame for designating critical habitat. Congress amended the ESA in 1982 to establish the current time frame for designation. In doing so, Congress struck a balance between the recognition that critical habitat designations are based upon information that may not be determinable at the time of listing and the desire to ensure that designations occur in a timely fashion. Additionally, the ESA and supporting regulations provide that designations may be revised as new data become available to the Secretary. We recognize that where the designation covers a large geographic area, as is the case here, the short statutory time frame requires a short period for the public to consider a great deal of factual information. We also recognize that this designation takes a new approach by considering relative conservation value of different areas and applying a cost-effectiveness

framework. In this notice we are announcing our intention to consider revising the designations as new habitat conservation plans and other management plans are developed, and as other new information becomes available. Through that process we anticipate continuing to engage the interested public and affected landowners in an ongoing dialogue regarding critical habitat designations.

*Comment 2:* Some commenters disagreed with our decision to vacate the February 2000 critical habitat designations for these ESUs.

*Response:* We believe that the issues identified in a legal challenge to our February 2000 designations warranted withdrawing that rule. Developing a cost-effectiveness approach, designed to achieve the greatest conservation at the least cost, is in keeping with long-standing Executive direction on rulemaking and is a responsible and conservation-oriented approach to implementing section 4(b)(2) of the ESA. In addition, we had new and better information in 2004 than we had in 2000, such as the information of fish distribution and habitat use that was generated by agency fishery biologists. The ESA requires that we use the best available information, and the distribution data is the best information currently available. Finally, the litigation challenging our 2000 designation also challenged the lack of specificity in our designation of the riparian area, leading us to consider whether there was a better approach that was more consistent with our regulations and with the best available information.

*Comment 3:* Some commenters stated that we should wait to publish final critical habitat designations until after final listing determinations have been made and the final hatchery listing policy is published.

*Response:* The ESA states that the Secretary *shall* designate critical habitat, defined as areas within or outside the geographical area occupied by the species *at the time of listing* and using the best *available* information (emphasis added). These designations follow that statutory mandate and have been completed on a schedule established under a Consent Decree. Also, the final hatchery listing policy and final listing determinations for several salmon ESUs were published on June 28, 2005 (70 FR 37160 and 37204) in advance of the completion of this final critical habitat designation. For reasons described above in the "Background and Previous Federal Action" section, we are now making final designations for those listed salmon and steelhead ESUs in the

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Southwest Region that are subject to the Consent Decree and listed as of the date of this designation.

#### *Identification of Critical Habitat Areas*

*Comment 4:* Several commenters contended that we can only designate areas that are essential for species conservation.

*Response:* Section 3(5)(A) of the ESA has a two-pronged definition of critical habitat: “(i) the specific areas *within the geographical area occupied by the species*, at the time it is listed \* \* \* on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) *specific areas outside the geographical area occupied by the species*, at the time it is listed \* \* \* upon a determination by the Secretary that such areas are essential for the conservation of the species’ (emphasis added). As described in this rule and documented in the reports supporting it, we have strictly applied this definition and made the requisite findings. We requested and received comments on various aspects of our identification of areas meeting this definition and address those here. Only those areas meeting the definition were considered in the designation process. Comments regarding the section 4(b)(2) process, in which we considered the impacts of designation and whether areas should be excluded, are addressed in a subsequent section.

*Comment 5:* In the proposed rule we considered occupied streams within a CALWATER Hydrologic Subarea (HSA) as the “specific area” in which the physical or biological features essential to conservation of the ESUs were found. We also used these watershed delineations as the “particular areas”—the analytical unit—for purposes of the section 4(b)(2) analysis. In the proposed rule we requested public comment on whether considering exclusions on a stream-by-stream approach would be more appropriate. Some commenters believed that the watershed scale was too broad for making critical habitat designations and suggested that a smaller watershed or a stream-by-stream approach was more appropriate. Some commenters believed that we should conduct a reach-by-reach assessment in their watersheds.

*Response:* Our ESA section 4(b)(2) report (NMFS, 2005c) acknowledges that the delineation of both specific areas and particular areas should be as small as practicable, to ensure our designations are not unnecessarily broad and to carry out congressional intent that we fully consider the impacts

of designation. For reasons described in the section below on “Methods and Criteria Used to Identify Critical Habitat,” we continue to believe that the specific facts of salmon biology and life history make CALWATER HSA watersheds in California an appropriate scale to use in delineating the “specific” areas in which physical or biological features are found. We also believe consideration of the impacts of designation on an HSA watershed scale results in a meaningful section 4(b)(2) balancing process. Moreover, congressional direction requires that designations be completed in a very short time frame by a specified deadline, “based on such data as may be available at that time.” Given that short time frame and the geographic extent of salmon critical habitat, the HSA watershed was the smallest practicable area we were able to analyze.

*Comment 6:* Some commenters believed we applied the definition of “specific areas within the geographical area occupied by the species at the time it is listed” too narrowly. In their views, this led to two errors—failure to designate all “accessible” stream reaches and failure to designate riparian and upstream areas. Commenters felt that the “best scientific data available” support a conclusion that salmon and steelhead will occupy all accessible streams in a watershed during a period of time that can be reasonably construed as “at the time it is listed.” One commenter stated that “[w]hether a particular stream reach is occupied cannot be determined with certainty based on “occupation” data alone, especially for fragmented, declining, or depressed populations of fish.” The commenter pointed to the rationale provided in our 2000 rule for identifying occupied areas as all areas accessible within a subbasin (a 4th field watershed, using U.S. Geological Survey (USGS) terminology): “NMFS believes that adopting a more inclusive, watershed based description of critical habitat is appropriate because it (1) recognizes the species’ use of diverse habitats and underscores the need to account for all of the habitat types supporting the species’ freshwater and estuarine life stages, from small headwater streams to migration corridors and estuarine rearing areas; (2) takes into account the natural variability in habitat use that makes precise mapping problematic (e.g., some streams may have fish present only in years with abundant rainfall) (65 FR 7764; February 16, 2000).”

Some commenters believe that in delineating “specific areas within the geographical area occupied by the

species,” we need not confine ourselves to areas that are literally “occupiable” by the species in that we should designate riparian and upstream areas. If there are physical or biological features essential to conservation to be found within a broadly defined “geographical area occupied by the species,” we have the duty to delineate specific areas in a way that encompasses them. Some argued that limiting the designation to the stream channel fails to recognize the biological and hydrological connections between streams and riparian areas and would lead to further degradation of the latter. Some commenters suggested that we use a fixed distance (e.g., 300 feet (91.4 m) if a functional description is not used. Some requested that we adopt the “functional zone” description for lateral extent used in the 2000 designations (65 FR 7764; February 16, 2000), while other commenters felt that our reference to habitat linkages with upslope and upstream areas was vague and wondered whether we were actually using the old approach anyway. Other commenters believed that using the line of ordinary high water or bankfull width was appropriate and noted that this would remove prior ambiguities about which areas were designated. Other commenters supported the approach taken in this designation, to identify specific areas occupied by the species and not broadly designate “all areas accessible,” some commenting that this was a more rigorous assessment and more in keeping with the ESA.

*Response:* The approach we took in the proposed designation is different from the approach we took in the vacated 2000 designation for a variety of reasons. The ESA directs that we will use the best scientific data available in designating critical habitat. Our regulations also provide direction: “[e]ach critical habitat will be defined by specific limits using reference points and lines as found on standard topographic maps of the area \* \* \* Ephemeral reference points (e.g., trees, sand bars) shall not be used in defining critical habitat.” (50 CFR 424.12(c)). With respect to our approach for identifying “the geographical area occupied by the species,” we recognize that the available fish and habitat use distribution data are limited to areas that have been surveyed or where professional judgment has been applied to infer distribution, and that large areas of watersheds containing fish may not have been observed or considered. We also recognize there have been many instances in which previously unobserved areas are found to be

occupied once they are surveyed. Nevertheless, we believe the extensive data compiled by agency biologists, which was not available when we completed the 2000 designations, represents the best scientific information currently available regarding the geographical area occupied by the species. Moreover, the CHARTs had an opportunity to interact with the state fish biologists with the California Department of Fish and Game (CDFG) to confirm the accuracy of the data. We also believe the approach we have taken in this designation better conforms to the regulatory direction to use "specific limits" for the designation. The approach we used in 2000 used subbasin boundaries to delineate "specific areas," which arguably met the requirement to use "specific limits," but we believe using latitude-longitude endpoints in stream reaches, as we have done here, better adheres to the letter and spirit of our regulations.

With respect to our approach of limiting the designation to the occupied stream itself, not extending the designation into the riparian zone or upstream areas, we acknowledge that our regulations contemplate situations in which areas that are not literally occupiable may nevertheless be designated. Paragraph (d) of 50 CFR 424.12 gives as an example a situation in which areas upland of a pond or lake may be designated if it is determined that "the upland areas were essential to the conservation of an aquatic species located in the ponds and lakes." For this designation, however, given the vast amount of habitat under consideration and the short statutory time frames in which to complete the designation, we could not determine "specific limits" that would allow us to map with accuracy what part of the riparian zone or upstream area could be considered to contain PCEs. As an alternative, we considered the approach we used in 2000, which was to designate riparian areas that provide function, but concluded that approach may not have been entirely consistent with the regulatory requirement to use "specific limits." We believe limiting the designation to streams will not compromise the ability of an ESA section 7 consultation to provide for conservation of the species. Section 7 requires Federal agencies to ensure their actions are not likely to destroy or adversely modify critical habitat. Actions occurring in the riparian zone, upstream areas, or upland areas all have the potential to destroy or adversely modify the critical habitat in the stream. Although these areas are not themselves

designated, Federal agencies must nevertheless meet their section 7 obligations if they are taking actions in these areas that "may affect" the designated critical habitat in the stream. Even though these designations are restricted to the stream itself, we will continue to be concerned about the same activities we have addressed in past consultations.

*Comment 7:* Several commenters believed we incorrectly applied the definition of "specific areas outside the geographical area occupied by the species." In the view of some, we failed our duty under the ESA by not making a determination that we had identified as critical habitat enough areas (occupied and unoccupied) to support conservation. In the view of others, it was this failure that led to one of the errors described in the previous comment—the failure to designate all "accessible stream reaches." Many commenters expressed concern about statements made in the press that the change from "all areas accessible" to areas documented as occupied led to a 90-percent reduction in critical habitat. Other commenters supported the approach taken in this designation, to identify specific areas occupied by the species and not broadly designate "all areas accessible," some commenting that this was a more rigorous assessment and more in keeping with the ESA.

*Response:* Section 3(5)(A)(i) of the ESA requires us to identify specific areas within the geographical area occupied by the species that contain physical or biological features that may require special management considerations or protection. Section 3(5)(A)(ii) requires that specific areas outside the geographical area occupied by the species only fall within the definition of critical habitat if the Secretary determines that the area is essential for conservation. Our regulations further provide that we will designate unoccupied areas "only when a designation limited to [the species'] present range would be inadequate to ensure the conservation of the species (50 CFR 424.12(e))." The ESA requires the Secretary to designate critical habitat at the time of listing. If critical habitat is not then determinable, the Secretary may extend the period by 1 year, "but not later than the close of such additional year the Secretary must publish a final regulation, based on such data as may be available at that time, designating, to the maximum extent prudent, such habitat."

At the present time, we do not have information allowing us to determine that the specific areas within the geographical area occupied by the

species are inadequate for conservation, such that unoccupied areas are essential for conservation. We anticipate revising our critical habitat designations in the future as additional information becomes available through recovery planning processes.

*Comment 8:* Some commenters questioned the adequacy of our identification of PCEs, in particular the lack of specificity.

*Response:* To determine the physical or biological features essential to conservation of these ESUs, we first considered their complex life cycle. As described in the ANPR and proposed rule, "[t]his complex life cycle gives rise to complex habitat needs, particularly during the freshwater phase (see review by Spence *et al.*, 1996)." We considered these habitat needs in light of our regulations regarding criteria for designating critical habitat. Those criteria state that the requirements essential to species' conservation include such things as "space \* \* \* [f]ood, water, air, light, minerals, or other nutritional or physiological requirements \* \* \* cover or shelter." They further state that we are to focus on the "primary constituent elements" such as "spawning sites, feeding sites, \* \* \* water quality or quantity," etc. In the ANPR and proposed rule we identified the features of the habitat that are essential for the species to complete each life stage and are therefore essential to its conservation. We described the features in terms of sites (spawning, rearing, migration) that contain certain elements.

*Comment 9:* In the proposed rule we requested comments on the extent to which specific areas may require special management considerations or protection in light of existing management plans. Several commenters stated that lands covered by habitat conservation plans or other management or regulatory schemes do not require special management considerations or protection. Others commented that even where management plans are present, there still may be "methods or procedures useful" for protecting the habitat features.

*Response:* The statutory definition and our regulations (50 CFR 424.02 and 424.12) require that specific areas within the geographical area occupied by the species must contain "physical or biological features" that are "essential to the conservation of the species," and that "may require special management considerations or protection." As described in the proposed rule, and documented in the reports supporting it, we first identified the physical or biological features essential to

conservation (described in our regulations at 50 CFR 424.12(b)(5) as “primary constituent elements” or PCEs). We next determined the “specific areas” in which those PCEs are found based on the occupied stream reaches within a CALWATER HSA watershed. We used this watershed-scale approach to delineating specific areas because it is relevant to the spatial distribution of salmon and steelhead, whose innate homing behavior brings them back to spawn in the watersheds where they were born (Washington Department of Fisheries *et al.*, 1992; Kostow, 1995; McElhany *et al.*, 2000). We then considered whether the PCEs in each specific area (watershed) “may require special management considerations or protection.”

We recognize there are many ways in which “specific areas” may be delineated, depending upon the biology of the species, the features of its habitat and other considerations. In addressing these comments, we considered whether to change the approach described in our proposed rule and instead delineate specific areas based on ownership. The myriad ownerships and state and local regulatory regimes present in any watershed, as well as the timing issues discussed previously, made such an approach impractical for this rulemaking, as noted in section I, “Background and Previous Federal Action,” above. While there are other equally valid methods for identifying areas as critical habitat, we believe that the watershed scale is an appropriate scale for identifying specific areas for salmon and steelhead, and for then determining whether the PCEs in these areas may require special management considerations or protections. We will continue to study this issue and alternative approaches in future rulemakings designating critical habitat.

*Comment 10:* One commenter stated that we could not designate any unoccupied areas if we had excluded any occupied areas, relying on the regulatory provision cited in a previous comment and response.

*Response:* The comment assumes that all habitat areas are equivalent and exchangeable, which they are not. An area may be essential for conservation because it was historically the most productive spawning area for an ESU and unless access to it is restored, the ESU will not fully recover to the point that the protections of the ESA are no longer necessary. This area will be essential regardless of whether some other specific area has been excluded.

*Comment 11:* Several commenters supported the designation of unoccupied areas above dams and some

believed that by not designating these areas we will make it more difficult to achieve fish passage in the future. They further noted that excluding these presently blocked areas now may promote habitat degradation that will hinder conservation efforts should passage be provided in the future. Several commenters identified areas above specified dams as being essential for conservation.

*Response:* At the present time, we do not have information allowing us to determine that the specific areas within the geographical area occupied by the species are inadequate for conservation nor that currently unoccupied areas above dams are essential for conservation. The Southwest Region is actively involved in a multi-year, large-scale recovery planning effort in California that involves scientific teams (called technical recovery teams or TRTs) which are in the process of identifying ESU population structure, population viability criteria, and ESU level biological viability or recovery goals. These recovery planning efforts are developing information which will inform our decisions about whether unoccupied habitat will be needed to facilitate conservation beyond what is currently occupied by the ESUs addressed in this rulemaking. Until these efforts are more fully developed, we cannot make the specific determinations required under the ESA to designate critical habitat in “unoccupied” areas. We use our authorities under the ESA and other statutes to advocate for salmon passage above impassible dams where there is evidence such passage would promote conservation. This is not the same, however, as making the determinations required by the statute and our regulations to support designation.

*Comment 12:* In the proposed rule we requested comments regarding the use of professional judgment as a basis for identifying areas occupied by the species. Some commenters indicated that it was appropriate to accept the professional judgment of fish biologists who are most familiar with fish habitat within a watershed. Others believed that limiting the definition of occupied stream reaches to only those where fish presence has been observed and documented is overly narrow and fails to consider a number of conditions that affect species distribution, including natural population fluctuations and habitat alterations that affect accessibility or condition (e.g., de-watering stream reaches). These commenters also argued that defining occupied reaches should be based on a broad time scale that takes into account

metapopulation processes such as local extinction and recolonization, adding along with other commenters that many streams have not been adequately surveyed and species may frequent stream reaches but not actually be observed by a biologist at the time that critical habitat is being assessed.

*Response:* We relied on distribution and habitat use information developed by our agency fishery biologists from a wide range of sources, including the CDFG, to determine which specific stream reaches were occupied by each ESU. The data sets we developed defined occupancy based on field observations from stream surveys, and, in some cases, professional judgment based on the expert opinion of area biologists. In all cases the exercise of professional judgment included the consideration of habitat suitability for the particular species. We received several comments on our proposed rule regarding the accuracy of the distribution data in specific locations, and, where we could confirm that the information provided by the commenter was accurate, we accepted it as the best available information and adjusted our designation. We view designation of critical habitat as an ongoing process and expect to adjust the designations as necessary as new information or improved methods become available.

*Comment 13:* Some commenters addressed the CHART process although few recommended changes to the CHARTs’ ratings of watershed conservation values. Some supported the process used, in particular the recognition that not all habitats have the same conservation value for an ESU and that this in turn allows for a more meaningful exclusion assessment under section 4(b)(2) of the ESA. One commenter contended that the CHART assessments were compromised by restricting them to consider only the stream channel rather than upslope areas as well.

*Response:* The CHART process was an important part of our analytical framework in that it allowed us to improve our analysis of the best available scientific data and to provide watershed-specific conservation ratings useful for the Secretary’s exercise of discretion in balancing whether the benefits of exclusion outweigh the benefits of designation under section 4(b)(2) of the ESA. We do not believe that designating only the stream channel compromised the CHARTs’ ability to assess watershed conservation values. As noted in the CHART report, the CHARTs employed a scoring system to assess (among other area characteristics) the quality, quantity, and distribution of



PCEs within a watershed. The PCEs we have defined for these ESUs are found within occupied stream channels, and therefore, it is appropriate to focus our assessment on those areas. The CHART scoring did include a factor related to the potential improvement of existing PCEs and thereby allowed the CHARTs to consider the ability of a watershed to contribute PCEs via natural processes such as recruitment of large wood and substrate, flow regulation, floodplain connectivity, *etc.* We recognize that salmon habitat is dynamic and that our present understanding of areas important for conservation will likely change as recovery planning sheds light on areas that can and should be protected and restored. We intend to actively update these designations as needed so that they reflect the best available scientific data and understanding.

*Comment 14:* Some commenters questioned whether the CHARTs considered the work of the various Technical Recovery Teams (TRTs) and suggested that the CHART assessments should be reviewed by the TRTs.

*Response:* Where information had been developed by the TRTs, the CHARTs did consider that information in their assessments. The CHARTs also solicited input and comments from the TRTs on their distribution and habitat use information as well as their watershed conservation assessments. We believe, therefore, that we have been able to integrate much of the TRT findings to date into our final critical habitat designations. Given their priorities (*i.e.*, providing crucial recovery planning criteria and guidance) and the time constraints under which we needed to complete the critical habitat assessments, TRT members could not participate on the CHARTs directly. We recognize that recovery planning is an ongoing process and that new information from the TRTs and recovery planning stakeholders may result in changes to our critical habitat assessments in the future.

#### *Economics Methodology*

*Comment 15:* Several commenters stated that the economic analysis overestimated the actual costs of critical habitat designation by including costs that should be attributed to the baseline. For example, commenters asserted that costs associated with listing and application of the jeopardy requirement should not be included in the analysis. Commenters also asserted that costs that would have occurred under Pacific Fisheries (PACFISH) or the Northwest Forest Plan should be excluded from the analysis. One commenter also stated

that costs associated with existing critical habitat designations for salmon or other endangered species should be considered baseline impacts.

*Response:* Regarding costs associated with listing and application of ESA section 7's jeopardy requirement, the economic analysis follows the direction of the *New Mexico Cattlegrowers* decision, in which the Court of Appeals for the Tenth Circuit called for "a full analysis of all of the economic impacts of a critical habitat designation, regardless of whether those impacts are attributable coextensively to other causes (*New Mexico Cattle Growers' Association v. U.S. Fish and Wildlife Service*, 248 F.3d 1277, 10th Cir. 2001). Consistent with this decision, the economic analysis includes incremental impacts, those that are solely attributable to critical habitat designation and would not occur without the designation, as well as coextensive impacts, or those that are associated with habitat-modifying actions covered by both the jeopardy and adverse modification standards under section 7 of the ESA. We do not think this overestimate of costs creates a bias in our 4(b)(2) balancing, however, for two reasons. On the "benefit of designation" side of the balance, we consider the benefit of designation to be the entire benefit that results from application of section 7's requirements regarding adverse modification of critical habitat, regardless of whether application of the jeopardy requirement would result in the same impact. Moreover, the cost-effectiveness approach we have adopted allows us to consider relative benefits of designation or exclusion and prioritize for exclusion areas with a relatively low conservation value and a relatively high economic cost. With such an approach it is most important that we are confident our analysis has accurately captured the relative economic impacts, and we believe it has.

In many cases, the protections afforded by PACFISH, the Northwest Forest Plan and other regulations are intertwined with those of ESA section 7. In cases where the specific regulation or initiative driving the salmon and steelhead conservation efforts is uncertain, we considered it as an ESA section 7 impact and examined the record of consultations with the affected agencies and based our analysis on the habitat protection measures routinely incorporated into the consultations. The economic analysis therefore assumes that the impacts of these types of habitat protection measures are attributable to the implementation of section 7. In these instances, to the extent that

conservation burdens on economic activity are not, in fact, resulting from section 7 consultation, the economic analysis may overstate costs of the designation. We took this possibility into account in conducting the 4(b)(2) balancing of benefits. Conservation efforts clearly engendered by other regulations are included in the regulatory baseline. For example, Federal lands management activities in the Northwest Forest Plan planning area are affected by PACFISH. As a result, some projects that would have affected salmon habitat will not be proposed, and therefore will not be subject to section 7 consultation. These changes in projects are considered baseline and are not included as a cost of section 7 in the economic analysis.

Commenters correctly note that there are designations currently in place protecting critical habitat for salmon (*e.g.*, Sacramento River winter run chinook salmon, Central California Coastal coho salmon). We acknowledged this in our proposed rule, but also noted that the presence of those existing designations weighs equally on both sides of the 4(b)(2) balance—that is, the existing designations also could be considered as part of the baseline for determining the benefit of designation for the ESUs addressed in the present rule. This concern is also addressed by the cost-effectiveness approach we have adopted since it relies on relative benefits of designation and exclusion rather than absolute benefits.

*Comment 16:* One commenter and one peer reviewer noted that the economic analysis assigns costs to all activities within the geographic boundary of the HSA watersheds, though not all activities in this area will lead to an ESA section 7 consultation or are equally likely to have economic impacts. By doing this, the agency assumed that if the stream reaches currently occupied by salmon were designated as critical habitat, then activities throughout the watershed would be affected, whether or not they are adjacent to critical habitat stream reaches.

*Response:* It is possible for activities not directly adjacent to the proposed stream reaches to affect salmon and steelhead or their habitat (for example, by increasing risk of erosion or decreased water quality), and, therefore, such activities may be subject to consultation and modification. Thus, we believe the HSA watersheds represent a reasonable proxy for the potential boundary of consultation activities. In some cases the revised economic analysis applies costs less broadly by refining the geographic scale for certain

activities. For example, the analysis of pesticide impacts has been refined and are now calculated based on occupied stream mile estimates within a watershed.

*Comment 17:* One commenter asserted that the draft report inflates its cost estimates by repeatedly choosing the high-end of a range of costs, while a peer reviewer suggested using the mid-range as a representative cost estimate was problematic.

*Response:* In determining likely costs associated with modifications to activities that would benefit salmon and steelhead, the economic analysis identifies a range of costs using available data from, for example, agency budgets, documented conversations with stakeholders, and published literature. The full range of costs of these activities is presented in the economic analysis, and individual watersheds are generally ranked in terms of cost impact by the midpoint of the cost range, as opposed to the high end. While we recognize that a formal sample of projects costs based on the consultation record or other sources is a better approach in theory, available data did not allow such an approach. In gathering the cost information that was available, we avoided using outliers and sought to construct a typical range of costs.

*Comment 18:* Some commenters asserted that the economic analysis fails to account for regional economic interactions between watersheds. One commenter stated that this would result in an overstatement of the costs, while other commenters state that this would underestimate the costs. One peer reviewer suggested using regional economic models to address these interactions.

*Response:* We acknowledge that modifications to economic activities within one watershed may affect economic activities in other watersheds. The economic analysis discusses the potential for regional economic impacts associated with each of the potentially affected activities. Impacts are assigned to particular areas (watersheds) based on where they are generated as opposed to felt. That is, if the designation of a watershed causes impacts in multiple nearby watersheds, and exclusion of the impact-causing watershed would remove those economic impacts from the region, the economic analysis appropriately assigns the total cost impact to the impact-causing watershed. This method of assigning impacts is most useful to us in deciding the relative cost-effectiveness of excluding particular areas from critical habitat designation. As we acknowledge in

NMFS (NMFS 2005b), the economic analysis does not explicitly analyze the potential for these regional interactions to introduce cumulative economic impacts. Data are not available to support such an effort, nor would the results necessarily be applicable at the level of a particular watershed. If these impacts in fact exist, our results are likely to be biased downward, in that we have likely underestimated the costs of critical habitat designation at the level of the ESU. At the level of a watershed, however, the potential error is smaller. For this reason, we do not believe the lack of a regional modeling framework introduces a significant bias into the results for particular watersheds.

*Comment 19:* Several commenters stated that the economic analysis underestimates the actual costs of the rule by excluding several categories of costs from the estimates. One commenter stated that the *New Mexico Cattlegrowers* decision specifically requires a full analysis of all impacts, including those resulting from the species' listing. One comment argued that assessment of impacts stemming from activities occurring outside the designated area should be included, including indirect and regional impacts. Another commenter stated that the analysis should consider direct, indirect, and induced economic impacts including: changes in property values, property takings, water rights impacts, business activity and potential economic growth, commercial values, county and state tax base, public works project impacts, disproportionate economic burdens on society sections, impacts to custom and culture, impacts to other endangered species, environmental impacts to other types of wildlife, and any other relevant impact.

*Response:* As noted in a previous response, the Court in the *New Mexico Cattlegrowers* decision called for "a full analysis of all of the economic impacts of a critical habitat designation, regardless of whether those impacts are attributable coextensively to other causes." (emphasis added) The economic analysis conducted for this rule evaluated direct costs associated with the designation of critical habitat and includes: (1) Direct coextensive impacts, or those that are associated with habitat-modifying actions covered by both the jeopardy (listing) and adverse modification (critical habitat) standards; and (2) direct incremental impacts, or those that are solely attributable to critical habitat designation.

We acknowledge that designation of critical habitat may also trigger

economic impacts outside of the direct effects of ESA section 7 or outside of the watersheds subject to the economic analysis. For example, state or local environmental laws may contain provisions that are triggered if a state- or locally regulated activity occurs in Federally-designated critical habitat. Another possibility is that critical habitat designation could have "stigma" effects, or impacts on the economic value of private land not attributable to any direct restrictions on the use of the land. Our economic analysis did not reveal significant economic impacts from stigma effects for the designation of salmon and steelhead. Further, significant impacts of critical habitat on an industry may lead to broader regional economic impacts. All of these types of impacts are considered in the analysis, although it was not possible to estimate quantitative impacts in every case. We took these considerations into account in balancing benefits under section 4(b)(2).

We acknowledge that designation of critical habitat may also trigger impacts on customs, culture, or other wildlife species. We concluded that data were not presently available that would allow us to quantify these impacts, at the scale of this designation, for the economic analysis. Our analysis was further circumscribed by the short time frames available, and our primary focus on conservation benefits to the listed species that are the subject of this designation. We took this limitation into account in the balancing of benefits under section 4(b)(2).

*Comment 20:* Several commenters indicated that the economic analysis should include a discussion of the impact of changes in flow regimes on water users, specifically in the timing of water flow through dams and water withdrawal or diversion constraints. Among potentially affected water users are crop irrigators and other agricultural water users, regulators and consumers of public water supply in the region, and in particular, water users of the Central Valley Project and State Water Project, among others. Similarly, several commenters stated that the analysis should include an analysis of impacts of changes to operations that result in increased spill at hydropower dams on the cost of power in the region. These commenters are concerned that excluding these costs underestimates total economic impact. One commenter pointed out that low flow years and drought years are not considered in the economic impacts, and consideration of varying water year types is especially relevant to estimating impacts of instream flow augmentation. Another



commenter pointed out that existing, economically feasible alternate sources of water may not be available to water users, and thus economic costs could be large. One commenter estimated the potential loss of agricultural income that would result from a reduction in water availability to a specific region. One commenter stated that if requisite minimum instream flows are developed that correspond to the proposed critical habitat designation, they could be analyzed using the CALVIN model developed by the University of California.

*Response:* While economic impacts would clearly result from future changes to water supply availability, the amount of water within particular areas that may be diverted from activities such as irrigation, flood control, municipal water supply, and hydropower, for the purposes of Pacific salmon and steelhead conservation, and thus the requisite timing and volume of minimum instream flows, has not been determined for most facilities. Many biological and hydrologic factors are considered in determining flow requirements through dams for Pacific salmon and steelhead, and the impacts of altering flow regimes to meet these requirements are highly site-specific. For example, the impact of increasing spill at a hydropower project depends on the level and timing of the spill, and on the method by which any lost power generation is replaced. Similarly, at a water supply facility, the impact of increasing spill depends on the size and timing of the spill, but also depends on the specific water rights held at the facility and by downstream users, including the priority, volume, timing, and particular use of those water rights.

The extent to which any future changes in flow may be attributable to the designation of critical habitat, as opposed to the listing or other wildlife-related regulations, is also unclear. The interrelated nature of dam and diversion projects with hydrology across river systems makes it very difficult to attribute flow-related impacts for salmon and steelhead conservation to specific watersheds. As a result, a comprehensive prospective analysis of the economic impacts of potential restrictions on water use by these activities would be highly speculative. We acknowledge this limitation of the economic analysis. However, the revised economic analysis does include an expanded discussion of what is known about the potential impacts of changes in flow regimes on hydropower production and prices and water diversions on irrigation based on historical examples.

*Comment 21:* Some commenters expressed concern that the economic analysis does not address cumulative costs of multiple layers of regulation on economic activities.

*Response:* Our economic analysis estimates costs associated with conducting ESA section 7 consultation to ensure Federal agency actions are not likely to destroy or adversely modify critical habitat. We did not have information available at the scale of this designation to determine the marginal cost or benefit of such a consultation, in addition to any state or local review that may occur, nor did the commenters provide data that would allow us to make such a determination.

*Comment 22:* One commenter stated that the economic analysis fails to factor in subsidies given to industries such as livestock grazing, hydropower operations, and irrigation activities, which minimizes true costs to the public. Another commenter further stated that the analysis does not distinguish between several countervailing cost elements, including "socialized costs" (costs Congress has decided that the public should bear, such as costs to Federal activities), actual costs to private entities, incentive costs, subsidies, and offsetting costs. As a result, for Federal programs, the analysis miscategorizes activities that benefit a small but favored sector of society, but that cause costs to the larger society. The analysis assumes that costs to these activities are costs to society in general.

*Response:* The analysis attempts to measure true social costs associated with implementing the final critical habitat rule. To accomplish this, the analysis uses the measurement of the direct costs associated with meeting the regulatory burden imposed by the rule as the best available proxy for the measurement of true social costs. We agree that it is relevant to consider appropriate countervailing or net cost impacts, where possible, in determining the benefit of exclusion. Where data are available, our analysis attempts to capture the net economic impact (*i.e.*, the increased regulatory burden less any discernable offsetting market gains), of ESA section 7 efforts imposed on regulated entities and the regional economy. For example, in the economic analysis, the revised impact estimates for pesticide use restrictions explicitly net out agriculture subsidy payments in the estimation of lost agricultural profits.

*Comment 23:* Several commenters indicated that the designation of critical habitat will impose an administrative burden on affected parties, including

private, Federal, state and local entities. One commenter stated that the increase in paperwork as a result of re-initiating consultation on potential impacts to critical habitat for projects that have already been through ESA section 7 consultation is a major concern.

*Response:* We do consider that all activities may be subject to future consultation, regardless of whether past consultation occurred on these activities. Designation of critical habitat may result in reinitiating consultation on activities that were subject to previous consultation to ensure that the adverse modification requirement is addressed in addition to the jeopardy requirement. The economic analysis estimates the level of administrative effort associated with ESA section 7 consultations, whether those consultations concern a new activity or readdress the impacts of a previously reviewed activity. The revised economic analysis includes a refined estimate of administrative costs associated with consultations on West Coast salmon and steelhead.

*Comment 24:* Some commenters stated that the economic analysis estimates impacts using a constant per-capita income basis and that doing so is likely to underestimate the impacts on rural communities.

*Response:* Per-capita income is not explicitly factored into the watershed specific quantitative impact estimates in the economic analysis. The commenter is highlighting that equal costs in any given watersheds will not likely result in the same relative economic burden to residents of those watersheds. This is because the ratio of costs of the designation to income may vary across watersheds. In lower income areas, the cost of implementing modifications to projects for the benefit of salmon and steelhead may be more burdensome relative to higher income areas. We did consider the extent to which costs of designation within a watershed are likely to be borne locally. In addition, information on distribution of wealth across the designation is provided contextually in the economic analysis and this information is weighed in considering the benefits of exclusion of particular areas.

*Comment 25:* One commenter stated that the analysis does not attempt to explain or quantify with any level of precision what additional costs are required by ESA section 7 consultation for design and/or operational modifications or mitigation measures.

*Response:* The economic analysis focused on the impacts of section 7 consultation on economic activities by first identifying the types of activities

occurring that may be subject to section 7 consultation. The analysis then estimated the regulatory burden placed upon these activities as a result of section 7 consultation. The burden estimate is based upon a review of past modifications to those activities undertaken for the benefit of salmon and steelhead, interviews with NMFS' consulting biologists, affected parties, and available documents and literature. This research on the potential costs of these modifications then determined a typical range of costs for potential project modifications that may be associated with section 7 consultation in the future.

*Comment 26:* One commenter stated that the economic analysis relied extensively on the agency's consultation history for economic impact estimates. Similarly, another commenter asserted that past costs are not good indicators of future costs due to streamlining of the consultation process (for example, for fire management) on Federal lands. One commenter stated that the economic analysis assumes that the population growth and economy of the impact areas are stagnant. The analysis should evaluate population and economic growth on a regional, State, and county basis, and evaluate the degree to which the listing of salmon and steelhead may have contributed to any population and economic decline.

*Response:* The economic analysis does not solely rely on the consultation history to estimate economic impacts. The analysis includes estimated costs associated with compliance with salmon conservation activities produced by regulated entities, including private, state, and Federal agencies, as well as published literature, where information was available. The economic analysis does not uniformly assume that all activities and associated consultations will occur at the same rate in future years as in past years. Instead, the economic analysis projects the most likely level of future activity using a broad spectrum of planning documents, geographical data, and interviews with planners and other stakeholders. Further, the economic analysis does not quantify retrospective impacts of salmon and steelhead conservation because the focus of the analysis is on future impacts associated with the critical habitat areas identified in this rulemaking. It should also be noted that consultations conducted by NMFS do not include cost estimates of implementing recommended actions. The analysis also presents detailed information on the current estimated population and population density

within each of the particular areas in the proposed critical habitat designation.

*Comment 27:* One comment letter questioned whether there exists an acceptable or unacceptable level of negative economic impact to communities, landowners, or local governments and whether the government must consider the impacts that their decisions will have on local economies.

*Response:* The economic analysis provides information regarding the impact to potentially affected economic activities of the proposed critical habitat designation. This information was used to identify the particular areas according to their relative cost burden. We then weighed this information against the relative conservation value of the particular areas considering the economic and any other relevant impact of designating critical habitat. Further, concurrent with the economic analysis, we prepared an analysis of potential impacts to small entities, including small businesses and government. This analysis identified the number of small businesses and governments likely impacted by the proposed critical habitat using county-specific data on the ratio of small businesses to total businesses in each potentially affected economic sector.

*Comment 28:* Some commenters stated that the economic analysis used data that are overly broad or made assumptions across geographic areas that are too far reaching. For example, one commenter stated that the economic analysis assumes that the necessity and scope of modifications will be constant across ESUs for most activities, when in reality, these are likely to vary substantially.

*Response:* For each activity, the economic analysis examines the probability of consultation and the likelihood of modification. A variety of activity-specific information sources were used to forecast the frequency and geographic distribution of potentially affected activities. That is, frequency of consultation was not always assumed to be uniform across ESUs. The economic analysis does not, however, assume that costs increase in areas of overlapping ESUs. In other words, the presence of critical habitat for multiple ESUs is not expected to generate a greater impact than if the particular area is critical habitat for only a single ESU. Examination of the consultation history did not reveal differences in requests for modification to projects (reasonable and prudent alternatives) among the ESUs. We recognize, however, that the broad scope and scale of the analysis required us to make simplifying assumptions in

order to complete the designations in a timely fashion.

*Comment 29:* Several commenters and a peer reviewer expressed concern that the economic analysis failed to consider the full range of economic benefits of salmon habitat conservation, and therefore, provided a distorted picture of the economic consequences of designating versus excluding habitat areas. Similarly, commenters expressed concerns that the economic impact of not designating particular areas to fishers and investors in recovery efforts should be considered in the economic analysis. Commenters specifically cited the lack of consideration in the economic analysis of the potential benefits of critical habitat designation on: (1) Decreased risk of extinction; (2) benefits to other aquatic and riparian species; (3) water quality; (4) flood control values; (5) recreation; (6) commercial fishing; (7) fish harvest for tribal uses; and (8) increased public education.

*Response:* As described in the economic analysis and ESA section 4(b)(2) report, we did not have information available at the scale of this designation that would allow us to quantify the benefits of designation in terms of increased fisheries. Such an estimate would have required us to determine the additional number of fish likely to be produced as a result of the designation, and would have required us to determine how to allocate the economic benefit from those additional fish to a particular watershed. Instead, we considered the "benefits of designation" in terms of conservation value ratings for each particular area (see "Methods and Criteria Used to Designate Critical Habitat" section). We also lacked information to quantify and include in the economic analysis the economic benefit that might result from such things as improved water quality or flood control, or improved condition of other species.

Moreover, we did not have information at the scale of this designation that would allow us to consider the relative ranking of these types of benefits on the "benefits of designation" side of the 4(b)(2) balance. Our primary focus was to determine, consider, and balance the benefits of designating these areas to conservation of the listed species. Given the uncertainties involved in quantifying or even ranking these ancillary types of benefits, we were concerned that their consideration would interject an element of uncertainty into our primary task.

*Comment 30:* One commenter asserted that the economic analysis did

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not consider the importance of agriculture in California and how many communities rely upon the agriculture industry to survive. A number of commenters further stated that the analysis should address impacts on agriculture of a judicially imposed moratorium on pesticide use near salmon-bearing streams. The inability to use pesticides on farmland could result directly in decreases in crop yields. More specifically, the commenters believed that the economic analysis underestimates the impacts of the Washington Toxics litigation (*Washington Toxics Coalition, et al. v. EPA*, No. 04-35138) limiting pesticide use around salmon-supporting waters and suggests that the economic analysis should analyze the impact of this injunction.

*Response:* Regarding impacts to agricultural communities, we considered impacts to small businesses in our Regulatory Flexibility Act analysis. We did not otherwise separately consider economic impacts to various economically or culturally defined communities in the economic analysis or in the ESA section 4(b)(2) balancing process. For example, we also did not separately consider impacts of designation or exclusion on coastal fishing communities. As with the consideration of ancillary unquantifiable benefits of designation described above, we were concerned that including a consideration of these ancillary benefits of exclusion would inject an unacceptable level of uncertainty into our analysis.

We agree that the draft economic analysis did not adequately consider the impact of pesticide restrictions on the agricultural industry. The revised economic analysis therefore includes refined estimates of potential lost profits associated with reduced crop yields as a result of implementing pesticide restrictions across the critical habitat designation. The analysis assumes that the agricultural net revenue generated by land within certain distances of salmon-supporting waters would be completely lost. That is, the analysis assumes that no changes in behavior are undertaken to mitigate the impact of pesticide restrictions. This assumption may lead to overestimated impacts of restricting pesticide use. On the other hand, the analysis may underestimate the impact of pesticide restrictions by assuming that farmers outside the designated areas (e.g., upstream) will not be restricted in their activities.

*Comment 31:* Several commenters stated that impacts associated with changes in the operations of the hydropower projects should be

included, including impacts from projects such as Englebright Dam, Oroville Dam, and Santa Felicia Dam.

*Response:* The historical record shows evidence that modifications to hydropower projects in consideration of listed salmon and steelhead can affect the level of hydropower generation and generating capacity, thus affecting power prices. Flow regimes for purposes of salmon and steelhead conservation have been implemented at various projects associated with a number of regulations, including the listing of salmon and steelhead. As mentioned previously, however, the level of increased flow or spill over the dams within particular areas that may be requested associated with critical habitat for all hydropower projects is uncertain at this time, and a prospective analysis of the impacts of such efforts would be highly speculative. Many biological and hydrologic factors are considered in determining flow requirements through dams for salmon and steelhead, and the impacts of altering flow regimes to meet these requirements are highly site-specific. For example, the impact of increasing spill at a hydropower project depends on the level and timing of the spill, and on the method by which any lost power generation is replaced.

The extent to which any future changes in flow may be attributable to the designation of critical habitat, as opposed to the listing or other wildlife-related regulations, is also unclear. The interrelated nature of dam and diversion projects with hydrology across river systems makes it very difficult to attribute flow-related impacts from salmon and steelhead conservation to specific watersheds. We acknowledge this limitation of the economic analysis. The revised economic analysis includes an expanded discussion of the potential impacts of changes in flow regimes on hydropower operations.

*Comment 32:* One commenter stated that the Initial Regulatory Flexibility Analysis needs more citations regarding the applied sources of information.

*Response:* We have provided appropriate citations in the Final Regulatory Flexibility Analysis.

*Comment 33:* One commenter stated that the Small Business Regulatory Enforcement Fairness Act (SBREFA) analysis assumes that most compliance costs would be borne by third parties when, in fact, a significant portion of all ESA section 7 related costs are not borne by those entities, but rather are borne by the Bureau of Reclamation (BOR).

*Response:* In many cases it is uncertain who will bear the costs of

modification. The potentially burdened parties associated with modifications to activities are identified in the economic analysis. The BOR may, in fact, bear the cost of modifications to BOR dams, Federal land management activities, and so forth. Where information is not available on a per-project basis regarding the potentially affected party, the analysis takes a conservative approach, assuming that impacts may be borne by private entities, a portion of which may be small entities.

#### *Weighing the Benefits of Designation Versus Exclusion*

*Comment 34:* Several commenters supported the use of a cost-effectiveness framework, one commenter explicitly objected to it, and some commenters had concerns with the way we applied it. One commenter asserted that the economic analysis "would have been very different" if we had evaluated the absolute conservation value of an area "with or without [section] 7 requirements," rather than relative conservation values. One commenter asserted that "[w]ithout any target level of conservation for designation, the framework does not guarantee that areas necessary for conservation will be designated." Another commenter asserted that weighing quantitative economic costs against qualitative habitat ratings prejudiced the ESA section 4(b)(2) analysis in favor of excluding areas lacking a high conservation value. Several commenters suggested that the 4(b)(2) process could benefit from more explanation regarding how the process was applied.

*Response:* We believe the comparison of benefits provides the Secretary useful information as to the benefits of any particular inclusion or exclusion. The Secretary has discretion in balancing the statutory factors, including what weight to give those factors. The ESA provides the Secretary with the discretion to exclude areas based on the economic impact, or any other relevant impact, so long as a determination is made that the benefits of exclusion outweigh the benefits of designation, and so long as the exclusion will not result in extinction of the species concerned.

Subsequent to publication of this rule, we will undertake a review of the methods and criteria applied in this rule. If the Secretary determines the critical habitat designations should be modified as a result of that review, we will propose a revised designation with appropriate opportunity for notice and comment.

*Comment 35:* In the proposed rule we identified a number of potential exclusions that we were considering but



were not at that time proposing, including Federal lands subject to the Northwest Forest Plan and PACFISH. Many commenters opposed these potential exclusions. Some disagreed that designation of critical habitat is unnecessary or of diminished importance in light of existing management constraints, contending that such a position is contrary to the ESA's conservation purpose and our implementing regulations and citing recent court decisions bearing on this issue. Several commenters indicated that because these ESUs are still listed, existing regulatory and voluntary mechanisms are inadequate and also noted that we concluded as such in our 2000 designations. Some commenters believed that the assumptions underlying such exclusions were unjustifiable and potentially disastrous for salmon recovery. Some commenters noted that the lack of specificity regarding which areas might be excluded as well as the lack of clear exclusion standards seriously hindered the public's ability to comment on the proposed exclusions. In contrast, several commenters supported the potential exclusions mentioned in the proposed rule. Some commenters contended that designating critical habitat on these Federal lands was duplicative with existing ESA section 7 consultation processes, inefficient (e.g., citing costs of re-initiating consultation), and offers no additional conservation benefit to the listed ESUs. One commenter believed that excluding Federal lands would be consistent with our exclusion of lands subject to Integrated Natural Resource Management Plans (INRMPs) since existing land management plans provide similar protections. This commenter also cited the USFWS' exclusion of Federal lands for bull trout (69 FR 59996; October 6, 2004) and provided information supporting the belief that we should make the same determination for salmon and steelhead ESUs.

*Response:* Section 4(b)(2) provides the Secretary with discretion to exclude areas from the designation of critical habitat if the Secretary determines that the benefits of exclusion outweigh the benefits of designation, and the Secretary finds that exclusion of the area will not result in extinction of the species. In the proposed rule, and the reports supporting it, we explained the policies that guided us and provided supporting analysis for a number of proposed exclusions. We also noted a number of additional potential exclusions, explaining that we were considering them because the Secretary of the Interior had recently made similar

exclusions in designating critical habitat for the bull trout: "On October 6, 2004, the FWS issued a final rule designating critical habitat for the bull trout \* \* \*. The Secretary of the Interior found that a number of conservation measures designed to protect salmon and steelhead on Federal, state, tribal and private lands would also have significant beneficial impacts to bull trout. Therefore, the Secretary of the Interior determined that the benefits of excluding those areas exceeded the benefits of including those areas as critical habitat. The Secretary of Commerce has reviewed the bull trout rule and has recognized the merits of the approach taken by the Secretary of the Interior to these emerging issues." We acknowledged, in the proposed rule, however, that we lacked the analysis to propose these potential exclusions for West Coast salmon and steelhead: At this time, the Secretary of Commerce still "has not had an opportunity to fully evaluate all of the potential exclusions, the geographical extent of such exclusions, or compare the benefits of these exclusions to the benefits of inclusion." Our regulations require that our proposed and final rules provide the data upon which the rule is based (50 CFR 424.16; 50 CFR 424.18).

Recently, in response to the Department of Interior's request, a District Court has remanded the bull trout rule to the Department of Interior for further rulemaking. *Alliance for the Wild Rockies and Friends of the Wild Swan v. David Allen and United States Fish and Wildlife* (CV 04-1812). In seeking the remand the Department of Interior noted that it intends to reconsider the 4(b)(2) exclusions in the proposed rule and that it recently issued a **Federal Register** notice seeking comment on those exclusions (70 FR 29998; May 25, 2005). In response, we received extensive comment from those supporting and opposing these potential exclusions. Based on our review of the information received and the short time between the close of the comment period and the court-ordered deadline for completing this rulemaking, we are unable to conclude at this time that the benefits of excluding these areas outweigh the benefits of designation, with the exception of areas covered by two habitat conservation plans, discussed below.

Nevertheless, we will continue to study this issue and alternative approaches in future rulemakings designating critical habitat. In particular, we intend to analyze the planning and management framework for each of the ownership categories proposed for consideration for

exclusion. In each case, we envision that the planning and management framework would be evaluated against a set of criteria, which could include at least some or all of the following:

1. Whether the land manager has specific written policies that create a commitment to protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.

2. Whether the land manager has geographically specific goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.

3. Whether the land manager has guidance for land management activities designed to achieve goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.

4. Whether the land manager has an effective monitoring system to evaluate progress toward goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.

5. Whether the land manager has a management framework that will adjust ongoing management to respond to monitoring results and/or external review and validation of progress toward goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.

6. Whether the land manager has effective arrangements in place for periodic and timely communications with NOAA on the effectiveness of the planning and management framework in reaching mutually agreed goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.

*Comment 36:* In the proposed rule we requested comments on the potential exclusion of lands subject to conservation commitments by state and private landowners reflected in habitat conservation plans (HCPs) approved by NMFS. Some commenters (none however with NMFS-approved HCPs) concurred with the potential exclusion of lands covered by an HCP, believing that we would not likely secure additional conservation benefits by designating these areas as critical habitat. Some commenters acknowledged the potential educational benefits of designation but asserted that designating HCP lands could have an

unintended consequence of damaging existing and future cooperative relationships. These commenters additionally noted that HCPs have already undergone extensive environmental review and ESA section 7 consultation and been found to not likely jeopardize the species.

Several commenters disagreed with the potential exclusion of lands covered by HCPs, believing it would be contrary to the ESA, and some cited recent litigation bearing on this issue (e.g., *Center for Biological Diversity v. Norton*, 240 F. Supp. 2d 1090 (D. Ariz. 2003); *Gifford Pinchot Task Force v. FWS*, 378 F. 3d 1059 (9th Cir. 2004)). One commenter did not support such exclusions because of the belief that there are no guarantees the plans will remain in place when, for example, ownership changes or landowners change their minds. Some commenters believed that we failed to adequately describe the benefits of designation as they pertain to these potential exclusions.

*Response:* The analysis required for these types of exclusions, as with all others, first requires careful consideration of the benefits of designation versus the benefits of exclusion to determine whether benefits of exclusion outweigh benefits of designation. The benefit of designating critical habitat on non-Federal areas covered by an approved HCP or another type of conservation agreement depends upon the type and extent of Federal activities expected to occur in that area in the future. Activities may be initiated by the landowner, such as when the landowner seeks a permit for bank stabilization, water withdrawal, or dredging. Where the area is covered by an HCP, the activity for which a permit is sought may or may not be covered by the HCP. For example, an HCP covering forestry activities may include provisions governing construction of roads, but may not include provisions governing bank stabilization or pesticide application. The activity may be initiated by the Federal agency without any landowner involvement, such as when a Federal agency is involved in building a road or bridge, dredging a navigation channel, or applying a pesticide on Federal land upstream of the HCP-covered area. In analyzing the benefits of designation for these HCP-covered areas, we must consider which Federal activities are covered by the HCP and which are not. Where activities are covered by the HCP, we must consider whether an ESA section 7 consultation on that particular activity would result in beneficial changes to the proposed action over and above what is

achieved under the HCP. Designation may also benefit the species by notifying the landowner and the public of the importance of an area to species' conservation.

On the other side of the balance are the benefits of exclusion. We believe the primary benefits of exclusion are related to the conservation benefits to the species that come from conservation agreements on non-Federal land. If a landowner considers exclusion from critical habitat as a benefit, exclusion may enhance the partnership between NMFS and the landowner and thus enhance the implementation of the HCP or other agreement. If other landowners also consider exclusion from critical habitat as a benefit, our willingness to exclude such areas may provide an incentive for them to seek conservation agreements with us. Improved implementation of existing partnerships, and the creation of new conservation partnerships, would ultimately benefit conservation of the species.

Conservation agreements with non-Federal landowners enhance species conservation by extending species' protections beyond those available through other ESA provisions. ESA section 7 applies only to Federal agency actions. Section 7 consultation requirements protect listed salmon and steelhead on Federal lands and whenever a Federal permit or funding is involved in non-Federal actions, but its reach is limited. The vast majority of activities occurring in riparian and upland areas on non-Federal lands do not require a Federal permit or funding and are not addressed by section 7. In contrast, instream activities generally do require a Federal permit, and therefore, are subject to the requirements of section 7. The ability of the ESA to induce landowners to adopt conservation measures lies instead in the take prohibitions of sections 9(a) and 4(d). Many landowners have chosen to put conservation plans in place to avoid any uncertainty regarding whether their actions constitute 'take'.

Beginning in 1994, when we released our draft HCP Handbook for public review and comment, we have pursued policies that provide incentives for non-Federal landowners to enter into cooperative partnerships, based on a view that we can achieve greater species' conservation on non-Federal land through HCPs than we can through coercive methods (61 FR 63854; December 2, 1996). Before we approve an HCP and grant an incidental take permit, we must conduct a rigorous analysis under ESA section 10. The HCP must specify the impact likely to result

from take, what steps the applicant will take to minimize and mitigate such impacts, and the funding available to implement such steps. The applicant must have considered alternative actions and explained why other alternatives are not being pursued, and we may require additional actions necessary or appropriate for the purposes of the plan. Before an HCP can be finalized, we must conclude that any take associated with implementing the plan will be incidental, that the impact of such take will be minimized and mitigated, that the plan is adequately funded, and that the take will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. The HCP undergoes environmental analysis under the National Environmental Policy Act (NEPA), and we conduct a section 7 consultation with ourselves to ensure granting the permit is not likely to jeopardize the continued existence of the species or destroy or adversely modify designated critical habitat.

Based on comments received, we could not conclude that all landowners view designation of critical habitat as imposing a burden on the land, and exclusion from designation as removing that burden and thereby strengthening the ongoing relationship. Where an HCP partner affirmatively requests designation, exclusion is likely to harm rather than benefit the relationship. We anticipate further rulemaking in the near future to refine these designations, for example, in response to developments in recovery planning. In order to aide in future revisions, we will affirmatively request information from those with approved HCPs regarding the effect of designation on our ongoing partnership. We did not consider pending HCPs for exclusion, both because we do not want to prejudge the outcome of the ongoing HCP process, and because we expect to have future opportunities to refine the designation and consider whether exclusion will outweigh the benefit of designation in a particular case.

*Comment 37:* We received a request from the Sonoma County Grape Growers Association and the United Winegrowers for Sonoma County to consider a determination to exclude all occupied areas in Sonoma County from critical habitat for California coastal chinook and central California coast *O. mykiss* based on the conservation value of a suite of cooperative and voluntary conservation efforts being implemented and developed by local government and the private sector, primarily the viticultural industry, in Sonoma County.

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*Response:* These efforts may currently provide a significant conservation benefit to the listed species, and offer the promise of even greater benefits in the future. The measures include the Vineyard Erosion and Sedimentation Control Ordinance adopted by the Sonoma County Board of Supervisors; the Fish Friendly Farming Program; the North Sonoma County Agricultural Reuse Project; the planned Russian River Property Owners Association Fisheries Management Plan; the Integrated Pest Management/Organic Grape Production initiatives; and the Code of Sustainable Winegrowing Practices. The submission can be found electronically at <http://swr.nmfs.noaa.gov/>.

The request suggests the benefits of excluding the area covered by these measures from critical habitat may outweigh the benefits of including it as critical habitat because it provides conservation measures on private land in an area dominated by private ownership, which is generally beyond the reach of ESA section 7, and may therefore provide a greater benefit for the species than a critical habitat designation. Private landowners would be encouraged to participate in these voluntary programs if their lands were excluded from critical habitat.

We received this request on July 21, 2005, so we did not have time to evaluate this request as part of this rulemaking process, and could not defer the rule to accommodate a review because we are under court order to submit this final rule to the **Federal Register** by August 15, 2005. However, we are committed to working with local governments and private landowners in cooperative conservation efforts under Executive Order (E.O.) 13352 (August 26, 2004). As stated above, we anticipate further rulemaking in the near future to refine these designations. Accordingly, we expect to complete an evaluation of the conservation benefits of the measures described by the Sonoma County Grape Growers Association and the United Wine growers for Sonoma County by the end of 2005. If we find that in light of the conservation value of these measures, the benefit of excluding these private lands outweighs the benefits of including them as critical habitat, we will act promptly to propose a revision to this designation.

*Comment 38:* Some commenters addressed the exclusion of Indian Lands. All of the commenting Tribes and the Bureau of Indian Affairs (BIA) reiterated their support for the exclusions.

*Response:* This final rule maintains the exclusion of Indian lands for the

reasons described in the “*Exclusions Based on Impacts to Tribes*” section below.

*Comment 39:* A few commenters addressed our assessment of INRMPs and the exclusion of Department of Defense (DOD) areas due to impacts on national security. DOD agencies supported the exclusion of military lands based on both the development of INRMPs as well as national security impacts, while other commenters did not support such exclusions. One commenter argued that we should not use the general “national security” language in ESA section 4(b)(2) to remove our obligation to comply with the demand for adequate INRMPs.

*Response:* Pursuant to section 4(a)(3)(B)(i) of the ESA (16 U.S.C. 1533(a)(3)(B)(i)), we contacted the DOD, and, after evaluating the relevant INRMPs, we concluded that, as implemented, they provide conservation benefits greater than or equal to what would be expected to result from an ESA section 7 consultation. We also determined that two of these INRMP sites (Camp Pendleton and Vandenberg Air Force Base) should be excluded from designation due to potential impacts on national security. See the “Military Lands” and the “Exclusions Based on National Security Impacts” sections below.

#### *Effects of Designating Critical Habitat*

*Comment 40:* Some commenters noted that the success of watershed management and restoration efforts is dependent on critical habitat protections, noting that designations assist local recovery planning efforts and provide leverage in obtaining funding and cooperation. Several commenters expressed concern that excluding areas from designation, particularly areas identified in existing recovery efforts as important for salmon, would undermine ongoing regional and local recovery planning efforts by signaling that these areas are not important for recovery.

*Response:* We acknowledge that critical habitat designations can serve an important educational role and that they can assist local recovery planning and implementation efforts. The ESA requires that we use the best available scientific data to evaluate which areas warrant designation and that we balance the benefits of designation against the benefits of excluding particular areas. In so doing, it is possible that some areas subject to ongoing restoration activities may have been excluded from designation. However, such exclusions do not indicate that the areas are unimportant to salmon or steelhead, but

instead reflects the practical result of following the ESA’s balancing of benefits as required under section 4(b)(2). We are hopeful that the information gathered and the analyses conducted to support these final designations (such as species distribution, watershed conservation value, and economic impacts from section 7 consultations) will be viewed as valuable resources for local recovery planners. As recovery planning proceeds and we determine that additional or different areas warrant designation or exclusion, we can and will make needed revisions using the same rulemaking process.

*Comment 41:* Several commenters asked for clarification regarding how we will make adverse modification determinations in ESA consultations. One commenter also suggested that a finding of adverse modification would need to be contingent on the habitat conditions existing at the time of designation. They noted that, where such conditions are the result of past and present management actions, and where those existing conditions would not be altered through proposed future actions, it is their belief that consultation on such future actions would result in a “no adverse modification” determination.

*Response:* In *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir. 2004), the Court of Appeals for the Ninth Circuit ruled that the USFWS’ regulatory definition of “destruction or adverse modification” of critical habitat, which is also NMFS’ regulatory definition (50 CFR 402.02), is contrary to law. Pending issuance of a new regulatory definition, we are relying on the statutory standard, which relates critical habitat to conservation of the species. The related point raised by one commenter regarding the relevance of habitat conditions at the time of listing when making an adverse modification determination cannot be answered in a generic way and would depend on the facts associated with a specific consultation.

*Comment 42:* Some commenters objected to the potential land use regulations that critical habitat designation would prompt, citing specific cases where local agencies have imposed buffers and/or other restrictions to protect ESA-listed fish.

*Response:* The ESA requires that we designate critical habitat and these designations follow that statutory mandate and have been completed on a schedule established under a Consent Decree. Whether and if local jurisdictions will implement their

authorities to issue land use regulations is a separate matter and is not under our control.

*Comment 43:* Several commenters believed that we fail to (or inadequately) address required determinations related to a number of laws, regulations, and executive orders, including the NEPA, Regulatory Flexibility Act, and Data Quality Act.

*Response:* Our response to each of these issues are described below, and we also direct the reader to the “Required Determinations” section to review our response to each of the determinations relevant to this rulemaking.

(a) *NEPA*—We believe that in *Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S. Ct. 698 (1996) the court correctly interpreted the relationship between NEPA and critical habitat designation under the ESA. The Court of Appeals for the Ninth Circuit rejected the suggestion that irreconcilable statutory conflict or duplicative statutory procedures are the only exceptions to application of NEPA to Federal actions. The court held that the legislative history of the ESA demonstrated that Congress intended to displace NEPA procedures with carefully crafted procedures specific to critical habitat designation. Further, the Douglas County Court held that the critical habitat mandate of the ESA conflicts with NEPA in that, although the Secretary may exclude areas from critical habitat designation if such exclusion would be more beneficial than harmful, the Secretary has no discretion to exclude areas from designation if such exclusion would result in extinction. The court noted that the ESA also conflicts with NEPA’s demand for impact analysis, in that the ESA dictates that the Secretary “shall” designate critical habitat for listed species based upon an evaluation of economic and other “relevant” impacts, which the court interpreted as narrower than NEPA’s directive. Finally, the court, based upon a review of precedent from several circuits including the Fifth Circuit, held that an environmental impact statement is not required for actions that do not change the physical environment.

(b) *Regulatory Flexibility Act*—We have prepared a final regulatory flexibility analysis that estimates the number of regulated small entities potentially affected by this rulemaking and the estimated coextensive costs of section 7 consultation incurred by small entities. As described in the analysis, we considered various alternatives for designating critical habitat for these seven ESUs. After considering these

alternatives in the context of the ESA section 4(b)(2) process of weighing the benefits of exclusion against the benefits of designation, we determined that our current approach to designation provides an appropriate balance of conservation and economic mitigation and that excluding the areas identified in this rulemaking would not result in extinction of the ESUs. Our final regulatory flexibility analysis estimates how much small entities will save in compliance costs due to the exclusions made in these final designations.

(c) *Data Quality Act*—One commenter asked if we had complied with the Data Quality Act. We have reviewed this rule for compliance with that Act and found that it complies with NOAA and OMB guidance.

(d) *Negotiated Rulemaking Act (5 U.S.C. 561 et seq.)*—One commenter asserted that we should have engaged in negotiated rulemaking to issue this final critical habitat designation. This is an interesting idea and could be pursued in future critical habitat rulemaking. However, because a court approved consent decree governs the time frame for completion of this final rule, we do not feel that there was ample time to comply with the numerous processes defined in the Negotiated Rulemaking Act for this rulemaking. For example, the Negotiated Rulemaking Act provides that if the agency decides to use this tool it must follow Federal Advisory Committee Act procedures for selection of a committee, conduct of committee activities, as well as specific documentation processes (See *Negotiated Rulemaking Source Book*, 1990).

(e) *Intergovernmental Cooperation Act*—One commenter asserted that we did not properly and fully coordinate with local governments and did not comply with the Intergovernmental Cooperation Act. First, the commenter did not provide a statutory citation for the Intergovernmental Cooperation Act. Although we are reluctant to speculate on that Act, we believe the comment is in reference to the Intergovernmental Cooperative Act, Public Law 90–577, 82 Stat. 1098 (1968) as amended by Public Law 97–258 (1982) (codified at 31 U.S.C. 6501–08 and 40 U.S.C. 531–35 (1988)). This Act addresses Federal grants and development assistance. Accordingly, we do not find it relevant to the mandatory designation of critical habitat under the ESA. To the extent that the commenter’s concern is assuring that state, local and regional viewpoints be solicited during the designation process, the ESA and our implementing regulations provides for public outreach (16 U.S.C. 1533

(b)(3)(A); 50 CFR 424.16). As noted in response to Comment 1, we actively sought input from all sectors beginning with an ANPR (68 FR 55926; September 29, 2003) and culminating in four public hearings to facilitate comment from the interested public in response to the proposed rule. In addition we met with several local governments and made ourselves available to meet with others.

(f) *National Historic Preservation Act (NHPA)*—One commenter asserted that we failed to comply with the NHPA (16 U.S.C. 470–470x–6). The NHPA does not apply to this designation. The NHPA applies to “undertakings.” “Undertakings” are defined under the implementing regulations as “a project, activity or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency.” (emphasis added) (36 CFR 800.16). The mandatory designation of specific areas pursuant to the criteria defined in the ESA does not constitute an “undertaking” under the NHPA.

(g) *Farmland Protection Policy Act (FPPA)*—One commenter asserted that we failed to comply with FPPA (7 U.S.C. 4201). The FPPA does not apply to this designation. The FPPA applies to Federal programs. Federal programs under the Act are defined as “those activities or responsibilities of a department, agency, independent commission, or other unit of the Federal Government that involve: (A) Undertaking, financing, or assisting construction or improvement projects; or (B) acquiring, managing or disposing of Federal lands and facilities. The designation of critical habitat does not constitute a “Federal program” under the FPPA.

(h) *Unfunded Mandates Reform Act*—One commenter asserted that we failed to properly conduct and provide an unfunded mandates analysis because, the commenter contended, we based our decision solely on public awareness of the salmon listings. This is not the case. In the proposed rule, we found that the designation of critical habitat is not subject to the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*) and explained in detail why this is the case.

(i) *Federalism*—One commenter asserted that we failed to properly comply with E.O. 13132. In the proposed rule, we found that the designation of critical habitat does not

have significant Federalism effects as defined under that order, and, therefore, a Federalism assessment is not required. We find nothing in the commenter's assertions to warrant changing our original determination.

(j) *Takings*—One commenter disputed our conclusion in the proposed rule that the designations would not result in a taking. The commenter offered no information or analysis that would provide a basis for a different conclusion.

(k) *Civil Justice Reform*—One commenter asserted that we failed to properly conduct and provide a Civil Justice Reform analysis pursuant to E.O. 12988, the Department of Commerce has determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the E.O. We are designating critical habitat in accordance with the provisions of the ESA. This final rule uses standard property descriptions and identifies the PCEs within the designated areas to assist the public in understanding the habitat needs of the 12 salmon and steelhead ESUs.

#### *ESU-Specific Issues*

##### *ESU Specific Comments—California Coastal Chinook Salmon*

*Comment 44:* One private timberland owner commented that the freshwater distribution of Chinook salmon that we developed and used for their land ownership had errors in occupancy and/or upstream distribution limits. The landowner provided us with distribution information they had developed for their ownership so that the distribution information and resulting final critical habitat designation for this ESU would be more accurate.

*Response:* Following a review of this new information by the CHART, we incorporated it into our database and made changes in the mapped distribution of this ESU for the commenter's land ownership. The new information changed the distribution of Chinook in the following streams and Calwater HSAs: Maple Creek (110810), Little River (110820), and the Mad River (110920 and 110930). Overall, these changes in distribution were minor and increased the total occupied stream miles for this ESU by only 0.6 mi (1.0 km). Based on a reassessment by the CHART, these changes in distribution did not change the occupancy status (i.e. occupied to unoccupied or vice versa) or conservation value of any of the affected HSAs, and therefore, the

economic analysis did not require revision.

*Comment 45:* A few commenters questioned why there was no proposed critical habitat connecting those portions of the mainstem Eel River in HSA 111142 with the high value habitat areas in the upper tributaries of the middle Fork Eel River in HSA 111172.

*Response:* In the proposed rule, HSA watershed 111171 was proposed for exclusion based on high economic cost (high benefit of exclusion) and relatively low benefit of designation. However, because the upper tributaries of the middle Fork Eel in HSA 111172 were rated as having high conservation value, the mainstem middle Fork Eel in HSA 111171 should have been designated as a migratory corridor to provide connectivity between critical habitat farther downstream in the mainstem Eel River and the high value tributaries that were proposed for designation. This was an error that has been corrected in the final rule. The final designation excludes HSA 111171 as was the case in the proposed rule, but designates the mainstem of the middle Fork Eel River, which serves as a migratory corridor for the high value upstream tributaries, as critical habitat.

*Comment 46:* A commenter questioned the conservation ratings and proposed designations for five of the seven occupied HSAs comprising the Mendocino Coast Subbasin (HU 1113). The commenter specifically questioned the historic and current presence of Chinook in these watersheds and thought any Chinook that did occur in these watersheds were likely strays from other watersheds.

*Response:* The CHART considered these comments and reviewed its original assessments. It concluded that its original conservation value ratings were appropriate based on the ranking criteria that were used and the information that was available, and that these areas met the definition of critical habitat under the ESA. Accordingly, the conservation value ratings for these HSA watersheds were not changed. Based on the ESA section 4(b)(2) analysis conducted for the final rule, however, HSA watershed 111350 (Navarro River) in this Subbasin was excluded from the final designation for this ESU.

*Comment 47:* One commenter questioned the proposed designation of critical habitat for this ESU in the Austin Creek HSA (111412) and Mark West HSA (111423), based on the view that neither watershed supported a historically self sustaining run and that Chinook in both streams were most likely strays from other watersheds.

*Response:* The CHART considered this comment and reviewed its original assessments. It concluded that its original conservation value ratings were appropriate based on the ranking criteria that were used and the information that was available, and that these areas met the definition of critical habitat under the ESA. Accordingly, the conservation value ratings for these HSA watersheds were not changed. Based on the ESA section 4(b)(2) analysis conducted for the final rule, however, HSA 111423 (Mark West Creek) in this Subbasin was excluded from the final designation for this ESU.

*Comment 48:* A property owners' association on the Russian River that controls land adjacent to portions of the Russian River in HSAs 111425 and 111424 requested that its lands be excluded from the final designations for California Coastal Chinook (and Central California Coast steelhead) because it has developed a Watershed Management Plan to manage its lands and because the benefits of excluding its lands outweigh the benefits of including them in the designation.

*Response:* We are very supportive of the development and implementation of this plan and have in fact participated in its development. However, we do not think this plan qualifies as the basis for excluding these lands from the final designation for either ESU at present, since it is not completed. Once the plan is completed, we will evaluate it to determine whether the benefits of excluding the habitat areas in question will outweigh the benefits of designation. In making this assessment we will evaluate the plan in the same manner as we would evaluate an approved habitat conservation plan (see *Impacts to Landowners with Contractual Commitments to Conservation* section). If we determine that the benefits of exclusion outweigh the benefits of designation, then we will initiate the appropriate rulemaking to refine the critical habitat designations.

##### *ESU Specific Comments—Northern California Steelhead*

*Comment 49:* Two private timberland owners commented that the freshwater distribution of steelhead that we developed and used for their land ownership had errors in occupancy and/or upstream distribution limits. Both landowners provided us with distribution information they had developed for their ownership so that the fish distribution information we used for the final critical habitat designation for this ESU would be more accurate.



*Response:* Following a review of this new information by the CHART, we incorporated it into our database and made changes in the mapped distribution of this ESU for the commenters' land ownership. The new information from one of the landowners changed the distribution of steelhead in the following streams and Calwater HSAs: Maple Creek (110810), Redwood Creek (110720), Little River (110820), Mad River (110920 and 110930), and several small streams including Rocky Gulch, Washington Gulch, Jacoby Creek, Freshwater Creek, and Salmon Creek (111000). Overall, these changes in distribution were minor and increased the total occupied stream miles for this ESU by only 1.1 mi (1.8 km). The changes in distribution did not affect the occupancy or conservation value rating for any of these HSAs. The new information from the other landowner changed the distribution of steelhead in the following streams and HSAs: SF Eel (111132, 111133), Usal Creek (111311), Wages Creek (111312), Ten Mile River (111313), Mill Creek, Pudding Creek and the Noyo River (111320), Big River (111330) and Salmon Creek (111340). Overall, this new information decreased the occupied stream miles for the ESU by approximately 17 miles and affected 8 HSAs. Based on a re-assessment by the CHART, these changes in distribution did not change the occupancy status (i.e. occupied to unoccupied or vice versa) or conservation value of any of the affected HSAs, and therefore, the economic analysis did not require revision.

#### ESU Specific Comments—Central California Coast Steelhead

*Comment 50:* One commenter requested that San Francisquito Creek and Los Trancos Creek in HSA 220550 be excluded from the critical habitat designation for this ESU because of the economic impact of designation and because neither creek requires special management considerations. A second commenter requested that San Francisquito Creek not be designated because of the regulatory burden and because the economic impacts on water supply were not included in the economic analysis. The second commenter also identified a labeling error concerning West Union Creek.

*Response:* We disagree with the first commenter and believe that these streams do require special management considerations. Both streams have extensive zones of healthy riparian vegetation and habitat and support significant steelhead populations in the San Francisco Bay area. These relatively healthy habitats and populations are

unique to the San Francisco Bay area, and therefore, the CHART believes they require special management considerations. The commenter has many programs in place that benefit both creeks, but there are also many unresolved habitat issues that remain to be addressed. For example, on Los Trancos Creek a poorly designed fish ladder needs to be replaced, and several other fish passage issues remain. In addition, NMFS and CDFG have discussed the inadequate bypass flows on Los Trancos Creek below the commenter's water diversion for the past several years, but have yet to resolve the issue. Special management considerations are also necessary to address ongoing and expanding impacts of urbanization on the San Francisco Peninsula. We considered the impacts of designating the HSA watershed containing these creeks in the proposed rule and again using a revised procedure for the final rule. Based on the ESA section 4(b)(2) analysis used for the final rule, we concluded that the benefits of including this HSA watershed in the designation (medium conservation value to the ESU) outweighed the benefits of excluding it from the designation. On the basis of this analysis, therefore, we do not think there will be an unwarranted regulatory burden placed on these commenters or any other entities that may need to obtain Federal permits and consult with NMFS in this HSA watershed. We acknowledge the comment that water supply impacts were not considered in the proposed rule or in the revised 4(b)(2) process for the final rule, but we have addressed water supply impacts as a general issue in greater detail in the final economic analysis for this rule.

*Comment 51:* One commenter argued that Suisun and Wooden Valley Creeks in HSA 220722 do not provide suitable habitat for steelhead and that designation is not justified because surrounding HSAs were not proposed for designation.

*Response:* We disagree with the commenter and believe that Suisun and Wooden Valley Creeks currently support a population of steelhead and do provide suitable habitat for rearing, spawning and migration (and thus, the PCEs that support these habitat uses). The reports cited by the commenter include a discussion of limiting factors in Suisun Creek, but also include several favorable findings regarding steelhead habitat conditions in the watershed. These findings suggest that there is suitable habitat for steelhead in the watershed and that steelhead spawned in Suisun Creek in 2000–2001. Based on the information available,

therefore, we believe that the medium conservation rating originally made by the CHART for this HSA watershed is appropriate. The revised ESA section 4(b)(2) exclusion analysis conducted for the final rule, however, considered section 7 opportunities within HSA watersheds and adjusted the benefits of inclusion in critical habitat accordingly. In the case of this HSA, this re-consideration resulted in a reduced assessment of the benefits of designating this watershed. Based on this revised benefit of designation in the final 4(b)(2) analysis, we have concluded that the benefits of excluding this HSA from the designation outweigh the benefits of designating it. Accordingly, this HSA watershed and the streams in question have been excluded from the final critical habitat designation.

*Comment 52:* Several commenters raised issues concerning our proposal to include the upper Alameda Creek watershed (which supports resident *O. mykiss* considered to be part of this ESU; see 69 FR 33101; June 14, 2004) in the critical habitat designation for this ESU. Comments ranged from support for designation of this watershed to requests that it not be designated. Issues were raised about the adequacy of the economic analysis supporting the ESA section 4(b)(2) analysis, the mapped distribution of proposed critical habitat in the watershed, the suitability of the habitat in upper Alameda Creek for steelhead, and the lack of access for steelhead.

*Response:* We recognize that the upper Alameda Creek watershed (HSA 220430) is not accessible to anadromous steelhead; however, the CHART treated this watershed as occupied in the analysis supporting the proposed rule because there are resident *O. mykiss* populations in the upper watershed that we had previously proposed for inclusion in this ESU (69 FR 33101). In its original analysis, the CHART concluded that this watershed had high conservation value to the ESU, contained the requisite PCEs to support the ESU, and that special management considerations were required to protect these PCEs. Based on this assessment and the original 4(b)(2) analysis which considered the benefits of including this watershed against the benefits of excluding it, we proposed to include it in the designation, as well as a migratory corridor to San Francisco Bay through a portion of the adjacent watershed (HSA 220420) that was proposed for exclusion. We recently invoked a statutory 6-month extension on our final listing determination for this ESU (70 FR 37219) based on concerns raised by the USFWS, and,

therefore, at the time of publication of this final critical habitat rule, these resident populations of *O. mykiss* will not be included in this ESU and listed. Because our original proposal was premised on the upper Alameda Creek watershed being occupied by resident fish that were part of this ESU and a final listing determination concerning these populations will not be made before December 2005, we have not included this watershed in the final critical habitat designation for this ESU. A decision about whether to designate this watershed as critical habitat for this ESU will be made concurrently with the final listing determination for this ESU in December 2005.

*Comment 53:* One commenter opposed inclusion of the Guadalupe River/Los Gatos Creek watershed in the proposed critical habitat designation for this ESU.

*Response:* The watershed (HSA 220540) containing the upper portion of Guadalupe River and Los Gatos Creek was not included in the proposed designation. Occupied habitat in this watershed was excluded from the proposed rule based on the ESA section 4(b)(2) analysis which concluded that the economic benefits of exclusion outweighed the biological benefits of inclusion. The watershed unit (HSA 220550) which contains the lower portion of the Guadalupe River, however, was included in the proposed designation. It is also included in the final critical habitat designation for this ESU because the biological benefits of including the occupied stream habitat in this watershed outweigh the economic benefits of its exclusion.

*Comment 54:* One commenter argued that Arroyo Corte Madera del Presidio Stream in HSA watershed 220320 should be designated as critical habitat for this ESU because it is occupied by this ESU. The same commenter also questioned the exclusion of HSA 220330 from the proposed designation.

*Response:* Exclusion of this stream from proposed critical habitat in HSA 220320 was the result of a technical mapping error in the proposed rule. The CHART evaluated this stream for the proposed rule and concluded it was occupied and met the definition of critical habitat. Accordingly, it has been included in the final designation for this ESU. Occupied habitat in HSA 220330 was excluded from the proposed rule and in this final rule based on the results of the 4(b)(2) analysis, which indicated the economic benefits of exclusion outweighed the biological benefits of including these stream reaches in the designation for this ESU.

*Comment 55:* One commenter argued that occupied habitat in HSA 220330 in the east Bay of San Francisco should be designated as critical habitat for this ESU.

*Response:* Occupied habitat (Codornices Creek) in this HSA was excluded from the proposed designation because the conservation value of this habitat was judged by the CHART to be low (low habitat quantity and quality, low restoration potential, no unique attributes, and small population size), and the economic benefits of excluding this habitat outweighed the biological benefits of designation. The CHART did not receive any new information to change its previous determination, and, therefore, reaffirmed that it has low conservation value and that its exclusion would not impede the conservation of this ESU.

*Comment 56:* One commenter recommended that several additional, but small, stream reaches in the San Francisquito watershed, as well as an unoccupied habitat above an impassable dam (Searsville Dam), be designated as critical habitat for this ESU.

*Response:* Based on a review of the information provided by the commenter, the CHART concluded that some additional stream reaches in this watershed should be considered occupied, meet the definition of critical habitat, and should be designated as critical habitat. Because this watershed was not excluded from the designation as a result of the final ESA 4(b)(2) analysis, additional stream reaches qualifying as critical habitat have been added to the final designation. These include: a short reach of Corte Madera Creek to the base of Searsville Dam, approximately 2.5 mi (4 km) of West Union Creek above the confluence with Bear Creek, a short reach of Bear Gulch Creek up to the California Water Service Upper Diversion Dam, a small portion of Squealer Gulch above the confluence with West Union Creek, and a small portion of McGarvey Gulch above the confluence with West Union Creek.

*Comment 57:* One commenter requested the exclusion of several streams in Hydrologic Unit 3304 from the critical habitat designation, including Laguna Creek, Liddell Creek, Majors Creek, Arana Gulch, San Lorenzo River, Branciforte Creek, Newell Creek, and Zayante Creek because the commenter believes the benefits of excluding these areas outweigh the benefits of designating them. The rationale is that: (1) The commenter is developing an HCP that will address these streams and a designation could hinder its completion; and (2) a designation would increase the

regulatory costs and burdens on the city beyond those already in place. The commenter also raised concerns about the regulatory uncertainty associated with critical habitat because of the 2004 Gifford Pinchot case.

*Response:* We disagree with the commenter and continue to believe that the benefits of including these streams in the critical habitat designation outweigh the benefits of excluding them. For the proposed critical habitat designation, the CHART evaluated the HSA watersheds containing the streams identified by the commenter (HSAs 330411 and 330412) and concluded that the occupied streams in both HSAs had high conservation value for this ESU and that there was a need for special management consideration or protections. Based on this assessment and the results of the ESA section 4(b)(2) analysis conducted for the proposed designation, including the consideration of potential economic impacts, we concluded that the benefits of designating the occupied streams in both watersheds were higher than the benefits of excluding them. The commenter did not provide any new scientific information to change our assessment of the benefits of designating these streams, and thus we continue to believe they have a high biological value to the ESU. As part of the 4(b)(2) analysis conducted for the final rule, however, we did reduce our assessment of the benefit of designating occupied habitat in these two HSA watersheds because they both met a "low section 7 leverage" profile, which we believed reduced the benefits of section 7 consultation (see discussion in *Critical Habitat Analytical Review Teams* section).

We continue to be supportive of the commenter's efforts to develop an HCP and believe completion of an HCP that meets the requirements of section 10 of the ESA will provide substantial benefits to steelhead and its habitat in these streams. However, negotiations are still ongoing, and an HCP has not been completed. Until an HCP is completed and an incidental take permit is issued, the potential conservation benefits to steelhead and its habitat are uncertain. For this reason, we believe it is premature to consider the potential benefits of such a conservation plan in the 4(b)(2) analysis for this final designation. Whether or not the commenter would experience an increased regulatory burden or higher costs with a critical habitat designation in place is uncertain. Even without critical habitat in place, the commenter is likely to incur costs associated with ESA section 7 consultations,



development of an HCP, and/or efforts to avoid take. We did consider the economic impacts of critical habitat designation in both the proposed and final rules and in doing so analyzed the full costs of section 7 implementation, not just the costs associated with critical habitat implementation. In approaching the economic analysis this way, we believe that we have likely overstated the economic impacts of critical habitat designation. The final 4(b)(2) analysis for this designation considered both the reduced benefit of including HSA watersheds 330411 and 330412 and the final economic impacts for these watersheds. Based on our consideration of this information, we concluded that the benefits of designating the occupied stream reaches in HSAs 330411 and 330412, including the streams of concern to the commenter, outweighed the benefits of excluding them from the final designation.

#### ESU Specific Comments—South-Central Coast Steelhead

*Comment 58:* One commenter questioned the conservation value of the San Benito watershed (HSA 330550) and also argued that unoccupied habitat areas above Uvas Creek Dam were not essential for the conservation of this ESU.

*Response:* The San Benito watershed unit (HSA 330550) was rated as having medium conservation value to this ESU by the CHART based on factors used to conduct the conservation value rating and ranking effort. For the proposed critical habitat ESA section 4(b)(2) analysis, therefore, we attributed a medium benefit of designation to this watershed unit. For the final designation, we conducted a revised 4(b)(2) analysis that modified the biologically based conservation value scores if they met a “low section 7 leverage” profile which we believe reduce the benefits of section 7 consultation (see discussion in *Critical Habitat Analytical Review Teams* section). In the case of HSA 330550, we determined that there was relatively low section 7 leverage which reduced the benefits of section 7 consultation, and therefore, reduced the benefit of inclusion from medium to low. Based on this low benefit level and comparatively high economic costs associated with section 7 consultations in this watershed unit, this watershed was considered for possible exclusion. However, the CHART reviewed the available biological and other information for this watershed unit and concluded that its exclusion would impede the conservation of this ESU. This determination was based on the

size of the San Benito River and its contribution of habitat to the Pajaro River Basin, the level of section 7 activity occurring in the watershed, and the San Benito River’s potential contribution to the recovery of this ESU. Accordingly, we have included the San Benito watershed unit HSA 330550 in the final critical habitat designation.

In the proposed critical habitat designation, the CHART did conclude that the unoccupied habitat above the Uvas Creek Dam “may” be essential for conservation of this ESU. We recognize, however, that there are several issues related to providing fish passage over this dam and also believe it is premature to include this unoccupied habitat area in the critical habitat designation until ongoing recovery planning efforts have progressed to the point where they support a determination that these areas are essential to the conservation of this ESU.

*Comment 59:* One commenter questioned whether the apparent exclusion of a portion of the drainage into Morro Bay was based on a consideration of land ownership.

*Response:* The identification and conservation rating of occupied habitat that was eligible for designation used only biological and ecological criteria, including information regarding presence of steelhead and habitat condition. Land ownership was not a consideration in the conservation rating process nor in the section 4(b)(2) analysis that identified areas for exclusion based on a balancing of the benefits of designation against the economic costs of designation. In reviewing the proposed critical habitat designation maps in response to this comment, however, we discovered a technical mapping error in Los Osos Creek. An upstream portion of Los Osos Creek was proposed for designation in HSA 331023, but the lower portion of the creek which enters into Morro Bay was inadvertently excluded from the designation. We have corrected this error in the final designation.

*Comment 60:* One commenter recommended exclusion of San Luis Obispo Creek from the designation for this ESU based on the management plans and existing agreements already in place which provide protection for the creek and steelhead. The commenter also raised questions about the validity of the economic impact analysis used for the proposed critical habitat designation process in light of costs incurred as a result of ESA section 7 consultation on a water reuse project.

*Response:* The commenter and other local agencies have undertaken numerous efforts to conserve and

improve existing habitats within the San Luis Obispo Creek watershed, though some efforts were a result of regulatory requirements to compensate for the adverse effects of proposed actions. However, these conservation efforts have been confined to localized areas and provide no reliable ability to effectively protect existing suitable habitat for steelhead and improve currently degraded habitats. We have not conducted a review to determine whether the existing local conservation and management efforts (e.g., conservation easements, creek set-back ordinance, sewer ordinance) contain measures that would be expected to protect existing suitable habitat for steelhead, and, therefore, the possible benefits that existing management plans may have for the conservation of steelhead and their habitat is unknown. We have, however, reviewed the draft Creeks and Waterway Management Plan (i.e., the Environmental Impact Statement), which describes management and protection of streams within the San Luis Obispo Creek watershed, and concluded that many of the “management” activities (e.g., use of rock riprap, removal of woody debris, creation or modification of channels, and in-channel detention enhancements) in the plan would create conditions unfavorable for long-term survival and reproduction of steelhead within the San Luis Obispo Creek watershed and, in turn, the entire ESU. Based on these considerations and other information regarding activities potentially affecting steelhead habitat in the San Luis Obispo Creek watershed, we disagree with the commenter and continue to believe there is a need for special management considerations or protections of occupied stream habitat in the San Luis Obispo Creek watershed. Accordingly, the final designation for this ESU includes all occupied stream reaches in HSA 331024, including San Luis Obispo Creek.

We acknowledge that the economic analysis used in the ESA section 4(b)(2) analysis for the proposed designation did not address water supply and flow modification related projects adequately. The final economic analysis prepared for this designation addresses these issues more completely, though it does not specifically address the water reuse project. Rather than understate the costs of critical habitat designation, we believe that the economic analyses prepared for the proposed and final designations actually overestimate the incremental economic costs associated with critical habitat designation. In our economic analyses, we estimated the

total cost of ESA section 7 consultation for specific project types anticipated to occur in the foreseeable future based on information from Federal agencies and other sources. We believe that much of the estimated costs can be attributable to the presence of listed fish and the jeopardy analysis in section 7 consultation. Indeed, the costs cited by the commenter for its water reuse project were associated with a section 7 consultation that addressed the presence of listed steelhead in the watershed, not critical habitat. Although consideration of critical habitat adverse modification in the consultation on the water reuse project may have resulted in additional project changes, we do not think they are likely to be significant.

*Comment 61:* Several commenters were confused about whether West Corral de Piedra Creek, an upstream tributary to Pismo Creek (HSA 331026), was included in the proposed designation, and whether areas above a local dam (the Righetti Dam) on this creek were included in the designation. Some commenters also argued that habitat above the Righetti Dam was of high quality for steelhead and should be included in the critical habitat designation. One commenter also requested that an unnamed tributary of West Corral de Piedra Creek be designated, while a second commenter requested that it not be designated.

*Response:* West Corral de Piedra Creek was included in the proposed designation and has also been included in the final designation for this ESU. The maps used to depict occupied stream habitat and the proposed critical habitat, however, did not properly label West Corral de Piedra Creek, hence the confusion of the commenters. We have corrected this problem in the maps depicting the final designation. The designated critical habitat in West Corral de Piedra Creek, however, does not include habitat above the Righetti Dam. Although the habitat appears to be of high quality and would likely support steelhead spawning, we are uncertain whether adult fish can pass over the dam. Accordingly, we treated the area above the Righetti Dam as unoccupied habitat and, since a determination that it is essential to the conservation of the ESU had not been made, we have not included it in the final designation for this ESU. In evaluating the areas of occupancy, habitat conditions, and conservation value of this HSA watershed, the CHART reviewed the available information about the unnamed tributary to West Corral de Piedra Creek. The CHART concluded it was unoccupied and had poor habitat conditions, and, since, a determination

that it is essential to the conservation of the ESU has not been made, it has likewise not been included in the final designation.

*Comment 62:* Another commenter argued that West Corral de Piedra Creek is likely unoccupied by steelhead because of an impassable barrier on Pismo Creek downstream of West Corral de Piedra Creek (and the Righetti Dam), and, therefore, should not be designated as critical habitat. The commenter also criticized the economic analysis for not addressing impacts on irrigation and instream flow resulting from critical habitat designation. Lastly, the commenter argued that habitat area above the Righetti Dam should not be designated.

*Response:* The potential barrier in question is an existing fish ladder on Pismo Creek downstream of West Corral de Piedra Creek. The extent to which the ladder precludes adult steelhead is unclear, but we do not think it is a complete barrier. There is existing information indicating the presence of juvenile steelhead in West Corral de Piedra Creek downstream of Righetti Dam and above the Pismo Creek ladder which suggests steelhead can pass the existing fish ladder. In addition, direct observations of the fish ladder suggest it is capable of passing adult steelhead even though the design is not ideal and ladder operation may become impaired by inorganic and organic debris. Based on the available information, therefore, the CHART considered West Corral de Piedra to be occupied habitat for steelhead up to, but not above, the Righetti Dam. Accordingly, this reach of West Corral de Piedra is included in the final critical habitat designation for this ESU. We acknowledge that the economic analysis prepared for the proposed critical habitat designation did not adequately address economic impacts related to changes in instream flow or agricultural flows. The final economic analysis made additional efforts to address this issue, though potential flow changes at the Righetti Dam was not a part of that analysis. As noted in the previous response, the habitat area above the Righetti Dam is not considered occupied by steelhead though habitat conditions are considered favorable for steelhead spawning. For this reason, the habitat area above Righetti Dam is not included in the final designation of this ESU.

*Comment 63:* One commenter argued that Arroyo Grande Creek should not be included in the designation because it is not essential for conservation, numerous dams on the creek have altered habitat conditions for steelhead, existing protections are in place and thus there

is no need for special management considerations, and previous determinations by Federal and State agencies have concluded that activities at Oceano SVRA do not adversely impact steelhead or their habitat. The commenter cited the final draft HCP for Arroyo Grande Creek as an existing mechanism for managing the creek, and suggested designation of critical habitat was unnecessary because it would cause confusion among stakeholders and agencies regarding the management of the area for steelhead. Another commenter argued that designation of the mouth of Arroyo Grande Creek may impact recreational uses in that area, and thereby result in significant economic impacts to local governments and businesses.

*Response:* The CHART determined that Arroyo Grande Creek met the definition of critical habitat, and was therefore eligible for designation, based on an extensive review of information, including observations and information obtained from site visits and field studies. This information allowed the CHART to identify the geographic areas occupied by steelhead and confirm that the creek contains physical and biological features essential to conservation. A draft HCP prepared by the San Luis Obispo County Flood Control and Water Conservation District Zone 3 (District) provides information regarding the quality and quantity of habitats in Arroyo Grande Creek for steelhead and discusses the abundance of steelhead. Although this ESU has a broad geographic distribution, there are relatively few representative streams in the southern portion of the ESU where steelhead actively spawn and rear. Arroyo Grande Creek is one of the few streams at the southern portion of the subject ESU where age-0 and older juvenile steelhead occur during summer and fall, and sexually ripe adults occur in winter and early spring. There are numerous streams in San Luis Obispo County, but a disproportionate number in the southern portion of the subject ESU currently do not appear suitable for steelhead owing in part to improper land-use activities. Arroyo Grande Creek is one of the notable exceptions. On the basis of this information, the CHART determined that the HSA watershed containing Arroyo Grande Creek had medium conservation value and that it was essential for the conservation of the ESU.

Based on information available to us, the only dam which is a full barrier to steelhead in Arroyo Grande Creek is Lopez Dam. Its presence and operation have certainly contributed to declines in the quality and quantity of habitat for

steelhead, but evidence indicates that steelhead still use Arroyo Grande Creek for spawning and rearing. More importantly, the effects of Lopez Dam on steelhead and its habitat in Arroyo Grande Creek underscore the need for special management considerations or protections in this watershed.

The purpose of the HCP in question is essentially to address the "take" of steelhead and other federally listed species associated with operation of Lopez Dam, not to manage the Arroyo Grande Creek as a whole. More importantly, the current draft HCP does not ensure that essential habitat functions necessary for long-term species survival would be attained through the proposed conservation program. For instance, the flow regime proposed in the draft HCP is conditioned upon reservoir-operation constraints, and, therefore, is not ecologically meaningful. The HCP requires considerable revision before being suitable for adoption in the application phase, and years may pass before it is ultimately approved and an incidental take permit issued.

The commenter is correct that we have determined through informal ESA section 7 consultations with the U.S. Army Corps of Engineers (COE) that off-road vehicle crossings of the creek at the mouth (a sandy tidally influenced area) are not likely to adversely affect steelhead. However, the decision to include Arroyo Grande Creek in the designation was not predicated on whether previous activities, such as off-road vehicle use, did or did not adversely affect the species. Rather, NMFS performed an extensive review and analysis to identify those habitats that are essential for conservation of the species and determined that Arroyo Grande Creek (including the creek mouth) is one such habitat area for this ESU. Inclusion of the creek mouth in the critical habitat designation is necessary because the mouth is an essential migratory habitat linking upstream spawning and rearing areas with the ocean.

Based on our past consultation experience in this area, we do not think that designation of the Arroyo Grande Creek, including the creek mouth, is likely to result in restricted recreational crossings of the creek mouth or cause significant economic impacts to local governments and businesses. Although not definitive on the outcome of future consultations, previous consultations involving such crossings have determined that steelhead were not likely to be adversely affected and that the value of the creek mouth as a

migration corridor for steelhead was not likely to be diminished.

*Comment 64:* One commenter (CDFG) recommended that the conservation value of the HSA watersheds containing Arroyo de la Cruz (HSA 331012) and San Carpofo (HSA 331011) creeks should be high because of the quality and quantity of steelhead habitat and the potential risks to these resources in the future.

*Response:* We agree with CDFG that the quality of steelhead habitat is high for both of these streams. However, the CHART considered a range of factors in assessing the conservation value of the HSA watersheds containing these streams, and on the basis of that analysis, concluded that a medium conservation value was appropriate for both watersheds. Based on the available information, we continue to believe that these two HSA watersheds have a medium conservation value to this ESU relative to other HSA occupied watersheds in the range of the ESU. Both HSA watersheds had a relatively low economic benefit of exclusion, and therefore, all occupied habitat in both watersheds, including the two streams in question, are included in the final critical habitat designation for this ESU.

#### ESU Specific Comments—Southern California Steelhead

*Comment 65:* Several commenters raised questions about whether or not the Sisquoc River and some of its tributaries are occupied by steelhead, and whether there are PCEs to support steelhead in this watershed. At least one commenter argued that any *O. mykiss* in this watershed were hatchery plants. One commenter criticized the economic analysis for the HSA containing the Sisquoc River watershed, and another was concerned that recreational fishing in one tributary would be adversely affected by a critical habitat designation.

*Response:* The CHART reconsidered whether the Sisquoc River and its tributaries should be considered occupied based on the issues raised by these commenters. Based on a reassessment of the available information (primarily the Stoecker and Stoecker 2003 barrier assessment for the Sisquoc River), the CHART concluded that the Sisquoc River and its tributaries (HSA 331220) should be considered occupied, and that this watershed contains PCEs supporting migration, spawning and rearing habitat. We recognize that flows in the Santa Maria River watershed are constrained by the operation of Twitchell Dam and that migration opportunities into the Sisquoc River are limited. For this reason, steelhead access to this watershed is not

available in all years, and occupancy of the watershed will be on a more infrequent, rather than annual, basis. Nevertheless, migration opportunities do occur in wet years when high flows breach the sand bar at the mouth of the Santa Maria River, and steelhead can and do migrate into the middle and upper reaches of the Sisquoc River watershed where over-summering/rearing habitat and spawning habitat occurs. Although rainbow trout may well have been planted in some areas historically, we are not aware of any current planting of fish except in Manzana Creek. Accordingly, we do not believe the vast majority of steelhead in the watershed are of hatchery origin. A revised economic impact analysis was prepared for the final critical habitat designation. Although it may not address all site specific potential economic impacts within each HSA watershed, we believe this analysis does consider the vast majority of projected activities which are subject to ESA section 7 consultation in each watershed and that it provides a reasonable basis for conducting an ESA section 4(b)(2) analysis. More detailed responses to comments on the economic analysis were presented earlier in this final rule. Lastly, the designation of critical habitat for this ESU is not expected to affect recreational fishing activities in this watershed because such activities are not subject to section 7 of the ESA and are unlikely to affect critical habitat. Nevertheless, such activities do need to ensure that they do not result in the "take" of listed steelhead.

*Comment 66:* One commenter questioned whether specific streams (Santa Agueda and Alamo Pintado, both tributaries to the lower Santa Ynez River in HSA 331440, and Santa Monica Creek in HSA 331534) should be designated as critical habitat.

*Response:* We have re-examined the available information supporting the inclusion of these tributaries in the proposed designation and concluded that although these streams may occasionally support steelhead, there is not sufficient information to consider them occupied for the purposes of this designation process. Accordingly, these tributaries were not considered occupied in the final critical habitat designation and a determination that they were essential to the conservation of the ESU was not made, so they have been removed from the final critical habitat designation and associated maps.

*Comment 67:* Many commenters responded to our request for comments regarding the designation of unoccupied



habitat above Bradbury, Matilija, Casitas, Santa Felicia and Rindge Dams. Several commenters recommended that these areas be designated because they are essential for the conservation of this ESU, while several other commenters were opposed to designating these unoccupied habitats. Some commenters were confused or misunderstood that we were only requesting information and thought we had proposed to designate these areas as critical habitat.

*Response:* As part of the proposed rule development process, the CHART was asked to identify unoccupied areas above dams within the range of this ESU that "may" be essential for its conservation. Based on its assessment, the CHART identified the unoccupied habitat found above the five dams listed above. The proposed rule did not include these unoccupied areas in the proposed designation for this ESU, but rather solicited public comment on our determination that these unoccupied areas "may" be essential for conservation of this ESU. As stated elsewhere in this rule, we believe that it is premature to designate such areas at this time, and that any designation of unoccupied areas above dams or in other areas must await the completion of technical recovery planning efforts that are currently underway. Our expectation is that the technical recovery planning process will provide the scientific foundation to support the inclusion of unoccupied habitat areas in any critical habitat designation. Once the technical recovery planning is completed, we intend to revisit the designation of unoccupied habitat and will use information provided by commenters to inform any subsequent proposal.

*Comment 68:* A large number of commenters were opposed to the inclusion of any portion of Rincon Creek in the critical habitat designation. They argued that steelhead did not occupy the stream, the habitat was unsuitable, and the economic impacts of designation would be significant. Some commenters were confused and thought that Rincon Creek upstream from the Highway 101 culvert had been proposed.

*Response:* The proposed designation of Rincon Creek only included that portion of the creek that is seaward of the Highway 101 culvert. The culvert is considered a complete barrier to steelhead migration, and therefore, areas upstream of the culvert are considered unoccupied. We continue to believe that the lagoon and that portion of Rincon Creek seaward of the culvert is periodically occupied and meets the definition of critical habitat.

Accordingly, this habitat reach was considered in the final ESA section 4(b)(2) analysis and has been retained in the final critical habitat designation for this ESU. Efforts are underway to improve fish passage at this culvert, and the designation of critical habitat downstream may support those efforts. If fish passage is successfully implemented at this location and steelhead reoccupy Rincon Creek upstream from the Highway 101 culvert, we will reconsider the possibility of designating critical habitat in the newly occupied habitat area.

*Comment 69:* Camp Pendleton Marine Corps Base and Vandenberg Air Force Base both provided supplementary comments and information to support the exclusion of their facilities from the final critical habitat designation for this ESU, based on the conservation benefits provided by their respective INRMPs. Both DOD facilities also provided information supporting the national security related impacts of a critical habitat designation on their activities and operations.

*Response:* As discussed elsewhere in this final rule, we have concluded that the INRMPs for both of these facilities provide conservation benefits to this steelhead ESU, and, therefore, the areas subject to these INRMPs are not eligible for designation pursuant to section 4(a)(3)(B)(i) of the ESA. Information provided by both DOD facilities concerning the impacts of critical habitat designation on their activities and operations support the view that designation of habitat will likely reduce the readiness capability of both the Marine Corps and Air Force, both of which are actively engaged in training, maintaining, and deploying forces in the current war on terrorism. On this basis, we also concluded that the benefits of excluding these facilities from the critical habitat designation for this ESU outweighed the benefits of designation.

*Comment 70:* Several commenters raised questions about steelhead access to, and occupancy in, upper San Antonio Creek (a tributary to the Ventura River) and its tributaries (e.g., Reeves, Thatcher, Gridley, Ladera, and Senior Canyon Creeks). These commenters argued that a migration impediment at the Soule Park golf course blocks steelhead access upstream and that the only occupied habitat in the San Antonio Creek watershed is downstream from that location.

*Response:* We agree with the commenters that steelhead access to some portions of upper San Antonio Creek watershed are in fact blocked and should not be considered occupied habitat for the purposes of this critical

habitat designation. For example, most of Thatcher Creek and Reeves Creek are presently inaccessible because of a passage impediment at Boardman Road on Thatcher Creek, and, therefore, these habitat reaches are clearly unoccupied by steelhead at present. Similarly, steelhead access into Gridley Canyon Creek, Senior Canyon Creek, and the lower portion of Thatcher Creek was blocked until this past winter when storms washed out a passage impediment at the Soule Park golf course. Although the passage impediment at the Soule Park golf course is no longer present, we have no information at present indicating that steelhead occur in the habitat reaches upstream of the former impediment to migration. Based on this information, we concluded it is appropriate to consider all stream reaches in the upper San Antonio Creek watershed above the Soule Park golf course to be unoccupied for the purposes of this critical habitat designation. We have revised our fish distribution maps accordingly and also removed these areas from the final critical habitat designation. It should be noted, however, that steelhead may now begin to occupy areas above the Soule Park golf course, and that efforts are underway to provide fish passage for steelhead at the Boardman Road location. If steelhead do access these currently unoccupied habitat areas, we will reconsider the exclusion of these areas from critical habitat for this ESU.

*Comment 71:* Some commenters questioned the distribution of occupied habitat and the proposed designation of occupied habitat in Hydrologic Unit 4901, particularly with regard to the upstream endpoints in San Juan Creek, Trabuco Creek (a tributary of San Juan Creek), and Devil's Canyon (a tributary of San Mateo Creek). Other commenters supported the proposed designation of habitat in the San Juan Creek and Trabuco Creek watersheds.

*Response:* We have reviewed the information provided by the commenters, re-evaluated the information used in developing the proposed designation, and also consulted with CDFG regarding the upstream limit of the distribution of steelhead in San Juan Creek and Trabuco Creek. After considering this information, we have substantially modified the upstream distribution limits of steelhead occupancy in Trabuco and San Juan Creeks. According to CDFG, the Trabuco Creek crossing under I-5 in San Juan Capistrano is a complete barrier to steelhead. Therefore, the occupied habitat reach in Trabuco Creek is now considered to end at the I-5 crossing

which is in HSA 490127. As a result of this distributional change, three HSA watershed units in upper Trabuco Creek that were previously considered occupied and proposed for designation (HSAs 490121, 490123, and 490122) are no longer considered occupied. Because these watersheds are not occupied and a determination that they are essential to the conservation of the species had not been made, they are not included in the final critical habitat designation. The I-5 does not serve as a barrier to steelhead migration in San Juan Creek. However, the upstream distributional limit of steelhead according to CDFG is basically at the I-5 bridge based on the available anecdotal information. As a result of this distributional change, three HSA watersheds upstream from this location that were previously considered occupied and proposed for designation (HSAs 491028, 490126, and 490125) are no longer considered occupied; and, because a determination that they are essential to the conservation of the ESU has not been made, they are not included in the final designation for this ESU. Those portions of Trabuco and San Juan Creeks that are occupied and occur in HSA 490127 as described above were considered eligible for designation and were considered in the final ESA section 4(b)(2) analysis. Based on this analysis, we concluded that the benefits of including the occupied habitat reaches in HSA 490127 outweighed the benefits of their exclusion, and, therefore, we have included these habitat areas in the final designation.

*Comment 72:* One commenter questioned why Pole Creek, a tributary to the Santa Clara River, was included in the proposed critical habitat designation when the habitat conditions were poor and there was little information indicating it was occupied.

*Response:* Based on information from the commenter and observations by agency biologists, we have reassessed the appropriateness of including Pole Creek in the final designation. We recognize that habitat conditions in Pole Creek are poor and upstream passage through the existing concrete channel in the lower portion of the creek is highly unlikely. Accordingly, we have concluded that Pole Creek should be considered unoccupied. Because it is considered unoccupied and we have not made a determination that it is essential for conservation, it is not included in the final critical habitat designation.

*Comment 73:* One commenter questioned why critical habitat was not proposed in the Santa Clara River upstream from its confluence with Piru Creek.

*Response:* The CHART did not consider that portion of the Santa Clara to be occupied, and we did not make a determination that it was essential for the conservation of the ESU; thus it was not considered further in the critical habitat analysis.

#### ESU Specific Comments—Central Valley Spring Run Chinook

*Comment 74:* Two commenters provided information regarding the distribution of occupied spring run Chinook habitat and habitat use, and recommended that additional critical habitat be designated in the upper Sacramento River Basin for this ESU. One commenter indicated that we should designate several west-side tributaries to the upper Sacramento River in the vicinity of Redding (HSA 550810) as critical habitat because these streams provide significant non-natal rearing and refugia habitat, especially since Shasta and Keswick Dams block access to hundreds of miles of historic rearing and refugia habitat. Another commenter recommended that small intermittent tributaries used for natal rearing in the Sacramento River, as well as lower Butte Creek, should be designated as critical habitat.

*Response:* The CHART reviewed the information provided by these commenters for the upper Sacramento River tributaries and concluded that it did not change the previously determined distribution of occupied habitat for this ESU. The CHART reassessed the conservation value of occupied habitat in HSA 550810 based on the new information and concluded that the conservation value of some reach specific tributaries was less than previously thought to be the case, but that the overall conservation value for the HSA remained high. All occupied spring run Chinook habitat in HSA 550810 was proposed for designation, and, as a result of the final ESA section 4(b)(2) analysis, this habitat has been included in the final designation for this ESU. The CHART agreed with the commenter that intermittent tributaries to the Sacramento River are used for non-natal rearing and that lower Butte Creek is important for the conservation of this ESU. In fact, the CHART previously analyzed these occupied habitat areas and rated them as having high conservation value. These areas were proposed for designation and are also included in the final designation for this ESU.

*Comment 75:* One commenter recommended that the lower American River from the outfall of the Natomas Main Drainage Canal downstream to the confluence with the Sacramento River

be designated because it is used for non-natal rearing (HSA 551921). The argument was that this habitat provides spawning, rearing and migration values for spring run Chinook that may require special management considerations.

*Response:* The HSA watershed (551921) containing the lower American River was originally rated by the CHART as having medium conservation value and was excluded from the proposed designation because of relatively high economic costs. In response to these comments, the CHART reassessed the conservation value of this HSA and determined that it should be rated as having a high conservation value to the ESU. Information provided by the commenter demonstrated the importance of the lower American River for non-natal rearing and the high improvement potential of the habitat conditions from ongoing restoration projects. In addition, the lower American River may be used during high winter flows for rearing and refugia by multiple populations of spring Chinook in the central valley (e.g., Feather and Yuba Rivers). Additionally, the commenter suggested that special management considerations may be required to maintain and improve habitat conditions and the conservation value of this HSA for spring run Chinook. In particular, special management considerations may be necessary to address flood control, residential and commercial development, agricultural management, and habitat restoration. Based on the change in conservation value and the final ESA section 4(b)(2) analysis, we concluded that all occupied habitat in HSA 551921, including the lower American River, should be designated as critical habitat for this ESU.

*Comment 76:* A commenter also recommended that the lower Bear River (HSA 551510) from the mouth of Dry Creek downstream to its confluence with the Feather River be designated as critical habitat because it is used for non-natal rearing and will require special management to maintain habitat value for this ESU.

*Response:* The HSA watershed (551510) containing the lower Bear River was originally considered unoccupied by the CHART, and its conservation value was not rated. Based on the information provided by the commenter, the CHART has reclassified the lower Bear River as occupied habitat for spring run Chinook. Information provided by the commenter indicates that the lower Bear River is used for non-natal rearing and that habitat values are likely to increase in the near future



as a result of planned restoration projects that will improve the condition of several PCEs. The CHART applied the PCE factor ranking criteria and rated the lower Bear River as having high conservation value to this ESU, primarily because: (1) the habitat area is likely to be used by at least two populations (*i.e.*, Feather and Yuba River); (2) non-natal rearing represents a unique life-history strategy that is essential for the conservation of the species (contributing to improved growth conditions); (3) the habitat serves as a refugia from high water conditions and catastrophic events; and (4) there is high improvement potential for this habitat from ongoing restoration efforts. Based on information from the commenter, the lower Bear River will require special management efforts to protect and maintain habitat values for this ESU. Special management considerations are likely to include flood control, residential and commercial development, agricultural management, and habitat restoration. Because this HSA is now considered occupied, contains the necessary PCEs, and has a need for special management considerations, it was considered eligible for designation in the final ESA section 4(b)(2) analysis conducted for this designation. Based on the results of the final 4(b)(2) analysis, we concluded that the benefits of including this area in the designation outweighed the benefits of its exclusion. Accordingly, occupied habitat in HSA 551510 is now included in the final critical habitat designation for this ESU.

*Comment 77:* Several commenters recommended that portions of the San Joaquin River and its major tributaries below impassable mainstem dams be designated as critical habitat for this ESU either because of future efforts to restore habitat or because of unpublished information from CDFG indicating specific habitat areas were occasionally occupied by spring run Chinook. These areas include the San Joaquin River from its confluence with the Merced River upstream to Friant Dam, the Tuolumne River downstream of La Grange Dam, the Merced River downstream of Crocker Huffman Dam, and the Stanislaus River downstream of Goodwin Dam.

*Response:* The recommendation to designate the San Joaquin River above the confluence with the Merced River confluence was primarily based on the historical occupancy of this habitat reach by spring Chinook and the expectation that future efforts will be undertaken to restore habitat in this reach. We recognize that this habitat in the San Joaquin River was historically

used by spring Chinook; however, it has been unoccupied for more than half a century. Moreover, plans to restore flows and habitat conditions downstream of Friant Dam are uncertain, and significant passage impediments and flow alterations in the San Joaquin above the Merced River confluence present potentially significant obstacles to future restoration success. Because this habitat is currently unoccupied and no determination has been made that it is essential for the conservation of this ESU, we have not included it in the final critical habitat designation.

The CHART reviewed information provided by the commenters regarding occupancy of the Tuolumne, Merced, and Stanislaus Rivers by spring Chinook and concluded there was insufficient data to consider them occupied. Although the CHART did evaluate these as unoccupied areas for the proposed critical habitat designation and concluded that they "may" be essential for the conservation of spring run Chinook ESU, we believe it is premature to include these unoccupied areas in the critical habitat designation for this ESU until ongoing recovery planning efforts provide information sufficient to make a determination that these areas are essential to the conservation of this ESU. Because these tributary rivers to the San Joaquin River are currently unoccupied and recovery planning efforts do not yet support a determination that these areas are essential for the conservation of this ESU, we have not included them in the final critical habitat designation.

*Comment 78:* One commenter argued that the lower Feather River below Oroville Dam should not be designated because of the introgression of fall run Chinook and spring run Chinook by the Feather River hatchery.

*Response:* We disagree with the commenter and believe that the lower Feather River below Oroville Dam should be designated as critical habitat. The extant Feather River population of spring-run Chinook salmon represents a legacy population of the fish that historically used the upper Feather River prior to construction of Oroville Dam, and it is an important population to conserve and protect because of its potential contribution to ESU recovery. This habitat area was proposed for critical habitat because the CHART considered it occupied by spring run Chinook, it contains PCEs, and it requires special management considerations for activities such as flood control, flow and temperature management, residential and commercial development, agricultural

management, and habitat restoration. HSA 551540, which contains much of the lower Feather River below Oroville Dam, was rated as having high conservation value by the CHART for the proposed designation, and that determination was not changed as a result of these comments. Based on the results the final ESA section 4(b)(2) analysis, occupied habitat in HSA 551540, including the lower Feather River below Oroville Dam, is included in the final critical habitat designation for this ESU.

*Comment 79:* Some commenters contended that NMFS should not designate any critical habitat for spring run Chinook in the Sacramento River, its major tributaries (*i.e.* Feather River), the Sacramento-San Joaquin Delta, or the Suisun-San Francisco Bay complex because existing protective efforts and mechanisms are sufficient to protect the ESU.

*Response:* We disagree with these commenters. These habitat areas comprise the entire freshwater and estuarine range of this ESU, contain one or more PCEs that are essential to the conservation of the ESU, including migration, holding, spawning, rearing, and refugia habitat, and require special management considerations or protections beyond those protective efforts that are already in place or available. For these reasons, they were considered for designation through this rulemaking process. In the course of the analysis supporting this rulemaking, we evaluated the quantity, quality and diversity of PCEs within the occupied portions of these waterbodies by watershed unit, assessed the benefits of designating these watershed units, and finally weighed the benefits of designation against the benefits of exclusion by watershed unit. The resultant critical habitat designation in this final rule, therefore, meets the definition of critical habitat and also represents that habitat which contains PCEs that we believe are essential for the conservation of this ESU.

*Comment 80:* One commenter recommended that several areas proposed for designation in the Sacramento River basin below impassable barriers not be designated in the final rule. These areas include: (1) the South Fork Cow Creek watershed because it is not occupied; (2) specific streams in the Tehama Hydrologic Unit (5504) including HSAs 550410 and 550420 because they do not support populations of spring run Chinook and also lack cool, deep pools for summer holding habitat; (3) specific streams in the Whitmore Hydrologic Unit (5507) including HSAs 550711 and 550722

because they do not support populations of spring run Chinook and also lack cool, deep pools for summer holding habitat; and (4) specific streams in the Redding Hydrologic Unit (5508) and HSA 550810 because they do not support a population of spring run Chinook and lack cool, deep pools for summer holding habitat.

*Response:* The CHART re-evaluated the South Fork Cow Creek based on these comments and agreed that it is unoccupied and therefore reclassified its occupancy status accordingly. Because the HSA containing South Fork Cow Creek (HSA 550731) is now considered unoccupied and we have not made a determination that it is essential to the conservation of the ESU, it was excluded from further consideration in the analysis and has not been included as critical habitat in the final designation for this ESU.

The CHART, however, disagreed with the commenter's recommendation to exclude the identified streams and HSAs in the Tehama (5504), Whitmore (5507), and Redding (5008) Hydrologic Units. The recommendation was based on the lack of cool, deep pools for summer holding habitat that is essential for adult holding, spawning, and summer rearing. The CHART's previous assessment of the conservation value of these streams and watershed units, however, was based on their use during winter and early-spring months for non-natal rearing by juvenile spring-run Chinook. Though current use is likely low, it is expected to increase in the near future as a result of habitat restoration and range expansion in Battle and Clear Creeks. The CHART concluded these streams provide several PCEs that are important for juvenile non-natal rearing, which represents a unique life-history strategy that is essential for the conservation of this ESU because of its contribution to improved growth conditions and refugia from high water and catastrophic events. In addition, the CHART concluded that these streams will require special management efforts for flood control, residential and commercial development, agricultural management, and habitat restoration to protect and maintain the conservation value of these habitats for spring-run Chinook. Based on these factors, the CHART rated most of the occupied HSAs in these three Hydrologic Units as having high conservation value to the ESU. After consideration of these comments, the CHART concluded there was no reason to change its previous assessment of spring Chinook distribution, habitat use, or conservation value for these streams and Hydrologic

Units. Accordingly, the occupied streams in these Hydrologic Units and associated HSAs were considered in the final 4(b)(2) analysis for this final designation.

*Comment 81:* Two commenters questioned the historical and current habitat use and occupancy of Putah, Alamo, and Ulatis Creeks by spring run Chinook and thus whether they should be designated as critical habitat.

*Response:* The proposed critical habitat designation for spring run Chinook did not include any of these three creeks, because the CHART considered all of them to be unoccupied in its original assessment and we had not made a determination that they were essential to the conservation of the ESU. The commenters likely were confused because these creeks all occur in the Valley Putah-Cache Hydrologic Unit (HSAs 551100 and 551120), and some portions of this Hydrologic unit were included in the proposed designation because they are occupied, have the requisite PCEs, may need special management considerations, and were not excluded as a result of the original ESA section 4(b)(2) exclusion process that led to the proposed rule. The CHART did not receive any new information indicating these creeks are occupied, so they were not reconsidered and are not included in the final critical habitat designation for this ESU.

*Comment 82:* Several commenters indicated that habitat above major impassable rim dams on tributaries to the San Joaquin River (Stanislaus, Tuolumne, and Merced Rivers) do not contain habitat that would support spring run Chinook and/or that the feasibility of providing fish passage for spring run Chinook has not been adequately evaluated.

*Response:* Although the CHART did evaluate these as unoccupied areas for the proposed critical habitat designation and concluded that some of the reaches above the rim dams "may" be essential for the conservation of spring run Chinook, we believe it is premature to include these unoccupied areas in the critical habitat designation for this ESU until ongoing recovery planning efforts provide technical information supporting a determination that one or more of these areas are essential to its conservation and recovery. Because these tributary rivers to the San Joaquin River are currently unoccupied and recovery planning efforts do not yet support a determination that these areas are essential for the conservation of this ESU, we have not included them in the final critical habitat designation.

ESU-Specific Comments—Central Valley Steelhead

*Comment 83:* One commenter recommended that we designate several west-side tributaries to the Sacramento River in the vicinity of Redding (HSA 550810) as critical habitat for this ESU because they are used as spawning and/or rearing habitat.

*Response:* The CHART reviewed the new information provided by the commenter and concluded that several of these streams are seasonally occupied and most likely used by steelhead as non-natal rearing habitat with occasional use as spawning habitat, and that they contain PCEs supporting non-natal habitat use. The CHART considered these additional occupied habitat areas important for steelhead because they are likely to be used by several populations (e.g., upper Sacramento River, Clear Creek, and Cow Creek), and because non-natal rearing represents a unique life-history strategy that is essential for the conservation since it contributes to improved growth conditions and serves as a refugia from high water and catastrophic events. The CHART concluded that these streams may require special management considerations to address activities such as flood control, residential and commercial development, agricultural management, and habitat restoration, and, therefore, evaluated the conservation value of these occupied habitat stream reaches and the overall HSA. This reassessment concluded that the conservation value of the additional occupied stream reaches ranged from low to high, but that the overall conservation value of HSA watershed 550810 remained high to the ESU. Based on the results of the final ESA section 4(b)(2) analysis, all occupied habitat in HSA 550810, including several stream reaches recommended by the commenter, is designated as critical habitat in the final rule.

*Comment 84:* One commenter recommended that we should designate upper little Dry Creek, a tributary to Butte Creek, as critical habitat for this ESU.

*Response:* The CHART originally evaluated the conservation value of upper Dry Creek (HSA 552110) as being low, and it was proposed for exclusion in the proposed rule based on the results of the ESA section 4(b)(2) analysis. In response to these comments, the CHART re-assessed the conservation value of this HSA and concluded it should be changed from low to medium. The original low rating was strongly influenced by the low number of stream miles in the HSA. The remainder of

little Dry Creek is located downstream in HSA 552040, which was rated as having a high conservation value by the CHART because of the number of occupied stream miles, its high restoration potential, and its use by multiple populations of steelhead. In its reassessment of the conservation value of HSA 552110, the CHART placed more emphasis on the restoration potential of this reach of upper little Dry Creek and the potential for the stream reach to support life history stages of high importance (i.e., spawning adults and over summering juveniles) for this ESU. Based on the increased conservation value of this HSA 552110 (increased from low to medium) and the results of the final ESA section 4(b)(2) analysis, the upper little Dry Creek has been included in the final critical habitat designation for this ESU.

*Comment 85:* One commenter recommended that we designate the lower Bear River as critical habitat for Central Valley steelhead from its confluence with Dry Creek downstream to its confluence with the Feather River because it is used for non-natal rearing and will require special management considerations to maintain habitat value for the ESU.

*Response:* The CHART originally evaluated the conservation value of HSA 551510, which contains the lower Bear River, as being low, and it was proposed for exclusion in the proposed critical habitat rule based on the results of the ESA section 4(b)(2) analysis conducted for that rulemaking. In response to the information provided by the commenter, the CHART re-assessed the conservation value and concluded that the overall conservation value for this HSA is medium rather than low. As a result of the revised 4(b)(2) analysis conducted for the final rule, however, this HSA watershed was considered to have a medium benefit of designation and a relatively high benefit of exclusion (i.e., high cost relative to benefit), making it potentially subject to exclusion from the final designation. However, the CHART felt the lower portion of the Bear River within this HSA was important because the habitat is likely to be used for non-natal rearing by several populations (i.e., Feather and Yuba River populations) and because non-natal rearing represents a unique life-history strategy that is essential for conservation since it contributes to improved growth conditions and serves as a refugia from high water and catastrophic events. Therefore the CHART concluded the benefit of including this area outweighed the benefit of excluding this area and we have included HSA 551510, which

includes the lower Bear River, in the final critical habitat designation for this ESU.

*Comment 86:* One commenter recommended that the Cosumnes River should be designated as critical habitat for this ESU based on unpublished documentation of steelhead presence.

*Response:* The original analysis conducted by the CHART for the proposed rule considered the Cosumnes River to be occupied, but its assessment concluded that the HSA watersheds (553111, 553221, 553223 and 553224) containing this river system were of low conservation value. Based on this assessment and the results of the ESA section 4(b)(2) analysis conducted for the proposed rule, the Cosumnes River and all other occupied habitats in these four watersheds were excluded from the proposed designation. The commenter did not provide any new information warranting a change in our proposed rule, and, therefore, the Cosumnes River and these four watersheds have been excluded from the final designation for this ESU.

*Comment 87:* Several commenters recommended that we designate the San Joaquin River from its confluence with the Merced River to Friant Dam as critical habitat for this ESU.

*Response:* The recommendations to designate the San Joaquin River above the confluence with the Merced River were primarily based on the historical occupancy of this habitat reach by steelhead and the expectation that future efforts will be undertaken to restore habitat in this reach. We recognize that this habitat in the San Joaquin River was historically used by steelhead, but we consider it presently unoccupied. Moreover, plans to restore flows and habitat conditions downstream of Friant Dam are uncertain, and significant passage impediments and flow alterations in the San Joaquin River above the Merced confluence present significant obstacles to future restoration success. Because this habitat is currently unoccupied, and ongoing recovery planning efforts have not identified areas in this reach of the San Joaquin River as being essential for the conservation of this ESU, we have not included it in the final critical habitat designation.

*Comment 88:* Two commenters recommended that we designate Dry Creek, a tributary to the Yuba River, as critical habitat for Central Valley steelhead.

*Response:* The commenters incorrectly interpreted the proposed designation. Dry Creek, a tributary to the Yuba River, occurs in two HSA watersheds (551712 and 551713).

However, the vast majority of this creek occurs within HSA 551712. The CHART originally concluded that watershed 551712 had a high conservation value and that watershed 551713 had a low conservation value. Based on this assessment and the original ESA section 4(b)(2) analysis, the proposed designation for this ESU included all occupied habitat in HSA 55172, including Dry Creek, but did exclude a small portion of Dry Creek occurring in HSA 551713 because of high economic costs. We did not receive any new information warranting a change in the proposed critical habitat with respect to Dry Creek, and, therefore, the final critical habitat designation for this ESU only includes that portion of Dry Creek contained in HSA 551712.

*Comment 89:* Some commenters contended that we should not designate any critical habitat for steelhead in the Sacramento River, San Joaquin River or its major tributaries, the Sacramento-San Joaquin Delta, or the Suisun-San Francisco Bay complex because existing protective efforts and mechanisms are sufficient to protect the ESU.

*Response:* We disagree with these commenters. These waterbodies comprise the entire freshwater and estuarine range of this ESU, contain one or more PCEs that are essential to the conservation of the ESU, including migration, holding, spawning, rearing, and refugia habitat, and may require special management beyond those protective efforts that are already in place or available. For these reasons, they were considered for designation through this rulemaking process. In the course of this rulemaking, we evaluated the quantity, quality, and diversity of PCEs within the occupied portions of these waterbodies by watershed unit, assessed the benefits of designating these watershed units, and finally weighed the benefits of designation against the benefits of exclusion by watershed unit. The resultant critical habitat designation in this final rule, therefore, meets the definition of critical habitat and also contains PCEs that we believe are essential for the conservation of this ESU.

*Comment 90:* One commenter recommended that we should not designate several streams in the upper Sacramento River (Red Bluff [550420] and Spring Creek [550440] HSAs) as critical habitat for Central Valley steelhead because they are low elevation streams without sufficient flow duration or suitable habitat to support the species.

*Response:* We disagree with the commenter's recommendation to exclude specific streams in these two



HSAs. The CHART has evaluated these streams and recognizes that they have limited flow duration. However, the team also concluded the streams in question support important winter and early spring non-natal rearing habitat for steelhead and thus contain PCEs that are important for juvenile rearing. The CHART previously rated both HSAs as having an overall high conservation value for this ESU and does not believe the comments warrant a revision in any of its previous conclusions regarding these two HSAs. Based on the CHART's previous conclusions and the results of the final ESA section 4(b)(2) analysis conducted for this rule, all occupied habitat in these two HSAs is included in the final designation for this ESU.

*Comment 91:* Some commenters argued that there was no basis for proposing to designate critical habitat for Central Valley steelhead in the Calaveras, Stanislaus, Tuolumne, or Merced Rivers.

*Response:* We disagree with the commenters. The CHART concluded that the HSA watersheds containing these rivers were occupied by steelhead, contained PCEs supporting the species for spawning, rearing and/or migration, and that there may be a need for special management considerations. On this basis, these rivers met the definition of occupied critical habitat, and, therefore, were eligible for designation. We weighed the benefits of including these areas in the designation against the benefits of their exclusion in the original ESA section 4(b)(2) analysis for the proposed rule, and again in a revised analysis for the final rule. In both instances, the benefits of designating the HSA watersheds containing these rivers outweighed the benefits of their exclusion. Accordingly, the HSA watershed containing these rivers were included in the proposed critical habitat designation and are also included in the final designation for this ESU.

*Comment 92:* One commenter argued that the Old River and Paradise Cut channels in the San Joaquin Delta Subbasin or Hydrologic Unit (5544) do not meet the definition of critical habitat for Central Valley steelhead.

*Response:* We disagree with the commenter. The CHART concluded that all of the estuarine habitat in this Hydrologic Unit, including the Old River and Paradise Cut channels, is used by steelhead smolts for rearing and migration from upstream freshwater rivers. On this basis the CHART considered the entire Hydrologic Unit to be occupied and to contain PCEs for rearing and migration that are essential to the conservation of this ESU. The

CHART also concluded that agricultural water and municipal water withdrawals, entrainment associated with water diversions, invasive/non-invasive species management, and point and non-point source water pollution could affect these PCEs and that there was a need for special management considerations. Based on all of the available information, the CHART rated this Hydrologic Unit as having high conservation value for the ESU. Based on the CHART's assessment and the original ESA section 4(b)(2) analysis conducted for the proposed rule, this Hydrologic Unit was proposed for designation. We have received no new information warranting a change in this proposal, and, therefore, all occupied habitat in this Hydrologic Unit including the Old River and Paradise Cut channels are included in the final critical habitat designation for this ESU.

*Comment 93:* One commenter recommended designating critical habitat above major dams in the central valley to ensure these habitats were protected and to encourage implementation of fish passage above these dams.

*Response:* As part of the proposed critical habitat designation process, the CHART did evaluate many unoccupied areas above dams in the central valley as potential critical habitat, and concluded that some of the reaches above the rim dams "may" be essential for the conservation of steelhead. Although the CHART believes these areas may be essential for conservation, and we recognize the historical importance of many of these areas to steelhead, we believe it is premature to include these unoccupied areas in the final designation for this ESU until ongoing recovery planning efforts provide technical information to support a determination that any such areas are essential to its conservation and recovery. Because these above-dam habitat areas are currently unoccupied and recovery planning efforts do not yet support a determination that any specific areas are essential for the conservation of this ESU, we have not included them in the final critical habitat designation. As recovery planning efforts mature and sufficient information is available to make a determination about whether any of these areas are essential for conservation of this ESU, we will conduct additional rulemaking as appropriate.

*Comment 94:* Two commenters addressed the issue of designating critical habitat above the Solano Irrigation District Dam on Putah Creek. One commenter argued that habitat between the Solano Irrigation Dam and

Monticello Dam on Putah Creek should be designated as critical habitat for steelhead even though it is unoccupied because: Suitable spawning and rearing habitat exists for steelhead above the dam; providing fish passage is likely to be economically and logistically feasible; and Central Valley steelhead populations are constrained by the lack of accessible habitat. The other commenter argued that this habitat should not be designated because of problems associated with providing passage.

*Response:* The CHART considered the information provided by these commenters and concluded that the unoccupied area above Solano Irrigation Dam may contain PCEs that would support steelhead and that providing passage would likely be feasible. However, the CHART did not make a determination about whether this above dam area may be essential for the conservation of this ESU. As noted previously, we believe it is premature to include any unoccupied areas above dams in the final critical habitat designation for this ESU until ongoing recovery planning efforts identify those specific unoccupied areas that are essential to its conservation and recovery. Because the habitat above the Solano Irrigation Dam is currently unoccupied and recovery planning efforts do not yet support a determination that this area is essential for the conservation of this ESU, we have not included this area in the final critical habitat designation.

#### ESU-Specific Comments—Central Valley Spring Run Chinook and Central Valley Steelhead

*Comment 95:* One commenter argued that west-side tributaries in Glenn County, and in particular Stony Creek, should not be designated as critical habitat for either spring-run Chinook salmon or steelhead because these habitats are unoccupied and water temperatures are too warm to support salmonids.

*Response:* We disagree with the commenter. The CHART has evaluated the available information, particularly with regard to Stony Creek (HSA 550410), and concluded that this stream is occupied by both spring run Chinook and steelhead. Juvenile spring run Chinook have been consistently documented using Stony Creek as rearing habitat since 2001 (Corwin and Grant, 2004), as well as in previous years (Maslin and McKinney, 1994). Similarly, juvenile steelhead have been periodically documented rearing in Stony Creek (Corwin and Grant, 2004; Maslin and McKinney, 1994). The

CHART also concluded that Stony Creek has PCEs that support both species. Water temperature monitoring from 2001 through 2004 has shown that temperatures in Stony Creek under current operations are generally suitable for adult and juvenile salmonids (below 65 °F) from mid-October through late May. Water temperatures have been found to be suitable for salmonid spawning and incubation (below 56 °F) from mid-November through early May (Corwin and Grant, 2004). Though successful steelhead spawning has not been documented recently in Stony Creek, habitat conditions under current operations are considered marginally suitable to support steelhead reproduction. Because of ongoing restoration actions and ESA section 7 consultations, progress is being made toward improving these habitat conditions, and we expect conditions to continue to improve into the future.

*Comment 96:* Numerous commenters raised issues concerning the designation of unoccupied and inaccessible habitat in the Yuba River. Several commenters recommended we designate unoccupied stream reaches above major impassable barriers in the Middle, North, and South Fork Yuba Rivers as critical habitat for both ESUs. In contrast, several other commenters recommended we delay any decision to designate unoccupied and inaccessible habitat for both ESUs in the Yuba River above Englebright Dam until the Upper Yuba River Studies Program is completed.

*Response:* The CHART reviewed information regarding unoccupied habitat above Englebright Dam for the proposed rule and concluded that unoccupied and inaccessible areas above the dam “may” be essential for the conservation of these ESUs. However, we have not made a final determination that these areas are essential to conservation. As noted previously for other unoccupied and inaccessible areas, we believe that it is premature to designate unoccupied areas in the Yuba River above Englebright Dam as critical habitat until ongoing recovery planning efforts identify those specific unoccupied habitat areas in the central valley that are essential to the conservation and recovery of these ESUs. The Upper Yuba River Studies Program is expected to provide relevant information for the recovery planning process of both ESUs, and we intend to await the findings of this program as well as recovery planning efforts before making a determination about whether or not the unoccupied habitat areas in question are essential to the conservation of either ESU. If such a determination is made,

we will undertake the appropriate rulemaking to propose the designation of these areas as critical habitat.

*Comment 97:* One commenter recommended designating the entire Butte Creek watershed, upstream from the Centerville Diversion Dam, as critical habitat for both the spring run Chinook and steelhead ESUs. Conversely, another commenter argued that we should not designate this unoccupied habitat in Butte Creek because there is no historical information that suggests this habitat was historically occupied by anadromous salmonids, and recent CDFG barrier assessments have concluded that barrier modifications are not desirable because of the high stream gradient and the presence of multiple natural barriers immediately above the Dam.

*Response:* The CHART reviewed information regarding unoccupied habitat above the Centerville Diversion Dam on Butte Creek for the proposed rule and concluded that this unoccupied and inaccessible habitat “may” be essential for the conservation of both the spring run Chinook and steelhead ESUs. As noted previously for other unoccupied and inaccessible areas above dams, however, we believe that it is premature to designate unoccupied areas in Butte Creek above the Centerville Diversion Dam as critical habitat until ongoing recovery planning efforts identify those specific unoccupied habitat areas in the central valley that are essential to the conservation and recovery of these ESUs. Because the habitat areas above the Centerville Diversion Dam are unoccupied and no final determination has been made that they are essential for conservation of the ESU, they are not included in the final critical habitat designation for these ESUs. If the agency makes such a determination in the future, we will undertake the appropriate rulemaking to designate these areas as critical habitat.

*Comment 98:* One commenter (CDFG) argued that it is premature to designate unoccupied habitat above Oroville Dam in the upper Feather River as critical habitat for either spring run Chinook or steelhead.

*Response:* As discussed in other responses, we agree with CDFG. Although the CHART concluded as part of the proposed critical habitat rule that specific unoccupied areas above Oroville Dam “may” be essential for the conservation of spring run Chinook and steelhead, we believe it is premature to make such a determination until ongoing recovery planning efforts in the central valley identify above-dam

unoccupied areas that are essential for conservation of these ESUs. For this reason, unoccupied areas above Oroville Dam are not included in the final designation.

*Comment 99:* Some commenters indicated that habitat above rim dams on tributaries (Tuolumne, Stanislaus, and Merced) to the San Joaquin River did not contain suitable habitat for either ESU and that the feasibility of passage had not been adequately studied.

*Response:* The CHART evaluated specific unoccupied and inaccessible stream reaches above rim dams on these San Joaquin River tributaries and concluded that they “may” be essential for the conservation of spring run Chinook and steelhead. However, as discussed previously, we believe it is premature to make such a determination until ongoing recovery planning efforts in the central valley identify above-dam unoccupied areas that are essential for conservation of these ESUs. For this reason, unoccupied areas above these rim dams on the San Joaquin River tributaries are not included in the final designation.

### III. Summary of Revisions

We evaluated the comments and new information received on the proposed rule to ensure that they represented the best scientific data available and made a number of general types of changes to the critical habitat designations, including:

(1) We revised distribution maps and related biological assessments based on a final CHART assessment (NMFS, 2005a) of information provided by commenters, peer reviewers, and agency biologists. We also evaluated watersheds that may be low leverage (*i.e.*, unlikely to have an ESA section 7 consultation or where a section 7 consultation, if it did occur, would yield few conservation benefits) and identified several for possible exclusion in the final ESA section 4(b)(2) analysis.

(2) We revised our economic analysis based on information provided by commenters and peer reviewers as well as our own efforts as referenced in the proposed rule. Major changes included assessing new impacts associated with pesticide consultations, revising Federal land consultation costs to take into account wilderness areas, and modifying grazing impacts to more accurately reflect likely project modifications.

(3) We conducted a new ESA section 4(b)(2) analysis based on economic impacts to take into account the above revisions. This resulted in the final exclusion of many of the same



watersheds proposed for exclusion. It also resulted in some areas originally proposed for exclusion not being excluded and some areas proposed for designation now being excluded. The analysis is described further in the 4(b)(2) report (NMFS, 2005c).

(4) We did not conduct an ESA section 4(b)(2) analysis of lands covered by approved HCPs because existing HCP holders did not request exclusion from the critical habitat designation. We did not have sufficient information to conduct this analysis for the vast areas covered by Federal land management plans, but may do so in the future.

The following sections summarize the ESU-specific changes to the proposed

critical habitat rule. These changes are also reflected in final agency reports pertaining to the biological, economic, and policy assessments supporting these designations (NMFS, 2005a; NMFS, 2005b; NMFS, 2005c). We conclude that these changes are warranted based on new information and analyses that constitute the best scientific data available.

*ESU Specific Changes—California Coastal Chinook Salmon*

The CHART did not change conservation value ratings for any watershed within the geographical area occupied by this ESU. However, based on public comments and new

information reviewed by the CHART, we have identified minor changes to the extent of occupied habitat areas in some watersheds. Also, based on public comments we have added a migratory corridor in one watershed (HSA 111171) that was proposed to be fully excluded in order to provide connectivity between the ocean and an upstream watershed of high conservation value. Additionally, as a result of revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we are excluding all occupied habitat in two watersheds that were previously proposed for designation (HSAs 111350 and 111423). Table 1 summarizes the specific changes made for this ESU.

TABLE 1.—ESU SPECIFIC CHANGES—CALIFORNIA COASTAL CHINOOK SALMON

Hydrologic unit	HSA watershed code	HSA watershed name	Changes from proposed rule
Trinidad .....	110810	Big Lagoon .....	Removed 0.7 mi (1.1 km) of occupied habitat area.
Trinidad .....	110820	Little River—Albion—Big Salmon .....	Added 1.2 miles (1.9 km) of occupied habitat area.
Mad River .....	110920	NF Mad River .....	Removed 0.8 miles (1.3 km) of occupied habitat area.
Mad River .....	110930	Butler Valley .....	Added 1.0 mile (1.6 km) of occupied habitat area.
Eel River .....	111171	Eden Valley .....	Excluded tributaries from final designation and retained migratory corridor.
Mendocino Coast .....	111350	Navarro River .....	Excluded all occupied habitat from final designation
Russian River .....	111423	Mark West .....	Excluded all occupied habitat from final designation.

*ESU Specific Changes—Northern California Steelhead*

The CHART did not change conservation value ratings for any watershed within the geographical area occupied by this ESU. However, based

on public comments and new information reviewed by the CHART, we have identified changes to the extent of occupied habitat areas in 13 watersheds. As a result of revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we

did not make any changes to the areas that were previously proposed for designation or identify any new areas for exclusion in the final designation. Table 2 summarizes the specific changes made for this ESU.

TABLE 2.—ESU SPECIFIC CHANGES—NORTHERN CALIFORNIA STEELHEAD

Hydrologic unit	HSA watershed code	HSA watershed name	Changes from proposed rule
Redwood Creek .....	110720	Beaver .....	Removed 0.7 mi (1.1 km) of occupied habitat area.
Trinidad .....	110810	Big Lagoon .....	Added 0.3 mi (0.5 km) of occupied habitat area.
Trinidad .....	110820	Little River .....	Added 2.9 mi (4.7 km) of occupied habitat areas.
Mad River .....	110930	Butler Valley .....	Removed 0.4 mi (0.6 km) of occupied habitat area.
Eureka Plain .....	111000	Eureka Plain .....	Removed 0.8 mi (1.3 km) of occupied habitat area.
Eel River .....	111132	Benbow .....	Removed 0.7 mi (1.1 km) of occupied habitat area.
Eel River .....	111133	Laytonville .....	Removed 0.8 mi (1.3 km) of occupied habitat area.
Mendocino Coast .....	111311	Usal Creek .....	Removed 5.6 mi (9.0 km) of Coast occupied habitat areas.
Mendocino Coast .....	111312	Wages Creek .....	Removed 0.5 mi (0.8 km) of occupied habitat area.
Mendocino Coast .....	111313	Ten Mile Creek .....	Removed 7.6 mi (12.2 km) of occupied habitat area.
Mendocino Coast .....	111320	Noyo River .....	Removed 0.9 mi (1.4 km) of occupied habitat area.
Mendocino Coast .....	111330	Big River .....	Removed 0.3 mi (0.5 km) of occupied habitat area.
Mendocino Coast .....	111340	Albion River .....	Removed 1.2 mi (1.9 km) of occupied habitat area.

*ESU Specific Changes—Central California Coast Steelhead*

The CHART did not change the conservation value of any occupied watersheds within the geographical area occupied by this ESU. Occupied habitat

was added to one watershed (220320) because of a mapping error in the proposed rule and to another watershed (220550) based on public comments and new information received by the CHART. The Upper Alameda Creek

watershed (220430) was removed from the final designation because it is occupied only by resident *O. mykiss*, and a final listing determination for this life form will not be made until December 2005 (70 FR 37219; June 28,

2005). As a result of this change, portions of the migratory corridor to upper Alameda Creek were also removed from two watersheds (220420 and 220520) in the final designation. As

a result of revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we are excluding all occupied habitat areas in two watersheds that were not previously proposed for

designation (111421 and 220722). Table 3 summarizes the specific changes made for this ESU.

TABLE 3.—ESU SPECIFIC CHANGES—CENTRAL CALIFORNIA COAST STEELHEAD

Hydrologic unit	HSA watershed code	HSA watershed name	Changes from proposed rule
Russian River .....	111421	Laguna De Santa Rosa .....	Excluded all occupied habitat from final designation.
Bay Bridges .....	220320	San Rafael .....	Added 6.4 mi (10.3 km) of occupied habitat area (Arroyo Core Madera del Presidio).
South Bay .....	220420	Eastbay Cities .....	Removed 8.6 mi (13.8 km) migratory corridor to Upper Alameda Creek watershed (220430).
South Bay .....	220430	Upper Alameda Creek .....	Removed all occupied habitat (99.0 mi, or 159 km) from final designation.
Santa Clara .....	220520	Fremont Bayside .....	Removed portion of migratory corridor (1.0 mi, or 1.6 km) to Upper Alameda Creek watershed (220430).
Santa Clara .....	220550	Palo Alto .....	Added 1.9 mi (3.0 km) of occupied habitat area (San Francisquito Creek tributaries).
Suisun .....	220722	Suisun Creek .....	Excluded all occupied habitat area from final designation.

*ESU Specific Changes—South-Central California Steelhead*

The CHART did not change the conservation value rating for any watershed within the geographical area occupied by this ESU, nor were there any changes to the extent of occupied habitat areas. As a result of revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we did not make any changes to the areas that were previously proposed for designation or identify any new areas for exclusion.

*ESU Specific Changes—Southern California Steelhead*

The CHART did not change the conservation value ratings for any of the occupied watersheds within the geographical area occupied by this ESU. However, based on information from the public comments and agency biologists and reviewed by the CHART, several watershed units (490121, 490122, 490125, 490126, and 490128) were determined to be unoccupied and, because we had not made a determination that they were essential to the conservation of the ESU, were not considered eligible for designation or considered in the final ESA section

4(b)(2) analysis for this final designation. These watershed units were located in the San Juan Creek/Trabuco Creek watershed in the southern portion of the range of the ESU. Also, based on public comments and other information reviewed by the CHART, we have identified several changes to the extent of occupied habitat in a number of watersheds. Based on the revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we did not make any changes to the watershed areas that were previously proposed for designation. Table 4 summarizes the specific changes made for this ESU.

TABLE 4.—ESU SPECIFIC CHANGES—SOUTHERN CALIFORNIA STEELHEAD

Hydrologic unit	HSA watershed code	HSA watershed/area name	Changes from proposed rule
Santa Ynez .....	331440	Santa Ynez to Bradbury .....	Removed 24.0 mi (38.6 km) of occupied tributary habitat area to the Santa Ynez River (Alamo Pintado and Santa Aguedo Creeks).
South Coast .....	331534	Carpenteria .....	Removed 0.8 mi (1.3 km) of occupied habitat (Santa Monica estuary).
Ventura River .....	440232	Thatcher .....	Removed 20.9 mi (33.6 km) of occupied tributary habitat area (San Antonio Creek and tributaries).
Santa Clara—Calleguas .....	440331	Sespe—Santa Clara .....	Removed 5.4 mi (8.7 km) of occupied habitat area (Pole Creek).
San Juan .....	490121	Trabuco .....	Changed to unoccupied. Removed small amount of occupied habitat area (Trabuco Creek).
San Juan .....	490122	Upper Trabuco .....	Changed to unoccupied. Removed 7.7 mi (12.4 km) of occupied habitat area (Trabuco Creek).
San Juan .....	490123	Middle Trabuco .....	Removed 12.4 mi (20.0 km) of occupied habitat area (Trabuco Creek).
San Juan .....	490125	Upper San Juan .....	Changed to unoccupied. Removed 12.5 mi (20.1 km) of occupied habitat area (San Juan Creek).
San Juan .....	490126	Mid upper San Juan .....	Changed to unoccupied. Removed 3.8 mi (6.1 km) of occupied habitat area (San Juan Creek).
San Juan .....	490128	Middle San Juan .....	Changed to unoccupied. Removed 3.4 mi (5.5 km) of occupied habitat area (San Juan Creek).

TABLE 4.—ESU SPECIFIC CHANGES—SOUTHERN CALIFORNIA STEELHEAD—Continued

Hydrologic unit	HSA watershed code	HSA watershed/area name	Changes from proposed rule
San Juan .....	490140	San Mateo .....	Removed 4.9 mi (7.9 km) of occupied habitat (Devil Creek).

*ESU Specific Changes—Central Valley Spring Run Chinook Salmon*

Based on information provided in the public comments and new information reviewed by the CHART, one watershed was changed from occupied to unoccupied (550731), one was changed from unoccupied to occupied and rated as having a high conservation value to

the ESU (551510), and one watershed was changed from a medium to a high conservation value (551921). Also, based on public comments and new information reviewed by the CHART, we have identified relatively minor changes to the extent of occupied habitat in some watersheds. Based on the results of the revised economic data for this ESU and our final ESA section

4(b)(2) analysis, we are excluding all occupied habitat areas in one watershed (551720) that were previously proposed for designation, and designating all occupied habitat areas in a second watershed (551921) that were previously proposed for exclusion. Table 5 summarizes the specific changes made for this ESU.

TABLE 5.—ESU SPECIFIC CHANGES—CENTRAL VALLEY SPRING RUN CHINOOK

Hydrologic unit	HSA watershed code	HSA Watershed name	Changes from proposed rule
Whitmore .....	550731	South Cow Creek .....	Changed from occupied to unoccupied. Removed 10.3 mi (16.6 km) of occupied habitat area.
Redding .....	550810	Enterprise Flat .....	Minor changes in distribution. No net change in occupied mi of habitat area.
Marysville .....	551510	Lower Bear River .....	Changed from unoccupied to occupied. Added 5.1 mi (8.2 km) of occupied habitat area. Rated as high in conservation value and included all occupied habitat in the final designation.
Yuba River .....	551720	Nevada City .....	Excluded all occupied habitat from final designation.
Valley-American .....	551921	Lower American .....	Changed conservation value from medium to high and included all occupied habitat in the final designation.

*ESU Specific Changes—Central Valley Steelhead*

Based on information provided in the public comments and new information reviewed by the CHART, the conservation value of two watersheds (551510 and 552110) within the geographical range of this ESU was

changed from low to medium. Additionally, based on public comments and new information reviewed by the CHART, we have identified changes to the extent of occupied habitat areas in two watersheds. As a result of the revised economic data for this ESU and our final ESA section 4(b)(2) analysis, we

are excluding all occupied habitat areas in two watersheds (550964 and 552435) proposed for designation and designating all occupied areas in two other watersheds (551510 and 552110) that were previously proposed for exclusion. Table 6 summarizes the specific changes made for this ESU.

TABLE 6.—ESU SPECIFIC CHANGES—CENTRAL VALLEY STEELHEAD

Hydrologic unit	HSA watershed code	HSA Watershed name	Changes from proposed rule
Redding .....	550810	Enterprise Flat .....	Added 5.7 mi (9.2 km) of occupied habitat area (several tributaries).
Eastern Tehama .....	550964	Paynes Creek .....	Excluded all occupied habitat Tehama from the final designation.
Marysville .....	551510	Lower Bear River .....	Changed conservation value from low to medium. Included all occupied habitat in the final designation.
Butte Creek .....	552110	Upper Dry Creek .....	Changed conservation value from low to medium. Included all occupied habitat in the final designation.
Shasta Bally .....	552435	Ono .....	Excluded all occupied habitat from the final designation.
Shasta Bally .....	552440	Spring Creek .....	Removed 3.1 mi (5.0 km) of occupied habitat area.

#### IV. Methods and Criteria Used To Designate Critical Habitat

The following sections describe the relevant definitions and guidance found in the ESA and our implementing regulations, and the key methods and criteria we used to make these final critical habitat designations after incorporating, as appropriate, comments and information received on the proposed rule. Section 4 of the ESA (16 U.S.C. 1533(b)(2)) and our regulations at 50 CFR 424.12(a) require that we designate critical habitat, and make revisions thereto, "on the basis of the best scientific data available."

Section 3 of the ESA (16 U.S.C. 1532(5)) defines critical habitat as "(i) the specific areas within the geographical area occupied by the species, at the time it is listed \* \* \* on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed upon a determination by the Secretary that such areas are essential for the conservation of the species." Section 3 of the ESA (16 U.S.C. 1532(3)) also defines the terms "conserve," "conserving," and "conservation" to mean "to use, and the use of, all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary."

Pursuant to our regulations, when designating critical habitat we consider the following requirements of the species: (1) Space for individual and population growth, and for normal behavior; (2) food, water, air, light, minerals, or other nutritional or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, or rearing of offspring; and, generally, (5) habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of the species (see 50 CFR 424.12(b)). In addition to these factors, we also focus on the known physical and biological features (primary constituent elements or PCEs) within the occupied areas that are essential to the conservation of the species and that may require special management considerations or protection. Both the ESA and our regulations, in recognition of the divergent biological needs of species, establish criteria that are fact specific rather than "one size fits all."

Our regulations state that, "The Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species" (50 CFR 424.12(e)). Accordingly, when the best available scientific and commercial data do not demonstrate that the conservation needs of the species so require, we will not designate critical habitat in areas outside the geographic area occupied by the species.

Section 4 of the ESA requires that before designating critical habitat we must consider the economic impacts, impacts on national security, and other relevant impacts of specifying any particular area as critical habitat, and the Secretary may exclude any area from critical habitat if the benefits of exclusion outweigh the benefits of inclusion, unless excluding an area from critical habitat will result in the extinction of the species concerned. Once critical habitat for a salmon or steelhead ESU is designated, section 7(a)(2) of the ESA requires that each Federal agency shall, in consultation with and with the assistance of NMFS, ensure that any action authorized, funded or carried out by such agency is not likely to result in the destruction or adverse modification of critical habitat.

#### Salmon Life History

Pacific salmon are anadromous fish, meaning adults migrate from the ocean to spawn in freshwater lakes and streams where their offspring hatch and rear prior to migrating back to the ocean to forage until maturity. The migration and spawning times vary considerably across and within species and populations (Groot and Margolis, 1991). At spawning, adults pair to lay and fertilize thousands of eggs in freshwater gravel nests or "redds" excavated by females. Depending on lake/stream temperatures, eggs incubate for several weeks to months before hatching as "alevins" (a larval life stage dependent on food stored in a yolk sac). Following yolk sac absorption, alevins emerge from the gravel as young juveniles called "fry" and begin actively feeding. Depending on the species and location, juveniles may spend from a few hours to several years in freshwater areas before migrating to the ocean. The physiological and behavioral changes required for the transition to salt water result in a distinct "smolt" stage in most species. On their journey juveniles must migrate downstream through every riverine and estuarine corridor between their natal lake or stream and the ocean. For example, smolts from Idaho will

travel as far as 900 miles (1,448 km) from the inland spawning grounds. En route to the ocean the juveniles may spend from a few days to several weeks in the estuary, depending on the species. The highly productive estuarine environment is an important feeding and acclimation area for juveniles preparing to enter marine waters.

Juveniles and subadults typically spend from 1 to 5 years foraging over thousands of miles in the North Pacific Ocean before returning to spawn. Some species, such as coho and Chinook salmon, have precocious life history types (primarily male fish known as "jacks") that mature and spawn after only several months in the ocean. Spawning migrations known as "runs" occur throughout the year, varying by species and location. Most adult fish return or "home" with great fidelity to spawn in their natal stream, although some do stray to non-natal streams. Salmon species die after spawning, except anadromous *O. mykiss* (steelhead), which may return to the ocean and make one or more repeat spawning migrations. This complex life cycle gives rise to complex habitat needs, particularly during the freshwater phase (see review by Spence *et al.*, 1996). Spawning gravels must be of a certain size and free of sediment to allow successful incubation of the eggs. Eggs also require cool, clean, and well-oxygenated waters for proper development. Juveniles need abundant food sources, including insects, crustaceans, and other small fish. They need places to hide from predators (mostly birds and bigger fish), such as under logs, root wads and boulders in the stream, and beneath overhanging vegetation. They also need places to seek refuge from periodic high flows (side channels and off channel areas) and from warm summer water temperatures (coldwater springs and deep pools). Returning adults generally do not feed in fresh water but instead rely on limited energy stores to migrate, mature, and spawn. Like juveniles, they also require cool water and places to rest and hide from predators. During all life stages salmon require cool water that is free of contaminants. They also require rearing and migration corridors with adequate passage conditions (water quality and quantity available at specific times) to allow access to the various habitats required to complete their life cycle.

The homing fidelity of salmon has created a metapopulation structure with distinct populations distributed among watersheds (McElhany *et al.*, 2000). Low levels of straying result in regular genetic exchange among populations,



creating genetic similarities among populations in adjacent watersheds. Maintenance of the metapopulation structure requires a distribution of populations among watersheds where environmental risks (e.g., from landslides or floods) are likely to vary. It also requires migratory connections among the watersheds to allow for periodic genetic exchange and alternate spawning sites in the case that natal streams are inaccessible due to natural events such as a drought or landslide. More detailed information describing habitat and life history characteristics of the ESUs is contained in the proposed rule (69 FR 71880; December 10, 2004), agency status reviews for each ESU, technical recovery team products, and in a biological report supporting these designations (NMFS, 2005a).

#### *Identifying the Geographical Area Occupied by the Species and Specific Areas Within the Geographical Area*

In past critical habitat designations, we had concluded that the limited availability of species distribution data prevented mapping salmonid critical habitat at a scale finer than occupied river basins (65 FR 7764; February 16, 2000). Therefore, the 2000 designations defined the "geographical area occupied by the species, at the time of listing" as all accessible river reaches within the current range of the listed species.

In the proposed rule we described in greater detail that since the previous designations in 2000, we can now be somewhat more precise about the "geographical area occupied by the species" because of efforts by agency biologists, in coordination with Federal and state co-managers, to compile information and map actual species distribution at the level of stream reaches. Moreover, much of the available data can now be accessed and analyzed using geographic information systems (GIS) to produce consistent and fine-scale maps. The current mapping effort for these ESUs documents fish presence and identifies occupied stream reaches where the species has been observed. It also identifies stream reaches where the species is presumed to occur based on the professional judgment of biologists familiar with the watershed. We made use of these finer-scale data for the current critical habitat designations, and we now believe that they enable a more accurate delineation of the "geographical area occupied by the species" referred to in the ESA definition of critical habitat.

We are now also able to identify "specific areas" (ESA section 3(5)(a)) and "particular areas" (ESA section 4(b)(2)) at a finer scale than in 2000. As

described in the proposed rule, we have used the State of California's CALWATER watershed classification system, which is similar to the USGS watershed classification system that was used for salmonid critical habitat designations in the Northwest. This information is now generally available via the internet, and we have expanded our GIS resources to use these data. We used the CALWATER Hydrologic Subarea (HSA) unit (which is generally similar in size to USGS HUC5s) to organize critical habitat information systematically and at a scale that, while somewhat broad geographically, is applicable to the spatial distribution of salmon. Organizing information at this scale is especially relevant to salmonids, since their innate homing ability allows them to return to the watersheds where they were born. Such site fidelity results in spatial aggregations of salmonid populations that generally correspond to the area encompassed by HSA watersheds or aggregations of these watersheds.

The CALWATER system maps watershed units as polygons, bounding a drainage area from ridge-top to ridge-top, encompassing streams, riparian areas and uplands. Within the boundaries of any HSA watershed, there are stream reaches not occupied by the species. Land areas within the CALWATER HSA boundaries are also generally not "occupied" by the species (though certain areas such as flood plains or side channels may be occupied at some times of some years). We used the watershed boundaries as a basis for aggregating occupied stream reaches, for purposes of delineating "specific" areas at a scale that often corresponds well to salmonid population structure and ecological processes. This designation refers to the occupied stream reaches within the watershed boundary as the "habitat area" to distinguish it from the entire area encompassed by the watershed boundary. Each habitat area was reviewed by the CHARTs to verify occupation, PCEs, and special management considerations (see "Critical Habitat Analytical Review Teams" section below).

The watershed-scale aggregation of stream reaches also allowed us to analyze the impacts of designating a "particular area," as required by ESA section 4(b)(2). As a result of watershed processes, many activities occurring in riparian or upland areas and in non-fish-bearing streams may affect the physical or biological features essential to conservation in the occupied stream reaches. The watershed boundary thus describes an area in which Federal activities have the potential to affect

critical habitat (Spence *et al.*, 1996). Using watershed boundaries for the economic analysis ensured that all potential economic impacts were considered. Section 3(5) defines critical habitat in terms of "specific areas," and section 4(b)(2) requires the agency to consider certain factors before designating "particular areas." In the case of Pacific salmonids, the biology of the species, the characteristics of its habitat, the nature of the impacts and the limited information currently available at finer geographic scales made it appropriate to consider "specific areas" and "particular areas" as the same unit.

Occupied estuarine areas were also considered in the context of defining "specific areas." In our proposed rule we noted that estuarine areas are crucial for juvenile salmonids, given their multiple functions as areas for rearing/feeding, freshwater-saltwater acclimation, and migration (Simenstad *et al.*, 1982; Marriott *et al.*, 2002). The San Francisco Bay estuary complex consists of five CALWATER HSA watershed units that are separate from upstream freshwater habitats that drain into the estuarine complex, and these units were analyzed separately. Some other small estuaries did not correspond to HSA watershed units nor were they part of defined HSA watershed units, and so we defined specific polygons which were analyzed separately. In all occupied estuarine areas we were able to identify physical or biological features essential to the conservation of the species, and that may require special management considerations or protection. For those estuarine areas designated as critical habitat we are again delineating them in similar terms to our past designations, as being defined by a line connecting the furthest land points at the estuary mouth.

In previous designations of salmonid critical habitat we did not designate offshore marine areas. In the Pacific Ocean, we concluded that there may be essential habitat features, but we could not identify any special management considerations or protection associated with them as required under section 3(5)(A)(i) of the ESA (65 FR 7776; February 16, 2000). Since that time we have carefully considered the best available scientific information, and related agency actions, such as the designation of Essential Fish Habitat under the Magnuson-Stevens Fishery Conservation and Management Act. In contrast to estuarine areas, we conclude that it is not possible to identify "specific areas" in the Pacific Ocean that contain essential features for salmonids. Also, links between human

activity, habitat conditions and impacts to listed salmonids are less direct in offshore marine areas. Perhaps the closest linkage exists for salmon prey species that are harvested commercially (e.g., Pacific herring) and, therefore, may require special management considerations or protection. However, because salmonids are opportunistic feeders we could not identify "specific areas" where these or other essential features are found within this vast geographic area occupied by salmon and steelhead. Moreover, prey species move or drift great distances throughout the ocean and would be difficult to link to any "specific" areas. Therefore, we are not designating critical habitat in offshore marine areas. We requested comment on this issue in our proposed rule but did not receive comments or information that would change our conclusion.

#### *Primary Constituent Elements*

In determining what areas are critical habitat, agency regulations at 50 CFR 424.12(b) require that we must "consider those physical or biological features that are essential to the conservation of a given species \* \* \*, including space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species." The regulations further direct us to "focus on the principal biological or physical constituent elements \* \* \* that are essential to the conservation of the species," and specify that the "known primary constituent elements shall be listed with the critical habitat description." The regulations identify primary constituent elements (PCEs) as including, but not limited to: "roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types."

NMFS biologists developed a list of PCEs that are essential to the species' conservation and based on the unique life history of salmon and steelhead and their biological needs (Hart, 1973; Beauchamp *et al.*, 1983; Laufle *et al.*, 1986; Pauley *et al.*, 1986, 1988, and 1989; Groot and Margolis, 1991; Spence *et al.*, 1996). Guiding the identification of PCEs was a decision matrix we developed for use in ESA section 7

consultations (NMFS, 1996) which describes general parameters and characteristics of most of the essential features under consideration in this critical habitat designation. We identified these PCEs and requested comment on them in the ANPR (68 FR 55931; September 29, 2003) and proposed rule (69 FR 74636; December 14, 2005) but did not receive information to support changing them. The ESUs addressed in this final rule share many of the same rivers and estuaries and have similar life history characteristics and, therefore, many of the same PCEs. These PCEs include sites essential to support one or more life stages of the ESU (sites for spawning, rearing, migration and foraging). These sites in turn contain physical or biological features essential to the conservation of the ESU (for example, spawning gravels, water quality and quantity, side channels, forage species). The specific PCEs include:

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development. These features are essential to conservation because without them the species cannot successfully spawn and produce offspring.
2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks. These features are essential to conservation because without them juveniles cannot access and use the areas needed to forage, grow, and develop behaviors (e.g., predator avoidance, competition) that help ensure their survival.
3. Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival. These features are essential to conservation because without them juveniles cannot use the variety of habitats that allow them to avoid high flows, avoid predators, successfully compete, begin the behavioral and physiological changes needed for life in the ocean, and reach the ocean in a timely manner. Similarly, these features are essential for adults because they allow fish in a non-feeding condition to successfully swim

upstream, avoid predators, and reach spawning areas on limited energy stores.

4. Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation. These features are essential to conservation because without them juveniles cannot reach the ocean in a timely manner and use the variety of habitats that allow them to avoid predators, compete successfully, and complete the behavioral and physiological changes needed for life in the ocean. Similarly, these features are essential to the conservation of adults because they provide a final source of abundant forage that will provide the energy stores needed to make the physiological transition to fresh water, migrate upstream, avoid predators, and develop to maturity upon reaching spawning areas.

5. Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels. As in the case with freshwater migration corridors and estuarine areas, nearshore marine features are essential to conservation because without them juveniles cannot successfully transition from natal streams to offshore marine areas.

6. Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation. These features are essential for conservation because without them juveniles cannot forage and grow to adulthood. However, for the reasons stated previously in this document, it is difficult to identify specific areas containing this PCE as well as human activities that may affect the PCE condition in those areas. Therefore, we have not designated any specific areas based on this PCE but instead have identified it because it is essential to the species' conservation and specific offshore areas may be identified in the future (in which case any designation would be subject to separate rulemaking).

The occupied habitat areas designated in this final rule contain PCEs required to support the biological processes for

which the species use the habitat. The CHARTs verified this for each watershed/nearshore zone by relying on the best available scientific data (including species distribution maps, watershed analyses, and habitat surveys) during their review of occupied areas and resultant assessment of area conservation values (NMFS, 2005a). The contribution of the PCEs varies by site and biological function such that the quality of the elements may vary within a range of acceptable conditions. The CHARTs took this variation into account when they assessed the conservation value of an area.

#### *Special Management Considerations or Protections*

An occupied area cannot be designated as critical habitat unless it contains physical and biological features that “may require special management considerations or protection.” Agency regulations at 424.02(j) define “special management considerations or protection” to mean “any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.”

As part of the biological assessment described below under “Critical Habitat Analytical Review Teams,” teams of biologists examined each habitat area to determine whether the physical or biological features may require special management consideration. These determinations are identified for each area in the CHART report (NMFS, 2005a). In the case of salmon and steelhead, the CHARTs identified a variety of activities that threaten the physical and biological features essential to listed salmon and steelhead (see review by Spence *et al.*, 1996), including: (1) Forestry; (2) grazing and other associated rangeland activities; (3) agriculture; (4) road building/maintenance; (5) channel modifications/diking/stream bank stabilization; (6) urbanization; (7) sand and gravel mining; (8) mineral mining; (9) dams; (10) irrigation impoundments and withdrawals; (11) wetland loss/removal; (12) exotic/invasive species introductions; and (13) impediments to migration. In addition to these, the harvest of salmonid prey species (*e.g.*, forage fishes such as herring, anchovy, and sardines) may present another potential habitat-related management activity (Pacific Fishery Management Council, 1999).

#### *Unoccupied Areas*

ESA section 3(5)(A)(ii) defines critical habitat to include “specific areas outside the geographical area occupied”

if the areas are determined by the Secretary to be “essential for the conservation of the species.” NMFS regulations at 50 CFR 424.12(e) emphasize that we “shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.” The CHARTs did identify several unoccupied areas above dams that may be essential for the conservation of specific ESUs, primarily within the historical range of the Central Valley spring run Chinook, Central Valley steelhead, and Southern California steelhead ESUs (see proposed rule; 69 FR 71880; December 10, 2004); however, we are not designating unoccupied areas at this time. Though it is not possible to conclude at this time that any of these historically occupied areas warrant designation, we believe it is useful to signal to the public that these specific areas may be considered for possible designation in the future. However, any designation of unoccupied areas would be based on the required determination that such area is essential for the conservation of an ESU and would be subject to separate rulemaking with the opportunity for notice and comment.

#### *Lateral Extent of Critical Habitat*

In past designations we have described the lateral extent of critical habitat in various ways ranging from fixed distances to “functional” zones defined by important riparian functions (65 FR 7764; February 16, 2000). Both approaches presented difficulties, and this was highlighted in several comments (most of which requested that we focus on aquatic areas only) received in response to the ANPR (68 FR 55926; September 29, 2003). Designating a set riparian zone width will (in some places) accurately reflect the distance from the stream on which PCEs might be found, but in other cases may over- or understate the distance. Designating a functional buffer avoids that problem, but makes it difficult for Federal agencies to know in advance what areas are critical habitat. To address these issues we are proposing to define the lateral extent of designated critical habitat as the width of the stream channel defined by the ordinary high-water line as defined by the COE in 33 CFR 329.11. This approach is consistent with the specific mapping requirements described in agency regulations at 50 CFR 424.12(c). In areas for which ordinary high-water has not been defined pursuant to 33 CFR 329.11, the width of the stream channel shall be

defined by its bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain (Rosgen, 1996) and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series (Leopold *et al.*, 1992). Such an interval is commensurate with nearly all of the juvenile freshwater life phases of most salmon and steelhead ESUs. Therefore, it is reasonable to assert that for an occupied stream reach this lateral extent is regularly “occupied”. Moreover, the bankfull elevation can be readily discerned for a variety of stream reaches and stream types using recognizable water lines (*e.g.*, marks on rocks) or vegetation boundaries (Rosgen, 1996).

As underscored in previous critical habitat designations, the quality of aquatic habitat within stream channels is intrinsically related to the adjacent riparian zones and floodplain, to surrounding wetlands and uplands, and to non-fish-bearing streams above occupied stream reaches. Human activities that occur outside the stream can modify or destroy physical and biological features of the stream. In addition, human activities that occur within and adjacent to reaches upstream (*e.g.*, road failures) or downstream (*e.g.*, dams) of designated stream reaches can also have demonstrable effects on physical and biological features of designated reaches.

In estuarine areas we believe that extreme high water is the best descriptor of lateral extent. We are designating the area inundated by extreme high tide because it encompasses habitat areas typically inundated and regularly occupied during the spring and summer when juvenile salmon are migrating in the nearshore zone and relying heavily on forage, cover, and refuge qualities provided by these occupied habitats. As noted above for stream habitat areas, human activities that occur outside the area inundated by extreme or ordinary high water can modify or destroy physical and biological features of the nearshore habitat areas, and Federal agencies must be aware of these important habitat linkages as well.

#### *Military Lands*

The Sikes Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete, by November 17, 2001, an INRMP. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found there. Each INRMP includes: an assessment of the



ecological needs on the installation, including the need to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management, fish and wildlife habitat enhancement or modification, wetland protection, enhancement, and restoration where necessary to support fish and wildlife and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. No. 108-136) amended the ESA to address designation of military lands as critical habitat. Specifically, section 4(a)(3)(B)(i) of the ESA (16 U.S.C. 1533(a)(3)(B)(i)) now provides: "The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation."

To address this new provision we contacted the DOD and requested information on all INRMPs that might benefit Pacific salmon. In response to the ANPR (68 FR 55926; September 29, 2003) we had already received a letter from the U.S. Marine Corps regarding this and other issues associated with a possible critical habitat designation on its facilities in the range of the Southern California Steelhead ESU. In response to our request, the military services identified 25 installations in California with INRMPs in place or under development. Based on information provided by the military, as well as GIS analysis of fish distributional information compiled by NMFS' Southwest Region (NMFS, 2004b; NMFS, 2005a) and land use data, we determined that the following facilities with INRMPs overlap with habitat areas under consideration for critical habitat designation in California: (1) Camp Pendleton Marine Corps Base; (2) Vandenberg Air Force Base; (3) Camp San Luis Obispo; (4) Camp Roberts; and (5) Mare Island Army Reserve Center. Two additional facilities are adjacent to, but do not overlap with, habitat areas under consideration for critical habitat in California: (1) Naval Weapons Station, Seal Beach/Concord Detachment; and (2) Point Mugu Naval

Air Station. None of the remaining facilities with INRMPs in place overlapped with or were adjacent to habitat under consideration for critical habitat based on the information available to us. All of these INRMPs are final except for the Vandenberg Air Force Base INRMP, which is expected to be finalized in the near term.

We identified habitat of value to listed salmonids in each INRMP and reviewed these plans, as well as other information available regarding the management of these military lands. Our review indicates that each of these INRMPs addresses habitat for salmonids, and all contain measures that provide benefits to ESA-listed salmon and steelhead. Examples of the types of benefits include actions that control erosion, protect riparian zones, minimize stormwater and construction impacts, reduce contaminants, and monitor listed species and their habitats. As a result of our review, we have determined that the final INRMPs and the draft INRMP for Vandenberg Air Force Base provide a benefit to the species for which critical habitat is proposed for designation, and, therefore, we are not designating critical habitat in those areas. Also, we have received information from the Vandenberg Air Force Base and Camp Pendleton Marine Corps Base identifying national security impacts to their operations from critical habitat designation. Our consideration of such impacts is separate from our assessment of INRMPs, but serves as an independent and sufficient basis for our determination not to designate those areas as critical habitat.

#### *Critical Habitat Analytical Review Teams*

To assist in the designation of critical habitat, we convened several CHARTs organized by major geographic domains that roughly correspond to salmon recovery planning domains in California. The CHARTs consisted of NMFS fishery biologists from the Southwest Region with demonstrated expertise regarding salmonid habitat and related protective efforts within the domain. The CHARTs were tasked with compiling and assessing biological information pertaining to areas under consideration for designation as critical habitat. Each CHART worked closely with GIS specialists to develop maps depicting the spatial distribution of habitat occupied by each ESU and the use of occupied habitat on stream hydrography at a scale of 1:100,000. The CHARTs also reconvened to review the public comments and any new information regarding the ESUs and habitat in their domain.

The CHARTs examined each habitat area within the watershed to determine whether the stream reaches or lakes occupied by the species contain the physical or biological features essential to conservation. As noted previously, the CHARTs also relied on their experience conducting ESA section 7 consultations and existing management plans and protective measures to determine whether these features may require special management considerations or protection.

In addition to occupied areas, the definition of critical habitat also includes unoccupied areas if we determine that area is essential for conservation of a species. Accordingly the CHARTs were also asked whether there were any unoccupied areas within the historical range of the ESUs that may be essential for conservation. For the seven ESUs addressed in this rulemaking, the CHARTs did not have sufficient information that would allow them to conclude that specific unoccupied areas were essential for conservation; however, in many cases they were able to identify areas they believed may be determined essential through future recovery planning efforts. These were described in the proposed critical habitat designation rule (69 FR 71880).

The CHARTs were next asked to determine the relative conservation value of each occupied HSA watershed area for each ESU. The CHARTs scored each habitat area based on several factors related to the quantity and quality of the physical and biological features. They next considered each area in relation to other areas and with respect to the population occupying that area. Based on a consideration of the raw scores for each area, and a consideration of that area's contribution in relation to other areas and in relation to the overall population structure of the ESU, the CHARTs rated each habitat area as having a "high," "medium," or "low" conservation value. The preliminary CHART ratings were reviewed by several state and tribal co-managers in advance of the proposed rule and the CHARTs made needed changes prior to that rule. State co-managers also evaluated our proposed rule and provided comments and new information which were also reviewed and incorporated as needed by the CHARTs in the preparation of the final designations.

The rating of habitat areas as having a high, medium, or low conservation value provided information useful to inform the Secretary's exercise of discretion in balancing whether the benefits of exclusion outweigh the



benefits of designation in ESA section 4(b)(2). The higher the conservation value for an area, the greater may be the likely benefit of the ESA section 7 protections. We recognized that the "benefit of designation" would also depend on the likelihood of a consultation occurring and the improvements in species' conservation that may result from changes to proposed Federal actions. To address this concern, we developed a profile for a "low leverage" watershed—that is, a watershed where it was unlikely there would be a section 7 consultation, or where a section 7 consultation, if it did occur, would yield few conservation benefits. For watersheds not meeting the "low leverage" profile, we considered their conservation rating to be a fair assessment of the benefit of designation, for purposes of our cost-effectiveness framework (NMFS 2005c). For watersheds meeting the "low leverage" profile, we considered the benefit of designation to be an increment lower than the conservation rating. For example, therefore, a watershed with a "high" conservation value but "low leverage" was considered to have a "medium" benefit of designation, and so forth. We then applied the dollar thresholds for exclusion appropriate to the adjusted "benefit of designation."

As discussed earlier, the scale chosen for the "specific area" referred to in section 3(5)(a) was an HSA watershed as delineated by the CALWATER watershed classification system. This delineation required us to adapt the approach for some areas. For example, a large stream or river might serve as a rearing and migration corridor to and from many watersheds, yet be embedded itself in a watershed. In any given watershed through which it passes, the stream may have a few or several tributaries. For rearing/migration corridors embedded in a watershed, the CHARTs were asked to rate the conservation value of the watershed based on the tributary habitat. We assigned the rearing/migration corridor the rating of the highest-rated watershed for which it served as a rearing/migration corridor. The reason for this treatment of migration corridors is the role they play in the salmon's life cycle. Salmon are anadromous—born in fresh water, migrating to salt water to feed and grow, and returning to fresh water to spawn. Without a rearing/migration corridor to and from the sea, salmon cannot complete their life cycle. It would be illogical to consider a spawning and rearing area as having a particular conservation value and not consider the associated rearing/

migration corridor as having a similar conservation value.

#### V. Application of ESA Section 4(b)(2)

The foregoing discussion describes those areas that are eligible for designation as critical habitat—the specific areas that fall within the ESA section 3(5)(A) definition of critical habitat, minus those lands owned or controlled by the DOD, or designated for its use, that are covered by an INRMP that we have determined provides a benefit to the species.

Specific areas eligible for designation are not automatically designated as critical habitat. Section 4(b)(2) of the ESA requires that the Secretary first considers the economic impact, impact on national security, and any other relevant impact. The Secretary has the discretion to exclude an area from designation if he determines the benefits of exclusion (that is, avoiding the impact that would result from designation) outweigh the benefits of designation. The Secretary may not exclude an area from designation if exclusion will result in the extinction of the species. Because the authority to exclude is discretionary, exclusion is not required for any areas. In this rulemaking, the Secretary has applied his statutory discretion to exclude areas from critical habitat for several different reasons.

In this exercise of discretion, the first issue we must address is the scope of impacts relevant to the 4(b)(2) evaluation. As discussed in the Background and Previous Federal Action section, we are re-designating critical habitat for these seven ESUs because the previous designations were vacated (*National Association of Homebuilders v. Evans*, 2002 WL 1205743 No. 00–CV–2799 (D.D.C.) (NAHB)). The NAHB court had agreed with the reasoning of the Court of Appeals for the Tenth Circuit in *New Mexico Cattle Growers Association v. U.S. Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001). In that decision, the Tenth Circuit stated "[t]he statutory language is plain in requiring some kind of consideration of economic impact in the critical habitat designation phase." The Tenth Circuit concluded that, given the USFWS' failure to distinguish between "adverse modification" and "jeopardy" in its 4(b)(2) analysis, the USFWS must analyze the full impacts of critical habitat designation, regardless of whether those impacts are coextensive with other impacts (such as the impact of the jeopardy requirement).

In re-designating critical habitat for these salmon ESUs, we have followed the Tenth Circuit Court's directive

regarding the statutory requirement to consider the economic impact of designation. Areas designated as critical habitat are subject to ESA section 7 requirements, which provide that Federal agencies ensure that their actions are not likely to destroy or adversely modify critical habitat. To evaluate the economic impact of critical habitat we first examined our voluminous section 7 consultation record for these as well as other ESUs of salmon. (For thoroughness, we examined the consultation record for other ESUs to see if it shed light on the issues.) That record includes consultations on habitat-modifying Federal actions both where critical habitat has been designated and where it has not. We could not discern a distinction between the impacts of applying the jeopardy provision versus the adverse modification provision in occupied critical habitat. Given our inability to detect a measurable difference between the impacts of applying these two provisions, the only reasonable alternative seemed to be to follow the recommendation of the Tenth Circuit, approved by the NAHB court—to measure the coextensive impacts; that is, measure the entire impact of applying the adverse modification provision of section 7, regardless of whether the jeopardy provision alone would result in the identical impact.

The Tenth Circuit's opinion only addressed ESA section 4(b)(2)'s requirement that economic impacts be considered. The court did not address how "other relevant impacts" were to be considered, nor did it address the benefits of designation. Because section 4(b)(2) requires a consideration of other relevant impacts of designation, and the benefits of designation, and because our record did not support a distinction between impacts resulting from application of the adverse modification provision versus the jeopardy provision, we are uniformly considering coextensive impacts and coextensive benefits, without attempting to distinguish the benefit of a critical habitat consultation from the benefit that would otherwise result from a jeopardy consultation that would occur even if critical habitat were not designated. To do otherwise would distort the balancing test contemplated by section 4(b)(2).

The principal benefit of designating critical habitat is that Federal activities that may affect such habitat are subject to consultation pursuant to section 7 of the ESA. Such consultation requires every Federal agency to ensure that any action it authorizes, funds or carries out is not likely to result in the destruction

or adverse modification of critical habitat. This complements the section 7 provision that Federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species. Another benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area and thereby focus and contribute to conservation efforts by clearly delineating areas of high conservation value for certain species. It is unknown to what extent this process actually occurs, and what the actual benefit is, as there are also concerns, noted above, that a critical habitat designation may discourage such conservation efforts.

The balancing test in ESA section 4(b)(2) contemplates weighing benefits that are not directly comparable—the benefit associated with species conservation balanced against the economic benefit, benefit to national security, or other relevant benefit that results if an area is excluded from designation. Section 4(b)(2) does not specify a method for the weighing process. Agencies are frequently required to balance benefits of regulations against impacts; E.O. 12866 established this requirement for Federal agency regulation. Ideally such a balancing would involve first translating the benefits and impacts into a common metric. Executive branch guidance from the OMB suggests that benefits should first be monetized (*i.e.*, converted into dollars). Benefits that cannot be monetized should be quantified (for example, numbers of fish saved). Where benefits can neither be monetized nor quantified, agencies are to describe the expected benefits (OMB, 2003).

It may be possible to monetize benefits of critical habitat designation for a threatened or endangered species in terms of willingness-to-pay (OMB, 2003). However, we are not aware of any available data that would support such an analysis for salmon. In addition, ESA section 4(b)(2) requires analysis of impacts other than economic impacts that are equally difficult to monetize, such as benefits to national security of excluding areas from critical habitat. In the case of salmon designations, impacts to Northwest tribes are an “other relevant impact” that also may be difficult to monetize.

An alternative approach, approved by OMB (OMB, 2003), is to conduct a cost-effectiveness analysis. A cost-effectiveness analysis ideally first involves quantifying benefits, for example, percent reduction in extinction risk, percent increase in productivity, or increase in numbers of fish. Given the state of the science, it

would be difficult to quantify reliably the benefits of including particular areas in the critical habitat designation. Although it is difficult to monetize or quantify benefits of critical habitat designation, it is possible to differentiate among habitat areas based on their relative contribution to conservation. For example, habitat areas can be rated as having a high, medium, or low conservation value. The qualitative ordinal evaluations can then be combined with estimates of the economic costs of critical habitat designation in a framework that essentially adopts that of cost-effectiveness. Individual habitat areas can then be assessed using both their biological evaluation and economic cost, so that areas with high conservation value and lower economic cost might be considered to have a higher priority for designation, while areas with a low conservation value and higher economic cost might have a higher priority for exclusion. While this approach can provide useful information to the decision-maker, there is no rigid formula through which this information translates into exclusion decisions. Every geographical area containing habitat eligible for designation is different, with a unique set of “relevant impacts” that may be considered in the exclusion process. Regardless of the analytical approach, section 4(b)(2) makes clear that what weight the agency gives various impacts and benefits, and whether the agency excludes areas from the designation, is discretionary.

#### *Exclusions Based on Impacts to Tribes*

The principal benefit of designating critical habitat is that Federal activities that may affect such habitat are subject to consultation pursuant to section 7 of the ESA. We believe there is very little benefit to designating critical habitat on Indian lands for these seven ESUs. Although there are potentially a number of activities on Indian lands that may trigger section 7 consultation, Indian lands comprise only a very minor portion (substantially less than 1 percent) of the total habitat under consideration for these seven California ESUs. Specifically, occupied stream reaches on Indian lands only occur within the range of the California Coastal Chinook, Northern California steelhead, and Central California Coast steelhead ESUs, and these areas represent less than 0.1 percent of the total occupied habitat under consideration for these three ESUs. Based on our analysis, the remaining four ESUs did not contain any Indian lands that overlapped with occupied

stream habitat. These percentages are likely overestimates as they include all habitat area within reservation boundaries.

There are several benefits to excluding Indian lands. The longstanding and distinctive relationship between the Federal and tribal governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the Federal government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities lands have been retained by Indian Tribes or have been set aside for tribal use. These lands are managed by Indian Tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

In addition to the distinctive trust relationship for Pacific salmon and steelhead in California and in the Northwest, there is a unique partnership between the Federal government and Indian tribes regarding salmon management. Indian tribes in California and the Northwest are regarded as “co-managers” of the salmon resource, along with Federal and State managers. This co-management relationship evolved as a result of numerous court decisions clarifying the tribes’ treaty right to take fish in their usual and accustomed places.

The benefits of excluding Indian lands from designation include: (1) The furtherance of established national policies, our Federal trust obligations and our deference to the tribes in management of natural resources on their lands; (2) the maintenance of effective long-term working relationships to promote the conservation of salmonids on an ecosystem-wide basis; (3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species on an ecosystem-wide basis; and (4) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs.

We believe that the current co-manager process addressing activities on an ecosystem-wide basis across the State is currently beneficial for the conservation of the salmonids. Because

the co-manager process provides for coordinated ongoing focused action through a variety of forums, we find the benefits of this process to be greater than the benefits of applying ESA section 7 to Federal activities on Indian lands, which comprise much less than one percent of the total area under consideration for these ESUs. Additionally, we have determined that the exclusion of tribal lands will not result in the extinction of the species concerned. We also believe that maintenance of our current co-manager relationship consistent with existing policies is an important benefit to continuance of our tribal trust responsibilities and relationship. Based upon our consultation with the Round Valley Indian Tribes and the BIA, we believe that designation of Indian lands as critical habitat would adversely impact our working relationship and the benefits resulting from this relationship.

Based upon these considerations, we have decided to exercise agency discretion under ESA section 4(b)(2) and exclude Indian lands from the critical habitat designation for these ESUs of salmonids. The Indian lands specifically excluded from critical habitat are those defined in the Secretarial Order, including: (1) Lands held in trust by the United States for the benefit of any Indian tribe; (2) land held in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation; (3) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and (4) fee lands within the reservation boundaries owned by individual Indians. The Indian tribes for which these exclusions apply in California include: Big Lagoon Reservation, Blue Lake Rancheria, Round Valley Indian Tribes, Laytonville Rancheria, Redwood Valley Rancheria, Coyote Valley Reservation, and Manchester-Point Arena Rancheria. We have determined that these exclusions, together with the other exclusions described in this rule, will not result in the extinction of any of the seven ESUs in this designation.

#### *Impacts to Landowners With Contractual Commitments to Conservation*

Conservation agreements with non-Federal landowners (e.g., HCPs) enhance species conservation by extending species' protections beyond those available through section 7 consultations. In the past decade we have encouraged non-Federal landowners to enter into conservation agreements, based on a view that we can achieve greater species' conservation on

non-Federal land through such partnerships than we can through coercive methods (61 FR 63854; December 2, 1996).

Section 10(a)(1)(B) of the ESA authorizes us to issue to non-Federal entities a permit for the incidental take of endangered and threatened species. This permit allows a non-Federal landowner to proceed with an activity that is legal in all other respects, but that results in the incidental taking of a listed species (i.e., take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity). The ESA specifies that an application for an incidental take permit must be accompanied by a conservation plan, and specifies the content of such a plan. The purpose of such an HCP is to describe and ensure that the effects of the permitted action on covered species are adequately minimized and mitigated, and that the action does not appreciably reduce the survival and recovery of the species.

To date we have not excluded critical habitat on lands covered by an HCP, but we acknowledged in our proposed rule that this was an emerging issue and that the benefits of such exclusions may outweigh the benefits of designation (69 FR 74623; December 14, 2004). As described in greater detail above (see Comment 42) and in our assessment of HCPs associated with this final rulemaking (NMFS, 2005e), the analysis required for these types of exclusions requires careful consideration of the benefits of designation versus the benefits of exclusion to determine whether benefits of exclusion outweigh benefits of designation. The benefits of designation typically arise from additional section 7 protections as well as enhanced public awareness once specific areas are identified as critical habitat. The benefits of exclusion generally relate to relieving regulatory burdens on existing conservation partners, maintaining good working relationships with them, and encouraging the development of new partnerships.

Based on comments received on our proposed rule, we could not conclude that all landowners view designation of critical habitat as imposing a burden, and exclusion from designation as removing that burden and thereby strengthening the ongoing relationship. Where an HCP partner affirmatively requests designation, exclusion is likely to harm rather than benefit the relationship. Where an HCP partner has remained silent on the benefit of exclusion of its land, we do not believe the record supports a presumption that exclusion will enhance the relationship.

Similarly, we do not believe it provides an incentive to other landowners to seek an HCP if our exclusions are not in response to an expressed landowner preference. We anticipate further rulemaking in the near future to refine these designations, for example, in response to developments in recovery planning. As part of future revisions, we will consider information we receive from those with approved HCPs regarding the effect of designation on our ongoing partnership. We did not consider pending HCPs for exclusion, both because we do not want to prejudge the outcome of the ongoing HCP process, and because we expect to have future opportunities to refine the designation and consider whether exclusion will outweigh the benefit of designation in a particular case.

#### **Exclusions Based on National Security Impacts**

As previously noted (see *Military Lands* section), we evaluated several DOD sites with draft or final INRMPs and determined that each INRMP provides a benefit to the listed salmon or steelhead ESUs under consideration at the site. Therefore, we conclude that those areas subject to final INRMPs are not eligible for designation pursuant to section 4(a)(3)(B)(I) of the ESA (16 U.S.C. 1533(A)(3)). At the request of the DOD (and in the case that an INRMP might not provide a benefit to the species), we also assessed the impacts on national security that may result from designating these and other DOD sites as critical habitat.

The U.S. Marine Corps provided comments in response to the ANPR (68 FR 55926; September 29, 2003) regarding its INRMP for Camp Pendleton Marine Corps Base and potential impacts to national security for this facility, which is within the range of the Southern California *O. mykiss* ESU. By letter, NMFS subsequently provided the DOD with information about the areas we were considering to designate as critical habitat for the seven ESUs in California (as well as the 13 ESUs in the Pacific Northwest), and, in addition to a request for information about DOD's INRMPs, requested information about potential impacts to national security as a result of any critical habitat designation. In response to that request and also in comments on the proposed critical habitat designation (69 FR 71880), the Camp Pendleton Marine Corps Base and Vandenberg Air Force Base provided detailed information on such impacts to their operations. Both military agencies concluded that critical habitat designation at either of these sites



would likely impact national security by diminishing military readiness, with possible impacts including: (1) The prevention, restriction, or delay in training or testing exercises or access to such sites; (2) the restriction or delay in activities associated with space launches; (3) a delay in response times for troop deployments and overall operations; and (4) the creation of uncertainties regarding ESA consultation (e.g., reinitiation requirements) or imposition of compliance conditions that would divert military resources. Also, both military agencies cited their ongoing and positive consultation history with NMFS and underscored cases where they are implementing best management practices to reduce impacts on listed salmonids. The occupied fish habitat occurring on Camp Pendleton and Vandenberg AFB have important conservation value, but they are primarily migratory corridors and represent only a small percentage of the total occupied habitat area for the Southern California steelhead ESU. Designating habitat on these two installations will likely reduce the readiness capability of the Marine Corps and the Air Force, both of which are actively engaged in training, maintaining, and deploying forces in the current war on terrorism. Therefore, we conclude that the benefits of exclusion outweigh the benefits of designation, and we are not proposing to designate these DOD sites as critical habitat.

#### *Exclusions Based on Economic Impacts*

Our assessment of economic impact generated considerable interest from commenters on the ANPR (68 FR 55926; September 29, 2003) and the proposed rule (69 FR 71880; December 10, 2004). Based on new information and comments received on the proposed rule, we have updated the economics report wherein we document our conclusions regarding the economic impacts of designating each of the particular areas found to meet the definition of critical habitat (NMFS, 2005b). This report is available from NMFS (see ADDRESSES).

The first step in the overall economic analysis was to identify existing legal and regulatory constraints on economic activity that are independent of critical habitat designation, such as Clean Water Act (CWA) requirements. Coextensive impacts of the ESA section 7 requirement to avoid jeopardy were not considered part of the baseline. Also, we have stated our intention to revisit the existing critical habitat designations for Sacramento River winter run Chinook salmon and two California coastal coho

salmon ESUs, if appropriate, following completion of related rulemaking (67 FR 6215; February 11, 2002). Given the uncertainty that these designations will remain in place in their current configuration, we decided not to consider them as part of the baseline for the ESA section 4(b)(2) analysis.

From the consultation record, we identified Federal activities that might affect habitat and that might result in an ESA section 7 consultation. (We did not consider Federal actions, such as the approval of a fishery, that might affect the species directly but not affect its habitat.) We identified ten types of activities including: Hydropower dams; non-hydropower dams and other water supply structures; federal lands management, including grazing (considered separately); transportation projects; utility line projects; instream activities, including dredging (considered separately); activities permitted under EPA's National Pollution Discharge Elimination System; sand & gravel mining; residential and commercial development; and agricultural pesticide applications. Based on our consultation record and other available information, we determined the modifications each type of activity was likely to undergo as a result of section 7 consultation (regardless of whether the modification might be required by the jeopardy or the adverse modification provision). We developed an expected direct cost for each type of action and projected the likely occurrence of each type of project in each watershed, using existing spatial databases (e.g., the COE 404(d) permit database). Finally, we aggregated the costs from the various types of actions and estimated an annual impact, taking into account the probability of consultation occurring and the likely rate of occurrence of that project type.

This analysis allowed us to estimate the coextensive economic impact of designating each "particular area" (that is, each habitat area, or aggregated occupied stream reaches in an HSA watershed). Expected economic impacts ranged from zero to in excess of 1 million dollars per habitat area. Where a watershed included both tributaries and a migration corridor that served other watersheds, we attempted to estimate the separate impacts of designating the tributaries and the migration corridor. We did this by identifying those categories of activities most likely to affect tributaries and those most likely to affect larger migration corridors.

Because of the methods we selected and the data limitations, portions of our analysis both under- and over-estimate

the coextensive economic impact of ESA section 7 requirements. For example, we lacked data on the likely impact on flows at non-Federal hydropower projects, which would increase economic impacts. In addition, we did not have information about potential changes in irrigation flows associated with section 7 consultation which would likely increase the estimate of coextensive costs. On the other hand, we estimated an impact on all activities occurring within the geographic boundaries of a watershed, even though in some cases activities would be far removed from occupied stream reaches and so might not require modification. In addition, we were unable to document significant costs of critical habitat designation that occur outside the section 7 consultation process, including costs resulting from state or local regulatory burdens imposed on developers and landowners as a result of a Federal critical habitat designation.

In determining whether the economic benefit of excluding a habitat area might outweigh the benefit of designation to the species, we took into consideration the many data limitations described above. The ESA requires that we make critical habitat designations within a short time frame "with such data as may be available" at the time. Moreover the cost-effectiveness approach we adopted accommodated many of these data limitations by considering the relative benefits of designation and exclusion, giving priority to excluding habitat areas with a relatively lower benefit of designation and a relatively higher economic impact.

The circumstances of most of the listed ESUs can make a cost-effectiveness approach useful. Pacific salmon are wide-ranging species and occupy numerous habitat areas with thousands of stream miles. Not all occupied areas, however, are of equal importance to conserving an ESU. Within the currently occupied range there are areas that support highly productive populations, areas that support less productive populations, and areas that support production in only some years. Some populations within an ESU may be more important to long-term conservation of the ESU than other populations. Therefore, in many cases it may be possible to construct different scenarios for achieving conservation. Scenarios might have more or less certainty of achieving conservation, and more or less economic impact.

Our first step in constructing an exclusion scenario was to identify all watershed areas we would consider for



an economic exclusion based on dollar thresholds. The next step was to examine those areas potentially eligible for exclusion based on dollar thresholds to determine whether or not any of them would make an important contribution to conservation for the ESU. Based on the rating process used by the CHARTs, we judged that all of the high conservation value habitat areas make an important contribution to conservation, and therefore, we did not consider them for exclusion.

In developing criteria for the first step, we chose dollar thresholds that we anticipated would lead most directly to a cost effective scenario. We considered for exclusion, low value habitat areas with an economic impact greater than \$70,000–85,000, and medium value areas with an economic impact greater than \$300,000.

The criteria we selected for identifying habitat areas eligible for exclusion do not represent an objective judgment that, for example, a low value habitat area is worth a certain dollar amount and no more. The ESA directs us to balance dissimilar values with a limited amount of time and therefore information. It emphasizes the discretionary nature of the balancing task. Moreover, while our approach

follows the Tenth Circuit’s direction to consider coextensive economic impacts, we nevertheless must acknowledge that not all of the costs will be avoided by exclusion from designation. Finally, the cost estimates developed by our economic analysis do not have obvious break points that would lead to a logical division between high, medium and low costs.

Given these factors, a judgment that any particular dollar threshold is objectively correct would be neither necessary or possible. Rather, what economic impact is high, and therefore, might outweigh the benefit of designating a medium or low value habitat area is a matter of discretion and depends on the policy context. The policy context in which we carry out this task led us to select dollar thresholds that would likely lead to a cost effective designation in a limited amount of time with a relatively simple process.

In the second step of the process, we asked the CHARTs whether any of the habitat areas (*i.e.*, watersheds) eligible for exclusion make an important contribution to conservation of the ESU in question. The CHARTs considered this question in the context of all of the areas eligible for exclusion as well as

the information they had developed in providing the initial conservation ratings. The following section describes the results of applying the two-step process to each ESU. The results are discussed in more detail in a separate report that is available for public review (NMFS, 2005c). We have determined that these exclusions, together with the other exclusions described in this rule, will not result in the extinction of any of the seven ESUs.

**VI. Critical Habitat Designation**

We are designating approximately 8,935 net mi (14,296 km) of riverine habitat and 470 mi<sup>2</sup> (1,212 km<sup>2</sup>) of estuarine habitat in California within the geographical areas presently occupied by the seven ESUs. This designation excludes approximately 771 net mi (1,233 km) of occupied riverine habitat as a result of economic considerations, 32 mi (51 km) of occupied riverine habitat on Tribal lands, and 44 mi (70 km) of occupied riverine habitat on DOD lands. Some of these areas in the final designation overlap substantially for two ESUs. The net economic impacts (coextensive with ESA section 7) associated with the areas designated for all ESUs are estimated to be approximately \$81,647,439.

TABLE 7.—APPROXIMATE QUANTITY OF HABITAT\* AND OWNERSHIP WITHIN WATERSHEDS CONTAINING HABITAT AREAS DESIGNATED AS CRITICAL HABITAT.

ESU	Streams (mi) (km)	Estuary Habitat (Sq mi) (Sq km)	Ownership (percent)			
			Federal	Tribal	State	Private
California Coastal Chinook Salmon .....	1,475	25	16.4	0.4	3.4	79.8
	2,360	65				
Northern California Steelhead .....	3,028	25	18.8	0.5	3.7	77.1
	4,844	65				
Central California Coast Steelhead .....	1,465	386	4.5	0.0	7.2	88.3
	2,344	996				
South-Central California Coast Steelhead .....	1,249	3	16.3	0.0	2.2	81.6
	2,000	8				
Southern California Steelhead .....	708	.....	25.0	1.0	2.4	71.6
	1,132	.....				
Central Valley Spring Run Chinook Salmon .....	1,158	254	12.1	0.0	3.3	84.5
	1,853	655				
Central Valley Steelhead .....	2,308	254	8.6	0.0	3.1	88.3
	3,693	655				

\* These estimates are the total amount for each ESU. They do not account for overlapping areas designated for multiple ESUs.

These areas designated, summarized below by ESU, are considered occupied and contain physical and biological features essential to the conservation of the species and that may require special management considerations or protection.

*California Coastal Chinook Salmon*

There are 45 occupied HSA watersheds within the freshwater and

estuarine range of this ESU. Eight watersheds received a low rating, 10 received a medium rating, and 27 received a high rating of conservation value to the ESU (NMFS, 2005a). Two estuarine habitat areas used for rearing and migration (Humboldt Bay and the Eel River Estuary) also received a high conservation value rating.

HSA watershed habitat areas for this ESU include approximately 1,634 mi

(2,614 km) of stream habitat and approximately 25 mi<sup>2</sup> (65 km<sup>2</sup>) of estuarine habitat (principally Humboldt Bay). Of these, 10.3 stream miles (16.5 km) are being excluded because they overlap with Indian lands (see *Government-to-Government Relationship With Tribes*). No lands controlled by the DOD or covered by HCPs are being excluded from the final designation. As a result of the balancing

process for economic impacts described above, the Secretary is excluding from the designation the habitat areas shown in Table 8. Of the habitat areas eligible for designation, approximately 158

stream miles (253 km) are being excluded because the economic benefits of exclusion outweigh the benefits of designation. The total potential estimated economic impact, with no

exclusions, would be \$10,993,337. The exclusions identified in Table 8 would reduce the total estimated economic impact by 33 percent to \$7,333,751.

TABLE 8.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CALIFORNIA COASTAL CHINOOK SALMON ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
111122	Bridgeville	Entire watershed.
111142	Spy Rock	Indian lands.
111150	North Fork Eel River	Indian lands.
111171	Eden Valley	Tributaries only; Indian lands.
111172	Round Valley	Indian lands.
111173	Black Butte River	Entire watershed.
111174	Wilderness	Entire watershed.
111350	Navarro River	Entire watershed.
111422	Santa Rosa	Entire watershed.
111423	Mark West	Entire watershed.

*Northern California Steelhead*

There are 50 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Nine watersheds received a low rating, 14 received a medium rating, and 27 received a high rating of conservation value to the ESU (NMFS, 2005a). Two estuarine habitat areas used for rearing and migration (Humboldt Bay and the Eel River Estuary) also received a high conservation value rating.

HSA watershed habitat areas for this ESU include approximately 3,148 mi (5,037 km) of stream habitat and approximately 25 mi<sup>2</sup> (65 km<sup>2</sup>) of estuarine habitat (principally Humboldt Bay). Of these, approximately 21 stream miles (33.5 km) are being excluded because they overlap with Indian lands (see *Government-to-Government Relationship With Tribes*). No lands controlled by the DOD or covered by HCPs are being excluded from the final designation. As a result of the balancing process for economic impacts described

above, the Secretary is excluding from the designation the habitat areas shown in Table 9. Of the habitat areas eligible for designation, approximately 120 stream miles (192 km) are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be \$8,773,432. The exclusions identified in Table 9 would reduce the total estimated economic impact by 31 percent to \$6,063,568.

TABLE 9.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE NORTHERN CALIFORNIA STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
110940	Ruth	Entire watershed.
111142	Spy Rock	Tribal land.
111150	North Fork Eel	Entire watershed; Indian lands.
111163	Lake Pillsbury	Entire watershed.
111171	Eden Valley	Indian lands.
111172	Round Valley	Indian lands.

*Central California Coast Steelhead*

There are 46 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Fourteen watersheds received a low rating, 13 received a medium rating, and 19 received a high rating of conservation value to the ESU (NMFS, 2005a). Five of these HSA watersheds comprise portions of the San Francisco-San Pablo-Suisun Bay estuarine complex which provides rearing and migratory habitat for this ESU.

HSA watershed habitat areas for this ESU include approximately 1,832 mi (2,931 km) of stream habitat and approximately 442 mi<sup>2</sup> (1,140 km<sup>2</sup>) of estuarine habitat (principally San Francisco Bay-San Pablo Bay). Of these, approximately 0.6 stream miles (1.0 km) are being excluded because they overlap with Indian lands (Coyote Valley and Redwood Valley Rancherias) (see *Government-to-Government Relationship With Tribes*). No lands controlled by the DOD are excluded. As a result of the balancing process for economic impacts described above,

the Secretary is excluding from the designation the habitat areas shown in Table 10. Of the habitat areas eligible for designation, approximately 367 stream miles (587 km) and 56 mi<sup>2</sup> of estuarine habitat are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be \$18,577,246. The exclusions identified in Table 10 would reduce the total estimated economic impact by 31 percent to \$12,917,247.

TABLE 10.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CENTRAL CALIFORNIA COASTAL STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
111421	Laguna de Santa Rosa	Entire watershed.
111422	Santa Rosa	Entire watershed.
111431	Ukiah	Tributaries only.
111433	Forsythe Creek	Indian lands.
220330	Berkeley	Entire watershed.
220440	San Mateo Bayside	Entire watershed.
220420	Eastbay Cities	Entire watershed.
220540	Guadalupe River	Entire watershed.
220620	Novato	Entire watershed.
220660	Pinole	Entire watershed.
220710	Suisun Bay	Entire unit.
220722	Suisun Creek	Entire watershed.
220721	Benecia	Entire watershed.
220731	Pittsburg	Entire watershed.
220733	Martinez	Entire watershed.

*South-Central California Coast Steelhead*

There are 30 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Six watersheds received a low rating, 11 received a medium rating, and 13 received a high rating of conservation value to the ESU (NMFS, 2005a). One of these occupied watershed units is Morro Bay, which is used as rearing and migratory habitat for steelhead populations that spawn and rear in tributaries to the Bay.

HSA watershed habitat areas for this ESU include approximately 1,251 mi (2,000 km) of stream habitat and approximately 3 mi<sup>2</sup> (8 km<sup>2</sup>) of estuarine habitat (e.g., Morro Bay). Approximately 22 stream miles (35 km) are not eligible for designation because they are within lands controlled by the DOD (Camp San Luis Obispo and Camp Roberts) that have qualifying INRMPS (Table 11). The reduction in economic impacts resulting from these exclusions could not be estimated.

As a result of the balancing process for economic impacts described above, the Secretary is excluding from the

designation the habitat areas shown in Table 11. Of the habitat eligible for designation, approximately 2 stream miles (3.2 km) are being excluded because the economic benefits of exclusion outweigh the benefits of designation. The total potential estimated economic impact, with no exclusions, would be \$16,857,365. It was not possible to estimate the reduced economic impacts associated with the habitat exclusions in Table 11, therefore, the total potential economic impact is the same as if there were no exclusions.

TABLE 11.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE SOUTH-CENTRAL CALIFORNIA COAST STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
330911	Neponset	Tributaries only.
330930	Soledad	Tributaries only.
330940	Upper Salinas Valley	Tributaries only.
330981	Paso Robles	DOD lands.
331022	Chorro	DOD lands.

*Southern California Steelhead ESU*

There are 32 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Five watersheds received a low rating, 6 received a medium rating, and 21 received a high rating of conservation value to the ESU (NMFS, 2005a).

HSA watershed habitat areas for this ESU include approximately 741 mi (1,186 km) of stream habitat. Of these, approximately 22 mi (35 km) of

occupied stream miles are excluded because they are within lands controlled by the DOD (Vandenberg AFB and Camp Pendleton Marine Corps Base) that have qualifying INRMPS and for which the benefits of exclusion outweigh the benefits of designation. The reduction in economic impacts resulting from these exclusions could not be estimated.

As a result of the balancing process for economic impacts described above, the Secretary is excluding from the

designation the habitat areas shown in Table 12. Of the habitat areas eligible for designation, approximately 33 stream miles (53 km) are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be \$19,443,413. The exclusions identified in Table 12 would reduce the total estimated economic impact by 40 percent to \$11,586,752.

TABLE 12.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE SOUTHERN CALIFORNIA STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
331210 .....	Guadalupe .....	Tributaries only.
331230 .....	Cuyama Valley .....	Entire watershed.
331410 .....	Lompoc .....	DOD lands.
331430 .....	Buelton .....	Tributaries only.
331451 .....	Santa Cruz Creek .....	Entire watershed.
440811 .....	East of Oxnard .....	Entire watershed.
490140 .....	San Mateo Canyon .....	DOD lands.

*Central Valley Spring Run Chinook Salmon ESU*

There are 37 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Seven watersheds received a low rating, 3 received a medium rating, and 27 received a high rating of conservation value to the ESU (NMFS, 2005a). Four of these HSA watersheds comprise portions of the San Francisco-San Pablo-Suisun Bay estuarine complex which

provides rearing and migratory habitat for this ESU.

HSA watershed habitat areas for this ESU include approximately 1,373 mi (2,197 km) of occupied stream habitat and approximately 427 mi<sup>2</sup> (1,102 km<sup>2</sup>) of estuarine habitat in the San Francisco-San Pablo-Suisun Bay complex. There are no DOD, tribal or HCP managed lands excluded from the designation. As a result of the balancing process for economic impacts described above, the Secretary is excluding from

the designation the habitat areas shown in Table 13. Of the habitat areas eligible for designation, approximately 215 stream miles (344 km) and 173 mi<sup>2</sup> of estuarine habitat are being excluded because the economic benefits of exclusion outweigh the benefits of designation. The total potential estimated economic impact, with no exclusions, would be \$29,223,186. The exclusions identified in Table 13 would reduce the total estimated economic impact by 25 percent to \$22,066,974.

TABLE 13.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CENTRAL VALLEY SPRING RUN CHINOOK SALMON ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
551000 .....	Sacramento Delta .....	Deep Water Ship Channel.
551713 .....	Mildred Lake .....	Entire watershed.
551720 .....	Nevada City .....	Entire watershed.
552310 .....	Thomes Creek .....	Entire watershed.
552433 .....	South Fork .....	Entire watershed.
554300 .....	No. Diablo Range .....	Entire watershed.
554400 .....	San Joaquin Delta .....	Entire watershed.
220410 .....	South SF Bay .....	Entire unit.

*Central Valley Steelhead ESU*

There are 67 occupied HSA watersheds within the freshwater and estuarine range of this ESU. Twelve watersheds received a low rating, 18 received a medium rating, and 37 received a high rating of conservation value to the ESU (NMFS, 2005a). Four of these HSA watersheds comprise portions of the San Francisco-San Pablo-Suisun Bay estuarine complex which

provides rearing and migratory habitat for this ESU.

HSA watershed habitat areas for this ESU include approximately 2,604 mi (4,168 km) of stream habitat and approximately 427 mi<sup>2</sup> (1,102 km<sup>2</sup>) of estuarine habitat. There are no DOD, tribal or HCP managed lands excluded from the designation. As a result of the balancing process for economic impacts described above, the Secretary is excluding from the designation the

habitat areas shown in Table 14. Of the habitat areas eligible for designation, approximately 296 stream miles (473 km) and 173 mi<sup>2</sup> of estuarine habitat are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be \$38,235,233. The exclusions identified in Table 14 would reduce the total estimated economic impact by 11 percent to \$34,389,278.

TABLE 14.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CENTRAL VALLEY STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT

Watershed code	Watershed name	Area excluded
550964 .....	Paynes Creek .....	Entire watershed.
551000 .....	Sacramento Delta .....	Deep Water Ship Channel.
551110 .....	Elmira .....	Entire watershed.
551713 .....	Mildred Lake .....	Entire watershed.
551720 .....	Nevada City .....	Entire watershed.
552435 .....	Ono .....	Entire watershed.
553111 .....	Herald .....	Entire watershed.
553120 .....	Lower Mokelumne .....	Partial watershed.
553221 .....	Big Canyon Creek .....	Entire watershed.
553223 .....	NF Cosumnes .....	Entire watershed.



TABLE 14.—HSA WATERSHEDS WITHIN THE GEOGRAPHICAL RANGE OF THE CENTRAL VALLEY STEELHEAD ESU AND EXCLUDED FROM CRITICAL HABITAT—Continued

Watershed code	Watershed name	Area excluded
553224 .....	Omo Ranch .....	Entire watershed.
553240 .....	Sutter Creek .....	Entire watershed.
554300 .....	No. Diablo Range .....	Entire watershed.
220410 .....	So. SF Bay .....	Entire unit.

## VII. Effects of Critical Habitat Designation

### Section 7 Consultation

Section 7(a) of the ESA requires Federal agencies, including NMFS, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this provision of the ESA are codified at 50 CFR 402. Section 7(a)(4) of the ESA requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory.

We may issue a formal conference report if requested by a Federal agency. Formal conference reports include an opinion that is prepared according to 50 CFR 402.14, as if the species were listed or critical habitat designated. We may adopt the formal conference report as the biological opinion when the species is listed or critical habitat designated, if no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)).

If a species is listed or critical habitat is designated, ESA section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, we would review actions to determine if they would destroy or adversely modify critical habitat.

If we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we will also provide reasonable and prudent alternatives to the project, if any are

identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that we believe would avoid destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinstate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinstatement of consultation or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

Activities on Federal lands that may affect these ESUs or their critical habitat will require ESA section 7 consultation. Activities on private or state lands requiring a permit from a Federal agency, such as a permit from the COE under section 404 of the CWA, a section 10(a)(1)(B) permit from NMFS, or some other Federal action, including funding (e.g., Federal Highway Administration (FHA) or Federal Emergency Management Agency (FEMA) funding), will also be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non-Federal and private lands that are not Federally funded, authorized, or permitted do not require section 7 consultation.

### Activities Affected by Critical Habitat Designation

Section 4(b)(8) of the ESA requires that we evaluate briefly and describe, in any proposed or final regulation that designates critical habitat, those activities (whether public or private) that may adversely modify such habitat or that may be affected by such designation. A wide variety of activities may affect critical habitat and, when carried out, funded, or authorized by a Federal agency, require that an ESA section 7 consultation be conducted. Generally these include water and land management actions of Federal agencies (e.g., USFS, Bureau of Land Management (BLM), COE, BOR, the FHA, NRCS, National Park Service (NPS), BIA, and the Federal Energy Regulatory Commission (FERC)) and related or similar actions of other Federally regulated projects and lands, including livestock grazing allotments by the USFS and BLM; hydropower sites licensed by the FERC; dams built or operated by the COE or BOR; timber sales and other vegetation management activities conducted by the USFS, BLM, and BIA; irrigation diversions authorized by the USFS and BLM; and road building and maintenance activities authorized by the FHA, USFS, BLM, NPS, and BIA. Other actions of concern include dredge and fill, mining, diking, and bank stabilization activities authorized or conducted by the COE, habitat modifications authorized by the FEMA, and approval of water quality standards and pesticide labeling and use restrictions administered by the EPA.

The Federal agencies that will most likely be affected by this critical habitat designation include the USFS, BLM, BOR, COE, FHA, NRCS, NPS, BIA, FEMA, EPA, and the FERC. This designation will provide these agencies, private entities, and the public with clear notification of critical habitat designated for listed salmonids and the boundaries of the habitat. This designation will also assist these agencies and others in evaluating the potential effects of their activities on listed salmon and their critical habitat and in determining if section 7 consultation with NMFS is needed.

As noted above, numerous private entities also may be affected by this critical habitat designation because of the direct and indirect linkages to an array of Federal actions, including Federal projects, permits, and funding. For example, private entities may harvest timber or graze livestock on Federal land or have special use permits to convey water or build access roads across Federal land; they may require Federal permits to armor stream banks, construct irrigation withdrawal facilities, or build or repair docks; they may obtain water from Federally funded and operated irrigation projects; or they may apply pesticides that are only available with Federal agency approval. These activities will need to be analyzed with respect to their potential to destroy or adversely modify critical habitat. In some cases, proposed activities may require modifications that may result in decreases in activities such as timber harvest and livestock and crop production. The transportation and utilities sectors may need to modify the placement of culverts, bridges, and utility conveyances (e.g., water, sewer and power lines) to avoid barriers to fish migration. Developments occurring in or near salmon streams (e.g., marinas, residential, or industrial facilities) that require Federal authorization or funding may need to be altered or built in a manner that ensures that critical habitat is not destroyed or adversely modified as a result of the construction, or subsequent operation, of the facility. These are just a few examples of potential impacts, but it is clear that the effects will encompass numerous sectors of private and public activities. If you have questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat, contact NMFS (see ADDRESSES and FOR FURTHER INFORMATION CONTACT).

### VIII. Required Determinations

#### *Administrative Procedure Act*

This rulemaking covers over 8,900 miles of streams and 470 square miles of estuarine habitat. Unlike the previous critical habitat designations it contains over a thousand geographic points identifying the extent of the designations. The proposed rule generated substantial public interest. In addition to comments received during four public hearings we received a total of 3,762 written comments (3,627 of these in the form of email with nearly identical language). Many commenters expressed concerns about how the rule would be implemented. Additionally, our experience in implementing the

2000 critical habitat designations suggests that the Administrative Procedure Act's (APA) and critical habitat regulations' minimum 30-day delay in effective date nor the 60-day delay required by the Congressional Review Act for a "major rule" such as this are sufficient for this rule. In view of the geographic scope of this rule, our prior experience with a rule of this scope, the current level of public interest in this rule, and in order to provide for efficient administration of the rule once effective, we are providing a 120-day delay in effective date. As a result this rule will be effective on January 2, 2006. This will allow us the necessary time to provide for outreach to and interaction with the public, to minimize confusion and educate the public about activities that may be affected by the rule, and to work with Federal agencies and applicants to provide for an orderly transition in implementing the rule.

#### *Regulatory Planning and Review*

In accordance with E.O. 12866, this document is a significant rule and has been reviewed by OMB. As noted above, we have prepared several reports to support the exclusion process under section 4(b)(2) of the ESA. The economic costs of the critical habitat designations are described in our economic report (NMFS, 2005b). The benefits of the designations are described in the CHART report (NMFS, 2005a) and the 4(b)(2) report (NMFS, 2005c). The CHART report uses a biologically-based ranking system for gauging the benefits of applying section 7 of the ESA to particular watersheds. Because data are not available to express these benefits in monetary terms, we have adopted a cost-effectiveness framework, as outlined in a 4(b)(2) report (NMFS, 2005c). This approach is in accord with OMB's guidance on regulatory analysis (U.S. Office of Management and Budget, Circular A-4, Regulatory Analysis, September 17, 2003). By taking this approach, we seek to designate sufficient critical habitat to meet the biological goal of the ESA while imposing the least burden on society, as called for by E.O. 12866.

In assessing the overall cost of critical habitat designation for the 7 Pacific salmon and steelhead ESUs addressed in this final rule, the annual total impact figures given in the draft economic analysis (NMFS, 2005b) cannot be added together to obtain an aggregate annual impact. Because some watersheds are included in more than one ESU, a simple summation would entail duplication, resulting in an overestimate. Accounting for this

duplication, the aggregate annual economic impact of the 7 critical habitat designations is \$81,647,439. These amounts include impacts that are coextensive with the implementation of the jeopardy standard of section 7 (NMFS, 2005b).

Within the State of California, hydropower projects currently provide approximately 15 percent of the total electricity produced. This is small compared to the Pacific Northwest where hydropower generates up to 70 percent of the total electricity produced, with approximately 60 percent of this hydroelectric power generated through the Federal Columbia River Power System. Because hydropower is a more pervasive power source in the Pacific Northwest than in California, the impacts to the energy industry in California from environmental mitigation associated with protecting listed salmon and steelhead and their critical habitat are likely to be much less than in the Northwest. There are approximately 90 hydropower projects within the area covered by the potential critical habitat for the 7 ESUs in California. Based on the economic analysis conducted for this rulemaking (NMFS 2005b), the estimated annualized capital and programmatic costs of section 7 for hydropower projects ranges from \$11,000 to \$9.8 million per ESU, with the estimated annualized cost for all ESUs totaling \$18.8 million. The aggregate economic costs of capital modifications within the range of these 7 ESUs is approximately 10 percent of the total aggregate costs for all categories of activities evaluated in the economic analysis. This cost estimate, however, does not include costs associated with operational modifications of hydropower projects such as changes to the flow regime (level or timing) which can result in foregone power generation, require supplementary power purchases, or have other economic effects. The necessary data to estimate operational modification costs in California are not available, but they are expected to be highly variable and project-specific. The estimated impacts of operational changes at hydropower projects in the Pacific Northwest (unknown for several projects to \$31 million in forgone power revenues for Baker River Dam), however, demonstrate the potential magnitude and variability of impacts on a per project basis in California. For these projects in the Northwest, the proportion of costs attributable to section 7 implementation is unknown, but the share of incremental costs associated with critical habitat

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designation alone is unlikely to be significant.

*Regulatory Flexibility Act (5 U.S.C. 601 et seq.)*

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). We have prepared a final regulatory flexibility analysis and this document is available upon request (see **ADDRESSES**). This analysis estimates that the number of regulated small entities potentially affected by this rulemaking ranges from 444 to 4,893 depending on the ESU. The estimated coextensive costs of section 7 consultation incurred by small entities is estimated to range from \$1.6 million to \$26.5 million depending on the ESU. As described in the analysis, we considered various alternatives for designating critical habitat for these seven ESUs. We rejected the alternative of not designating critical habitat for any of the ESUs because such an approach did not meet the legal requirements of the ESA. We also examined and rejected an alternative in which all the potential critical habitat of the seven Pacific salmon and steelhead ESUs is designated (*i.e.*, no areas are excluded) because many of the areas considered to have a low conservation value also had relatively high economic impacts that might be mitigated by excluding those areas from designation. A third alternative we examined and rejected would exclude all habitat areas with a low or medium conservation value. While this alternative furthers the goal of reducing economic impacts, we could not make a determination that the benefits of excluding all habitat areas with low and medium conservation value outweighed the benefits of designation. Moreover, for some habitat areas the incremental economic benefit from excluding that area is relatively small. Therefore, after considering these alternatives in the context of the section 4(b)(2) process of weighing benefits of exclusion against benefits of designation, we determined that the current approach to designation (*i.e.*, designating some but not all areas with low or medium conservation value) provides an appropriate balance of conservation and economic mitigation and that excluding the areas identified

in this rulemaking would not result in extinction of the ESUs. It is estimated that small entities will save from \$39.9 thousand to \$5.5 million in compliance costs, depending on the ESU, due to the exclusions made in these final designations.

As noted above, we will continue to study alternative approaches in future rulemakings designating critical habitat. As part of that assessment, we will examine alternative methods for analyzing the economic impacts of designation on small business entities, which will inform our Regulatory Flexibility Analysis as well as our analysis under section 4(b)(2) of the ESA.

*E.O. 13211*

On May 18, 2001, the President issued an Executive Order on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule may be a significant regulatory action under E.O. 12866. We have determined, however, that the energy effects of the regulatory action are unlikely to exceed the energy impact thresholds identified in E.O. 13211.

As discussed elsewhere in this final rule, there are approximately 90 hydropower projects within the range of the potential critical habitat for these 7 ESUs. The annualized capital and programmatic costs of section 7 for these projects ranges from \$11,000 to \$9.8 million per ESU, with the estimated annualized cost for all ESUs totaling \$18.8 million. Despite these costs and operational costs which we do not have the data available to estimate, we believe the proper focus under E.O. 13211 is on the incremental impacts of critical habitat designation. The available data do not allow us to separate precisely these incremental impacts from the impacts of all conservation measures on energy production and costs. There is evidence from the California Energy Commission (California Energy Commission 2003), however, that the implementation of environmental mitigation measures associated with relicensing and selective decommissioning of hydropower projects in California has not impacted the ability of the State's electricity system to meet demand. This conclusion was based on a consideration of implementing all mitigation measures, not just those for salmon and steelhead, thus it is likely that the impact of implementing mitigations associated with salmon and steelhead protection directly or even

more specifically salmon and steelhead critical habitat protection would be a subset of the impacts determined by the Commission. In addition, there is historical evidence from the Pacific Northwest, that the ESA jeopardy standard alone is capable of imposing all of the costs affecting hydropower projects and energy supply. While this information is indirect, it is sufficient to draw the conclusion that the designation of critical habitat for the 7 salmon and steelhead ESUs in California does not significantly affect energy supply, distribution, or use.

*Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)*

In accordance with the Unfunded Mandates Reform Act, we make the following findings:

(a) This final rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute or regulation that would impose an enforceable duty upon State, local, tribal governments, or the private sector and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)-(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or tribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding" and the State, local, or tribal governments "lack authority" to adjust accordingly. (At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement.) "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program." The designation of critical habitat does not impose a legally binding duty on non-Federal



government entities or private parties. Under the ESA, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities who receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above to State governments.

(b) Due to current public knowledge of salmon protection and the prohibition against take of these species both within and outside of the designated areas, we do not anticipate that this final rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required.

#### *Takings*

In accordance with E.O. 12630, this final rule does not have significant takings implications. A takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. This final rule will not increase or decrease the current restrictions on private property concerning take of salmon. As noted above, due to widespread public knowledge of salmon protection and the prohibition against take of the species both within and outside of the designated areas, we do not anticipate that property values will be affected by these critical habitat designations. While real estate market values may temporarily decline following designation, due to the perception that critical habitat designation may impose additional regulatory burdens on land use, we expect any such impacts to be short term (NMFS, 2005b). Additionally, critical habitat designation does not preclude development of HCPs and issuance of incidental take permits. Owners of areas that are included in the designated critical habitat will continue to have the opportunity to use their property in ways consistent with the survival of listed salmon.

#### *Federalism*

In accordance with E.O. 13132, this final rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of Commerce policies, we requested information from, and coordinated development of, this critical habitat designation with appropriate state resource agencies in California. These designations may have some benefit to the states and local resource agencies in that the areas essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what Federally sponsored activities may occur, it may assist local governments in long-range planning rather than waiting for case-by-case section 7 consultations to occur.

#### *Civil Justice Reform*

In accordance with E.O. 12988, the Department of the Commerce has determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the E.O. We are designating critical habitat in accordance with the provisions of the ESA. This final rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the seven salmon and steelhead ESUs.

#### *Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)*

This final rule does not contain new or revised information collection for which OMB approval is required under the Paperwork Reduction Act. This final rule will not impose record keeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

#### *National Environmental Policy Act*

We have determined that we need not prepare environmental analyses as provided for under the National Environmental Policy Act of 1969 for critical habitat designations made pursuant to the ESA. See *Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996).

#### *Government-to-Government Relationship With Tribes*

The longstanding and distinctive relationship between the Federal and tribal Governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the Federal Government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities lands have been retained by Indian Tribes or have been set aside for tribal use. These lands are managed by Indian Tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

Administration policy contained in the Secretarial Order: "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (June 5, 1997) ("Secretarial Order"); the President's Memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (50 FR 2291); E.O. 13175; and Department of Commerce-American Indian and Alaska Native Policy (March 30, 1995) reflects and defines this unique relationship.

These policies also recognize the unique status of Indian lands. The Presidential Memorandum of April 29, 1994, provides that, to the maximum extent possible, tribes should be the governmental entities to manage their lands and tribal trust resources. The Secretarial Order provides that, "Indian lands are not Federal public lands or part of the public domain, and are not subject to Federal public lands laws."

In implementing these policies the Secretarial Order specifically seeks to harmonize this unique working relationship with the Federal Government's duties pursuant to the ESA. The order clarifies our responsibilities when carrying out authorities under the ESA and requires that we consult with and seek participation of, the affected Indian Tribes to the maximum extent practicable in the designation of critical habitat. Accordingly, we recognize that we must carry out our responsibilities under the ESA in a manner that harmonizes these duties with the Federal trust responsibility to the tribes and tribal sovereignty while striving to ensure that Indian Tribes do not bear a

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disproportionate burden for the conservation of species. Any decision to designate Indian land as critical habitat must be informed by the Federal laws and policies establishing our responsibility concerning Indian lands, treaties and trust resources, and by Department of Commerce policy establishing our responsibility for dealing with tribes when we implement the ESA.

For West Coast salmon in California, our approach is also guided by the unique partnership between the Federal Government and Indian tribes regarding salmon management. In California, Indian tribes are regarded as “co-managers” of the salmon resource, along with Federal and state managers. This co-management relationship evolved as a result of numerous court decisions establishing the tribes’ treaty right to take fish in their usual and accustomed places.

Pursuant to the Secretarial Order we consulted with the affected Indian Tribes when considering the designation of critical habitat in an area that may impact tribal trust resources, tribally owned fee lands or the exercise of tribal rights. Additionally some tribes and the BIA provided written comments that are a part of the administrative record for this rulemaking.

We understand from the tribes that there is general agreement that Indian lands should not be designated critical habitat. The Secretarial Order defines Indian lands as “any lands title to which is either: (1) Held in trust by the United States for the benefit of any Indian tribe or (2) held by an Indian Tribe or individual subject to restrictions by the United States against alienation.” In clarifying this definition with the tribes, we agree that (1) fee lands within the reservation boundaries and owned by the Tribe or individual Indian, and (2) fee lands outside the reservation boundaries and owned by the Tribe would be considered Indian lands for the purposes of this rule. (Fee lands outside the reservation owned by individual Indians are not included within the definition of Indian lands for the purposes of this rule.)

In evaluating Indian lands for designation as critical habitat we look to

section 4(b)(2) of the ESA. Section 4(b)(2) requires us to base critical habitat designations on the best scientific and commercial data available, after taking into consideration the economic impact, the impact on national security and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude areas from a critical habitat designation when the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We find that a relevant impact for consideration is the degree to which the Federal designation of Indian lands would impact the longstanding unique relationship between the tribes and the Federal Government and the corresponding effect on West Coast salmon protection and management. This is consistent with recent case law addressing the designation of critical habitat on tribal lands. “It is certainly reasonable to consider a positive working relationship relevant, particularly when the relationship results in the implementation of beneficial natural resource programs, including species preservation.” *Center for Biological Diversity et al. v. Norton*, 240 F. Supp. 2d 1090, 1105); *Douglas County v. Babbitt*, 48 F.3d 1495, 1507 (1995) (defining “relevant” as impacts consistent with the purposes of the ESA).

As noted above, NMFS and the tribal governments in California currently have cooperative working relationships that have enabled us to implement natural resource programs of mutual interest for the benefit of threatened and endangered salmonids. The tribes have existing natural resource programs that assist us on a regular basis in providing information relevant to salmonid protection. The tribes indicate that they view the designation of Indian lands as an unwanted intrusion into tribal self-governance, compromising the government-to-government relationship that is essential to achieving our mutual goal of conserving threatened and endangered salmonids. At this time, for the general reasons described above, we conclude that the ESA 4(b)(2) analysis

leads us to exclude all Indian lands containing occupied habitat otherwise eligible for designation in our final designation for these 7 ESUs of salmon and steelhead.

**IX. References Cited**

A complete list of all references cited in this rulemaking can be found on our Web site at <http://swr.nmfs.noaa.gov> and is available upon request from the NMFS office in Long Beach, CA (see ADDRESSES section).

**List of Subjects in 50 CFR Part 226**

Endangered and threatened species.

Dated: August 12, 2005.

**William T. Hogarth,**  
*Assistant Administrator for Fisheries,*  
*National Marine Fisheries Service.*

■ For the reasons set out in the preamble, we amend part 226, title 50 of the Code of Regulations as set forth below:

**PART 226—[AMENDED]**

■ 1. The authority citation of part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

■ 2. Add § 226.211 to read as follows:

**§ 226.211 Critical habitat for Seven Evolutionarily Significant Units (ESUs) of Salmon (*Oncorhynchus spp.*) In California.**

Critical habitat is designated in the following California counties for the following ESUs as described in paragraph (a) of this section, and as further described in paragraphs (b) through (e) of this section. The textual descriptions of critical habitat for each ESU are included in paragraphs (f) through (l) of this section, and these descriptions are the definitive source for determining the critical habitat boundaries. General location maps are provided at the end of each ESU description (paragraphs (f) through (l) of this section) and are provided for general guidance purposes only, and not as a definitive source for determining critical habitat boundaries.

(a) Critical habitat is designated for the following ESUs in the following California counties:

ESU	State—counties
(1) California Coastal Chinook .....	CA—Humboldt, Trinity, Mendocino, Sonoma, Lake, Napa, Glenn, Colusa, and Tehama.
(2) Northern California Steelhead .....	CA—Humboldt, Trinity, Mendocino, Sonoma, Lake, Glenn, Colusa, and Tehama.
(3) Central California Coast Steelhead .....	CA—Lake, Mendocino, Sonoma, Napa, Marin, San Francisco, San Mateo, Santa Clara, Santa Cruz, Alameda, Contra Costa, and San Joaquin.
(4) South-Central Coast Steelhead .....	CA—Monterey, San Benito, Santa Clara, Santa Cruz, San Luis Obispo.

ESU	State—counties
(5) Southern California Steelhead .....	CA—San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange and San Diego.
(6) Central Valley spring-run Chinook .....	CA—Tehama, Butte, Glenn, Shasta, Yolo, Sacramento, Solano, Colusa, Yuba, Sutter, Trinity, Alameda, San Joaquin, and Contra Costa.
(7) Central Valley Steelhead .....	CA—Tehama, Butte, Glenn, Shasta, Yolo, Sacramento, Solano, Yuba, Sutter, Placer, Calaveras, San Joaquin, Stanislaus, Tuolumne, Merced, Alameda, Contra Costa.

(b) *Critical habitat boundaries.* Critical habitat includes the stream channels within the designated stream reaches, and includes a lateral extent as defined by the ordinary high-water line (33 CFR 329.11). In areas where the ordinary high-water line has not been defined, the lateral extent will be defined by the bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series. Critical habitat in estuaries (e.g. San Francisco-San Pablo-Suisun Bay, Humboldt Bay, and Morro Bay) is defined by the perimeter of the water body as displayed on standard 1:24,000 scale topographic maps or the elevation of extreme high water, whichever is greater.

(c) *Primary constituent elements.* Within these areas, the primary constituent elements essential for the conservation of these ESUs are those sites and habitat components that support one or more life stages, including:

- (1) Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development;
- (2) Freshwater rearing sites with:
  - (i) Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility;
  - (ii) Water quality and forage supporting juvenile development; and
  - (iii) Natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
- (3) Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.
- (4) Estuarine areas free of obstruction and excessive predation with:

(i) Water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater;

(ii) Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels; and

(iii) Juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

(d) *Exclusion of Indian lands.* Critical habitat does not include occupied habitat areas on Indian lands. The Indian lands specifically excluded from critical habitat are those defined in the Secretarial Order, including:

- (1) Lands held in trust by the United States for the benefit of any Indian tribe;
- (2) Land held in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation;

(3) Fee lands, either within or outside the reservation boundaries, owned by the tribal government; and

(4) Fee lands within the reservation boundaries owned by individual Indians.

(e) *Land owned or controlled by the Department of Defense.* Additionally, critical habitat does not include the following areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a):

- (1) Camp Pendleton Marine Corps Base;
- (2) Vandenberg Air Force Base;
- (3) Camp San Luis Obispo;
- (4) Camp Roberts; and
- (5) Mare Island Army Reserve Center.

(f) *California Coastal Chinook Salmon (*Oncorhynchus tshawytscha*).* Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic units:

- (1) Redwood Creek Hydrologic Unit 1107—(i) *Orick Hydrologic Sub-area 110710.* Outlet(s) = Redwood Creek (Lat -41.2923, Long -124.0917) upstream to endpoint(s) in: Boyes Creek (41.3639, -123.9845); Bridge Creek (41.137,

-124.0012); Brown Creek (41.3986, -124.0012); Emerald (Harry Weir) (41.2142, -123.9812); Godwood Creek (41.3889, -124.0312); Larry Dam Creek (41.3359, -124.003); Little Lost Man Creek (41.2944, -124.0014); Lost Man Creek (41.3133, -123.9854); May Creek (41.3547, -123.999); McArthur Creek (41.2705, -124.041); North Fork Lost Man Creek (41.3374, -123.9935); Prairie Creek (41.4239, -124.0367); Tom McDonald (41.1628, -124.0419).

(ii) *Beaver Hydrologic Sub-area 110720.* Outlet(s) = Redwood Creek (Lat 41.1367, Long -123.9309) upstream to endpoint(s); Lacks Creek (41.0334, -123.8124); Minor Creek (40.9706, -123.7899).

(iii) *Lake Prairie Hydrologic Sub-area 110730.* Outlet(s) = Redwood Creek (Lat 40.9070, Long -123.8170) upstream to endpoint(s) in: Redwood Creek (40.7432, -123.7206).

(2) Trinidad Hydrologic Unit 1108—(i) *Big Lagoon Hydrologic Sub-area 110810.* Outlet(s) = Maple Creek (Lat 41.1555, Long -124.1380) upstream to endpoint(s) in: North Fork Maple Creek (41.1317, -124.0824); Maple Creek (41.1239, -124.1041).

(ii) *Little River Hydrologic Sub-area 110820.* Outlet(s) = Little River (41.0277, -124.1112) upstream to endpoint(s) in: South Fork Little River (40.9908, -124.0412); Little River (41.0529, -123.9727); Railroad Creek (41.0464, -124.0475); Lower South Fork Little River (41.0077, -124.0078); Upper South Fork Little River (41.0131, -123.9853).

(3) Mad River Hydrologic Unit 1109—(i) *Blue Lake Hydrologic Sub-area 110910.* Outlet(s) = Mad River (Lat 40.9139, Long -124.0642) upstream to endpoint(s) in: Lindsay Creek (40.983, -124.0326); Mill Creek (40.9008, -124.0086); North Fork Mad River (40.8687, -123.9649); Squaw Creek (40.9426, -124.0202); Warren Creek (40.8901, -124.0402).

(ii) *North Fork Mad River 110920.* Outlet(s) = North Fork Mad River (Lat 40.8687, Long -123.9649) upstream to endpoint(s) in: Sullivan Gulch (40.8646, -123.9553); North Fork Mad River (40.8837, -123.9436).

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(iii) *Butler Valley 110930*. Outlet(s) = Mad River (Lat 40.8449, Long -123.9807) upstream to endpoint(s) in: Black Creek (40.7547, -123.9016); Black Dog Creek (40.8334, -123.9805); Canon Creek (40.8362, -123.9028); Dry Creek (40.8218, -123.9751); Mad River (40.7007, -123.8642); Maple Creek (40.7928, -123.8742); Unnamed (40.8186, -123.9769).

(4) Eureka Plain Hydrologic Unit 1110—(i) *Eureka Plain Hydrologic Sub-area 111000*. Outlet(s) = Mad River (Lat 40.9560, Long -124.1278); Jacoby Creek (40.8436, -124.0834); Freshwater Creek (40.8088, -124.1442); Elk River (40.7568, -124.1948); Salmon Creek (40.6868, -124.2194) upstream to endpoint(s) in: Bridge Creek (40.6958, -124.0795); Dunlap Gulch (40.7101, -124.1155); Freshwater Creek (40.7389, -123.9944); Gannon Slough (40.8628, -124.0818); Jacoby Creek (40.7944, -124.0093); Little Freshwater Creek (40.7485, -124.0652); North Branch of the North Fork Elk River (40.6878, -124.0131); North Fork Elk River (40.6756, -124.0153); Ryan Creek (40.7835, -124.1198); Salmon Creek (40.6438, -124.1319); South Branch of the North Fork Elk River (40.6691, -124.0244); South Fork Elk River (40.6626, -124.0611); South Fork Freshwater Creek (40.7097, -124.0277).

(ii) [Reserved]

(5) Eel River Hydrologic Unit 1111—(i) *Ferndale Hydrologic Sub-area 111111*. Outlet(s) = Eel River (Lat 40.6282, Long -124.2838) upstream to endpoint(s) in: Atwell Creek (40.472, -124.1449); Howe Creek (40.4748, -124.1827); Price Creek (40.5028, -124.2035); Strongs Creek (40.5986, -124.1222); Van Duzen River (40.5337, -124.1262).

(ii) *Scotia Hydrologic Sub-area 111112*. Outlet(s) = Eel River (Lat 40.4918, Long -124.0998) upstream to endpoint(s) in: Bear Creek (40.391, -124.0156); Chadd Creek (40.3921, -123.9542); Jordan Creek (40.4324, -124.0428); Monument Creek (40.4676, -124.1133).

(iii) *Larabee Creek Hydrologic Sub-area 111113*. Outlet(s) = Larabee Creek (40.4090, Long -123.9334) upstream to endpoint(s) in: Carson Creek (40.4189, -123.8881); Larabee Creek (40.3950, -123.8138).

(iv) *Hydesville Hydrologic Sub-area 111121*. Outlet(s) = Van Duzen River (Lat 40.5337, Long -124.1262) upstream to endpoint(s) in: Cummings Creek (40.5258, -123.9896); Fielder Creek (40.5289, -124.0201); Hely Creek (40.5042, -123.9703); Yager Creek (40.5583, -124.0577).

(v) *Yager Creek Hydrologic Sub-area 111123*. Outlet(s) = Yager Creek (Lat

40.5583, Long -124.0577) upstream to endpoint(s) in: Corner Creek (40.6189, -123.9994); Fish Creek (40.6392, -124.0032); Lawrence Creek (40.6394, -123.9935); Middle Fork Yager Creek (40.5799, -123.9015); North Fork Yager Creek (40.6044, -123.9084); Owl Creek (40.5557, -123.9362); Shaw Creek (40.6245, -123.9518); Yager Creek (40.5673, -123.9403).

(vi) *Weott Hydrologic Sub-area 111131*. Outlet(s) = South Fork Eel River (Lat 40.3500, Long -123.9305) upstream to endpoint(s) in: Bridge Creek (40.2929, -123.8569); Bull Creek (40.3148, -124.0343); Canoe Creek (40.2909, -123.922); Cow Creek (40.3583, -123.9626); Cuneo Creek (40.3377, -124.0385); Elk Creek (40.2837, -123.8365); Fish Creek (40.2316, -123.7915); Harper Creek (40.354, -123.9895); Mill Creek (40.3509, -124.0236); Salmon Creek (40.2214, -123.9059); South Fork Salmon River (40.1769, -123.8929); Squaw Creek (40.3401, -123.9997); Tostin Creek (40.1722, -123.8796).

(vii) *Benbow Hydrologic Sub-area 111132*. Outlet(s) = South Fork Eel River (Lat 40.1932, Long -123.7692) upstream to endpoint(s) in: Anderson Creek (39.9337, -123.8933); Bear Pen Creek (39.9125, -123.8108); Bear Wallow Creek (39.7296, -123.7172); Bond Creek (39.7856, -123.6937); Butler Creek (39.7439, -123.692); China Creek (40.1035, -123.9493); Connick Creek (40.0911, -123.8187); Cox Creek (40.0288, -123.8542); Cummings Creek (39.8431, -123.5752); Dean Creek (40.1383, -123.7625); Dinner Creek (40.0915, -123.937); East Branch South Fork Eel River (39.9433, -123.6278); Elk Creek (39.7986, -123.5981); Fish Creek (40.0565, -123.7768); Foster Creek (39.8455, -123.6185); Grapewine Creek (39.7991, -123.5186); Hartsook Creek (40.012, -123.7888); Hollow Tree Creek (39.7316, -123.6918); Huckleberry Creek (39.7315, -123.7253); Indian Creek (39.9464, -123.8993); Jones Creek (39.9977, -123.8378); Leggett Creek (40.1374, -123.8312); Little Sproul Creel (40.0897, -123.8585); Low Gap Creek (39.993, -123.767); McCoy Creek (39.9598, -123.7542); Michael's Creek (39.7642, -123.7175); Miller Creek (40.1215, -123.916); Moody Creek (39.9531, -123.8819); Mud Creek (39.8232, -123.6107); Piercy Creek (39.9706, -123.8189); Pollock Creek (40.0822, -123.9184); Rattlesnake Creek (39.7974, -123.5426); Redwood Creek (39.7721, -123.7651); Redwood Creek (40.0974, -123.9104); Seely Creek (40.1494, -123.8825); Somerville Creek (40.0896, -123.8913); South Fork Redwood Creek (39.7663, -123.7579); Spoul Creek (40.0125, -123.8585);

Standley Creek (39.9479, -123.8083); Tom Long Creek (40.0315, -123.6891); Twin Rocks Creek (39.8269, -123.5543); Warden Creek (40.0625, -123.8546); West Fork Sproul Creek (40.0386, -123.9015); Wildcat Creek (39.9049, -123.7739); Wilson Creek (39.841, -123.6452); Unnamed Tributary (40.1136, -123.9359).

(viii) *Laytonville Hydrologic Sub-area 111133*. Outlet(s) = South Fork Eel River (Lat 39.7665, Long -123.6484) upstream to endpoint(s) in: Bear Creek (39.6413, -123.5797); Cahto Creek (39.6624, -123.5453); Dutch Charlie Creek (39.6892, -123.6818); Grub Creek (39.7777, -123.5809); Jack of Hearts Creek (39.7244, -123.6802); Kenny Creek (39.6733, -123.6082); Mud Creek (39.6561, -123.592); Redwood Creek (39.6738, -123.6631); Rock Creek (39.6931, -123.6204); South Fork Eel River (39.6271, -123.5389); Streeter Creek (39.7328, -123.5542); Ten Mile Creek (39.6651, -123.451).

(ix) *Sequoia Hydrologic Sub-area 111141*. Outlet(s) = Eel River (Lat 40.3557, Long -123.9191); South Fork Eel River (40.3558, -123.9194) upstream to endpoint(s) in: Brock Creek (40.2411, -123.7248); Dobbyn Creek (40.2216, -123.6029); Hoover Creek (40.2312, -123.5792); Line Gulch (40.1655, -123.4831); North Fork Dobbyn Creek (40.2669, -123.5467); South Fork Dobbyn Creek (40.1723, -123.5112); South Fork Eel River (40.35, -123.9305); Unnamed Tributary (40.3137, -123.8333); Unnamed Tributary (40.2715, -123.549).

(x) *Spy Rock Hydrologic Sub-area 111142*. Outlet(s) = Eel River (Lat 40.1736, Long -123.6043) upstream to endpoint(s) in: Bell Springs Creek (39.9399, -123.5144); Burger Creek (39.6943, -123.413); Chamise Creek (40.0563, -123.5479); Jewett Creek (40.1195, -123.6027); Kekawaka Creek (40.0686, -123.4087); Woodman Creek (39.7639, -123.4338).

(xi) *North Fork Eel River Hydrologic Sub-area 111150*. Outlet(s) = North Fork Eel River (Lat 39.9567, Long -123.4375) upstream to endpoint(s) in: North Fork Eel River (39.9370, -123.3758).

(xii) *Outlet Creek Hydrologic Sub-area 111161*. Outlet(s) = Outlet Creek (Lat 39.6263, Long -123.3453) upstream to endpoint(s) in: Baechtler Creek (39.3688, -123.4028); Berry Creek (39.4272, -123.2951); Bloody Run (39.5864, -123.3545); Broaddus Creek (39.3907, -123.4163); Davis Creek (39.3701, -123.3007); Dutch Henry Creek (39.5788, -123.4543); Haehl Creek (39.3795, -123.3393); Long Valley Creek (39.6091, -123.4577); Ryan Creek (39.4803, -123.3642); Upp Creek (39.4276, -123.3578); Upp Creek



(39.4276, -123.3578); Willits Creek (39.4315, -123.3794).

(xiii) *Tomki Creek Hydrologic Sub-area 111162*. Outlet(s) = Eel River (Lat 39.7138, Long -123.3531) upstream to endpoint(s) in: Cave Creek (39.3925, -123.2318); Long Branch Creek (39.4074, -123.1897); Rocktree Creek (39.4533, -123.3079); Salmon Creek (39.4461, -123.2104); Scott Creek (39.456, -123.2297); String Creek (39.4855, -123.2891); Tomki Creek (39.549, -123.3613); Wheelbarrow Creek (39.5029, -123.3287).

(xiv) *Lake Pillsbury Hydrologic Sub-area 111163*. Outlet(s) = Eel River (Lat 39.3860, Long -123.1163) upstream to endpoint(s) in: Eel River (39.4078, -122.958).

(xv) *Eden Valley Hydrologic Sub-area 111171*. Outlet(s) = Middle Fork Eel River (Lat 39.8146, Long -123.1332) upstream to endpoint(s) in: Middle Fork Eel River (39.8145, -123.1333).

(xvi) *Round Valley Hydrologic Sub-area 111172*. Outlet(s) = Mill Creek (Lat 39.7396, Long -123.1420); Williams Creek (39.8145, -123.1333) upstream to endpoint(s) in: Mill Creek (39.8456, -123.2822); Murphy Creek (39.8804, -123.1636); Poor Mans Creek (39.8179, -123.1833); Short Creek (39.8645, -123.2242); Turner Creek (39.7238, -123.2191); Williams Creek (39.8596, -123.1341).

(6) *Cape Mendocino Hydrologic Unit 1112*—(i) *Capetown Hydrologic Sub-area 111220*. Outlet(s) = Bear River (Lat 40.4744, Long -124.3881) upstream to endpoint(s) in: Bear River (40.3591, -124.0536); South Fork Bear River (40.4271, -124.2873).

(ii) *Mattole River Hydrologic Sub-area 111230*. Outlet(s) = Mattole River (Lat 40.2942, Long -124.3536) upstream to endpoint(s) in: Bear Creek (40.1262, -124.0631); Blue Slide Creek (40.1286, -123.9579); Bridge Creek (40.0503, -123.9885); Conklin Creek (40.3169, -124.229); Dry Creek (40.2389,

-124.0621); East Fork Honeydew Creek (40.1633, -124.0916); East Fork of the North Fork Mattole River (40.3489, -124.2244); Eubanks Creek (40.0893, -123.9743); Gilham Creek (40.2162, -124.0309); Grindstone Creek (40.1875, -124.0041); Honeydew Creek (40.1942, -124.1363); Mattole Canyon (40.1833, -123.9666); Mattole River (39.9735, -123.9548); McGinnis Creek (40.3013, -124.2146); McKee Creek (40.0674, -123.9608); Mill Creek (40.0169, -123.9656); North Fork Mattole River (40.3729, -124.2461); North Fork Bear Creek (40.1422, -124.0945); Oil Creek (40.3008, -124.1253); Rattlesnake Creek (40.2919, -124.1051); South Fork Bear Creek (40.0334, -124.0232); Squaw Creek (40.219, -124.1921); Thompson Creek (39.9969, -123.9638); Unnamed (40.1522, -124.0989); Upper North Fork Mattole River (40.2907, -124.1115); Westlund Creek (40.2333, -124.0336); Woods creek (40.2235, -124.1574); Yew Creek (40.0019, -123.9743).

(7) *Mendocino Coast Hydrologic Unit 1113*—(i) *Wages Creek Hydrologic Sub-area 111312*. Outlet(s) = Wages Creek (Lat 39.6513, Long -123.7851) upstream to endpoint(s) in: Wages Creek (39.6393, -123.7146).

(ii) *Ten Mile River Hydrologic Sub-area 111313*. Outlet(s) = Ten Mile River (Lat 39.5529, Long -123.7658) upstream to endpoint(s) in: Middle Fork Ten Mile River (39.5397, -123.5523); Little North Fork Ten Mile River (39.6188, -123.7258); Ten Mile River (39.5721, -123.7098); South Fork Ten Mile River (39.4927, -123.6067); North Fork Ten Mile River (39.5804, -123.5735).

(iii) *Noyo River Hydrologic Sub-area 111320*. Outlet(s) = Noyo River (Lat 39.4274, Long -123.8096) upstream to endpoint(s) in: North Fork Noyo River (39.4541, -123.5331); Noyo River (39.431, 123.494); South Fork Noyo River (39.3549, -123.6136).

(iv) *Big River Hydrologic Sub-area 111330*. Outlet(s) = Big River (Lat

39.3030, Long -123.7957) upstream to endpoint(s) in: Big River (39.3095, -123.4454).

(v) *Albion River Hydrologic Sub-area 111340*. Outlet(s) = Albion River (Lat 39.2253, Long -123.7679) upstream to endpoint(s) in: Albion River (39.2644, -123.6072).

(vi) *Garcia River Hydrologic Sub-area 111370*. Outlet(s) = Garcia River (Lat 38.9455, Long -123.7257) upstream to endpoint(s) in: Garcia River (38.9160, -123.4900).

(8) *Russian River Hydrologic Unit 1114*—(i) *Guerneville Hydrologic Sub-area 111411*. Outlet(s) = Russian River (Lat 38.4507, Long -123.1289) upstream to endpoint(s) in: Austin Creek (38.5099, -123.0681); Mark West Creek (38.4961, -122.8489).

(ii) *Austin Creek Hydrologic Sub-area 111412*. Outlet(s) = Austin Creek (Lat 38.5099, Long -123.0681) upstream to endpoint(s) in: Austin Creek (38.5326, -123.0844).

(iii) *Warm Springs Hydrologic Sub-area 111424*. Outlet(s) = Dry Creek (Lat 38.5861, Long -122.8573) upstream to endpoint(s) in: Dry Creek (38.7179, -123.0075).

(iv) *Geyserville Hydrologic Sub-area 111425*. Outlet(s) = Russian River (Lat 38.6132, Long -122.8321) upstream.

(v) *Ukiah Hydrologic Sub-area 111431*. Outlet(s) = Russian River (Lat 38.8828, Long -123.0557) upstream to endpoint(s) in: Feliz Creek (38.9941, -123.1779).

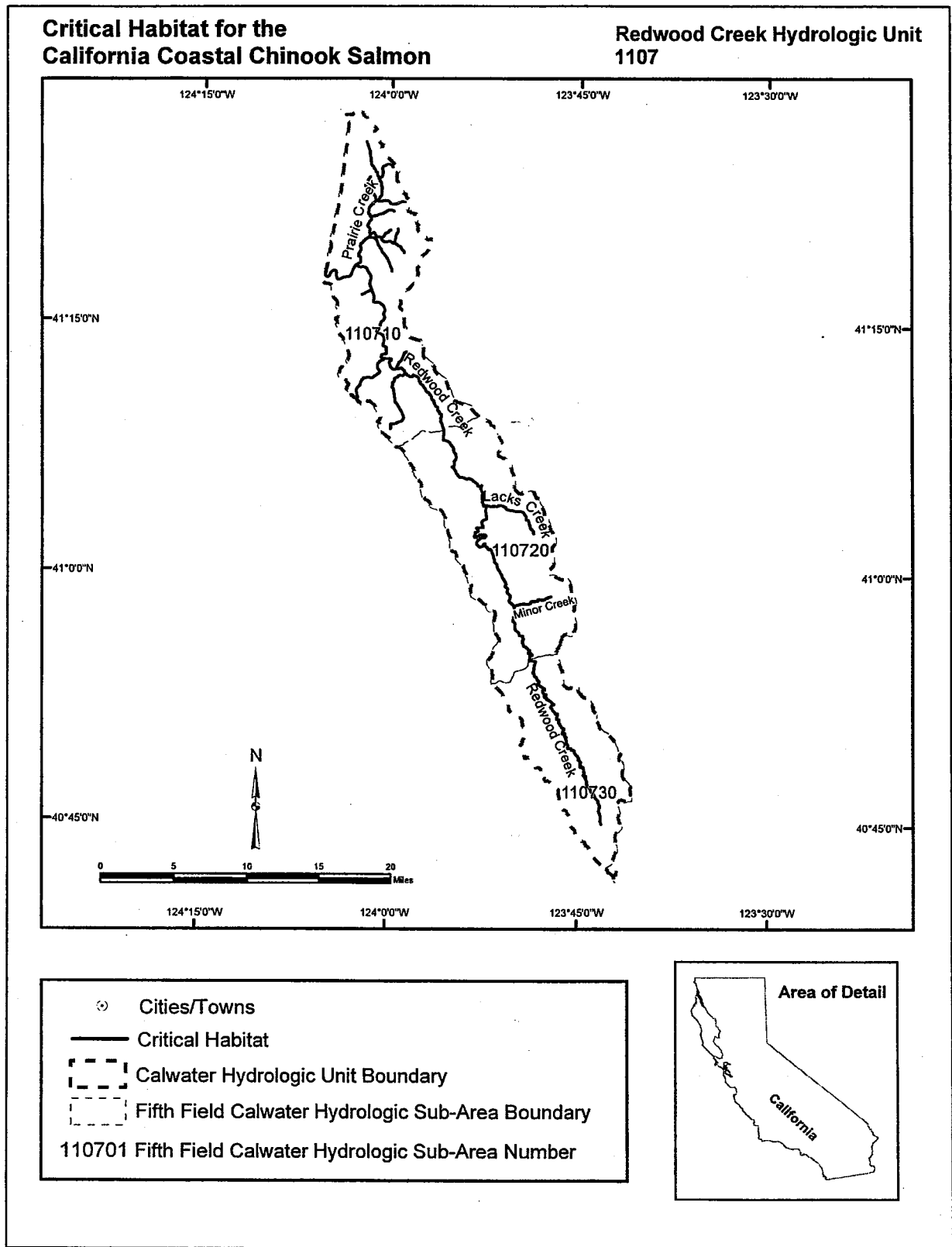
(vi) *Forsythe Creek Hydrologic Sub-area 111433*. Outlet(s) = Russian River (Lat 39.2257, Long -123.2012) upstream to endpoint(s) in: Forsythe Creek (39.2780, -123.2608); Russian River (39.3599, -123.2326).

(9) Maps of critical habitat for the California Coast chinook salmon ESU follow:

BILLING CODE 3510-22-P

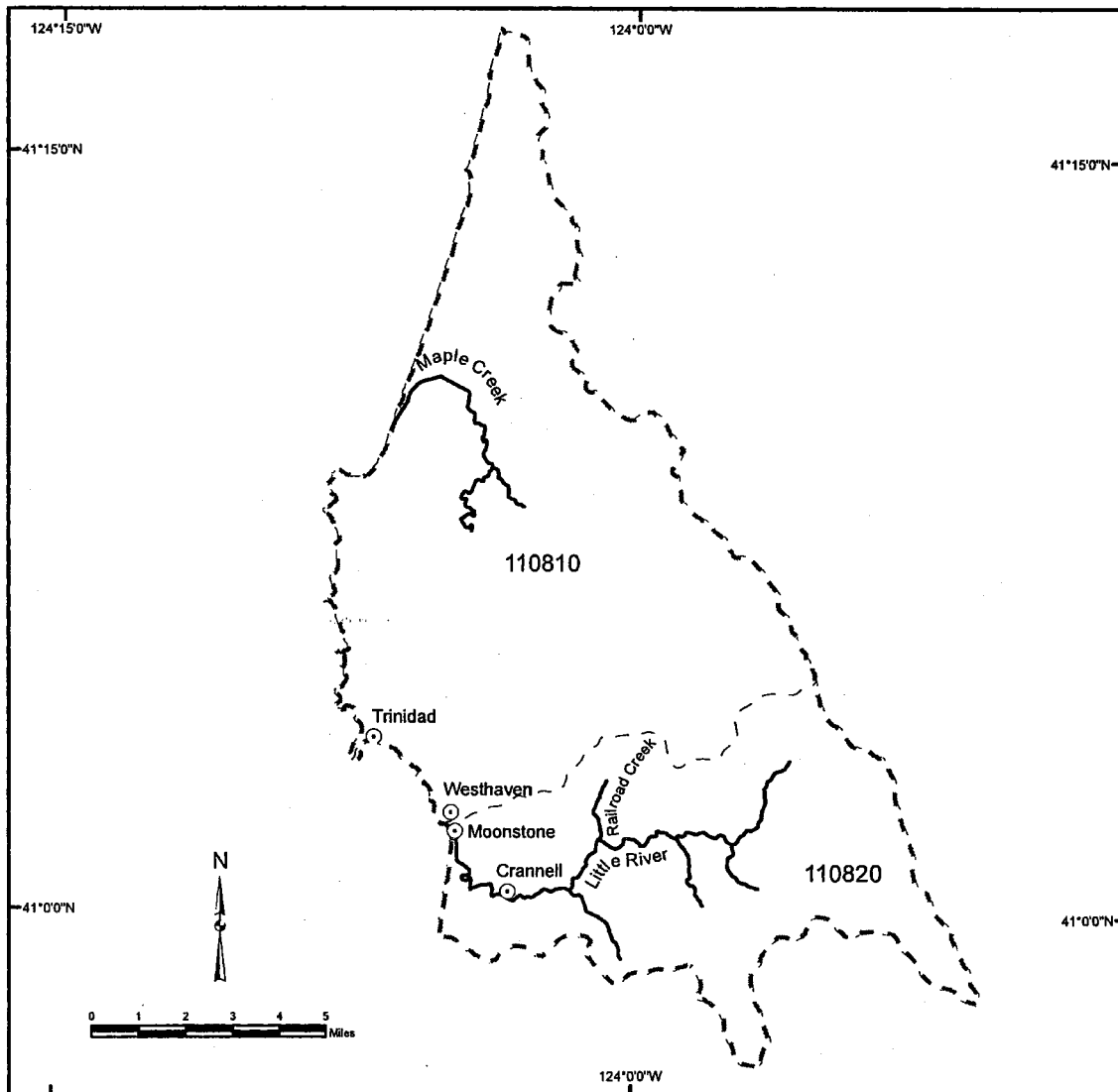
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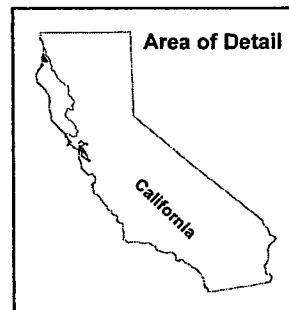


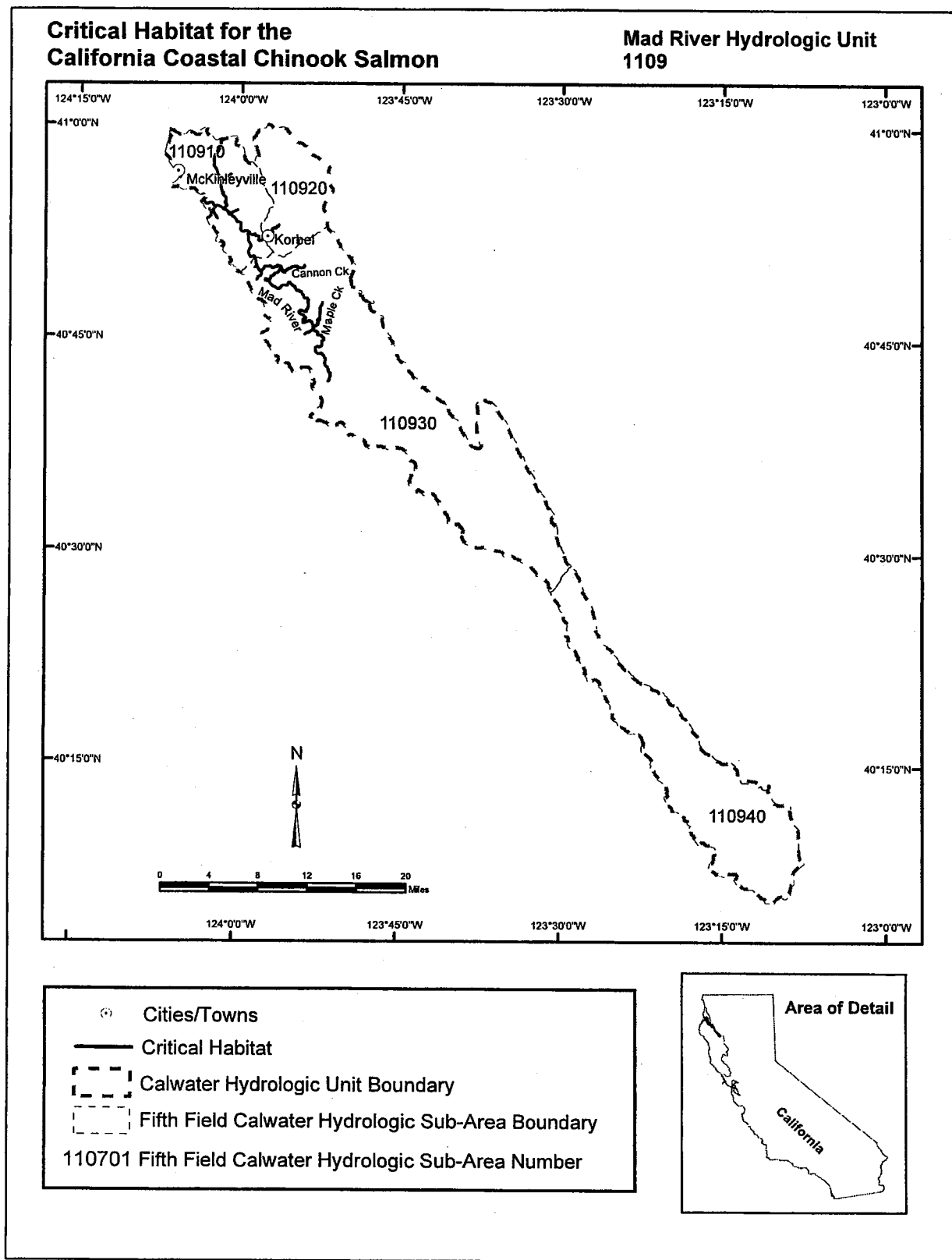
### Critical Habitat for the California Coastal Chinook Salmon

### Trinidad Hydrologic Unit 1108



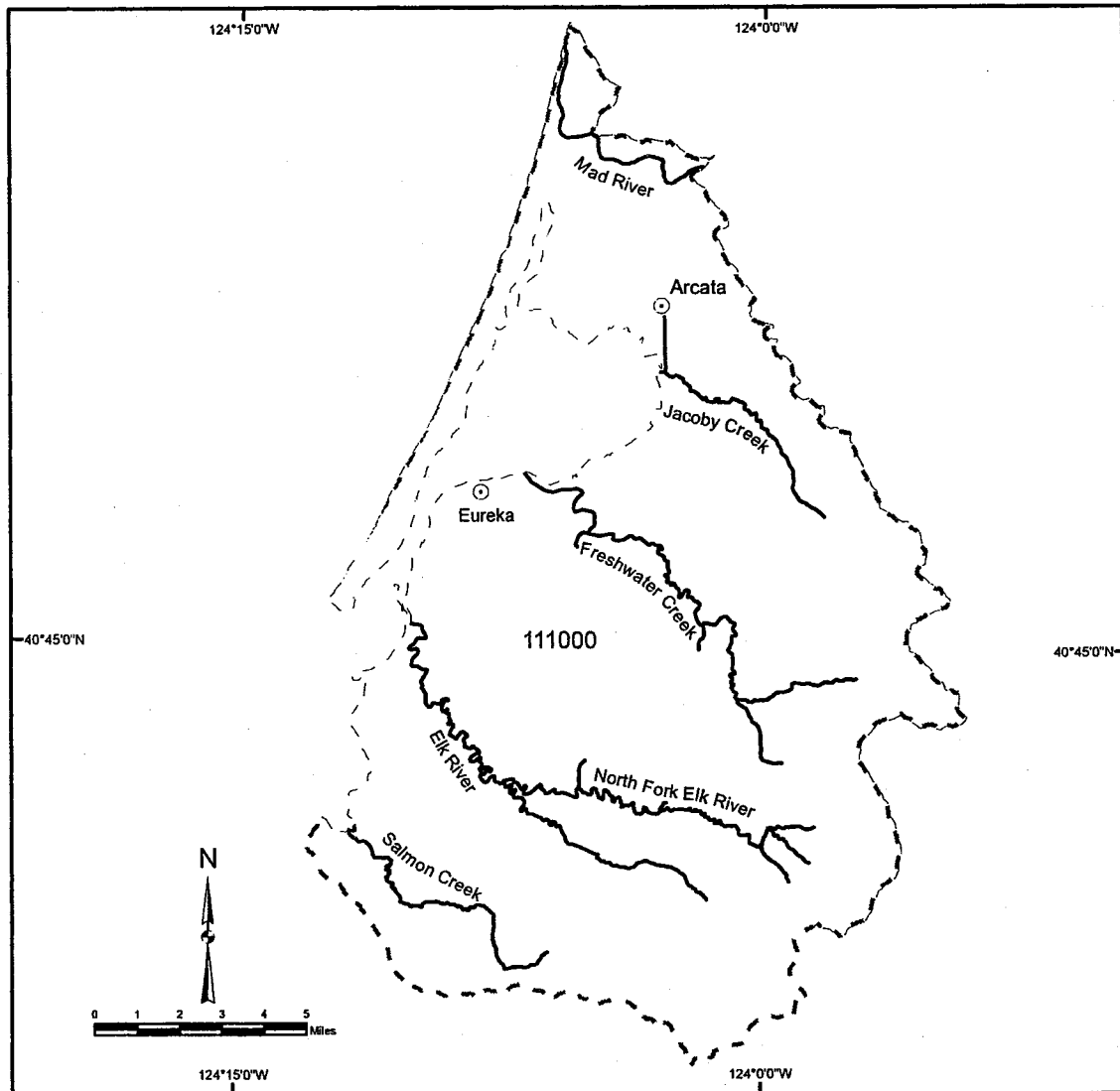
- ⊙ Cities/Towns
- Critical Habitat
- - - Calwater Hydrologic Unit Boundary
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number





**Critical Habitat for the  
California Coastal Chinook Salmon**

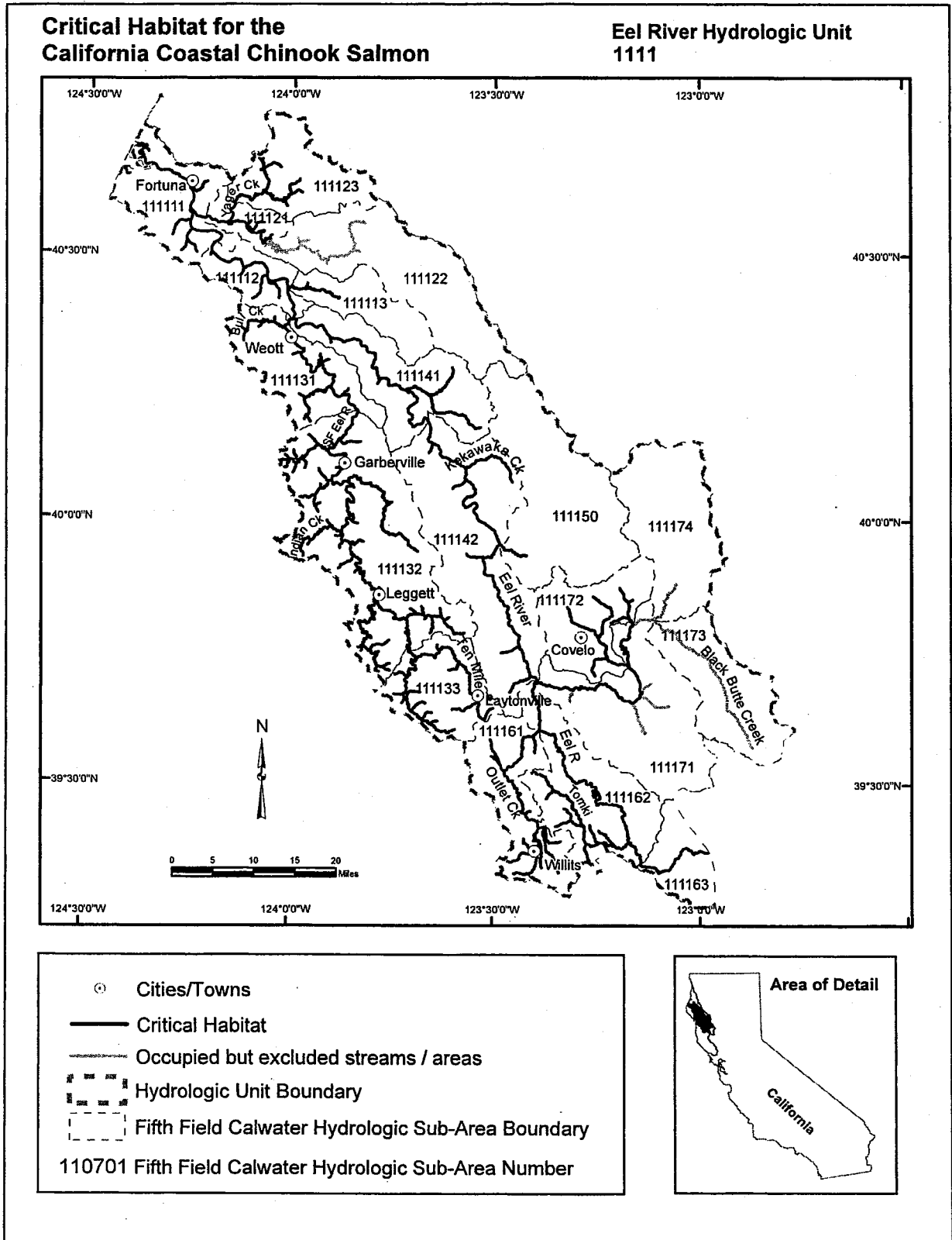
**Eureka Plain Hydrologic Unit  
1110**

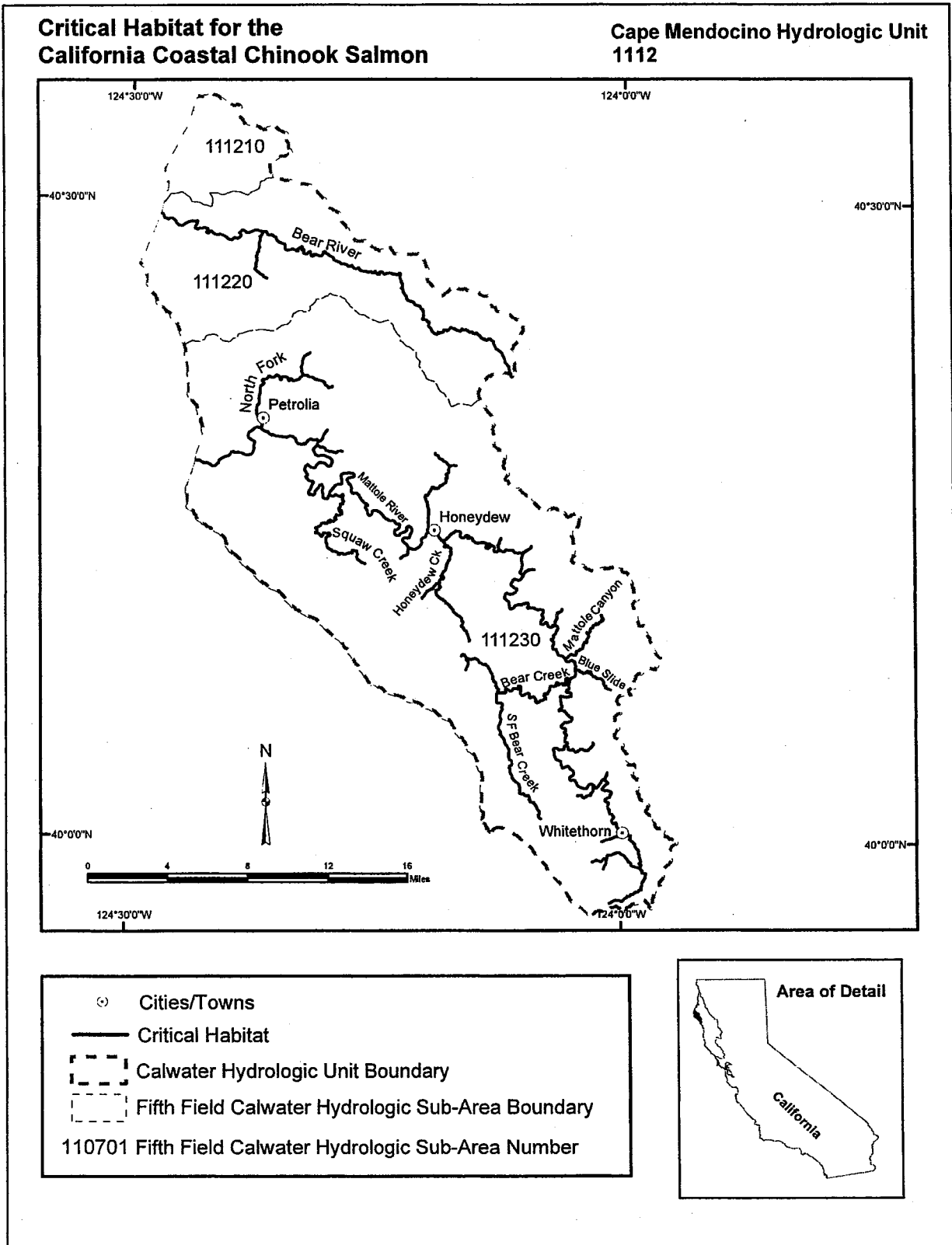


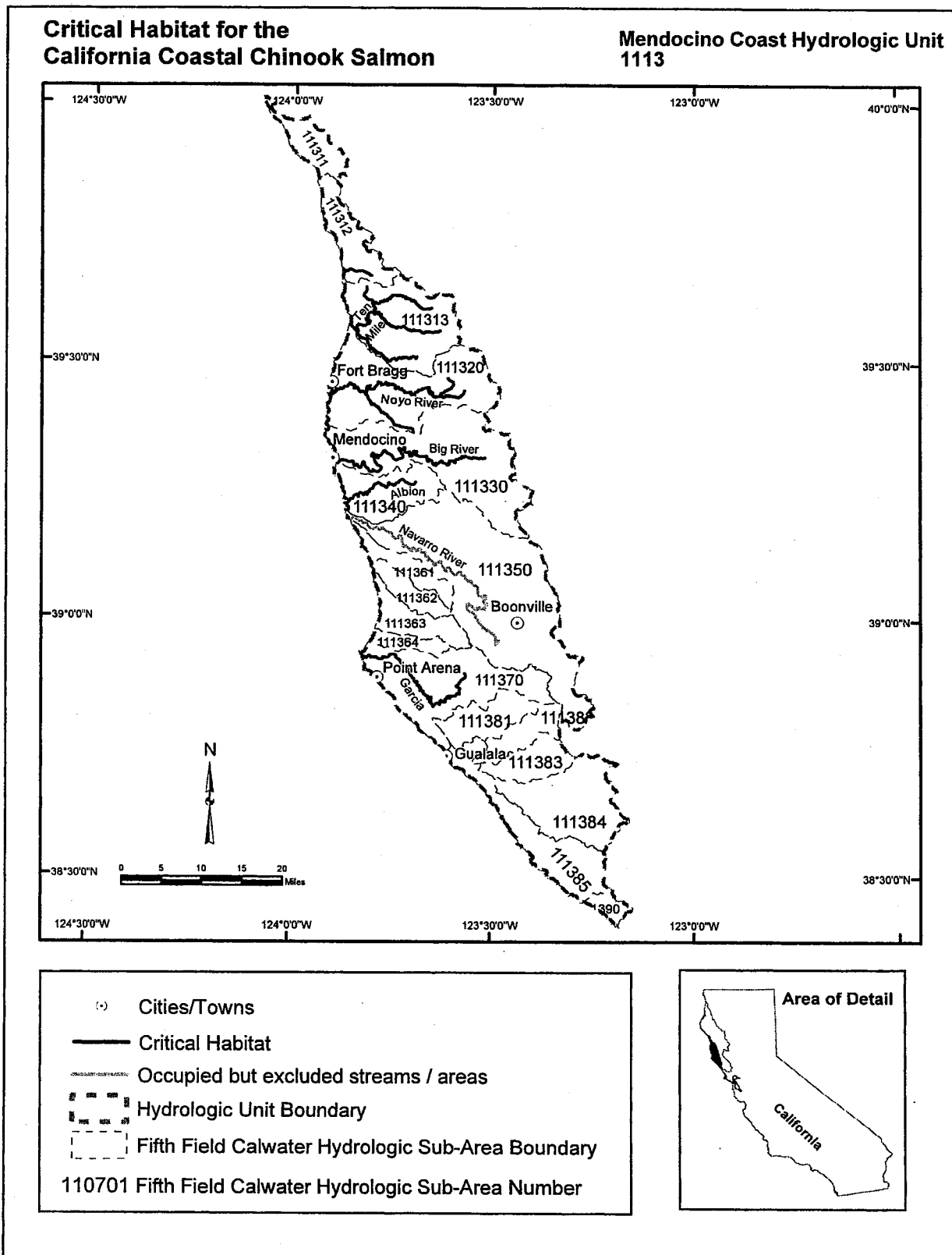
⊙ Cities/Towns  
— Critical Habitat  
- - - Calwater Hydrologic Unit Boundary  
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary  
110701 Fifth Field Calwater Hydrologic Sub-Area Number





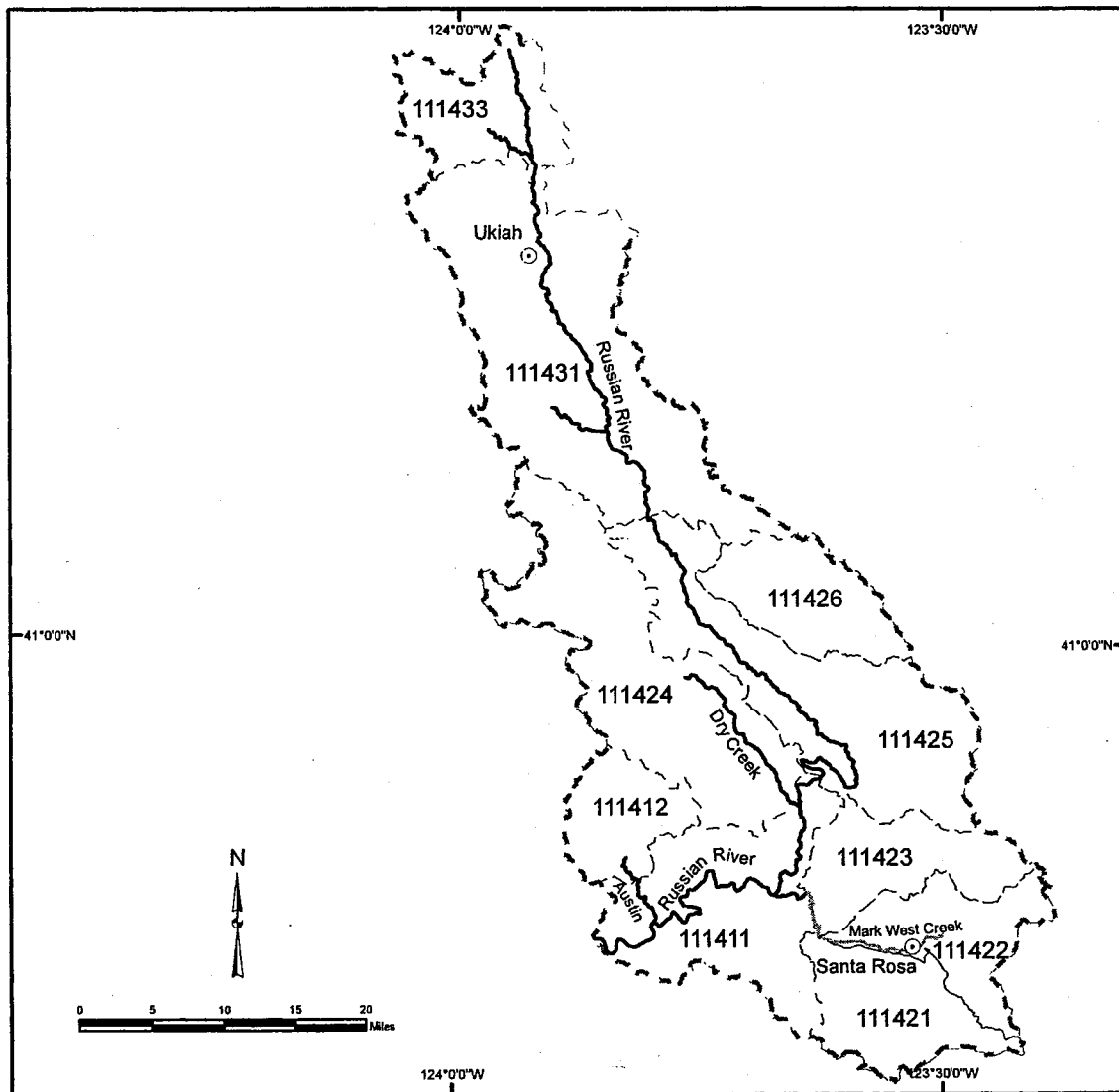






**Critical Habitat for the California Coastal Chinook Salmon**

**Russian River Hydrologic Unit 1114**



Cities/Towns  
 Critical Habitat  
 Occupied but excluded streams / areas  
 Hydrologic Unit Boundary  
 Fifth Field Calwater Hydrologic Sub-Area Boundary  
 110701 Fifth Field Calwater Hydrologic Sub-Area Number





(g) *Northern California Steelhead (O. mykiss)*. Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic units:

(1) Redwood Creek Hydrologic Unit 1107—(i) *Orick Hydrologic Sub-area 110710*. Outlet(s) = Boat Creek (Lat 41.4059, Long -124.0675); Home Creek (41.4027, -124.0683); Redwood Creek (41.2923, -124.0917); Squashan Creek (41.3889, -124.0703) upstream to endpoint(s) in: Boat Creek (41.4110, -124.0583); Bond Creek (41.2326, -124.0262); Boyes Creek (41.3701, -124.9891); Bridge Creek (41.1694, -123.9964); Brown Creek (41.3986, -124.0012); Cloquet Creek (41.2466, -123.9884); Cole Creek (41.2209, -123.9931); Copper Creek (41.1516, -123.9258); Dolason Creek (41.1969, -123.9667); Elam Creek (41.2613, -124.0321); Emerald Creek (41.2164, -123.9808); Forty Four Creek (41.2187, -124.0195); Gans South Creek (41.2678, -124.0071); Godwood Creek (41.3787, -124.0354); Hayes Creek (41.2890, -124.0164); Home Creek (41.3951, -124.0386); Larry Dam Creek (41.3441, -123.9966); Little Lost Man Creek (41.3078, -124.0084); Lost Man Creek (41.3187, -123.9892); May Creek (41.3521, -124.0164); McArthur Creek (41.2702, -124.0427); Miller Creek (41.2305, -124.0046); North Fork Lost Man Creek (41.3405, -123.9859); Oscar Larson Creek (41.2559, -123.9943); Prairie Creek (41.4440, -124.0411); Skunk Cabbage Creek (41.3211, -124.0802); Slide Creek (41.1736, -123.9450); Squashan Creek (41.3739, -124.0440); Strelow Creek (41.3622, -124.0472); Tom McDonald Creek (41.1933, -124.0164); Unnamed Tributary (41.3619, -123.9967); Unnamed Tributary (41.3424, -124.0572).

(ii) *Beaver Hydrologic Sub-area 110720*. Outlet(s) = Redwood Creek (Lat 41.1367, Long -123.9309) upstream to endpoint(s) in: Beaver Creek (41.0208, -123.8608); Captain Creek (40.9199, -123.7944); Cashmere Creek (41.0132, -123.8862); Coyote Creek (41.1251, -123.8926); Devils Creek (41.1224, -123.9384); Garcia Creek (41.0180, -123.8923); Garrett Creek (41.0904, -123.8712); Karen Court Creek (41.0368, -123.8953); Lacks Creek (41.0306, -123.8096); Loin Creek (40.9465, -123.8454); Lupton Creek (40.9058, -123.8286); Mill Creek (41.0045, -123.8525); Minor Creek (40.9706, -123.7899); Molasses Creek (40.9986, -123.8490); Moon Creek (40.9807, -123.8368); Panther Creek (41.0732, -123.9275); Pilchuck Creek (41.9986, -123.8710); Roaring Gulch (41.0319, -123.8674); Santa Fe Creek (40.9368,

-123.8397); Sweathouse Creek (40.9332, -123.8131); Toss-Up Creek (40.9845, -123.8656); Unnamed Tributary (41.1270, -123.8967); Wiregrass Creek (40.9652, -123.8553).

(iii) *Lake Prairie Hydrologic Sub-area 110730*. Outlet(s) = Redwood Creek (Lat 40.9070, Long -123.8170) upstream to endpoint(s) in: Bradford Creek (40.7812, -123.7215); Cut-Off Meander (40.8507, -123.7729); Emmy Lou Creek (40.8655, -123.7771); Gunrack Creek (40.8391, -123.7650); High Prairie Creek (40.8191, -123.7723); Jena Creek (40.8742, -123.8065); Lake Prairie Creek (40.7984, -123.7558); Lupton Creek (40.9058, -123.8286); Minon Creek (40.8140, -123.7372); Noisy Creek (40.8613, -123.8044); Pardee Creek (40.7779, -123.7416); Redwood Creek (40.7432, -123.7206); Simion Creek (40.8241, -123.7560); Six Rivers Creek (40.8352, -123.7842); Smokehouse Creek (40.7405, -123.7278); Snowcamp Creek (40.7415, -123.7296); Squirrel Trail Creek (40.8692, -123.7844); Twin Lakes Creek (40.7369, -123.7214); Panther Creek (40.8019, -123.7094); Windy Creek (40.8866, -123.7956).

(2) *Trinidad Hydrologic Unit 1108—(i) Big Lagoon Hydrologic Sub-area 110810*. Outlet(s) = Maple Creek (Lat 41.1555, Long -124.1380); McDonald Creek (41.2521, -124.0919) upstream to endpoint(s) in: Beach Creek (41.0716, -124.0239); Clear Creek (41.1031, -124.0030); Diamond Creek (41.1571, -124.0926); Maple Creek (41.0836, -123.9790); McDonald Creek (41.1850, -124.0773); M-Line Creek (41.0752, -124.0787); North Fork Maple Creek (41.1254, -124.0539); North Fork McDonald Creek (41.2107, -124.0664); Pitcher Creek (41.1518, -124.0874); South Fork Maple Creek (41.1003, -124.1119); Tom Creek (41.1773, -124.0966); Unnamed Tributary (41.1004, -124.0155); Unnamed Tributary (41.0780, -124.0676); Unnamed Tributary (41.1168, -124.0886); Unnamed Tributary (41.0864, -124.0899); Unnamed Tributary (41.1132, -124.0827); Unnamed Tributary (41.0749, -124.0889); Unnamed Tributary (41.1052, -124.0675); Unnamed Tributary (41.0714, -124.0611); Unnamed Tributary (41.0948, -124.0016).

(ii) *Little River Hydrologic Sub-area 110820*. Outlet(s) = Little River (Lat 41.0277, Long -124.1112) upstream to endpoint(s) in: Freeman Creek (41.0242, -124.0582); Little River (40.9999, -123.9232); Lower South Fork Little River (41.0077, -124.0079); Railroad Creek (41.0468, -124.0466); South Fork Little River (40.9899, -124.0394); Unnamed Tributary (41.0356,

-123.9958); Unnamed Tributary (41.0407, -124.0598); Unnamed Tributary (41.0068, -123.9830); Unnamed Tributary (41.0402, -124.0111); Unnamed Tributary (41.0402, -124.0189); Unnamed Tributary (41.0303, -124.0366); Unnamed Tributary (41.0575, -123.9710); Unnamed Tributary (41.0068, -123.9830); Upper South Fork Little River (41.0146, -123.9826).

(3) *Mad River Hydrologic Unit 1109—(i) Blue Lake Hydrologic Sub-area 110910*. Outlet(s) = Mad River (Lat 40.9139, Long -124.0642); Strawberry Creek (40.9964, -124.1155); Widow White Creek (40.9635, -124.1253) upstream to endpoint(s) in: Boundary Creek (40.8395, -123.9920); Grassy Creek (40.9314, -124.0188); Hall Creek (40.9162, -124.0141); Kelly Creek (40.8656, -124.0260); Leggit Creek (40.8808, -124.0269); Lindsay Creek (40.9838, -124.0283); Mather Creek (40.9796, -124.0526); Mill Creek (40.9296, -124.1037); Mill Creek (40.9162, -124.0141); Mill Creek (40.8521, -123.9617); North Fork Mad River (40.8687, -123.9649); Norton Creek (40.9572, -124.1003); Palmer Creek (40.8633, -124.0193); Puter Creek (40.8474, -123.9966); Quarry Creek (40.8526, -124.0098); Squaw Creek (40.9426, -124.0202); Strawberry Creek (40.9761, -124.0630); Unnamed Tributary (40.9624, -124.0179); Unnamed Tributary (40.9549, -124.0554); Unnamed Tributary (40.9672, -124.0218); Warren Creek (40.8860, -124.0351); Widow White Creek (40.9522, -124.0784).

(ii) *North Fork Mad River Hydrologic Sub-area 110920*. Outlet(s) = North Fork Mad River (Lat 40.8687, Long -123.9649) upstream to endpoint(s) in: Bald Mountain Creek (40.8922, -123.9097); Canyon Creek (40.9598, -123.9269); Denman Creek (40.9293, -123.9429); East Fork North Fork (40.9702, -123.9449); Gosinta Creek (40.9169, -123.9420); Hutchery Creek (40.8730, -123.9503); Jackson Creek (40.9388, -123.9462); Krueger Creek (40.9487, -123.9571); Long Prairie Creek (40.9294, -123.8842); Mule Creek (40.9416, -123.9309); North Fork Mad River (40.9918, -123.9610); Pine Creek (40.9274, -123.9096); Pollock Creek (40.9081, -123.9071); Sullivan Gulch (40.8646, -123.9553); Tyson Creek (40.9559, -123.9738); Unnamed Tributary (40.9645, -123.9338); Unnamed Tributary (40.9879, -123.9511); Unnamed Tributary (40.9906, -123.9540); Unnamed Tributary (40.9866, -123.9788); Unnamed Tributary (40.9927, -123.9736).

(iii) *Butler Valley Hydrologic Sub-area 110930*. Outlet(s) = Mad River (Lat 40.8449, Long -123.9807) upstream to endpoint(s) in: Bear Creek (40.5468, -123.6728); Black Creek (40.7521, -123.9080); Black Dog Creek (40.8334, -123.9805); Blue Slide Creek (40.7333, -123.9225); Boulder Creek (40.7634, -123.8667); Bug Creek (40.6587, -123.7356); Cannon Creek (40.8535, -123.8850); Coyote Creek (40.6147, -123.6488); Devil Creek (40.8032, -123.9175); Dry Creek (40.8218, -123.9751); East Creek (40.5403, -123.5579); Maple Creek (40.7933, -123.8353); Pilot Creek (40.5950, -123.5888); Simpson Creek (40.8138, -123.9156); Unnamed Tributary (40.7306, -123.9019); Unnamed Tributary (40.7739, -123.9255); Unnamed Tributary (40.7744, -123.9137); Unnamed Tributary (40.8029, -123.8716); Unnamed Tributary (40.8038, -123.8691); Unnamed Tributary (40.8363, -123.9025).

(4) *Eureka Plain Hydrologic Unit 1110*—(i) *Eureka Plain Hydrologic Sub-area 111000*.

Outlet(s) = Elk River (Lat 40.7568, Long -124.1948); Freshwater Creek (40.8088, -124.1442); Jacoby Creek (40.8436, -124.0834); Mad River (40.9560, -124.1278); Rocky Gulch (40.8309, -124.0813); Salmon Creek (40.6868, -124.2194); Washington Gulch (40.8317, -124.0805) upstream to endpoint(s) in: Bridge Creek (40.6958, -124.0805); Browns Gulch (40.7038, -124.1074); Clapp Gulch (40.6967, -124.1684); Cloney Gulch (40.7826, -124.0347); Doe Creek (40.6964, -124.0201); Dunlap Gulch (40.7076, -124.1182); Falls Gulch (40.7655, -124.0261); Fay Slough (40.8033, -124.0574); Freshwater Creek (40.7385, -124.0035); Golf Course Creek (40.8406, -124.0402); Graham Gulch (40.7540, -124.0228); Guptil Gulch (40.7530, -124.1202); Henderson Gulch (40.7357, -124.1394); Jacoby Creek (40.7949, -124.0096); Lake Creek (40.6848, -124.0831); Line Creek (40.6578, -124.0460); Little Freshwater Creek (40.7371, -124.0649); Little North Fork Elk River (40.6972, -124.0100); Little South Fork Elk River (40.6555, -124.0877); Martin Slough (40.7679, -124.1578); McCready Gulch (40.7824, -124.0441); McWinney Creek (40.6968, -124.0616); Morrison Gulch (40.8169, -124.0430); North Branch of the North Fork Elk River (40.6879, -124.0130); North Fork Elk River (40.6794, -123.9834); Railroad Gulch (40.6955, -124.1545); Rocky Gulch (40.8170, -124.0613); Ryan Creek (40.7352, -124.0996); Salmon Creek (40.6399, -124.1128); South Branch of the North

Fork Elk River (40.6700, -124.0251); South Fork Elk River (40.6437, -124.0388); South Fork Freshwater Creek (40.7110, -124.0367); Swain Slough (40.7524, -124.1825); Tom Gulch (40.6794, -124.1452); Unnamed Tributary (40.7850, -124.0561); Unnamed Tributary (40.7496, -124.1651); Unnamed Tributary (40.7785, -124.1081); Unnamed Tributary (40.7667, -124.1054); Unnamed Tributary (40.7559, -124.0870); Unnamed Tributary (40.7952, -124.0568); Unnamed Tributary (40.7408, -124.1118); Unnamed Tributary (40.7186, -124.1385); Unnamed Tributary (40.7224, -124.1038); Unnamed Tributary (40.8210, -124.0111); Unnamed Tributary (40.8106, -124.0083); Unnamed Tributary (40.7554, -124.1379); Unnamed Tributary (40.7457, -124.1138); Washington Gulch (40.8205, -124.0549).

(ii) [Reserved]

(5) *Eel River Hydrologic Unit 1111*—(i) *Ferndale Hydrologic Sub-area 111111*. Outlet(s) = Eel River (Lat 40.6275, Long -124.2520) upstream to endpoint(s) in: Atwell Creek (40.4824, -124.1498); Dean Creek (40.4847, -124.1217); Horse Creek (40.5198, -124.1702); Howe Creek (40.4654, -124.1916); Nanning Creek (40.4914, -124.0652); North Fork Strongs Creek (40.6077, -124.1047); Price Creek (40.5101, -124.2731); Rohner Creek (40.6151, -124.1408); Strongs Creek (40.5999, -124.0985); Sweet Creek (40.4900, -124.2007); Van Duzen River (40.5337, -124.1262).

(ii) *Scotia Hydrologic Sub-area 111112*. Outlet(s) = Eel River (Lat 40.4918, Long -124.0988) upstream to endpoint(s) in: Bear Creek (40.3942, -124.0262); Bridge Creek (40.4278, -123.9317); Chadd Creek (40.3919, -123.9540); Darnell Creek (40.4533, -123.9808); Dinner Creek (40.4406, -124.0855); Jordan Creek (40.4315, -124.0231); Jordan Creek (40.4171, -124.0517); Kiler Creek (40.4465, -124.0952); Monument Creek (40.4371, -124.1165); Shively Creek (40.4454, -123.9539); South Fork Bear Creek (40.3856, -124.0182); Stitz Creek (40.4649, -124.0531); Twin Creek (40.4419, -124.0714); Unnamed Tributary (40.3933, -123.9984); Weber Creek (40.3767, -123.9094).

(iii) *Larabee Creek Hydrologic Sub-area 111113*. Outlet(s) = Larabee Creek (Lat 40.4090, Long -123.9334) upstream to endpoint(s) in: Arnold Creek (40.4006, -123.8583); Balcom Creek (40.4030, -123.8986); Bosworth Creek (40.3584, -123.7089); Boulder Flat Creek (40.3530, -123.6381); Burr Creek (40.4250, -123.7767); Carson Creek

(40.4181, -123.8879); Chris Creek (40.4146, -123.9235); Cooper Creek (40.3123, -123.6463); Dauphiny Creek (40.4049, -123.8893); Frost Creek (40.3765, -123.7357); Hayfield Creek (40.3350, -123.6535); Knack Creek (40.3788, -123.7385); Larabee Creek (40.2807, -123.6445); Martin Creek (40.3730, -123.7060); Maxwell Creek (40.3959, -123.8049); McMahon Creek (40.3269, -123.6363); Mill Creek (40.3849, -123.7440); Mountain Creek (40.2955, -123.6378); Scott Creek (40.4020, -123.8738); Smith Creek (40.4194, -123.8568); Thurman Creek (40.3506, -123.6669); Unnamed Tributary (40.3842, -123.8062); Unnamed Tributary (40.3982, -123.7862); Unnamed Tributary (40.3806, -123.7564); Unnamed Tributary (40.3661, -123.7398); Unnamed Tributary (40.3524, -123.7330).

(iv) *Hydesville Hydrologic Sub-area 111121*. Outlet(s) = Van Duzen River (Lat 40.5337, Long -124.1262) upstream to endpoint(s) in: Cuddeback Creek (40.5421, -124.0263); Cummings Creek (40.5282, -123.9770); Fiedler Creek (40.5351, -124.0106); Hely Creek (40.5165, -123.9531); Yager Creek (40.5583, -124.0577); Unnamed Tributary (40.5718, -124.0946).

(v) *Bridgeville Hydrologic Sub-area 111122*. Outlet(s) = Van Duzen River (Lat 40.4942, Long -123.9720) upstream to endpoint(s) in: Bear Creek (40.3455, -123.5763); Blanket Creek (40.3635, -123.5710); Browns Creek (40.4958, -123.8103); Butte Creek (40.4119, -123.7047); Dairy Creek (40.4174, -123.5981); Fish Creek (40.4525, -123.8434); Grizzly Creek (40.5193, -123.8470); Little Larabee Creek (40.4708, -123.7395); Little Van Duzen River (40.3021, -123.5540); North Fork Van Duzen (40.4881, -123.6411); Panther Creek (40.3921, -123.5866); Root Creek (40.4490, -123.9018); Stevens Creek (40.5062, -123.9073); Thompson Creek (40.4222, -123.6084); Van Duzen River (40.4820, -123.6629); Unnamed Tributary (40.3074, -123.5834).

(vi) *Yager Creek Hydrologic Sub-area 111123*. Outlet(s) = Yager Creek (Lat 40.5583, Long -124.0577) upstream to endpoint(s) in: Bell Creek (40.6809, -123.9685); Blanten Creek (40.5839, -124.0165); Booths Run (40.6584, -123.9428); Corner Creek (40.6179, -124.0010); Fish Creek (40.6390, -124.0024); Lawrence Creek (40.6986, -123.9314); Middle Fork Yager Creek (40.5782, -123.9243); North Fork Yager Creek (40.6056, -123.9080); Shaw Creek (40.6231, -123.9509); South Fork Yager Creek (40.5451, -123.9409); Unnamed

Tributary (40.5892, -123.9663); Yager Creek (40.5673, -123.9403).

(vii) *Weott Hydrologic Sub-area 111131*. Outlet(s) = South Fork Eel River (Lat 40.3500, Long -123.9305) upstream to endpoint(s) in: Albee Creek (40.3592, -124.0088); Bull Creek (40.3587, -123.9624); Burns Creek (40.3194, -124.0420); Butte Creek (40.1982, -123.8387); Canoe Creek (40.2669, -123.9556); Coon Creek (40.2702, -123.9013); Cow Creek (40.2664, -123.9838); Cuneo Creek (40.3401, -124.0494); Decker Creek (40.3312, -123.9501); Elk Creek (40.2609, -123.7957); Fish Creek (40.2459, -123.7729); Harper Creek (40.3591, -123.9930); Mill Creek (40.2937, -124.0333); Mowry Creek (40.2937, -123.8895); North Fork Cuneo Creek (40.3443, -124.0488); Ohman Creek (40.1924, -123.7648); Panther Creek (40.2775, -124.0289); Preacher Gulch (40.2944, -124.0047); Salmon Creek (40.2145, -123.8926); Slide Creek (40.3011, -124.0390); South Fork Salmon Creek (40.1769, -123.8929); Squaw Creek (40.3167, -123.9988); Unnamed Tributary (40.3065, -124.0074); Unnamed Tributary (40.2831, -124.0359).

(viii) *Benbow Hydrologic Sub-area 111132*. Outlet(s) = South Fork Eel River (Lat 40.1929, Long -123.7692) upstream to endpoint(s) in: Anderson Creek (39.9325, -123.8928); Bear Creek (39.7885, -123.7620); Bear Pen Creek (39.9201, -123.7986); Bear Wallow Creek (39.7270, -123.7140); Big Dan Creek (39.8430, -123.6992); Bond Creek (39.7778, -123.7060); Bridges Creek (39.9087, -123.7142); Buck Mountain Creek (40.0944, -123.7423); Butler Creek (39.7423, -123.6987); Cedar Creek (39.8834, -123.6216); China Creek (40.1035, -123.9493); Connick Creek (40.0912, -123.8154); Cox Creek (40.0310, -123.8398); Cruso Cabin Creek (39.9281, -123.5842); Durphy Creek (40.0205, -123.8271); East Branch South Fork Eel River (39.9359, -123.6204); Elkhorn Creek (39.9272, -123.6279); Fish Creek (40.0390, -123.7630); Hartsook Creek (40.0081, -123.8113); Hollow Tree Creek (39.7250, -123.6924); Huckleberry Creek (39.7292, -123.7275); Indian Creek (39.9556, -123.9172); Islam John Creek (39.8062, -123.7363); Jones Creek (39.9958, -123.8374); Leggett Creek (40.1470, -123.8375); Little Sproul Creek (40.0890, -123.8577); Lost Man Creek (39.7983, -123.7287); Low Gap Creek (39.8029, -123.6803); Low Gap Creek (39.9933, -123.7601); McCoy Creek (39.9572, -123.7369); Michael's Creek (39.7665, -123.7035); Middle Creek (39.8052, -123.7691); Milk Ranch Creek (40.0102, -123.7514); Mill Creek

(39.8673, -123.7605); Miller Creek (40.1319, -123.9302); Moody Creek (39.9471, -123.8827); Mule Creek (39.8169, -123.7745); North Fork Cedar Creek (39.8864, -123.6363); North Fork McCoy Creek (39.9723, -123.7496); Piercy Creek (39.9597, -123.8442); Pollock Creek (40.0802, -123.9341); Red Mountain Creek (39.9363, -123.7203); Redwood Creek (39.7723, -123.7648); Redwood Creek (40.0974, -123.9104); Rock Creek (39.8962, -123.7065); Sebbas Creek (39.9934, -123.8903); Somerville Creek (40.1006, -123.8884); South Fork Mule Creek (39.8174, -123.7788); South Fork Redwood Creek (39.7662, -123.7579); Sproul Creek (40.0226, -123.8649); Squaw Creek (40.0760, -123.7257); Standly Creek (39.9327, -123.8309); Tom Long Creek (40.0175, -123.6551); Waldron Creek (39.7469, -123.7465); Walter's Creek (39.7921, -123.7250); Warden Creek (40.0629, -123.8551); West Fork Sproul Creek (40.0587, -123.9170); Wildcat Creek (39.8956, -123.7820); Unnamed Tributary (39.9927, -123.8807).

(ix) *Laytonville Hydrologic Sub-area 111133*. Outlet(s) = South Fork Eel River (Lat 39.7665, Long -123.6484) upstream to endpoint(s) in: Bear Creek (39.6418, -123.5853); Big Rick Creek (39.7117, -123.5512); Cahto Creek (39.6527, -123.5579); Dark Canyon Creek (39.7333, -123.6614); Dutch Charlie Creek (39.6843, -123.7023); Elder Creek (39.7234, -123.6192); Fox Creek (39.7441, -123.6142); Grub Creek (39.7777, -123.5809); Jack of Hearts Creek (39.7136, -123.6896); Kenny Creek (39.6838, -123.5929); Little Case Creek (39.6892, -123.5441); Mill Creek (39.6839, -123.5118); Mud Creek (39.6713, -123.5741); Mud Springs Creek (39.6929, -123.5629); Redwood Creek (39.6545, -123.6753); Rock Creek (39.6922, -123.6090); Section Four Creek (39.6137, -123.5297); South Fork Eel River (39.6242, -123.5468); Streeter Creek (39.7340, -123.5606); Ten Mile Creek (39.6652, -123.4486); Unnamed Tributary (39.7004, -123.5678).

(x) *Sequoia Hydrologic Sub-area 111141*. Outlet(s) = Eel River (Lat 40.3557, Long -123.9191) upstream to endpoint(s) in: Beatty Creek (40.3198, -123.7500); Brock Creek (40.2410, -123.7246); Cameron Creek (40.3313, -123.7707); Dobbyn Creek (40.2216, -123.6029); Kapple Creek (40.3531, -123.8585); Line Gulch Creek (40.1640, -123.4783); Mud Creek (40.2078, -123.5143); North Fork Dobbyn Creek (40.2669, -123.5467); Sonoma Creek (40.2974, -123.7953); South Fork Dobbyn Creek (40.1723, -123.5112); South Fork Eel River (40.3500, -123.9305); South Fork Thompson Creek (40.3447, -123.8334); Thompson

Creek (40.3552, -123.8417); Unnamed Tributary (40.2745, -123.5487).

(xi) *Spy Rock Hydrologic Sub-area 111142*. Outlet(s) = Eel River (Lat 40.1736, Long -123.6043) upstream to endpoint(s) in: Bear Pen Canyon (39.6943, -123.4359); Bell Springs Creek (39.9457, -123.5313); Blue Rock Creek (39.8937, -123.5018); Burger Creek (39.6693, -123.4034); Chamise Creek (40.0035, -123.5945); Gill Creek (39.7879, -123.3465); Iron Creek (39.7993, -123.4747); Jewett Creek (40.1122, -123.6171); Kekawaka Creek (40.0686, -123.4087); Rock Creek (39.9347, -123.5187); Shell Rock Creek (39.8414, -123.4614); Unnamed Tributary (39.7579, -123.4709); White Rock Creek (39.7646, -123.4684); Woodman Creek (39.7612, -123.4364).

(xii) *Outlet Creek Hydrologic Sub-area 111161*. Outlet(s) = Outlet Creek (Lat 39.6265, Long -123.3449) upstream to endpoint(s) in: Baechtlet Creek (39.3623, -123.4143); Berry Creek (39.4271, -123.2777); Bloody Run Creek (39.5864, -123.3545); Broadus Creek (39.3869, -123.4282); Cherry Creek (39.6043, -123.4073); Conklin Creek (39.3756, -123.2570); Davis Creek (39.3354, -123.2945); Haehl Creek (39.3735, -123.3172); Long Valley Creek (39.6246, -123.4651); Mill Creek (39.4196, -123.3919); Outlet Creek (39.4526, -123.3338); Ryan Creek (39.4804, -123.3644); Unnamed Tributary (39.4956, -123.3591); Unnamed Tributary (39.4322, -123.3848); Unnamed Tributary (39.5793, -123.4546); Unnamed Tributary (39.3703, -123.3419); Upp Creek (39.4479, -123.3825); Willts Creek (39.4686, -123.4299).

(xiii) *Tomki Creek Hydrologic Sub-area 111162*. Outlet(s) = Eel River (Lat 39.7138, Long -123.3532) upstream to endpoint(s) in: Cave Creek (39.3842, -123.2148); Dean Creek (39.6924, -123.3727); Garcia Creek (39.5153, -123.1512); Little Cave Creek (39.3915, -123.2462); Little Creek (39.4146, -123.2595); Long Branch Creek (39.4074, -123.1897); Rocktree Creek (39.4534, -123.3053); Salmon Creek (39.4367, -123.1939); Scott Creek (39.4492, -123.2286); String Creek (39.4658, -123.3206); Tarter Creek (39.4715, -123.2976); Thomas Creek (39.4768, -123.1230); Tomki Creek (39.5483, -123.3687); Whitney Creek (39.4399, -123.1084); Wheelbarrow Creek (39.5012, -123.3304).

(xiv) *Eden Valley Hydrologic Sub-area 111171*. Outlet(s) = Middle Fork Eel River (Lat 39.7138, Long -123.3532) upstream to endpoint(s) in: Crocker Creek (39.5559, -123.0409); Eden Creek (39.5992, -123.1746); Elk Creek (39.5371, -123.0101); Hayshed Creek



(39.7082, -123.0967); Salt Creek (39.6765, -123.2740); Sportsmans Creek (39.5373, -123.0247); Sulper Springs (39.5536, -123.0365); Thatcher Creek (39.6686, -123.0639).

(xv) *Round Valley Hydrologic Sub-area 111172*. Outlet(s) = Mill Creek (Lat 39.7396, Long -123.1420); Williams Creek (39.8145, -123.1333) upstream to endpoint(s) in: Cold Creek (39.8714, -123.2991); Grist Creek (39.7640, -123.2883); Mill Creek (39.8481, -123.2896); Murphy Creek (39.8885, -123.1612); Short Creek (39.8703, -123.2352); Town Creek (39.7991, -123.2889); Turner Creek (39.7218, -123.2175); Williams Creek (39.8903, -123.1212); Unnamed Tributary (39.7428, -123.2757); Unnamed Tributary (39.7493, -123.2584).

(xvi) *Black Butte River Hydrologic Sub-area 111173*. Outlet(s) = Black Butte River (Lat 39.8239, Long -123.0880) upstream to endpoint(s) in: Black Butte River (39.5946, -122.8579); Buckhorn Creek (39.6563, -122.9225); Cold Creek (39.6960, -122.9063); Estell Creek (39.5966, -122.8224); Spanish Creek (39.6287, -122.8331).

(xvii) *Wilderness Hydrologic Sub-area 111174*. Outlet(s) = Middle Fork Eel River (Lat 39.8240, Long -123.0877) upstream to endpoint(s) in: Beaver Creek (39.9352, -122.9943); Fossil Creek (39.9447, -123.0403); Middle Fork Eel River (40.0780, -123.0442); North Fork Middle Fork Eel River (40.0727, -123.1364); Palm of Gileade Creek (40.0229, -123.0647); Pothole Creek (39.9347, -123.0440).

(6) Cape Mendocino Hydrologic Unit 1112—(i) *Oil Creek Hydrologic Sub-area 111210*. Outlet(s) = Guthrie Creek (Lat 40.5407, Long -124.3626); Oil Creek (40.5195, -124.3767) upstream to endpoint(s) in: Guthrie Creek (40.5320, -124.3128); Oil Creek (40.5061, -124.2875); Unnamed Tributary (40.4946, -124.3091); Unnamed Tributary (40.4982, -124.3549); Unnamed Tributary (40.5141, -124.3573); Unnamed Tributary (40.4992, -124.3070).

(ii) *Capetown Hydrologic Sub-area 111220*. Outlet(s) = Bear River (Lat 40.4744, Long -124.3881); Davis Creek (40.3850, -124.3691); Singley Creek (40.4311, -124.4034) upstream to endpoint(s) in: Antone Creek (40.4281, -124.2114); Bear River (40.3591, -124.0536); Beer Bottle Gulch (40.3949, -124.1410); Bonanza Gulch (40.4777, -124.2966); Brushy Creek (40.4102, -124.1050); Davis Creek (40.3945, -124.2912); Harmonica Creek (40.3775, -124.0735); Hollister Creek (40.4109, -124.2891); Nelson Creek (40.3536, -124.1154); Peaked Creek (40.4123, -124.1897); Pullen Creek (40.4057,

-124.0814); Singley Creek (40.4177, -124.3305); South Fork Bear River (40.4047, -124.2631); Unnamed Tributary (40.4271, -124.3107); Unnamed Tributary (40.4814, -124.2741); Unnamed Tributary (40.3633, -124.0651); Unnamed Tributary (40.3785, -124.0599); Unnamed Tributary (40.4179, -124.2391); Unnamed Tributary (40.4040, -124.0923); Unnamed Tributary (40.3996, -124.3175); Unnamed Tributary (40.4045, -124.0745); Unnamed Tributary (40.4668, -124.2364); Unnamed Tributary (40.4389, -124.2350); Unnamed Tributary (40.4516, -124.2238); Unnamed Tributary (40.4136, -124.1594); Unnamed Tributary (40.4350, -124.1504); Unnamed Tributary (40.4394, -124.3745); West Side Creek (40.4751, -124.2432).

(iii) *Mattole River Hydrologic Sub-area 111230*. Outlet(s) = Big Creek (Lat 40.1567, Long -124.2114); Big Flat Creek (40.1275, -124.1764); Buck Creek (40.1086, -124.1218); Cooskie Creek (40.2192, -124.3105); Fourmile Creek (40.2561, -124.3578); Gitchell Creek (40.0938, -124.1023); Horse Mountain Creek (40.0685, -124.0822); Kinsey Creek (40.1717, -124.2310); Mattole River (40.2942, -124.3536); McNutt Gulch (40.3541, -124.3619); Oat Creek (40.1785, -124.2445); Randall Creek (40.2004, -124.2831); Shipman Creek (40.1175, -124.1449); Spanish Creek (40.1835, -124.2569); Telegraph Creek (40.0473, -124.0798); Whale Gulch (39.9623, -123.9785) upstream to endpoint(s) in: Anderson Creek (40.0329, -123.9674); Baker Creek (40.0143, -123.9048); Bear Creek (40.1262, -124.0631); Bear Creek (40.2819, -124.3336); Bear Trap Creek (40.2157, -124.1422); Big Creek (40.1742, -124.1924); Big Finley Creek (40.0910, -124.0179); Big Flat Creek (40.1444, -124.1636); Blue Slide Creek (40.1562, -123.9283); Box Canyon Creek (40.1078, -123.9854); Bridge Creek (40.0447, -124.0118); Buck Creek (40.1166, -124.1142); Conklin Creek (40.3197, -124.2055); Cooskie Creek (40.2286, -124.2986); Devils Creek (40.3432, -124.1365); Dry Creek (40.2646, -124.0660); East Branch North Fork Mattole River (40.3333, -124.1490); East Fork Honeydew Creek (40.1625, -124.0929); Eubank Creek (40.0997, -123.9661); Fire Creek (40.1533, -123.9509); Fourmile Creek (40.2604, -124.3079); Fourmile Creek (40.1767, -124.0759); French Creek (40.1384, -124.0072); Gibsam Creek (40.0304, -123.9279); Gilham Creek (40.2078, -124.0085); Gitchell Creek

(40.1086, -124.0947); Green Ridge Creek (40.3254, -124.1258); Grindstone Creek (40.2019, -123.9890); Harris Creek (40.0381, -123.9304); Harrow Creek (40.1612, -124.0292); Helen Barnum Creek (40.0036, -123.9101); Honeydew Creek (40.1747, -124.1410); Horse Mountain Creek (40.0769, -124.0729); Indian Creek (40.2772, -124.2759); Jewett Creek (40.1465, -124.0414); Kinsey Creek (40.1765, -124.2220); Lost Man Creek (39.9754, -123.9179); Mattole Canyon (40.2021, -123.9570); Mattole River (39.9714, -123.9623); McGinnis Creek (40.3186, -124.1801); McKee Creek (40.0864, -123.9480); McNutt Gulch (40.3458, -124.3418); Middle Creek (40.2591, -124.0366); Mill Creek (40.0158, -123.9693); Mill Creek (40.3305, -124.2598); Mill Creek (40.2839, -124.2946); Nooning Creek (40.0616, -124.0050); North Fork Mattole River (40.3866, -124.1867); North Fork Bear Creek (40.1494, -124.1060); North Fork Fourmile Creek (40.2019, -124.0722); Oat Creek (40.1884, -124.2296); Oil Creek (40.3214, -124.1601); Painter Creek (40.0844, -123.9639); Prichett Creek (40.2892, -124.1704); Randall Creek (40.2092, -124.2668); Rattlesnake Creek (40.3250, -124.0981); Shipman Creek (40.1250, -124.1384); Sholes Creek (40.1603, -124.0619); South Branch West Fork Bridge Creek (40.0326, -123.9853); South Fork Bear Creek (40.0176, -124.0016); Spanish Creek (40.1965, -124.2429); Squaw Creek (40.1934, -124.2002); Stanley Creek (40.0273, -123.9166); Sulphur Creek (40.3647, -124.1586); Telegraph Creek (40.0439, -124.0640); Thompson Creek (39.9913, -123.9707); Unnamed Tributary (40.3475, -124.1606); Unnamed Tributary (40.3522, -124.1533); Unnamed Tributary (40.0891, -123.9839); Unnamed Tributary (40.2223, -124.0172); Unnamed Tributary (40.1733, -123.9515); Unnamed Tributary (40.2899, -124.0955); Unnamed Tributary (40.2853, -124.3227); Unnamed Tributary (39.9969, -123.9071); Upper East Fork Honeydew Creek (40.1759, -124.1182); Upper North Fork Mattole River (40.2907, -124.1115); Vanauken Creek (40.0674, -123.9422); West Fork Bridge Creek (40.0343, -123.9990); West Fork Honeydew Creek (40.1870, -124.1614); Westlund Creek (40.2440, -124.0036); Whale Gulch (39.9747, -123.9812); Woods Creek (40.2119, -124.1611); Yew Creek (40.0018, -123.9762).

(7) Mendocino Coast Hydrologic Unit 1113—(i) *Usal Creek Hydrologic Sub-area 111311*. Outlet(s) = Jackass Creek (Lat 39.8806, Long -123.9155); Usal



Creek (39.8316, -123.8507) upstream to endpoint(s) in: Bear Creek (39.8898, -123.8344); Jackass Creek (39.8901, -123.8928); Julius Creek (39.8542, -123.7937); Little Bear Creek (39.8629, -123.8400); North Fork Jackass Creek (39.9095, -123.9101); North Fork Julius Creek (39.8581, -123.8045); Soldier Creek (39.8679, -123.8162); South Fork Usal Creek (39.8356, -123.7865); Unnamed Tributary (39.8890, -123.8480); Usal Creek (39.8957, -123.8797); Waterfall Gulch (39.8787, -123.8680).

(ii) *Wages Creek Hydrologic Sub-area 111312*. Outlet(s) = Cottaneva Creek (Lat 39.7360, Long -123.8293); DeHaven Creek (39.6592, -123.7863); Hardy Creek (39.7107, -123.8082); Howard Creek (39.6778, -123.7915); Juan Creek (39.7028, -123.8042); Wages Creek (39.6513, -123.7851) upstream to endpoint(s) in: Cottaneva Creek (39.7825, -123.8210); DeHaven Creek (39.6687, -123.7060); Dunn Creek (39.8103, -123.8320); Hardy Creek (39.7221, -123.7822); Howard Creek (39.6808, -123.7463); Juan Creek (39.7107, -123.7472); Kimball Gulch (39.7559, -123.7828); Little Juan Creek (39.7003, -123.7609); Middle Fork Cottaneva Creek (39.7738, -123.8058); North Fork Cottaneva Creek (39.8011, -123.8047); North Fork DeHaven Creek (39.6660, -123.7382); North Fork Wages Creek (39.6457, -123.7066); Rider Gulch (39.6348, -123.7621); Rockport Creek (39.7346, -123.8021); Slaughterhouse Gulch (39.7594, -123.7914); South Fork Cottaneva Creek (39.7447, -123.7773); South Fork Wages Creek (39.6297, -123.6862); Wages Creek (39.6297, -123.6862).

(iii) *Ten Mile River Hydrologic Sub-area 111313*. Outlet(s) = Abalobadiah Creek (Lat 39.5654, Long -123.7672); Chadbourne Gulch (39.6133, -123.7822); Ten Mile River (39.5529, -123.7658); Seaside Creek (39.5592, -123.7655) upstream to endpoint(s) in: Abalobadiah Creek (39.5878, -123.7503); Bald Hill Creek (39.6278, -123.6461); Barlow Gulch (39.6046, -123.7384); Bear Pen Creek (39.5824, -123.6402); Booth Gulch (39.5567, -123.5918); Buckhorn Creek (39.6093, -123.6980); Campbell Creek (39.5053, -123.6610); Cavanaugh Gulch (39.6107, -123.6776); Chadbourne Gulch (39.6190, -123.7682); Clark Fork (39.5280, -123.5134); Curchman Creek (39.4789, -123.6398); Gulch 11 (39.4687, -123.5816); Gulch 19 (39.5939, -123.5781); Little Bear Haven Creek (39.5655, -123.6147); Little North Fork (39.6264, -123.7350); Mill Creek (39.5392, -123.7068); North Fork Ten Mile River (39.5870, -123.5480); O'Conner Gulch (39.6042, -123.6632);

Patsy Creek (39.5714, -123.5669); Redwood Creek (39.5142, -123.5620); Seaside Creek (39.5612, -123.7501); Smith Creek (39.5251, -123.6499); South Fork Bear Haven Creek (39.5688, -123.6527); South Fork Ten Mile River (39.5083, -123.5395); Ten Mile River (39.5721, -123.7098); Unnamed Tributary (39.5180, -123.5948); Unnamed Tributary (39.5146, -123.6183); Unnamed Tributary (39.5898, -123.7657); Unnamed Tributary (39.5813, -123.7526); Unnamed Tributary (39.5936, -123.6034).

(iv) *Noyo River Hydrologic Sub-area 111320*. Outlet(s) = Digger Creek (Lat 39.4088, Long -123.8164); Hare Creek (39.4171, -123.8128); Jug Handle Creek (39.3767, -123.8176); Mill Creek (39.4894, -123.7967); Mitchell Creek (39.3923, -123.8165); Noyo River (39.4274, -123.8096); Pudding Creek (39.4588, -123.8089); Virgin Creek (39.4714, -123.8045) upstream to endpoint(s) in: Bear Gulch (39.3881, -123.6614); Brandon Gulch (39.4191, -123.6645); Bunker Gulch (39.3969, -123.7153); Burbeck Creek (39.4354, -123.4235); Covington Gulch (39.4099, -123.7546); Dewarren Creek (39.4974, -123.5535); Digger Creek (39.3932, -123.7820); Duffy Gulch (39.4469, -123.6023); Gulch Creek (39.4441, -123.4684); Gulch Seven (39.4523, -123.5183); Hare Creek (39.3781, -123.6922); Hayworth Creek (39.4857, -123.4769); Hayshed Creek (39.4200, -123.7391); Jug Handle Creek (39.3647, -123.7523); Kass Creek (39.4262, -123.6807); Little North Fork (39.4532, -123.6636); Little Valley Creek (39.5026, -123.7277); Marble Gulch (39.4423, -123.5479); McMullen Creek (39.4383, -123.4488); Middle Fork North Fork (39.4924, -123.5231); Mill Creek (39.4813, -123.7600); Mitchell Creek (39.3813, -123.7734); North Fork Hayworth Creek (39.4891, -123.5026); North Fork Noyo River (39.4765, -123.5535); North Fork Noyo (39.4765, -123.5535); North Fork South Fork Noyo River (39.3971, -123.6108); Noyo River (39.4242, -123.4356); Olds Creek (39.3964, -123.4448); Parlin Creek (39.3700, -123.6111); Pudding Creek (39.4591, -123.6516); Redwood Creek (39.4660, -123.4571); South Fork Hare Creek (39.3785, -123.7384); South Fork Noyo River (39.3620, -123.6188); Unnamed Tributary (39.4113, -123.5621); Unnamed Tributary (39.3918, -123.6425); Unnamed Tributary (39.4168, -123.4578); Unnamed Tributary (39.4656, -123.7467); Unnamed Tributary (39.4931, -123.7371); Unnamed Tributary (39.4922, -123.7381);

Unnamed Tributary (39.4939, -123.7184); Unnamed Tributary (39.4158, -123.6428); Unnamed Tributary (39.4002, -123.7347); Unnamed Tributary (39.3831, -123.6177); Unnamed Tributary (39.4926, -123.4764); Virgin Creek (39.4621, -123.7855); Unnamed Tributary (39.4650, -123.7463).

(v) *Big River Hydrologic Sub-area 111330*. Outlet(s) = Big River (Lat 39.3030, Long -123.7957); Casper Creek (39.3617, -123.8169); Doyle Creek (39.3603, -123.8187); Jack Peters Creek (39.3193, -123.8006); Russian Gulch (39.3288, -123.8050) upstream to endpoint(s) in: Berry Gulch (39.3585, -123.6930); Big River (39.3166, -123.3733); Casper Creek (39.3462, -123.7556); Chamberlain Creek (39.4007, -123.5317); Daugherty Creek (39.1700, -123.3699); Doyle Creek (39.3517, -123.8007); East Branch Little North Fork Big River (39.3372, -123.6410); East Branch North Fork Big River (39.3354, -123.4652); Gates Creek (39.2083, -123.3944); Jack Peters Gulch (39.3225, -123.7850); James Creek (39.3922, -123.4747); Johnson Creek (39.1963, -123.3927); Johnson Creek (39.2556, -123.4485); Laguna Creek (39.2910, -123.6334); Little North Fork Big River (39.3497, -123.6242); Marten Creek (39.3290, -123.4279); Mettick Creek (39.2591, -123.5193); Middle Fork North Fork Casper Creek (39.3575, -123.7170); North Fork Big River (39.3762, -123.4591); North Fork Casper Creek (39.3610, -123.7356); North Fork James Creek (39.3980, -123.4939); North Fork Ramone Creek (39.2760, -123.4846); Pig Pen Gulch (39.3226, -123.4609); Pruitt Creek (39.2592, -123.3812); Ramone Creek (39.2714, -123.4415); Rice Creek (39.2809, -123.3963); Russell Brook (39.2863, -123.4461); Russian Gulch (39.3237, -123.7650); Snuffins Creek (39.1836, -123.3854); Soda Creek (39.2230, -123.4239); South Fork Big River (39.2317, -123.3687); South Fork Casper Creek (39.3493, -123.7216); Two Log Creek (39.3484, -123.5781); Unnamed Tributary (39.3897, -123.5556); Unnamed Tributary (39.3637, -123.5464); Unnamed Tributary (39.3776, -123.5274); Unnamed Tributary (39.4029, -123.5771); Valentine Creek (39.2694, -123.3957); Water Gulch (39.3607, -123.5891).

(vi) *Albion River Hydrologic Sub-area 111340*. Outlet(s) = Albion River (Lat 39.2253, Long -123.7679); Big Salmon Creek (39.2150, -123.7660); Buckhorn Creek (39.2593, -123.7839); Dark Gulch (39.2397, -123.7740); Little Salmon Creek (39.2150, -123.7660); Little River (39.2734, -123.7914) upstream to endpoint(s) in: Albion River (39.2613,

–123.5766); Big Salmon Creek (39.2070, –123.6514); Buckhorn Creek (39.2513, –123.7595); Dark Gulch (39.2379, –123.7592); Duck Pond Gulch (39.2456, –123.6960); East Railroad Gulch (39.2604, –123.6381); Hazel Gulch (39.2141, –123.6418); Kaison Gulch (39.2733, –123.6803); Little North Fork South Fork Albion River (39.2350, –123.6431); Little River (39.2683, –123.7190); Little Salmon Creek (39.2168, –123.7515); Marsh Creek (39.2325, –123.5596); Nordon Gulch (39.2489, –123.6503); North Fork Albion River (39.2854, –123.5752); Pleasant Valley Gulch (39.2379, –123.6965); Railroad Gulch (39.2182, –123.6932); Soda Springs Creek (39.2943, –123.5944); South Fork Albion River (39.2474, –123.6107); Tom Bell Creek (39.2805, –123.6519); Unnamed Tributary (39.2279, –123.6972); Unnamed Tributary (39.2194, –123.7100); Unnamed Tributary (39.2744, –123.5889); Unnamed Tributary (39.2254, –123.6733).

(vii) *Navarro River Hydrologic Sub-area 111350*. Outlet(s) = Navarro River (Lat 39.1921, Long –123.7611) upstream to endpoint(s) in: Alder Creek (38.9830, –123.3946); Anderson Creek (38.9644, –123.2907); Bailey Creek (39.1733, –123.4804); Barton Gulch (39.1804, –123.6783); Bear Creek (39.1425, –123.4326); Bear Wallow Creek (39.0053, –123.4075); Beasley Creek (38.9366, –123.3265); Bottom Creek (39.2117, –123.4607); Camp 16 Gulch (39.1937, –123.6095); Camp Creek (38.9310, –123.3527); Cold Spring Creek (39.0376, –123.5027); Con Creek (39.0374, –123.3816); Cook Creek (39.1879, –123.5109); Cune Creek (39.1622, –123.6014); Dago Creek (39.0731, –123.5068); Dead Horse Gulch (39.1576, –123.6124); Dutch Henry Creek (39.2112, –123.5794); Floodgate Creek (39.1291, –123.5365); Fluem Gulch (39.1615, –123.6695); Flynn Creek (39.2099, –123.6032); German Creek (38.9452, –123.4269); Gut Creek (39.0803, –123.3312); Ham Canyon (39.0164, –123.4265); Horse Creek (39.0144, –123.4960); Hungry Hollow Creek (39.1327, –123.4488); Indian Creek (39.0708, –123.3301); Jimmy Creek (39.0117, –123.2888); John Smith Creek (39.2275, –123.5366); Little North Fork Navarro River (39.1941, –123.4553); Low Gap Creek (39.1590, –123.3783); Navarro River (39.0537, –123.4409); Marsh Gulch (39.1692, –123.7049); McCarvey Creek (39.1589, –123.4048); Mill Creek (39.1270, –123.4315); Minnie Creek (38.9751, –123.4529); Murray Gulch (39.1755, –123.6966); Mustard Gulch (39.1673, –123.6393); North Branch (39.2069,

–123.5361); North Fork Indian Creek (39.1213, –123.3345); North Fork Navarro River (39.1708, –123.5606); Parkinson Gulch (39.0768, –123.4070); Perry Gulch (39.1342, –123.5707); Rancheria Creek (38.8626, –123.2417); Ray Gulch (39.1792, –123.6494); Robinson Creek (38.9845, –123.3513); Rose Creek (39.1358, –123.3672); Shingle Mill Creek (39.1671, –123.4223); Soda Creek (39.0238, –123.3149); Soda Creek (39.1531, –123.3734); South Branch (39.1409, –123.3196); Spooner Creek (39.2221, –123.4811); Tramway Gulch (39.1481, –123.5958); Yale Creek (38.8882, –123.2785).

(viii) *Greenwood Creek Hydrologic Sub-area 111361*. Outlet(s) = Greenwood Creek (Lat 39.1262, Long –123.7181) upstream to endpoint(s) in: Greenwood Creek (39.0894, –123.5924).

(ix) *Elk Creek Hydrologic Sub-area 111362*. Outlet(s) = Elk Creek (Lat 39.1024, Long –123.7080) upstream to endpoint(s) in: Elk Creek (39.0657, –123.6245).

(x) *Alder Creek Hydrologic Sub-area 111363*. Outlet(s) = Alder Creek (Lat 39.0044, Long –123.6969); Mallo Pass Creek (39.0341, –123.6896) upstream to endpoint(s) in: Alder Creek (38.9961, –123.6471); Mallo Pass Creek (39.0287, –123.6373).

(xi) *Brush Creek Hydrologic Sub-area 111364*. Outlet(s) = Brush Creek (Lat 38.9760, Long –123.7120) upstream to endpoint(s) in: Brush Creek (38.9730, –123.5563); Mill Creek (38.9678, –123.6515); Unnamed Tributary (38.9724, –123.6571).

(xii) *Garcia River Hydrologic Sub-area 111370*. Outlet(s) = Garcia River (Lat 38.9550, Long –123.7338); Point Arena Creek (38.9141, –123.7103); Schooner Gulch (38.8667, –123.6550) upstream to endpoint(s) in: Blue Water Hole Creek (38.9378, –123.5023); Flemming Creek (38.8384, –123.5361); Garcia River (38.8965, –123.3681); Hathaway Creek (38.9287, –123.7011); Inman Creek (38.8804, –123.4370); Larmour Creek (38.9419, –123.4469); Mill Creek (38.9078, –123.3143); North Fork Garcia River (38.9233, –123.5339); North Fork Schooner Gulch (38.8758, –123.6281); Pardaloe Creek (38.8895, –123.3423); Point Arena Creek (38.9069, –123.6838); Redwood Creek (38.9241, –123.3343); Rolling Brook (38.8965, –123.5716); Schooner Gulch (38.8677, –123.6198); South Fork Garcia River (38.8450, –123.5420); Stansbury Creek (38.9422, –123.4720); Signal Creek (38.8639, –123.4414); Unnamed Tributary (38.8758, –123.5692); Unnamed Tributary (38.8818, –123.5723); Whitlow Creek (38.9141, –123.4624).

(xiii) *North Fork Gualala River Hydrologic Sub-area 111381*. Outlet(s) = North Fork Gualala River (Lat 38.7784, Long –123.4992) upstream to endpoint(s) in: Bear Creek (38.8347, –123.3842); Billings Creek (38.8652, –123.3496); Doty Creek (38.8495, –123.5131); Dry Creek (38.8416, –123.4455); Little North Fork Gualala River (38.8295, –123.5570); McGann Gulch (38.8026, –123.4458); North Fork Gualala River (38.8479, –123.4113); Robinson Creek (38.8416, –123.3725); Robinson Creek (38.8386, –123.4991); Stewart Creek (38.8109, –123.4157); Unnamed Tributary (38.8487, –123.3820).

(xiv) *Rockpile Creek Hydrologic Sub-area 111382*. Outlet(s) = Rockpile Creek (Lat 38.7507, Long –123.4706) upstream to endpoint(s) in: Rockpile Creek (38.7966, –123.3872).

(xv) *Buckeye Creek Hydrologic Sub-area 111383*. Outlet(s) = Buckeye Creek (Lat 38.7403, Long –123.4580) upstream to endpoint(s) in: Buckeye Creek (38.7400, –123.2697); Flat Ridge Creek (38.7616, –123.2400); Franchini Creek (38.7500, –123.3708); North Fork Buckeye (38.7991, –123.3166).

(xvi) *Wheatfield Fork Hydrologic Sub-area 111384*. Outlet(s) = Wheatfield Fork Gualala River (Lat 38.7018, Long –123.4168) upstream to endpoint(s) in: Danfield Creek (38.6369, –123.1431); Fuller Creek (38.7109, –123.3256); Haupt Creek (38.6220, –123.2551); House Creek (38.6545, –123.1184); North Fork Fuller Creek (38.7252, –123.2968); Pepperwood Creek (38.6205, –123.1665); South Fork Fuller Creek (38.6973, –123.2860); Tombs Creek (38.6989, –123.1616); Unnamed Tributary (38.7175, –123.2744); Wheatfield Fork Gualala River (38.7497, –123.2215).

(xvii) *Gualala Hydrologic Sub-area 111385*. Outlet(s) = Fort Ross Creek (Lat 38.5119, Long –123.2436); Gualala River (38.7687, –123.5334); Kolmer Gulch (38.5238, –123.2646) upstream to endpoint(s) in: Big Pepperwood Creek (38.7951, –123.4638); Carson Creek (38.5653, –123.1906); Fort Ross Creek (38.5174, –123.2363); Groshong Gulch (38.7814, –123.4904); Gualala River (38.7780, –123.4991); Kolmer Gulch (38.5369, –123.2247); Little Pepperwood (38.7738, –123.4427); Marshall Creek (38.5647, –123.2058); McKenzie Creek (38.5895, –123.1730); Palmer Canyon Creek (38.6002, –123.2167); South Fork Gualala River (38.5646, –123.1689); Sproule Creek (38.6122, –123.2739); Turner Canyon (38.5294, –123.1672); Unknown Tributary (38.5634, –123.2003).

(xviii) *Russian Gulch Hydrologic Sub-area 111390*. Outlet(s) = Russian Gulch

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Creek (Lat 38.4669, Long -123.1569)  
upstream to endpoint(s) in: Russian  
Gulch Creek (38.4956, -123.1535); West

Branch Russian Gulch Creek (38.4968,  
-123.1631).

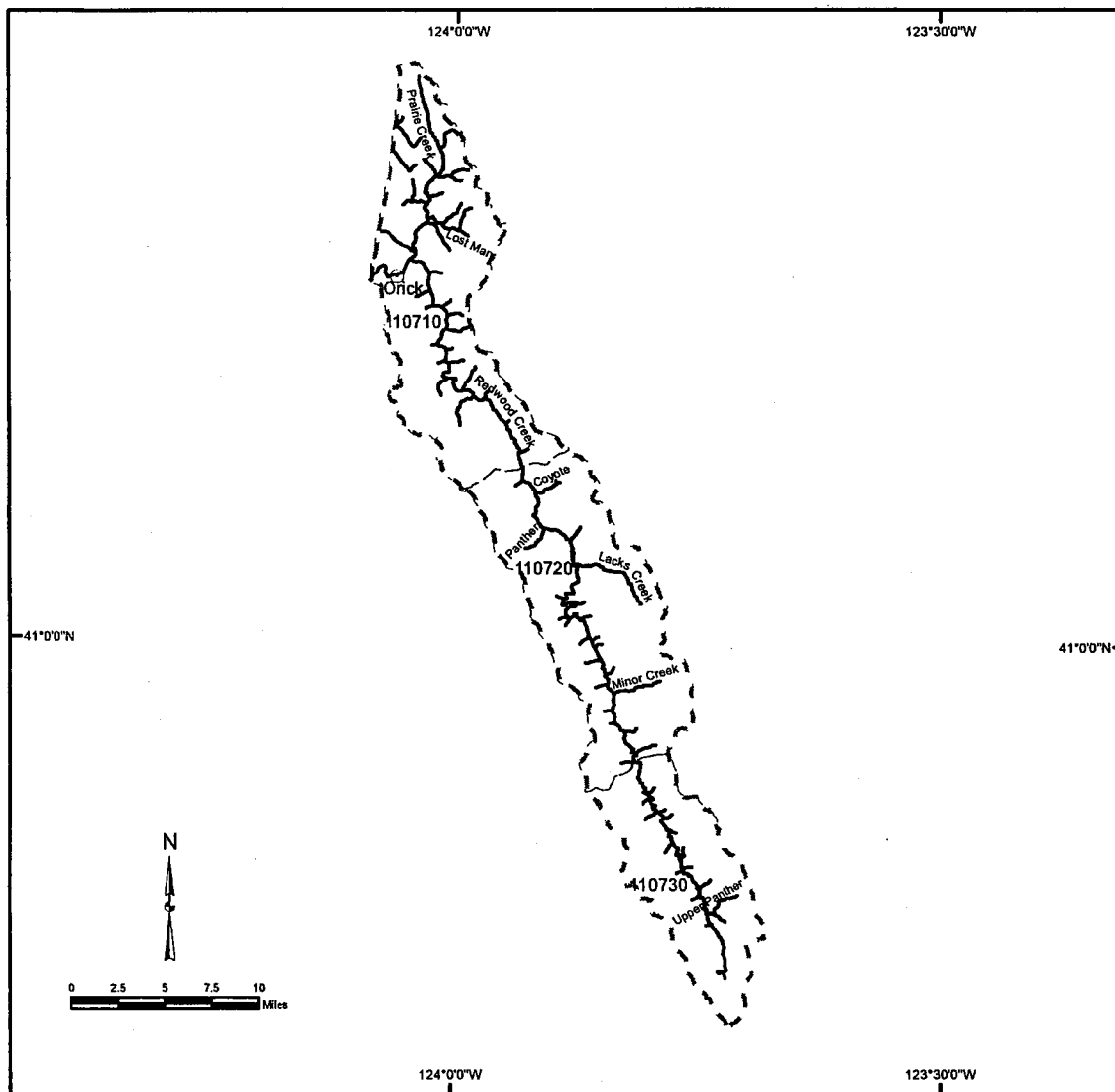
(8) Maps of critical habitat for the  
Northern California Steelhead ESU  
follow:

BILLING CODE 3510-22-P

**000291**

**Critical Habitat for the Northern California Steelhead**

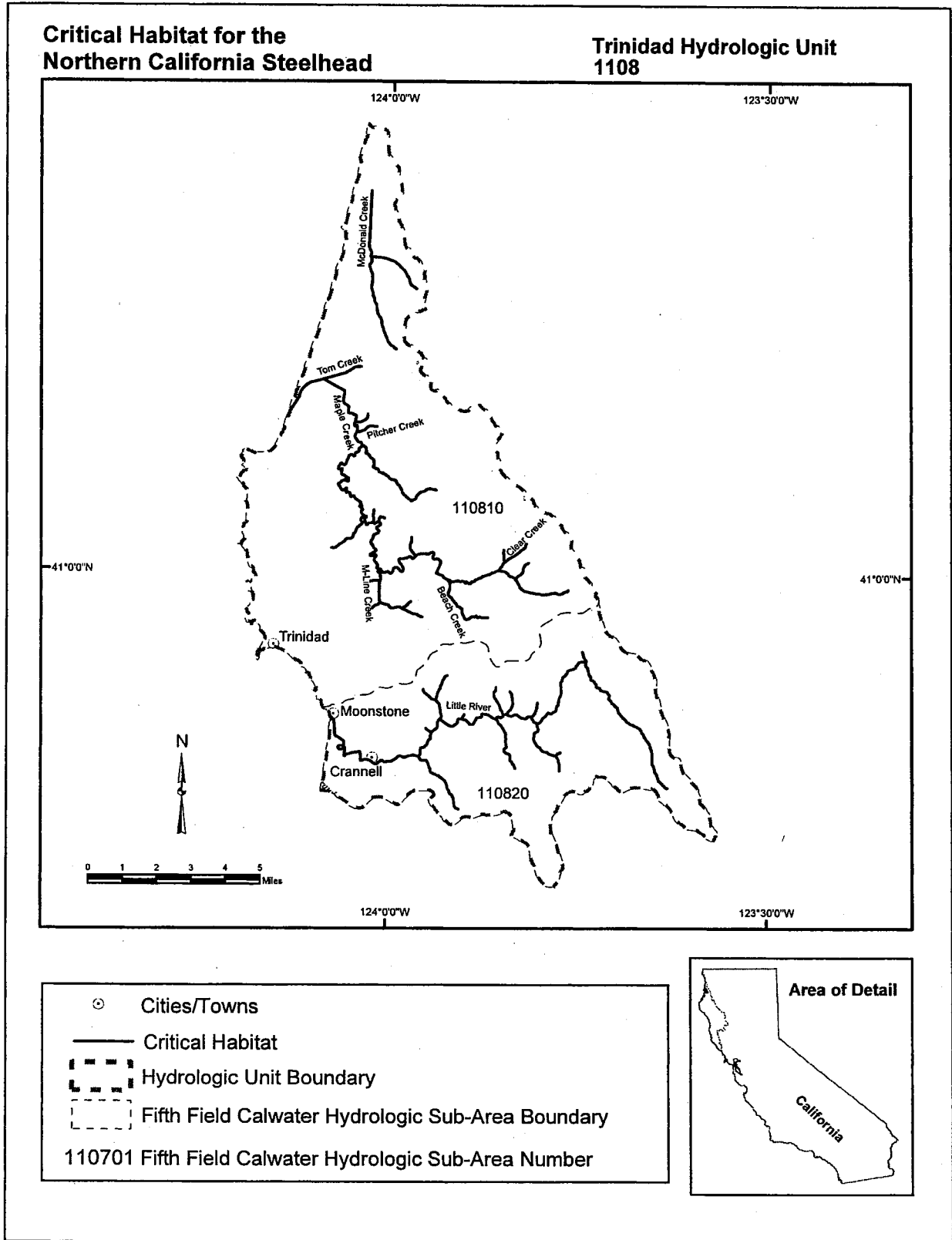
**Redwood Creek Hydrologic Unit 1107**



- ⊙ Cities/Towns
- Critical Habitat
- - - Hydrologic Unit Boundary
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number

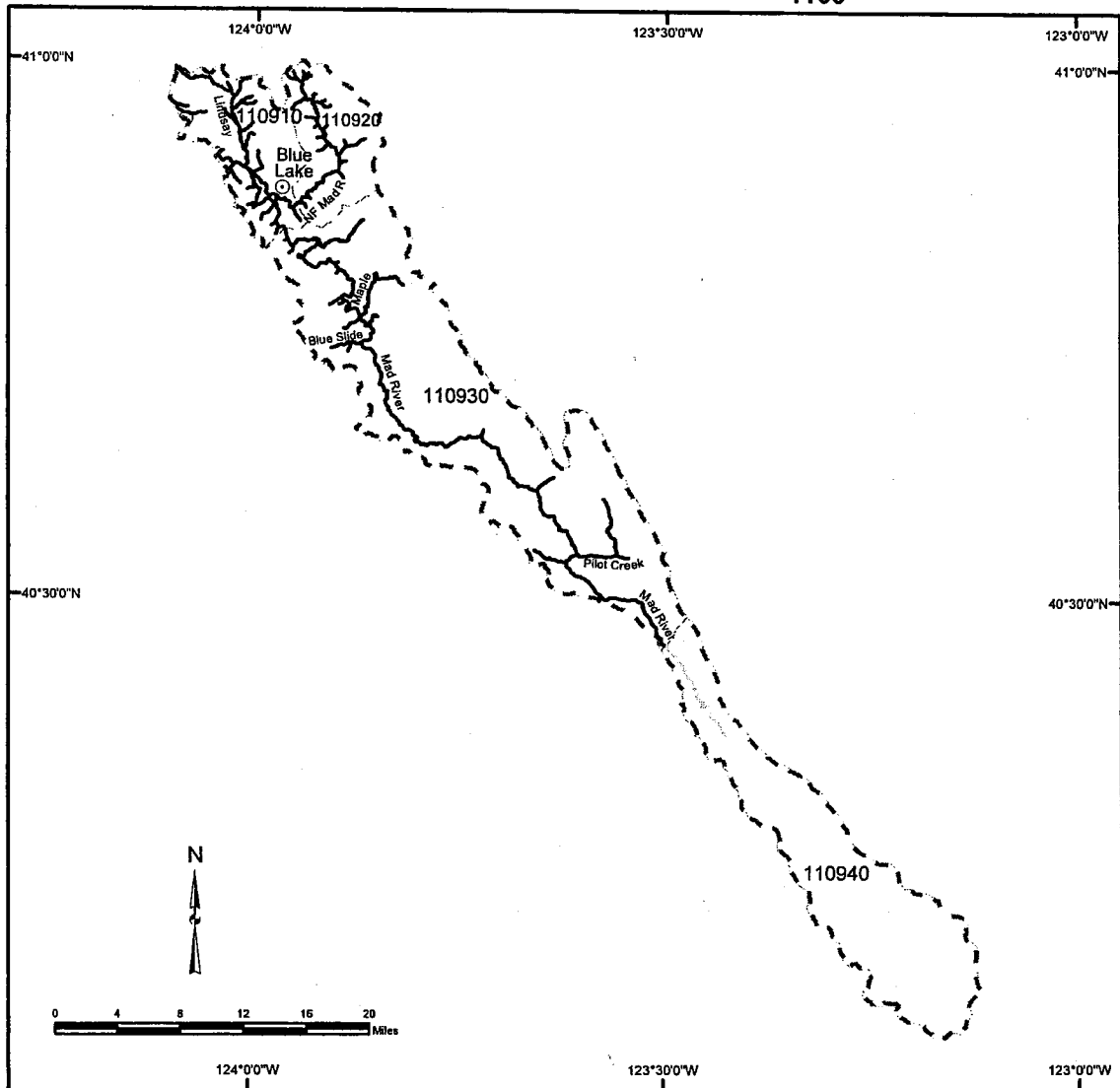






### Critical Habitat for the Northern California Steelhead

### Mad River Hydrologic Unit 1109



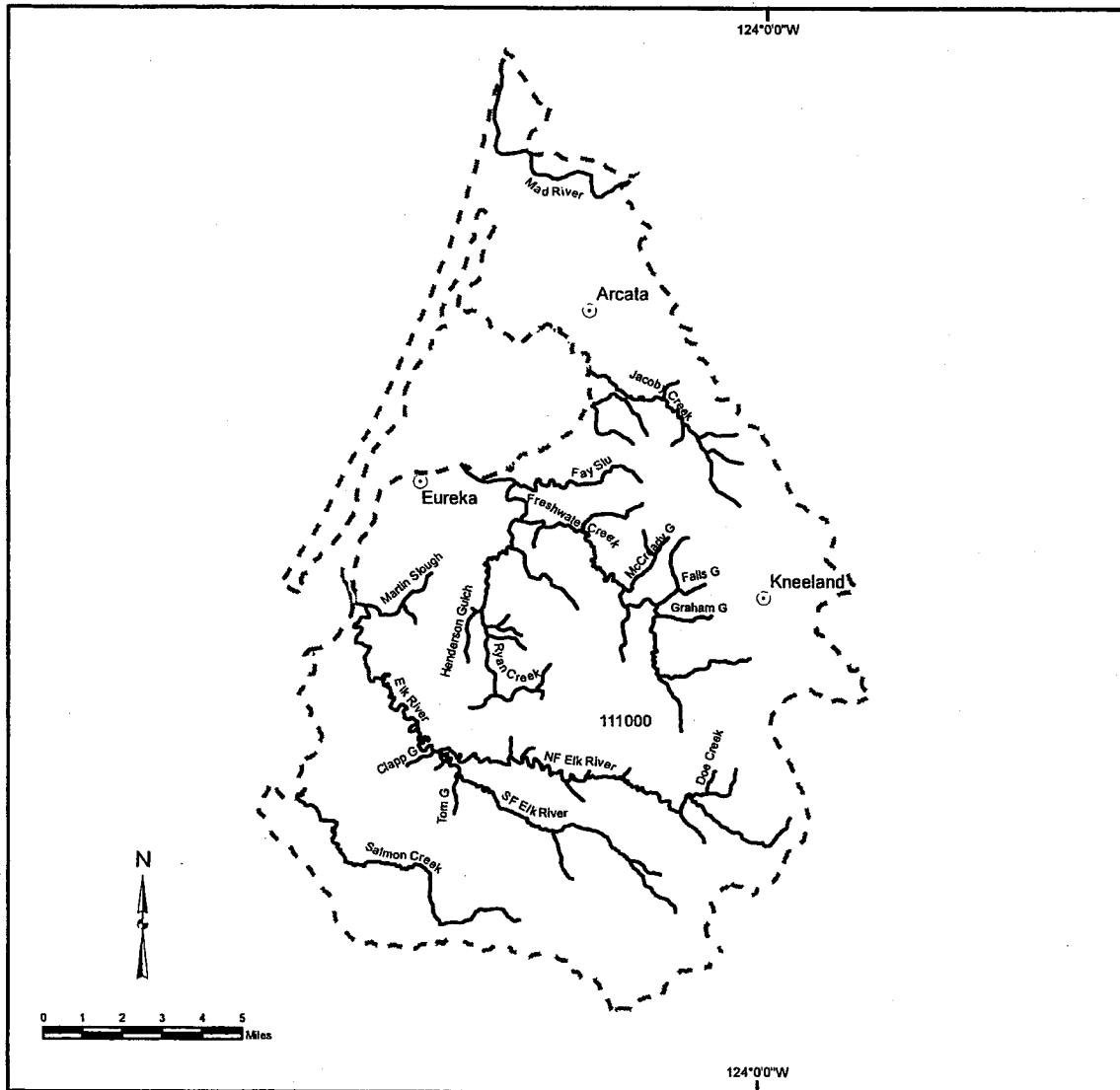
- ⊗ Cities/Towns
- Critical Habitat
- - - Occupied but excluded streams / areas
- ⊠ Hydrologic Unit Boundary
- ⊡ Fifth Field Calwater Hydrologic Sub-Area Boundary

110701 Fifth Field Calwater Hydrologic Sub-Area Number



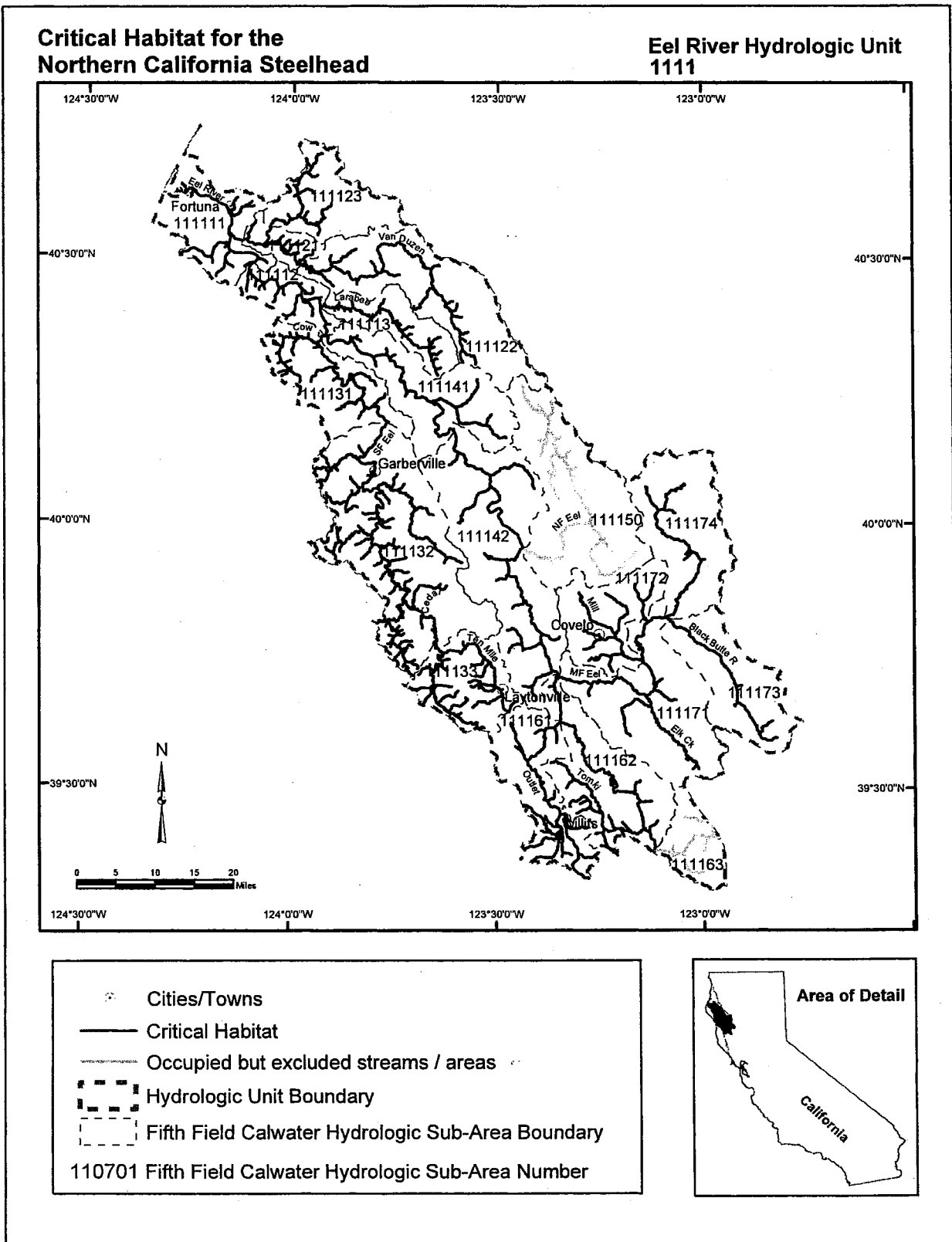
### Critical Habitat for the Northern California Steelhead

### Eureka Plain Hydrologic Unit 1110

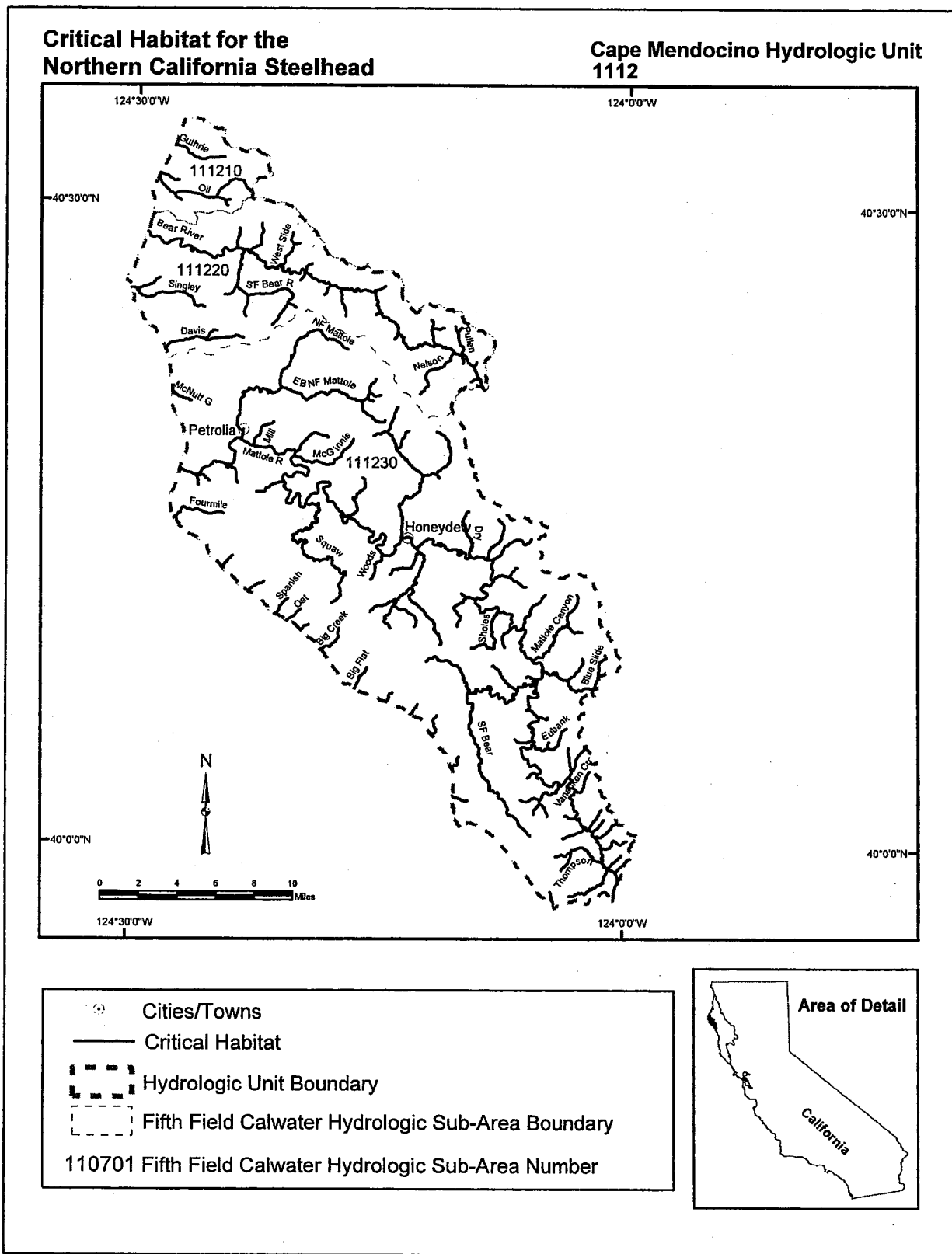


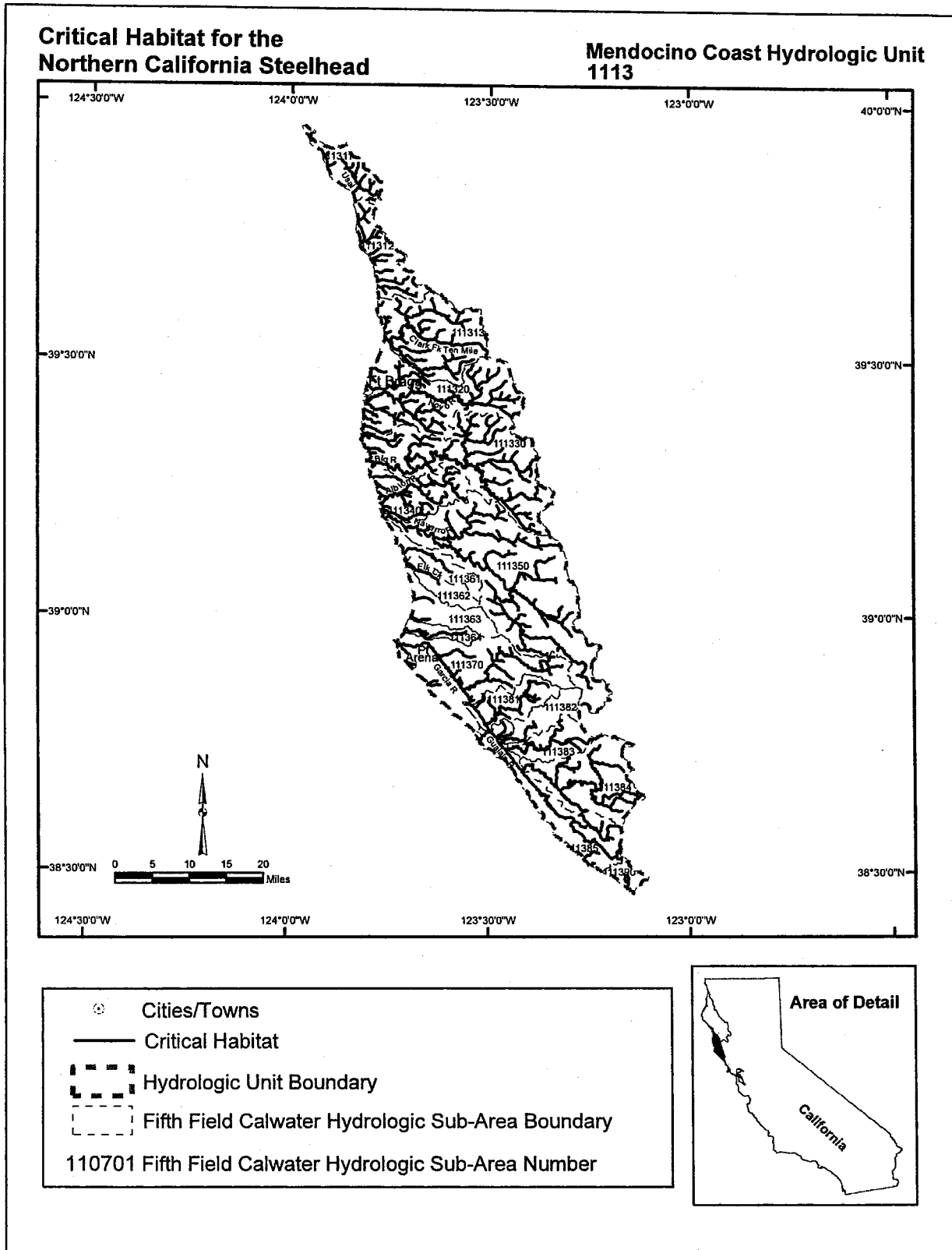
⊙ Cities/Towns  
— Critical Habitat  
- - - Hydrologic Unit Boundary  
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary  
110701 Fifth Field Calwater Hydrologic Sub-Area Number











(h) *Central California Coast Steelhead* (*O. mykiss*). Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Russian River Hydrologic Unit 1114—(i) *Guerneville Hydrologic Sub-area 111411*. Outlet(s) = Russian River (Lat 38.4507, Long -123.1289) upstream to endpoint(s) in: Atascadero Creek (38.3473, -122.8626); Austin Creek (38.5098, -123.0680); Baumert Springs (38.4195, -122.9658); Dutch Bill Creek (38.4132, -122.9508); Duvoul Creek (38.4527, -122.9525); Fife Creek (38.5584, -122.9922); Freezeout Creek (38.4405, -123.0360); Green Valley Creek (38.4445, -122.9185); Grub Creek (38.4411, -122.9636); Hobson Creek (38.5334, -122.9401); Hulbert Creek (38.5548, -123.0362); Jenner Gulch (38.4869, -123.0996); Kidd Creek (38.5029, -123.0935); Lancel Creek (38.4247, -122.9322); Mark West Creek (38.4961, -122.8489); Mays Canyon (38.4800, -122.9715); North Fork Lancel Creek (38.4447, -122.9444); Pocket Canyon (38.4650, -122.9267); Porter Creek (38.5435, -122.9332); Purrington Creek (38.4083, -122.9307); Sheep House Creek (38.4820, -123.0921); Smith Creek (38.4622, -122.9585); Unnamed Tributary (38.4560, -123.0246); Unnamed Tributary (38.3976, -122.8994); Unnamed Tributary (38.3772, -122.8938); Willow Creek (38.4249, -123.0022).

(ii) *Austin Creek Hydrologic Sub-area 111412*. Outlet(s) = Austin Creek (Lat 38.5098, Long -123.0680) upstream to endpoint(s) in: Austin Creek (38.6262, -123.1347); Bear Pen Creek (38.5939, -123.1644); Big Oat Creek (38.5615, -123.1299); Black Rock Creek (38.5586, -123.0730); Blue Jay Creek (38.5618, -123.1399); Conshea Creek (38.5830, -123.0824); Devil Creek (38.6163, -123.0425); East Austin Creek (38.6349, -123.1238); Gilliam Creek (38.5803, -123.0152); Gray Creek (38.6132, -123.0107); Thompson Creek (38.5747, -123.0300); Pole Mountain Creek (38.5122, -123.1168); Red Slide Creek (38.6039, -123.1141); Saint Elmo Creek (38.5130, -123.1125); Schoolhouse Creek (38.5595, -123.0175); Spring Creek (38.5041, -123.1364); Sulphur Creek (38.6187, -123.0553); Ward Creek (38.5720, -123.1547).

(iii) *Mark West Hydrologic Sub-area 111423*. Outlet(s) = Mark West Creek (Lat 38.4962, Long -122.8492) upstream to endpoint(s) in: Humbag Creek (38.5412, -122.6249); Laguna de Santa Rosa (38.4526, -122.8347); Mark West Creek (38.5187, -122.5995); Pool Creek (38.5486, -122.7641); Pruitt Creek (38.5313, -122.7615); Windsor Creek (38.5484, -122.8101).

(iv) *Warm Springs Hydrologic Sub-area 111424*. Outlet(s) = Dry Creek (Lat 38.5862, Long -122.8577) upstream to endpoint(s) in: Angel Creek (38.6101, -122.9833); Crane Creek (38.6434, -122.9451); Dry Creek (38.7181, -123.0091); Dutcher Creek (38.7223, -122.9770); Felta Creek (38.5679, -122.9379); Foss Creek (38.6244, -122.8754); Grape Creek (38.6593, -122.9707); Mill Creek (38.5976, -122.9914); North Slough Creek (38.6392, -122.8888); Palmer Creek (38.5770, -122.9904); Pena Creek (38.6384, -123.0743); Redwood Log Creek (38.6705, -123.0725); Salt Creek (38.5543, -122.9133); Wallace Creek (38.6260, -122.9651); Wine Creek (38.6662, -122.9682); Woods Creek (38.6069, -123.0272).

(v) *Geyserville Hydrologic Sub-area 111425*. Outlet(s) = Russian River (Lat 38.6132, Long -122.8321) upstream to endpoint(s) in: Ash Creek (38.8556, -123.0082); Bear Creek (38.7253, -122.7038); Bidwell Creek (38.6229, -122.6320); Big Sulphur Creek (38.8279, -122.9914); Bluegum Creek (38.6988, -122.7596); Briggs Creek (38.6845, -122.6811); Coon Creek (38.7105, -122.6957); Crocker Creek (38.7771, -122.9595); Edwards Creek (38.8592, -123.0758); Foote Creek (38.6433, -122.6797); Foss Creek (38.6373, -122.8753); Franz Creek (38.5726, -122.6343); Gill Creek (38.7552, -122.8840); Gird Creek (38.7055, -122.8311); Ingalls Creek (38.7344, -122.7192); Kellog Creek (38.6753, -122.6422); Little Briggs Creek (38.7082, -122.7014); Maacama Creek (38.6743, -122.7431); McDonnell Creek (38.7354, -122.7338); Mill Creek (38.7009, -122.6490); Miller Creek (38.7211, -122.8608); Oat Valley Creek (38.8461, -123.0712); Redwood Creek (38.6342, -122.6720); Sausal Creek (38.6924, -122.7930); South Fork Gill Creek (38.7420, -122.8760); Unnamed Tributary (38.7329, -122.8601); Yellowjacket Creek (38.6666, -122.6308).

(vi) *Sulphur Creek Hydrologic Sub-area 111426*. Outlet(s) = Big Sulphur Creek (Lat 38.8279, Long -122.9914) upstream to endpoint(s) in: Alder Creek (38.8503, -122.8953); Anna Belcher Creek (38.7537, -122.7586); Big Sulphur Creek (38.8243, -122.8774); Frasier Creek (38.8439, -122.9341); Humming Bird Creek (38.8460, -122.8596); Little Sulphur Creek (38.7469, -122.7425); Lovers Gulch (38.7396, -122.8275); North Branch Little Sulphur Creek (38.7783, -122.8119); Squaw Creek (38.8199, -122.7945).

(vii) *Ukiah Hydrologic Sub-area 111431*. Outlet(s) = Russian River (Lat 38.8828, Long -123.0557) upstream to

endpoint(s) in: Pieta Creek (38.8622, -122.9329).

(viii) *Forsythe Creek Hydrologic Sub-area 111433*. Outlet(s) = West Branch Russian River (Lat 39.2257, Long -123.2012) upstream to endpoint(s) in: Bakers Creek (39.2859, -123.2432); Eldridge Creek (39.2250, -123.3309); Forsythe Creek (39.2976, -123.2963); Jack Smith Creek (39.2754, -123.3421); Mariposa Creek (39.3472, -123.2625); Mill Creek (39.2969, -123.3360); Salt Hollow Creek (39.2585, -123.1881); Seward Creek (39.2606, -123.2646); West Branch Russian River (39.3642, -123.2334).

(2) Bodega Hydrologic Unit 1115—(i) *Salmon Creek Hydrologic Sub-area 111510*. Outlet(s) = Salmon Creek (Lat 38.3554, Long -123.0675) upstream to endpoint(s) in: Coleman Valley Creek (38.3956, -123.0097); Faye Creek (38.3749, -123.0000); Finley Creek (38.3707, -123.0258); Salmon Creek (38.3877, -122.9318); Tannery Creek (38.3660, -122.9808).

(ii) *Estero Americano Hydrologic Sub-area 111530*. Outlet(s) = Estero Americano (Lat 38.2939, Long -123.0011) upstream to endpoint(s) in: Estero Americano (38.3117, -122.9748); Ebabias Creek (38.3345, -122.9759).

(3) Marin Coastal Hydrologic Unit 2201—(i) *Walker Creek Hydrologic Sub-area 220112*. Outlet(s) = Walker Creek (Lat 38.2213, Long -122.9228); Millerton Gulch (38.1055, -122.8416) upstream to endpoint(s) in: Chileno Creek (38.2145, -122.8579); Frink Canyon (38.1761, -122.8405); Millerton Gulch (38.1376, -122.8052); Verde Canyon (38.1630, -122.8116); Unnamed Tributary (38.1224, -122.8095); Walker Creek (38.1617, -122.7815).

(ii) *Lagunitas Creek Hydrologic Sub-area 220113*. Outlet(s) = Lagunitas Creek (Lat 38.0827, Long -122.8274) upstream to endpoint(s) in: Cheda Creek (38.0483, -122.7329); Devil's Gulch (38.0393, -122.7128); Giacomini Creek (38.0075, -122.7386); Horse Camp Gulch (38.0078, -122.7624); Lagunitas Creek (37.9974, -122.7045); Olema Creek (37.9719, -122.7125); Quarry Gulch (38.0345, -122.7639); San Geronimo Creek (38.0131, -122.6499); Unnamed Tributary (37.9893, -122.7328); Unnamed Tributary (37.9976, -122.7553).

(iii) *Point Reyes Hydrologic Sub-area 220120*. Outlet(s) = Creamery Bay Creek (Lat 38.0779, Long -122.9572); East Schooner Creek (38.0913, -122.9293); Home Ranch (38.0705, -122.9119); Laguna Creek (38.0235, -122.8732); Muddy Hollow Creek (38.0329, -122.8842) upstream to endpoint(s) in: Creamery Bay Creek (38.0809, -122.9561); East Schooner Creek

(38.0928, -122.9159); Home Ranch Creek (38.0784, -122.9038); Laguna Creek (38.0436, -122.8559); Muddy Hollow Creek (38.0549, -122.8666).

(iv) *Bolinas Hydrologic Sub-area 220130*. Outlet(s) = Easkoot Creek (Lat 37.9026, Long -122.6474); McKinnon Gulch (37.9126, -122.6639); Morse Gulch (37.9189, -122.6710); Pine Gulch Creek (37.9218, -122.6882); Redwood Creek (37.8595, -122.5787); Stinson Gulch (37.9068, -122.6517); Wilkins Creek (37.9343, -122.6967) upstream to endpoint(s) in: Easkoot Creek (37.8987, -122.6370); Kent Canyon (37.8866, -122.5800); McKinnon Gulch (37.9197, -122.6564); Morse Gulch (37.9240, -122.6618); Pine Gulch Creek (37.9557, -122.7197); Redwood Creek (37.9006, -122.5787); Stinson Gulch (37.9141, -122.6426); Wilkins Creek (37.9450, -122.6910).

(4) San Mateo Hydrologic Unit 2202—(i) *San Mateo Coastal Hydrologic Sub-area 220221*. Outlet(s) = Denniston Creek (37.5033, -122.4869); Frenchmans Creek (37.4804, -122.4518); San Pedro Creek (37.5964, -122.5057) upstream to endpoint(s) in: Denniston Creek (37.5184, -122.4896); Frenchmans Creek (37.5170, -122.4332); Middle Fork San Pedro Creek (37.5758, -122.4591); North Fork San Pedro Creek (37.5996, -122.4635).

(ii) *Half Moon Bay Hydrologic Sub-area 220222*. Outlet(s) = Pilarcitos Creek (Lat 37.4758, Long -122.4493) upstream to endpoint(s) in: Apanolio Creek (37.5202, -122.4158); Arroyo Leon Creek (37.4560, -122.3442); Mills Creek (37.4629, -122.3721); Pilarcitos Creek (37.5259, -122.3980); Unnamed Tributary (37.4705, -122.3616).

(iii) *Tunitas Creek Hydrologic Sub-area 220223*. Outlet(s) = Lobitos Creek (Lat 37.3762, Long -122.4093); Tunitas Creek (37.3567, -122.3999) upstream to endpoint(s) in: East Fork Tunitas Creek (37.3981, -122.3404); Lobitos Creek (37.4246, -122.3586); Tunitas Creek (37.4086, -122.3502).

(iv) *San Gregorio Creek Hydrologic Sub-area 220230*. Outlet(s) = San Gregorio Creek (Lat 37.3215, Long -122.4030) upstream to endpoint(s) in: Alpine Creek (37.3062, -122.2003); Bogess Creek (37.3740, -122.3010); El Corte Madera Creek (37.3650, -122.3307); Harrington Creek (37.3811, -122.2936); La Honda Creek (37.3680, -122.2655); Langley Creek (37.3302, -122.2420); Mindego Creek (37.3204, -122.2239); San Gregorio Creek (37.3099, -122.2779); Woodruff Creek (37.3415, -122.2495).

(v) *Pescadero Creek Hydrologic Sub-area 220240*. Outlet(s) = Pescadero Creek (Lat 37.2669, Long -122.4122); Pomponio Creek (37.2979, -122.4061)

upstream to endpoint(s) in: Bradley Creek (37.2819, -122.3802); Butano Creek (37.2419, -122.3165); Evans Creek (37.2659, -122.2163); Honsinger Creek (37.2828, -122.3316); Little Boulder Creek (37.2145, -122.1964); Little Butano Creek (37.2040, -122.3492); Oil Creek (37.2572, -122.1325); Pescadero Creek (37.2320, -122.1553); Lambert Creek (37.3014, -122.1789); Peters Creek (37.2883, -122.1694); Pomponio Creek (37.3030, -122.3805); Slate Creek (37.2530, -122.1935); Tarwater Creek (37.2731, -122.2387); Waterman Creek (37.2455, -122.1568).

(5) Bay Bridge Hydrologic Unit T 2203—(i) *San Rafael Hydrologic Sub-area 220320*. Outlet(s) = Arroyo Corte Madera del Presidio (Lat 37.8917, Long -122.5254); Corte Madera Creek (37.9425, -122.5059) upstream to endpoint(s) in: Arroyo Corte Madera del Presidio (37.9298, -122.5723); Cascade Creek (37.9867, -122.6287); Cascade Creek (37.9157, -122.5655); Larkspur Creek (37.9305, -122.5514); Old Mill Creek (37.9176, -122.5746); Ross Creek (37.9558, -122.5752); San Anselmo Creek (37.9825, -122.6420); Sleepy Hollow Creek (38.0074, -122.5794); Tamalpais Creek (37.9481, -122.5674).

(ii) [Reserved]  
(6) Santa Clara Hydrologic Unit 2205—(i) *Coyote Creek Hydrologic Sub-area 220530*. Outlet(s) = Coyote Creek (Lat 37.4629, Long -121.9894; 37.2275, -121.7514) upstream to endpoint(s) in: Arroyo Aguague (37.3907, -121.7836); Coyote Creek (37.2778, -121.8033; 37.1677, -121.6301); Upper Penitencia Creek (37.3969, -121.7577).

(ii) *Guadalupe River—San Jose Hydrologic Sub-area 220540*. Outlet(s) = Coyote Creek (Lat 37.2778, Long -121.8033) upstream to endpoint(s) in: Coyote Creek (37.2275, -121.7514).

(iii) *Palo Alto Hydrologic Sub-area 220550*. Outlet(s) = Guadalupe River (Lat 37.4614, Long -122.0240); San Francisquito Creek (37.4658, -122.1152); Stevens Creek (37.4456, -122.0641) upstream to endpoint(s) in: Bear Creek (37.4164, -122.2690); Corte Madera Creek (37.4073, -122.2378); Guadalupe River (37.3499, -121.9094); Los Trancos (37.3293, -122.1786); McGarvey Gulch (37.4416, -122.2955); Squealer Gulch (37.4335, -122.2880); Stevens Creek (37.2990, -122.0778); West Union Creek (37.4528, -122.3020).

(7) San Pablo Hydrologic Unit 2206—(i) *Petaluma River Hydrologic Sub-area 220630*. Outlet(s) = Petaluma River (Lat 38.1111, Long -122.4944) upstream to endpoint(s) in: Adobe Creek (38.2940, -122.5834); Lichau Creek (38.2848, -122.6654); Lynch Creek (38.2748, -122.6194); Petaluma River (38.3010, -122.7149); Schultz Slough (38.1892,

-122.5953); San Antonio Creek (38.2049, -122.7408); Unnamed Tributary (38.3105, -122.6146); Willow Brook (38.3165, -122.6113).

(ii) *Sonoma Creek Hydrologic Sub-area 220640*. Outlet(s) = Sonoma Creek (Lat 38.1525, Long -122.4050) upstream to endpoint(s) in: Agua Caliente Creek (38.3368, -122.4518); Asbury Creek (38.3401, -122.5590); Bear Creek (38.4656, -122.5253); Calabazas Creek (38.4033, -122.4803); Carriger Creek (38.3031, -122.5336); Graham Creek (38.3474, -122.5607); Hooker Creek (38.3809, -122.4562); Mill Creek (38.3395, -122.5454); Nathanson Creek (38.3350, -122.4290); Rodgers Creek (38.2924, -122.5543); Schell Creek (38.2554, -122.4510); Sonoma Creek (38.4507, -122.4819); Stuart Creek (38.3936, -122.4708); Yulupa Creek (38.3986, -122.5934).

(iii) *Napa River Hydrologic Sub-area 220650*. Outlet(s) = Napa River (Lat 38.0786, Long -122.2468) upstream to endpoint(s) in: Bale Slough (38.4806, -122.4578); Bear Canyon Creek (38.4512, -122.4415); Bell Canyon Creek (38.5551, -122.4819); Brown's Valley Creek (38.3251, -122.3686); Canon Creek (38.5368, -122.4854); Carneros Creek (38.3108, -122.3914); Conn Creek (38.4843, -122.3824); Cyrus Creek (38.5776, -122.6032); Diamond Mountain Creek (38.5645, -122.5903); Dry Creek (38.4334, -122.4791); Dutch Henery Creek (38.6080, -122.5253); Garnett Creek (38.6236, -122.5860); Huichica Creek (38.2811, -122.3936); Jericho Canyon Creek (38.6219, -122.5933); Miliken Creek (38.3773, -122.2280); Mill Creek (38.5299, -122.5513); Murphy Creek (38.3155, -122.2111); Napa Creek (38.3047, -122.3134); Napa River (38.6638, -122.6201); Pickle Canyon Creek (38.3672, -122.4071); Rector Creek (38.4410, -122.3451); Redwood Creek (38.3765, -122.4466); Ritchie Creek (38.5369, -122.5652); Sarco Creek (38.3567, -122.2071); Soda Creek (38.4156, -122.2953); Spencer Creek (38.2729, -122.1909); Sulphur Creek (38.4895, -122.5088); Tuscol Creek (38.2522, -122.2157); Tulucay Creek (38.2929, -122.2389); Unnamed Tributary (38.4248, -122.4935); Unnamed Tributary (38.4839, -122.5161); York Creek (38.5128, -122.5023).

(8) Big Basin Hydrologic Unit 3304—(i) *Davenport Hydrologic Sub-area 330411*. Outlet(s) = Baldwin Creek (Lat 36.9669, -122.1232); Davenport Landing Creek (37.0231, -122.2153); Laguna Creek (36.9824, -122.1560); Liddell Creek (37.0001, -122.1816); Majors Creek (36.9762, -122.1423); Molino Creek (37.0368, -122.2292); San Vicente



Creek (37.0093, -122.1940); Scott Creek (37.0404, -122.2307); Waddell Creek (37.0935, -122.2762); Wilder Creek (36.9535, -122.0775) upstream to endpoint(s) in: Baldwin Creek (37.0126, -122.1006); Bettencourt Creek (37.1081, -122.2386); Big Creek (37.0832, -122.2175); Davenport Landing Creek (37.0475, -122.1920); East Branch Waddell Creek (37.1482, -122.2531); East Fork Liddell Creek (37.0204, -122.1521); Henry Creek (37.1695, -122.2751); Laguna Creek (37.0185, -122.1287); Little Creek (37.0688, -122.2097); Majors Creek (36.9815, -122.1374); Middle Fork East Fork Liddell Creek (37.0194, -122.1608); Mill Creek (37.1034, -122.2218); Mill Creek (37.0235, -122.2218); Molino Creek (37.0384, -122.2125); Peasley Gulch (36.9824, -122.0861); Queseria Creek (37.0521, -122.2042); San Vicente Creek (37.0417, -122.1741); Scott Creek (37.1338, -122.2306); West Branch Waddell Creek (37.1697, -122.2642); West Fork Liddell Creek (37.0117, -122.1763); Unnamed Tributary (37.0103, -122.0701); Wilder Creek (37.0107, -122.0770).

(ii) *San Lorenzo Hydrologic Sub-area 330412*. Outlet(s) = Arana Gulch Creek

(Lat 36.9676, Long -122.0028); San Lorenzo River (36.9641, -122.0125) upstream to endpoint(s) in: Arana Gulch Creek (37.0270, -121.9739); Bean Creek (37.0956, -122.0022); Bear Creek (37.1711, -122.0750); Boulder Creek (37.1952, -122.1892); Bracken Brae Creek (37.1441, -122.1459); Branciforte Creek (37.0701, -121.9749); Crystal Creek (37.0333, -121.9825); Carbonera Creek (37.0286, -122.0202); Central Branch Arana Gulch Creek (37.0170, -121.9874); Deer Creek (37.2215, -122.0799); Fall Creek (37.0705, -122.1063); Gold Gulch Creek (37.0427, -122.1018); Granite Creek (37.0490, -121.9979); Hare Creek (37.1544, -122.1690); Jameson Creek (37.1485, -122.1904); Kings Creek (37.2262, -122.1059); Lompico Creek (37.1250, -122.0496); Mackenzie Creek (37.0866, -122.0176); Mountain Charlie Creek (37.1385, -121.9914); Newell Creek (37.1019, -122.0724); San Lorenzo River (37.2276, -122.1384); Two Bar Creek (37.1833, -122.0929); Unnamed Tributary (37.2106, -122.0952); Unnamed Tributary (37.2032, -122.0699); Zayante Creek (37.1062, -122.0224).

(iii) *Aptos-Soquel Hydrologic Sub-area 330413*. Outlet(s) = Aptos Creek (Lat 36.9692, Long -121.9065); Soquel Creek (36.9720, -121.9526) upstream to endpoint(s) in: Amaya Creek (37.0930, -121.9297); Aptos Creek (37.0545, -121.8568); Bates Creek (37.0099, -121.9353); Bridge Creek (37.0464, -121.8969); East Branch Soquel Creek (37.0690, -121.8297); Hester Creek (37.0967, -121.9458); Hinckley Creek (37.0671, -121.9069); Moores Gulch (37.0573, -121.9579); Valencia Creek (37.0323, -121.8493); West Branch Soquel Creek (37.1095, -121.9606).

(iv) *Ano Nuevo Hydrologic Sub-area 330420*. Outlet(s) = Ano Nuevo Creek (Lat 37.1163, Long -122.3060); Gazos Creek (37.1646, -122.3625); Whitehouse Creek (37.1457, -122.3469) upstream to endpoint(s) in: Ano Nuevo Creek (37.1269, -122.3039); Bear Gulch (37.1965, -122.2773); Gazos Creek (37.2088, -122.2868); Old Womans Creek (37.1829, -122.3033); Whitehouse Creek (37.1775, -122.2900).

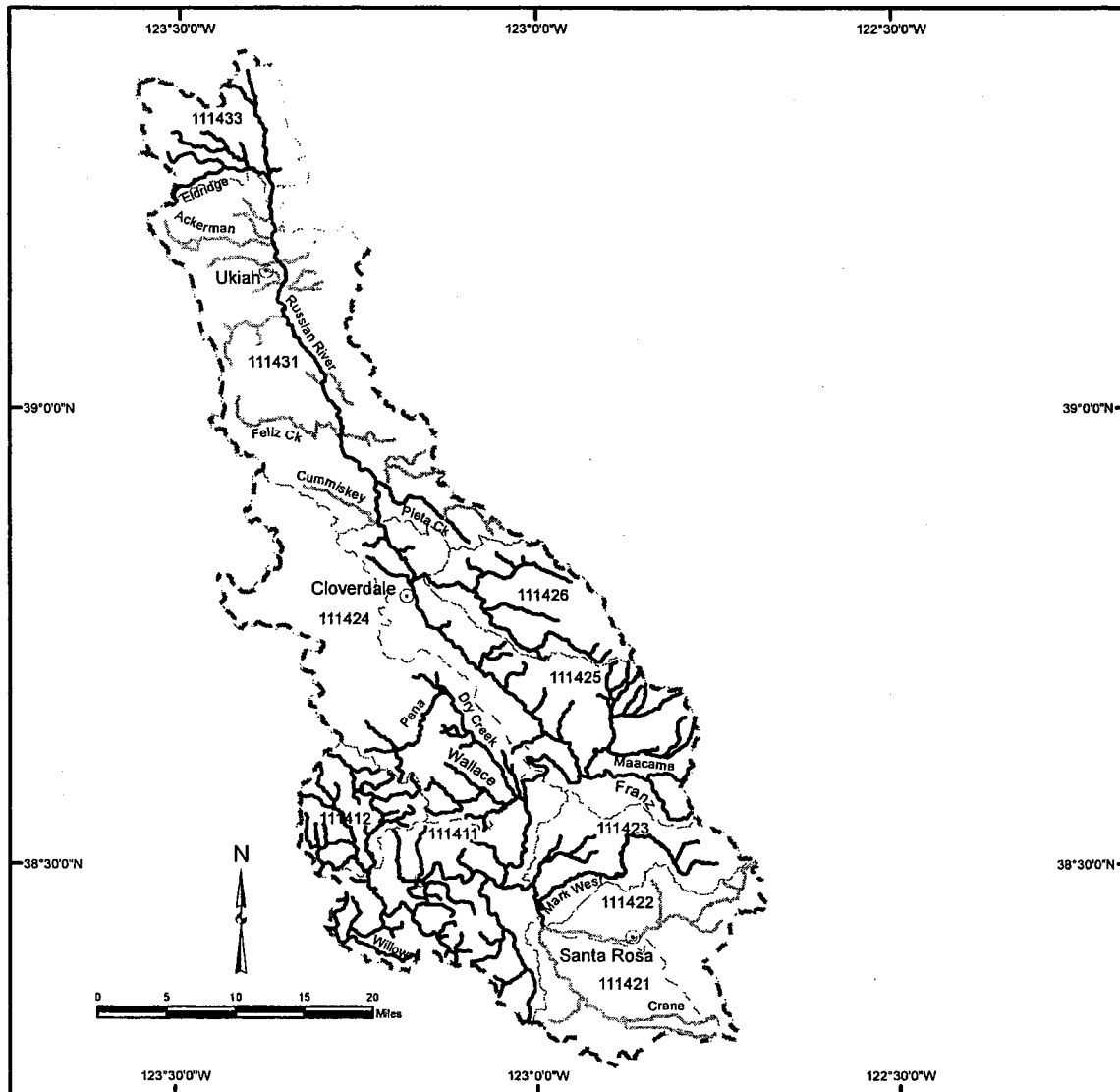
(9) Maps of critical habitat for the Central California Coast Steelhead ESU follow:

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000301

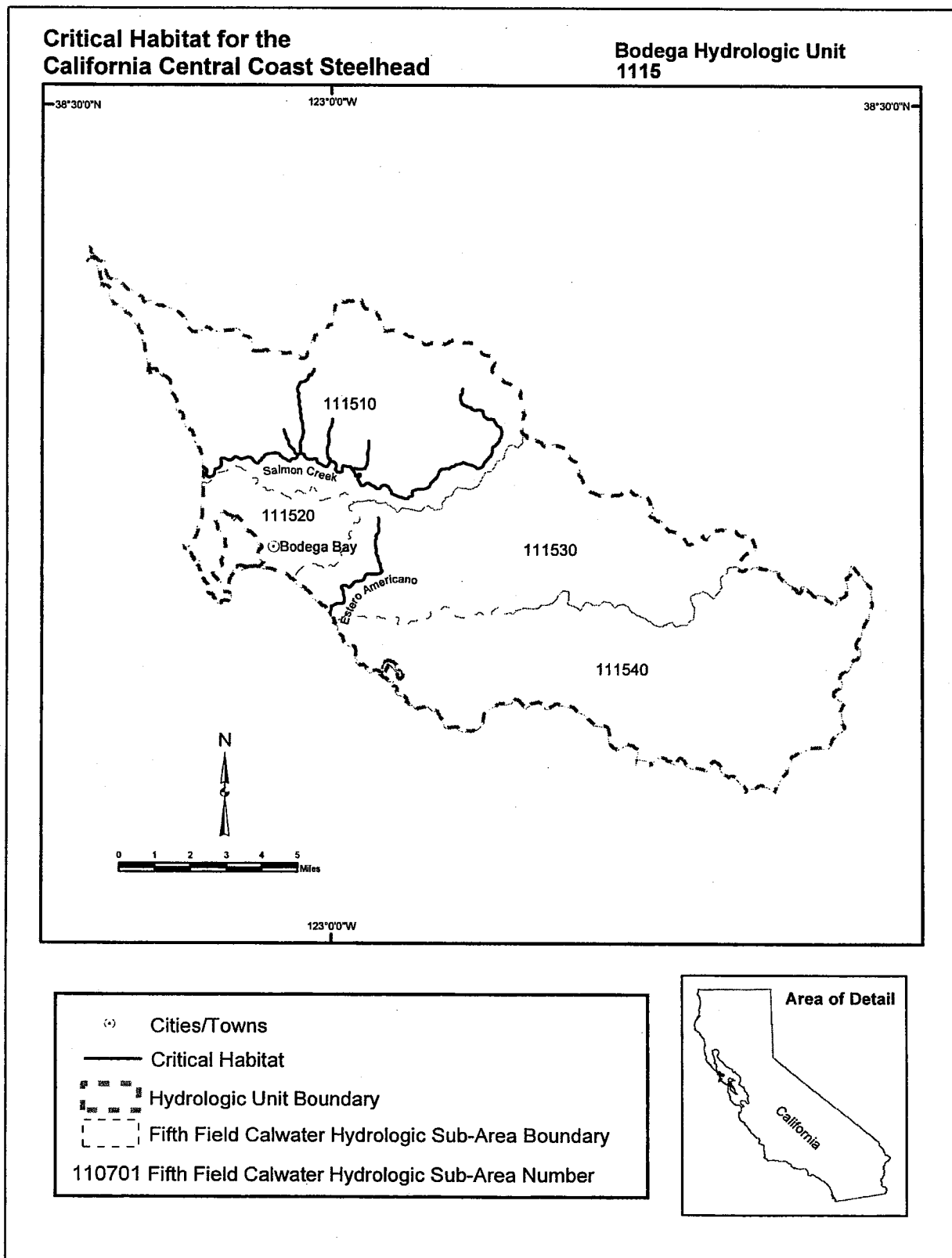
**Critical Habitat for the California Central Coast Steelhead**

**Russian River Hydrologic Unit 1114**



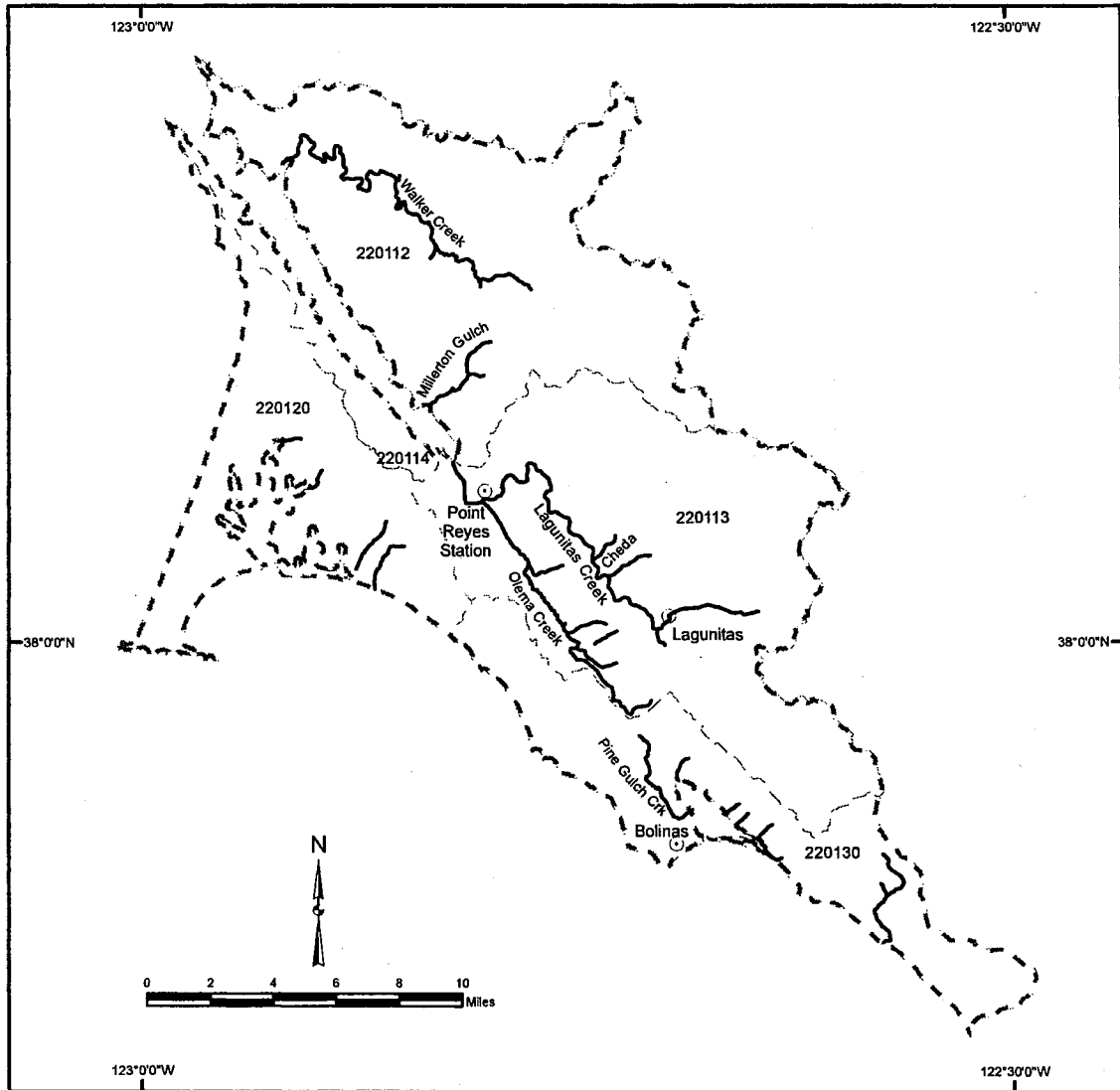
- ⊙ Cities/Towns
- Critical Habitat
- Occupied but excluded streams / areas
- ▭ Hydrologic Unit Boundary
- ▭ Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number





**Critical Habitat for the California Central Coast Steelhead**

**Marin Coastal Hydrologic Unit 2201**



(C) Cities/Towns

— Critical Habitat

Hydrologic Unit Boundary

— Fifth Field Calwater Hydrologic Sub-Area Boundary

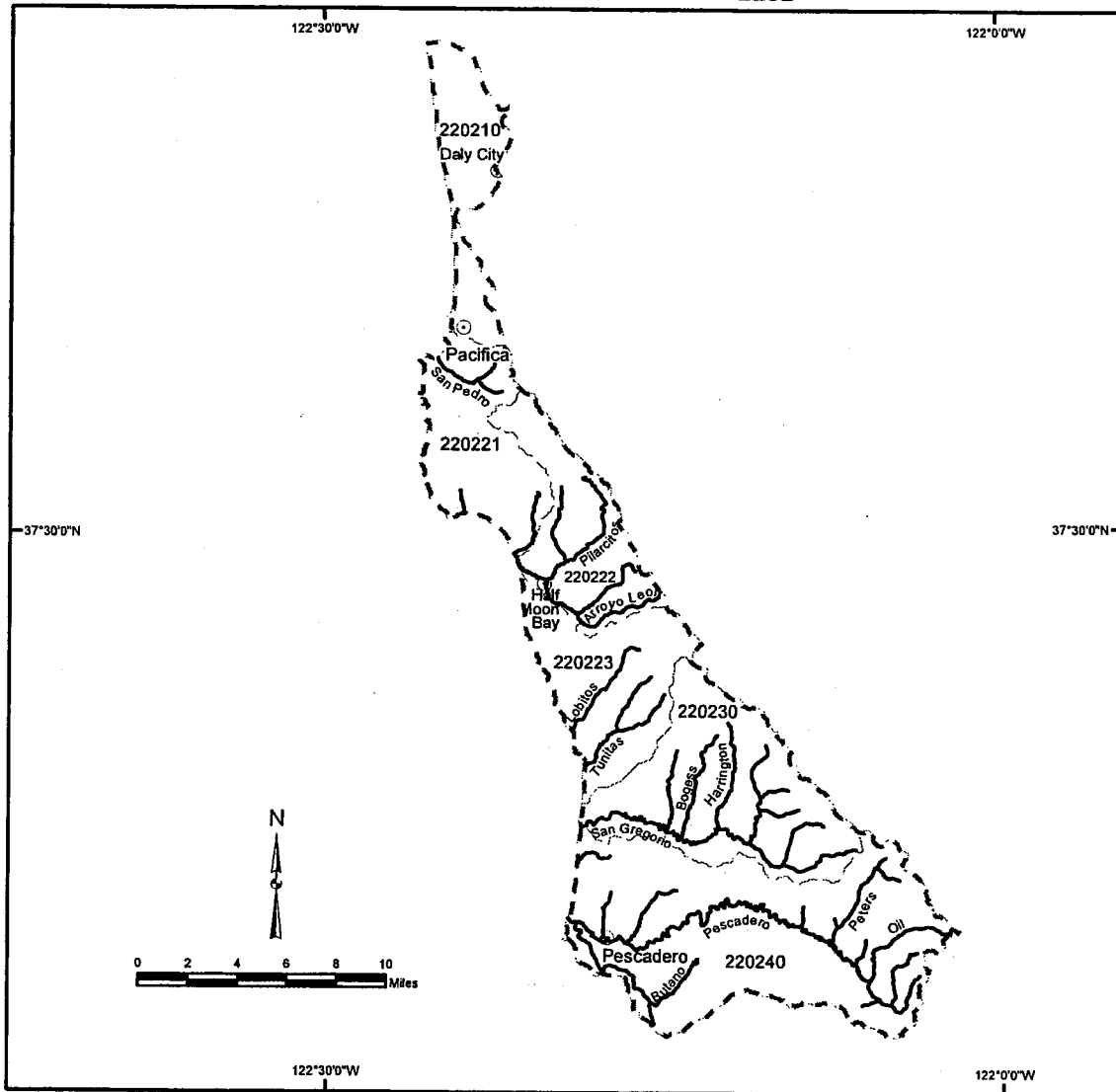
110701 Fifth Field Calwater Hydrologic Sub-Area Number



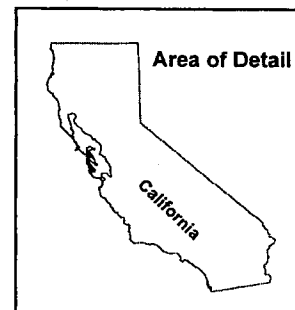


### Critical Habitat for the California Central Coast Steelhead

### San Mateo Hydrologic Unit 2202

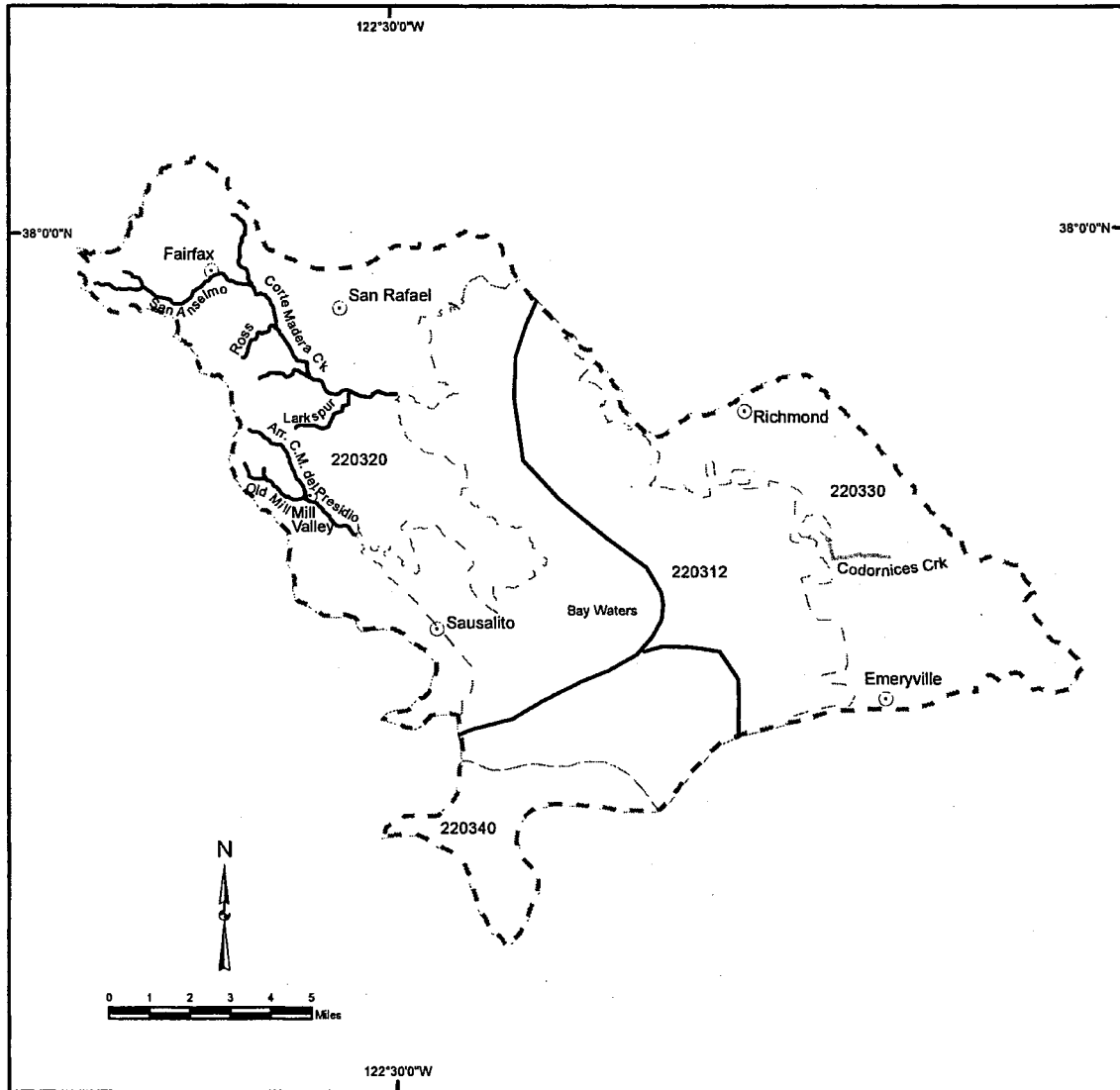


	Cities/Towns
	Critical Habitat
	Hydrologic Unit Boundary
	Fifth Field Calwater Hydrologic Sub-Area Boundary
110701 Fifth Field Calwater Hydrologic Sub-Area Number	



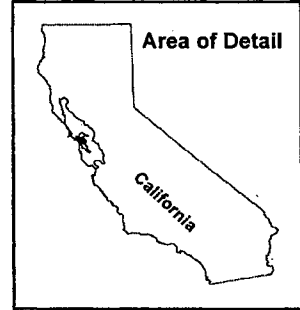
**Critical Habitat for the California Central Coast Steelhead**

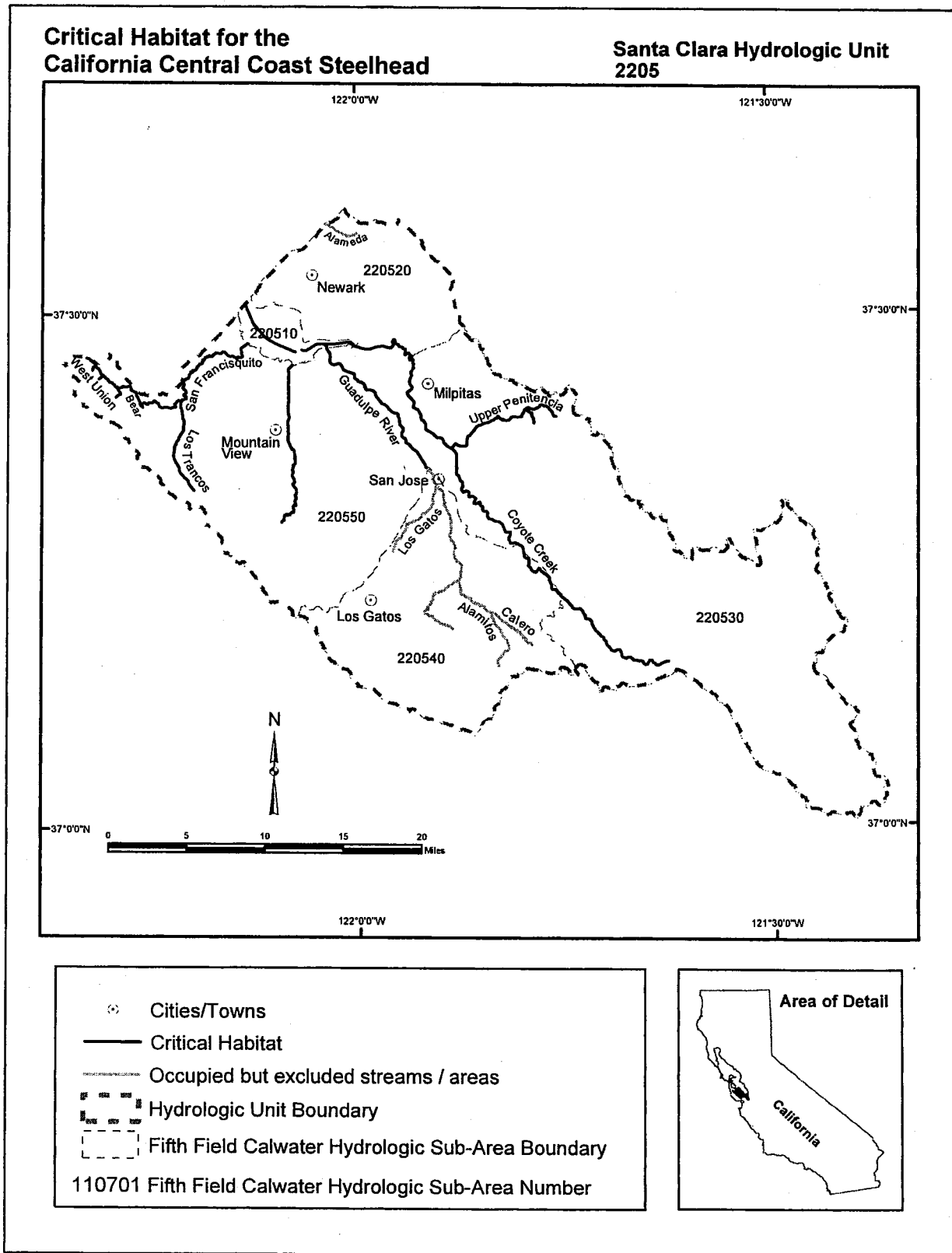
**Bay Bridges Hydrologic Unit 2203**

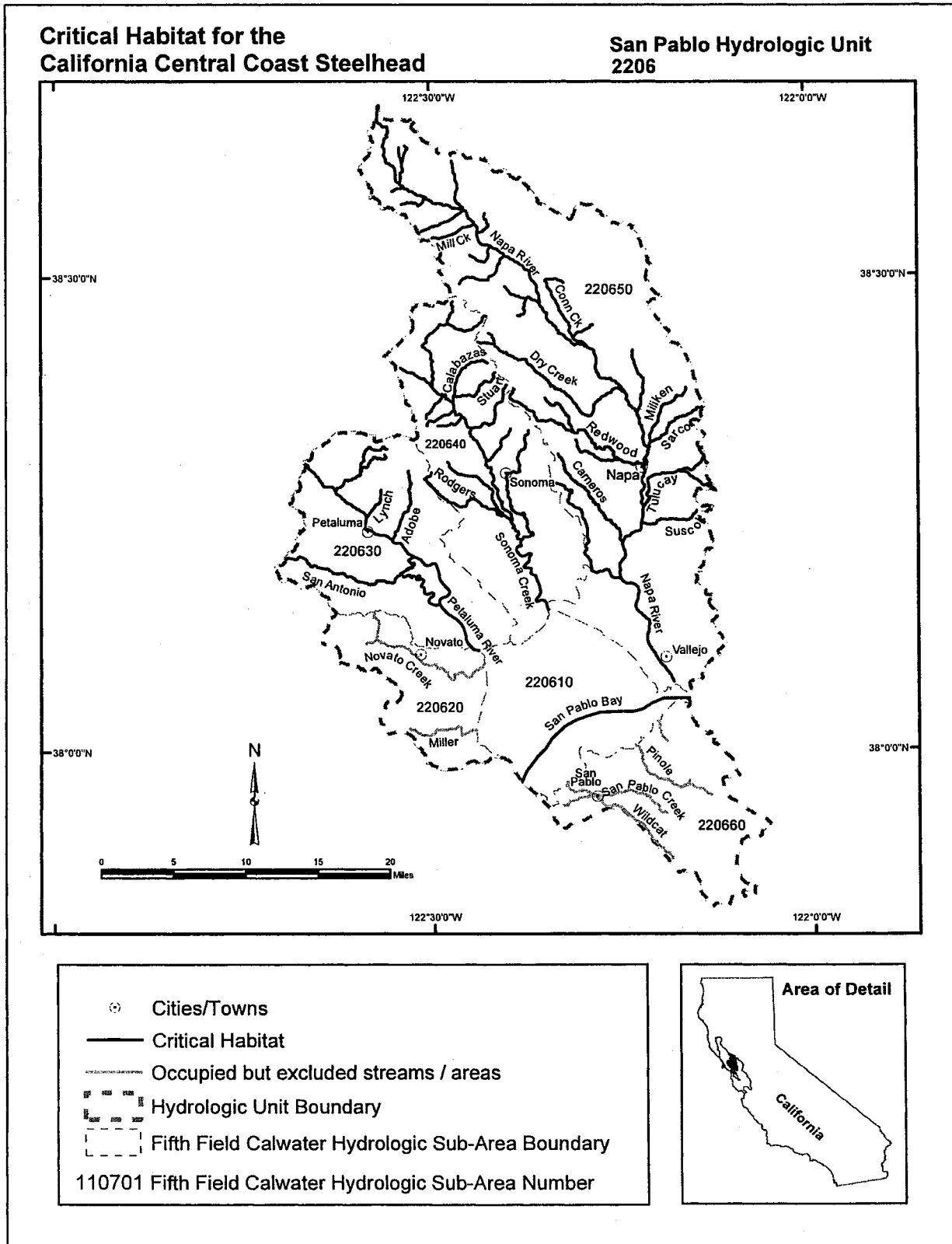


- Cities/Towns
- Critical Habitat
- Occupied but excluded streams / areas
- Hydrologic Unit Boundary
- Fifth Field Calwater Hydrologic Sub-Area Boundary

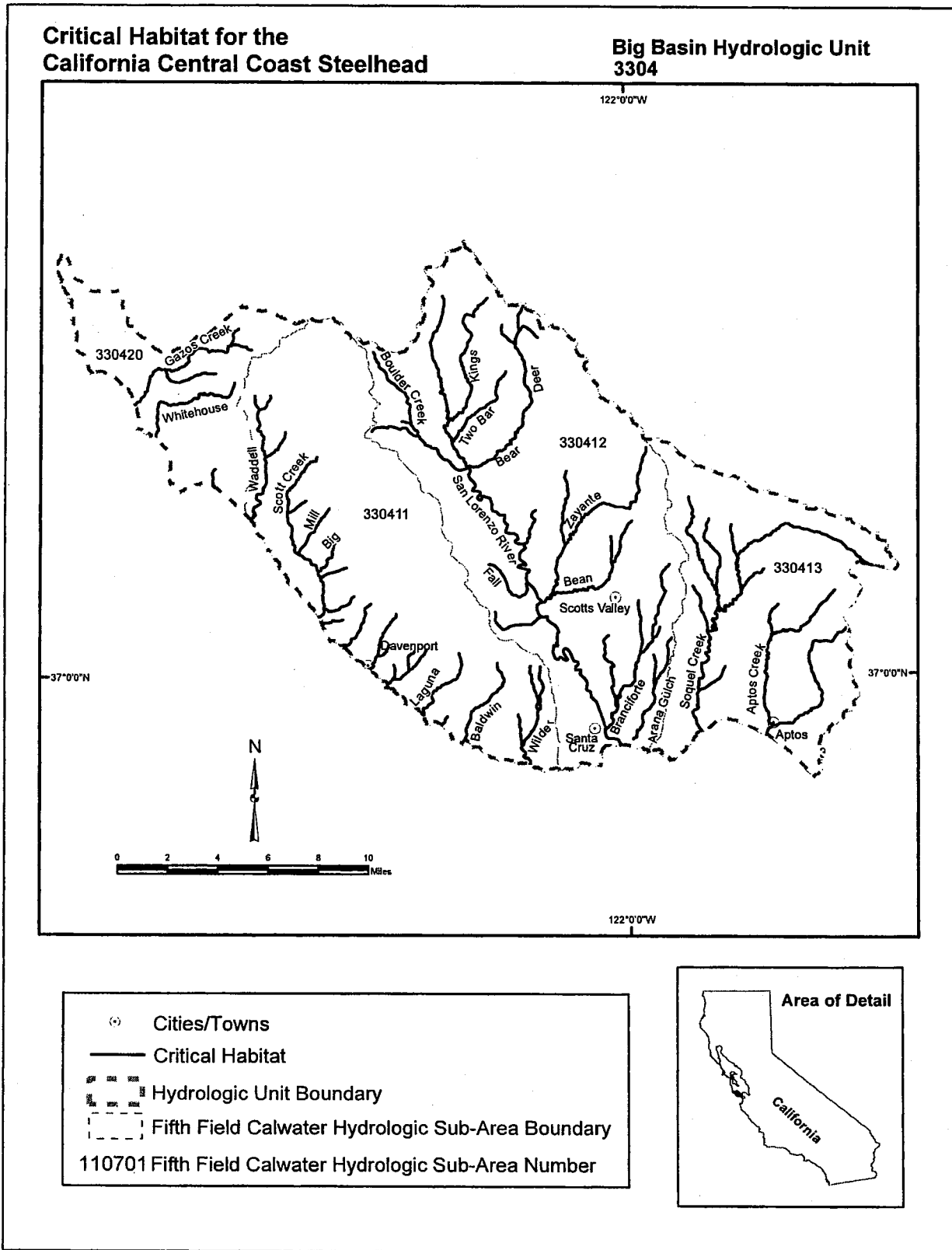
110701 Fifth Field Calwater Hydrologic Sub-Area Number











(i) *South-Central California Coast Steelhead (O. mykiss)*. Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Pajaro River Hydrologic Unit 3305—(i) *Watsonville Hydrologic Sub-area 330510*. Outlet(s) = Pajaro River (Lat 36.8506, Long -121.8101) upstream to endpoint(s) in: Banks Canyon Creek (36.9958, -121.7264); Browns Creek (37.0255, -121.7754); Casserly Creek (36.9902, -121.7359); Corralitos Creek (37.0666, -121.8359); Gaffey Creek (36.9905, -121.7132); Gamecock Canyon (37.0362, -121.7587); Green Valley Creek (37.0073, -121.7256); Ramsey Gulch (37.0447, -121.7755); Redwood Canyon (37.0342, -121.7975); Salsipuedes Creek (36.9350, -121.7426); Shingle Mill Gulch (37.0446, -121.7971).

(ii) *Santa Cruz Mountains Hydrologic Sub-area 330520*. Outlet(s) = Pajaro River (Lat 36.9010, Long -121.5861); Bodfish Creek (37.0041, -121.6667); Pescadero Creek (36.9125, -121.5882); Tar Creek (36.9304, -121.5520); Uvas Creek (37.0146, -121.6314) upstream to endpoint(s) in: Blackhawk Canyon (37.0168, -121.6912); Bodfish Creek (36.9985, -121.6859); Little Arthur Creek (37.0299, -121.6874); Pescadero Creek (36.9826, -121.6274); Tar Creek (36.9558, -121.6009); Uvas Creek (37.0660, -121.6912).

(iii) *South Santa Clara Valley Hydrologic Sub-area 330530*. Outlet(s) = San Benito River (Lat 36.8961, Long -121.5625); Pajaro River (36.9222, -121.5388) upstream to endpoint(s) in: Arroyo Dos Picachos (36.8866, -121.3184); Bodfish Creek (37.0080, -121.6652); Bodfish Creek (37.0041, -121.6667); Carnadero Creek (36.9603, -121.5328); Llagas Creek (37.1159, -121.6938); Miller Canal (36.9698, -121.4814); Pacheco Creek (37.0055, -121.3598); San Felipe Lake (36.9835, -121.4604); Tar Creek (36.9304, -121.5520); Tequisquita Slough (36.9170, -121.3887); Uvas Creek (37.0146, -121.6314).

(iv) *Pacheco-Santa Ana Creek Hydrologic Sub-area 330540*. Outlet(s) = Arroyo Dos Picachos (Lat 36.8866, Long -121.3184); Pacheco Creek (37.0055, -121.3598) upstream to endpoint(s) in: Arroyo Dos Picachos (36.8912, -121.2305); Cedar Creek (37.0922, -121.3641); North Fork Pacheco Creek (37.0514, -121.2911); Pacheco Creek (37.0445, -121.2662); South Fork Pacheco Creek (37.0227, -121.2603).

(v) *San Benito River Hydrologic Sub-area 330550*. Outlet(s) = San Benito River (Lat 36.7838, Long -121.3731) upstream to endpoint(s) in: Bird Creek (36.7604, -121.4506); Pescadero Creek

(36.7202, -121.4187); San Benito River (36.3324, -120.6316); Sawmill Creek (36.3593, -120.6284).

(2) Carmel River Hydrologic Unit 3307—(i) *Carmel River Hydrologic Sub-area 330700*. Outlet(s) = Carmel River (Lat 36.5362, Long -121.9285) upstream to endpoint(s) in: Aqua Mojo Creek (36.4711, -121.5407); Big Creek (36.3935, -121.5419); Blue Creek (36.2796, -121.6530); Boronda Creek (36.3542, -121.6091); Bruce Fork (36.3221, -121.6385); Cachagua Creek (36.3909, -121.5950); Carmel River (36.2837, -121.6203); Danish Creek (36.3730, -121.7590); Hitchcock Canyon Creek (36.4470, -121.7597); James Creek (36.3235, -121.5804); Las Garzas Creek (36.4607, -121.7944); Millers Fork (36.2961, -121.5697); Pinch Creek (36.3236, -121.5574); Pine Creek (36.3827, -121.7727); Potrero Creek (36.4801, -121.8258); Rana Creek (36.4877, -121.5840); Rattlesnake Creek (36.3442, -121.7080); Robertson Canyon Creek (36.4776, -121.8048); Robertson Creek (36.3658, -121.5165); San Clemente Creek (36.4227, -121.8115); Tularcitos Creek (36.4369, -121.5163); Ventana Mesa Creek (36.2977, -121.7116).

(ii) [Reserved]

(3) Santa Lucia Hydrologic Unit 3308—(i) *Santa Lucia Hydrologic Sub-area 330800*. Outlet(s) = Alder Creek (Lat 35.8578, Long -121.4165); Big Creek (36.0696, -121.6005); Big Sur River (36.2815, -121.8593); Bixby Creek (36.3713, -121.9029); Garrapata Creek (36.4176, -121.9157); Limekiln Creek (36.0084, -121.5196); Little Sur River (36.3350, -121.8934); Malpas Creek (36.4814, -121.9384); Mill Creek (35.9825, -121.4917); Partington Creek (36.1753, -121.6973); Plaskett Creek (35.9195, -121.4717); Prewitt Creek (35.9353, -121.4760); Rocky Creek (36.3798, -121.9028); Salmon Creek (35.3558, -121.3634); San Jose Creek (36.5259, -121.9253); Vicente Creek (36.0442, -121.5855); Villa Creek (35.8495, -121.4087); Willow Creek (35.8935, -121.4619) upstream to endpoint(s) in: Alder Creek (35.8685, -121.3974); Big Creek (36.0830, -121.5884); Big Sur River (36.2490, -121.7269); Bixby Creek (36.3715, -121.8440); Devil's Canyon Creek (36.0773, -121.5695); Garrapata Creek (36.4042, -121.8594); Joshua Creek (36.4182, -121.9000); Limekiln Creek (36.0154, -121.5146); Little Sur River (36.3312, -121.7557); Malpas Creek (36.4681, -121.8800); Mill Creek (35.9907, -121.4632); North Fork Big Sur River (36.2178, -121.5948); Partington Creek (36.1929, -121.6825); Plaskett Creek (35.9228, -121.4493); Prewitt Creek (35.9419, -121.4598);

Redwood Creek (36.2825, -121.6745); Rocky Creek (36.3805, -121.8440); San Jose Creek (36.4662, -121.8118); South Fork Little Sur River (36.3026, -121.8093); Vicente Creek (36.0463, -121.5780); Villa Creek (35.8525, -121.3973); Wildcat Canyon Creek (36.4124, -121.8680); Williams Canyon Creek (36.4466, -121.8526); Willow Creek (35.9050, -121.3851).

(ii) [Reserved]

(4) Salinas River Hydrologic Unit 3309—(i) *Neponset Hydrologic Sub-area 330911*. Outlet(s) = Salinas River (Lat 36.7498, Long -121.8055); upstream to endpoint(s) in: Gabilan Creek (36.6923, -121.6300); Old Salinas River (36.7728, -121.7884); Tembladero Slough (36.6865, -121.6409).

(ii) *Chualar Hydrologic Sub-area 330920*. Outlet(s) = Gabilan Creek (Lat 36.6923, Long -121.6300) upstream.

(iii) *Soledad Hydrologic Sub-area 330930*. Outlet(s) = Salinas River (Lat 36.4878, Long -121.4688) upstream to endpoint(s) in: Arroyo Seco River (36.2644, -121.3812); Reliz Creek (36.2438, -121.2881).

(iv) *Upper Salinas Valley Hydrologic Sub-area 330940*. Outlet(s) = Salinas River (Lat 36.3183, Long -121.1837) upstream.

(v) *Arroyo Seco Hydrologic Sub-area 330960*. Outlet(s) = Arroyo Seco River (Lat 36.2644, Long -121.3812); Reliz Creek (36.2438, -121.2881); Vasqueros Creek (36.2648, -121.3368) upstream to endpoint(s) in: Arroyo Seco River (36.2041, -121.5002); Calaboose Creek (36.2942, -121.5082); Church Creek (36.2762, -121.5877); Horse Creek (36.2046, -121.3931); Paloma Creek (36.3195, -121.4894); Piney Creek (36.3023, -121.5629); Reliz Creek (36.1935, -121.2777); Rocky Creek (36.2676, -121.5225); Santa Lucia Creek (36.1999, -121.4785); Tassajara Creek (36.2679, -121.6149); Vaqueros Creek (36.2479, -121.3369); Willow Creek (36.2059, -121.5642).

(vi) *Gabilan Range Hydrologic Sub-area 330970*. Outlet(s) = Gabilan Creek (Lat 36.7800, -121.5836) upstream to endpoint(s) in: Gabilan Creek (36.7335, -121.4939).

(vii) *Paso Robles Hydrologic Sub-area 330981*. Outlet(s) = Salinas River (Lat 35.9241, Long -120.8650) upstream to endpoint(s) in: Atascadero Creek (35.4468, -120.7010); Graves Creek (35.4838, -120.7631); Jack Creek (35.5815, -120.8560); Nacimiento River (35.7610, -120.8853); Paso Robles Creek (35.5636, -120.8455); Salinas River (35.3886, -120.5582); San Antonio River (35.7991, -120.8849); San Marcos Creek (35.6734, -120.8140); Santa Margarita Creek (35.3923, -120.6619); Santa Rita Creek

(35.5262, -120.8396); Sheepcamp Creek (35.6145, -120.7795); Summit Creek (35.6441, -120.8046); Tassajera Creek (35.3895, -120.6926); Trout Creek (35.3394, -120.5881); Willow Creek (35.6107, -120.7720).

(5) Estero Bay Hydrologic Unit 3310—  
(i) *San Carpofo Hydrologic Sub-area 331011*. Outlet(s) = San Carpofo Creek (Lat 35.7646, Long -121.3247) upstream to endpoint(s) in: Dutra Creek (35.8197, -121.3273); Estrada Creek (35.7710, -121.2661); San Carpofo Creek (35.8202, -121.2745); Unnamed Tributary (35.7503, -121.2703); Wagner Creek (35.8166, -121.2387).

(ii) *Arroyo De La Cruz Hydrologic Sub-area 331012*. Outlet(s) = Arroyo De La Cruz (Lat 35.7097, Long -121.3080) upstream to endpoint(s) in: Arroyo De La Cruz (35.6986, -121.1722); Burnett Creek (35.7520, -121.1920); Green Canyon Creek (35.7375, -121.2314); Marmolejo Creek (35.6774, -121.1082); Spanish Cabin Creek (35.7234, -121.1497); Unnamed Tributary (35.7291, -121.1977); West Fork Burnett Creek (35.7516, -121.2075).

(iii) *San Simeon Hydrologic Sub-area 331013*. Outlet(s) = Arroyo del Corral (Lat 35.6838, Long -121.2875); Arroyo del Puerto (35.6432, -121.1889); Little Pico Creek (35.6336, -121.1639); Oak Knoll Creek (35.6512, -121.2197); Pico Creek (35.6155, -121.1495); San Simeon Creek (35.5950, -121.1272) upstream to endpoint(s) in: Arroyo Laguna (35.6895, -121.2337); Arroyo del Corral (35.6885, -121.2537); Arroyo del Puerto (35.6773, -121.1713); Little Pico Creek (35.6890, -121.1375); Oak Knoll Creek (35.6718, -121.2010); North Fork Pico Creek (35.6886, -121.0861); San Simeon Creek (35.6228, -121.0561); South Fork Pico Creek (35.6640, -121.0685); Steiner Creek (35.6032, -121.0640); Unnamed Tributary (35.6482, -121.1067); Unnamed Tributary (35.6616, -121.0639); Unnamed Tributary (35.6741, -121.0981); Unnamed Tributary (35.6777, -121.1503); Unnamed Tributary (35.6604, -121.1571); Unnamed Tributary (35.6579, -121.1356); Unnamed Tributary (35.6744, -121.1187); Unnamed Tributary (35.6460, -121.1373); Unnamed Tributary (35.6839, -121.0955); Unnamed Tributary (35.6431, -121.0795); Unnamed Tributary (35.6820,

-121.2130); Unnamed Tributary (35.6977, -121.2613); Unnamed Tributary (35.6702, -121.1884); Unnamed Tributary (35.6817, -121.0885); Van Gordon Creek (35.6286, -121.0942).

(iv) *Santa Rosa Hydrologic Sub-area 331014*. Outlet(s) = Santa Rosa Creek (Lat 35.5685, Long -121.1113) upstream to endpoint(s) in: Green Valley Creek (35.5511, -120.9471); Perry Creek (35.5323-121.0491); Santa Rosa Creek (35.5525, -120.9278); Unnamed Tributary (35.5965, -120.9413); Unnamed Tributary (35.5684, -120.9211); Unnamed Tributary (35.5746, -120.9746).

(v) *Villa Hydrologic Sub-area 331015*. Outlet(s) = Villa Creek (Lat 35.4601, Long -120.9704) upstream to endpoint(s) in: Unnamed Tributary (35.4798, -120.9630); Unnamed Tributary (35.5080, -121.0171); Unnamed Tributary (35.5348, -120.8878); Unnamed Tributary (35.5510, -120.9406); Unnamed Tributary (35.5151, -120.9497); Unnamed Tributary (35.4917, -120.9584); Unnamed Tributary (35.5173, -120.9516); Villa Creek (35.5352, -120.8942).

(vi) *Cayucos Hydrologic Sub-area 331016*. Outlet(s) = Cayucos Creek (Lat 35.4491, Long -120.9079) upstream to endpoint(s) in: Cayucos Creek (35.5257, -120.9271); Unnamed Tributary (35.5157, -120.9005); Unnamed Tributary (35.4943, -120.9513); Unnamed Tributary (35.4887, -120.8968).

(vii) *Old Hydrologic Sub-area 331017*. Outlet(s) = Old Creek (Lat 35.4345, Long -120.8868) upstream to endpoint(s) in: Old Creek (35.4480, -120.8871)

(viii) *Toro Hydrologic Sub-area 331018*. Outlet(s) = Toro Creek (Lat 35.4126, Long -120.8739) upstream to endpoint(s) in: Toro Creek (35.4945, -120.7934); Unnamed Tributary (35.4917, -120.7983).

(ix) *Morro Hydrologic Sub-area 331021*. Outlet(s) = Morro Creek (Lat 35.3762, Long -120.8642) upstream to endpoint(s) in: East Fork Morro Creek (35.4218, -120.7282); Little Morro Creek (35.4155, -120.7532); Morro Creek (35.4291, -120.7515); Unnamed Tributary (35.4292, -120.8122); Unnamed Tributary (35.4458, -120.7906); Unnamed Tributary

(35.4122, -120.8335); Unnamed Tributary (35.4420, -120.7796).

(x) *Chorro Hydrologic Sub-area 331022*. Outlet(s) = Chorro Creek (Lat 35.3413, Long -120.8388) upstream to endpoint(s) in: Chorro Creek (35.3340, -120.6897); Dairy Creek (35.3699, -120.6911); Pennington Creek (35.3655, -120.7144); San Bernardo Creek (35.3935, -120.7638); San Luisito (35.3755, -120.7100); Unnamed Tributary (35.3821, -120.7217); Unnamed Tributary (35.3815, -120.7350).

(xi) *Los Osos Hydrologic Sub-area 331023*. Outlet(s) = Los Osos Creek (Lat 35.3379, Long -120.8273) upstream to endpoint(s) in: Los Osos Creek (35.2718, -120.7627).

(xii) *San Luis Obispo Creek Hydrologic Sub-area 331024*. Outlet(s) = San Luis Obispo Creek (Lat 35.1822, Long -120.7303) upstream to endpoint(s) in: Brizzolari Creek (35.3236, -120.6411); Froom Creek (35.2525, -120.7144); Prefumo Creek (35.2615, -120.7081); San Luis Obispo Creek (35.3393, -120.6301); See Canyon Creek (35.2306, -120.7675); Stenner Creek (35.3447, -120.6584); Unnamed Tributary (35.2443, -120.7655).

(xiii) *Point San Luis Hydrologic Sub-area 331025*. Outlet(s) = Coon Creek (Lat 35.2590, Long -120.8951); Islay Creek (35.2753, -120.8884) upstream to endpoint(s) in: Coon Creek (35.2493, -120.7774); Islay Creek (35.2574, -120.7810); Unnamed Tributary (35.2753, -120.8146); Unnamed Tributary (35.2809, -120.8147); Unnamed Tributary (35.2648, -120.7936).

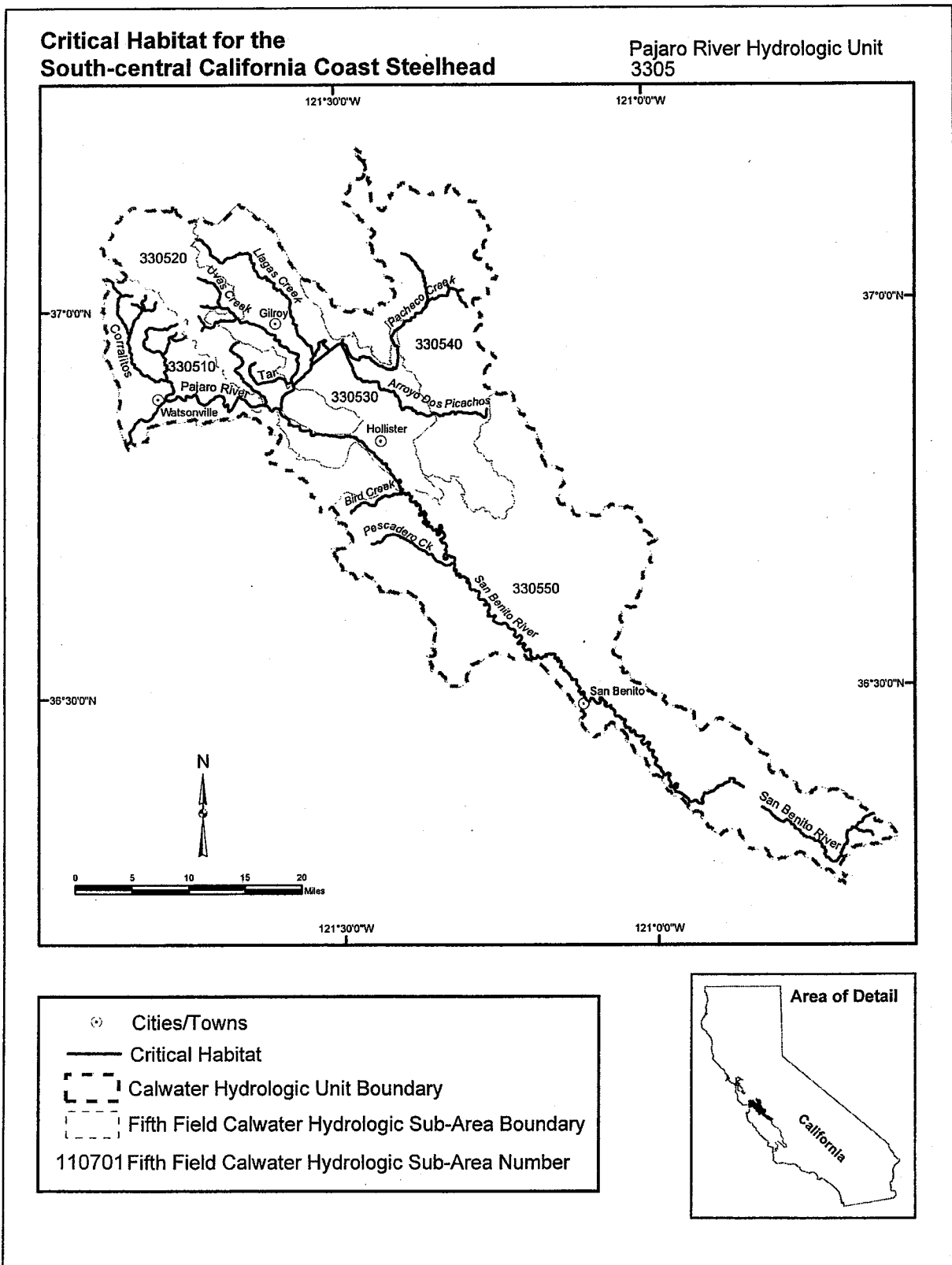
(xiv) *Pismo Hydrologic Sub-area 331026*. Outlet(s) = Pismo Creek (Lat 35.1336, Long -120.6408) upstream to endpoint(s) in: East Corral de Piedra Creek (35.2343, -120.5571); Pismo Creek (35.1969, -120.6107); Unnamed Tributary (35.2462, -120.5856).

(xv) *Oceano Hydrologic Sub-area 331031*. Outlet(s) = Arroyo Grande Creek (Lat 35.1011, Long -120.6308) upstream to endpoint(s) in: Arroyo Grande Creek (35.1868, -120.4881); Los Berros Creek (35.0791, -120.4423).

(6) Maps of critical habitat for the South-Central Coast Steelhead ESU follow:

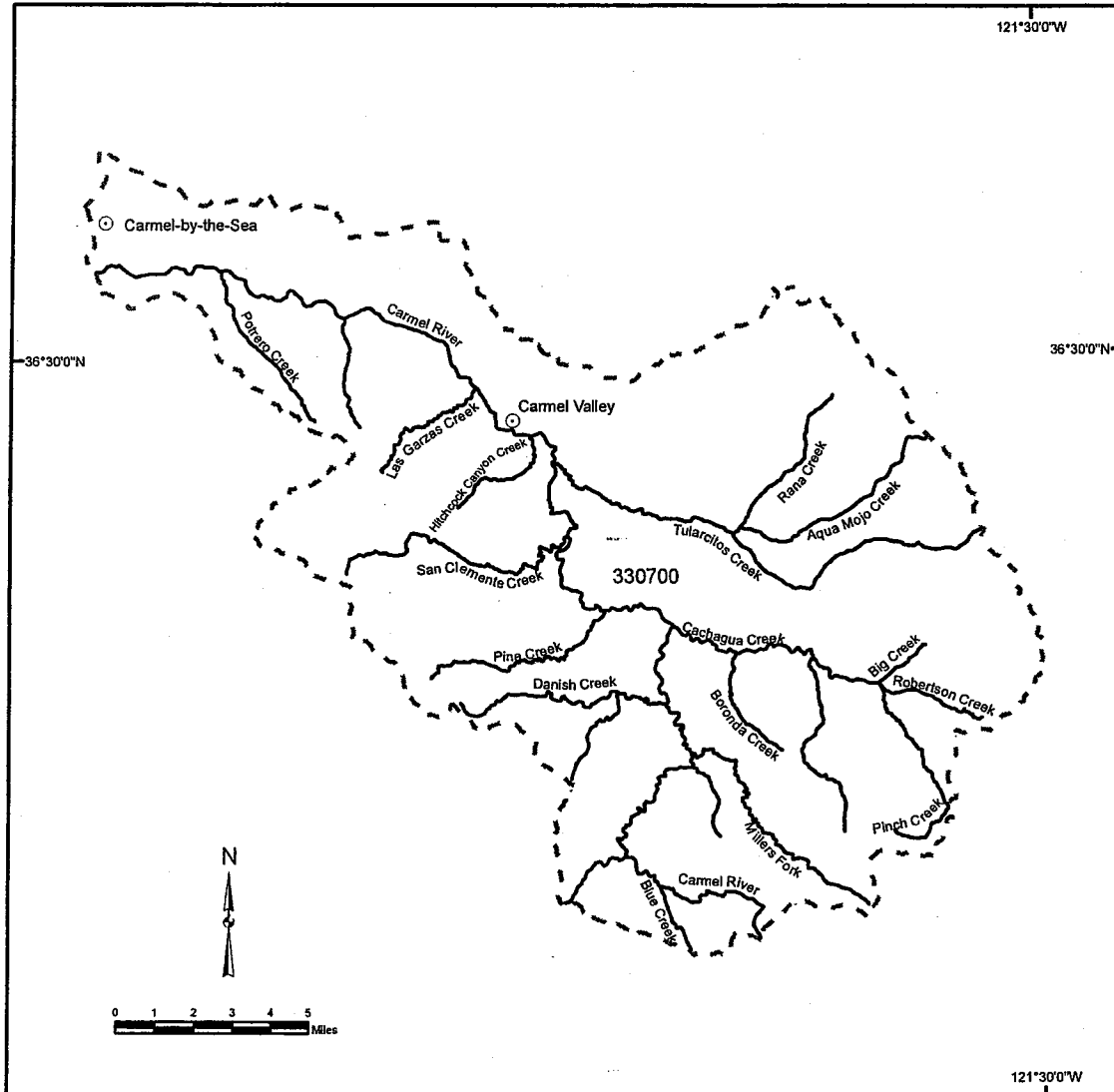
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### Critical Habitat for the South-central California Coast Steelhead

Carmel River Hydrologic Unit 3307



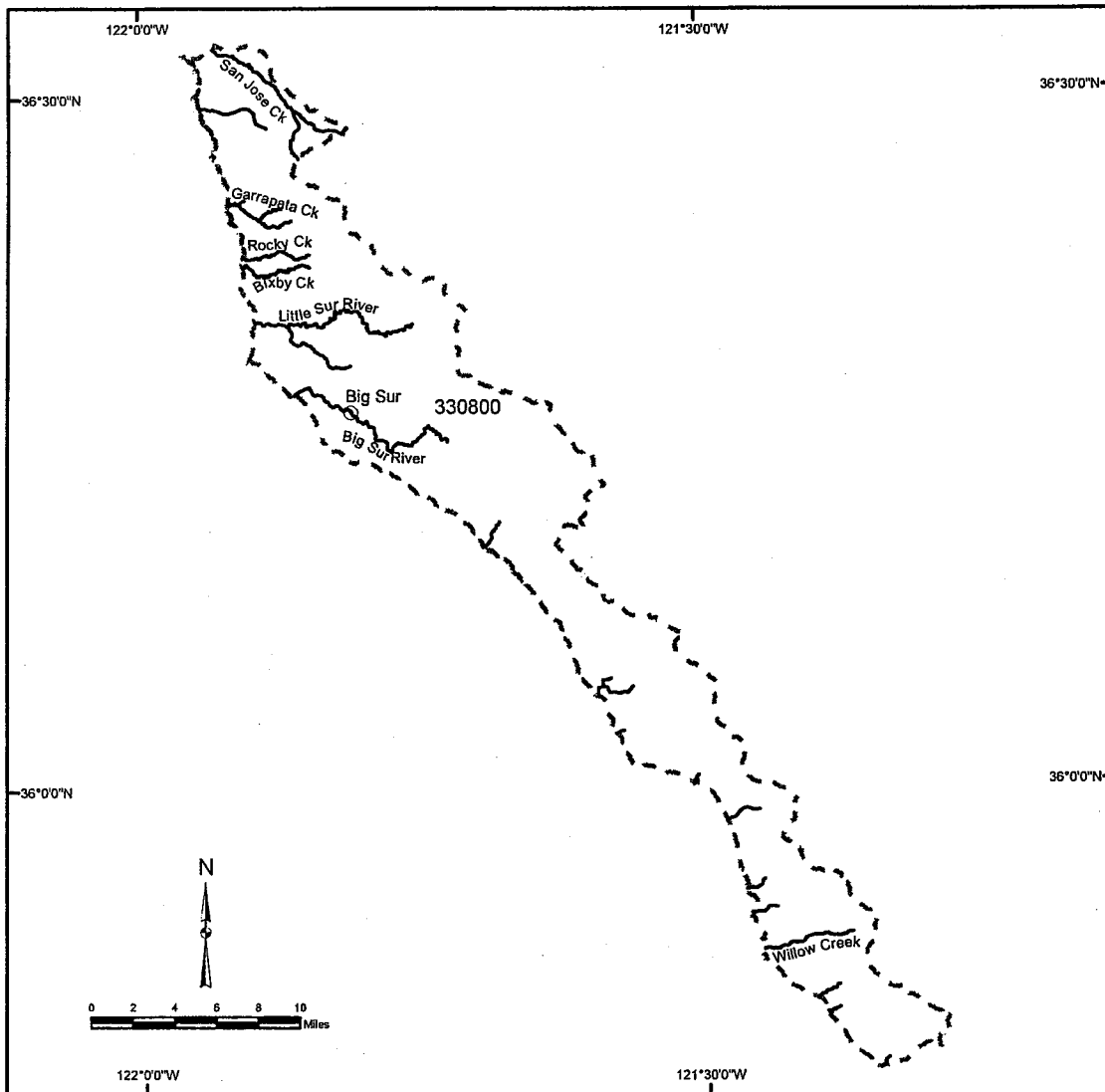
● Cities/Towns  
— Critical Habitat  
- - - Calwater Hydrologic Unit Boundary  
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary  
110701 Fifth Field Calwater Hydrologic Sub-Area Number









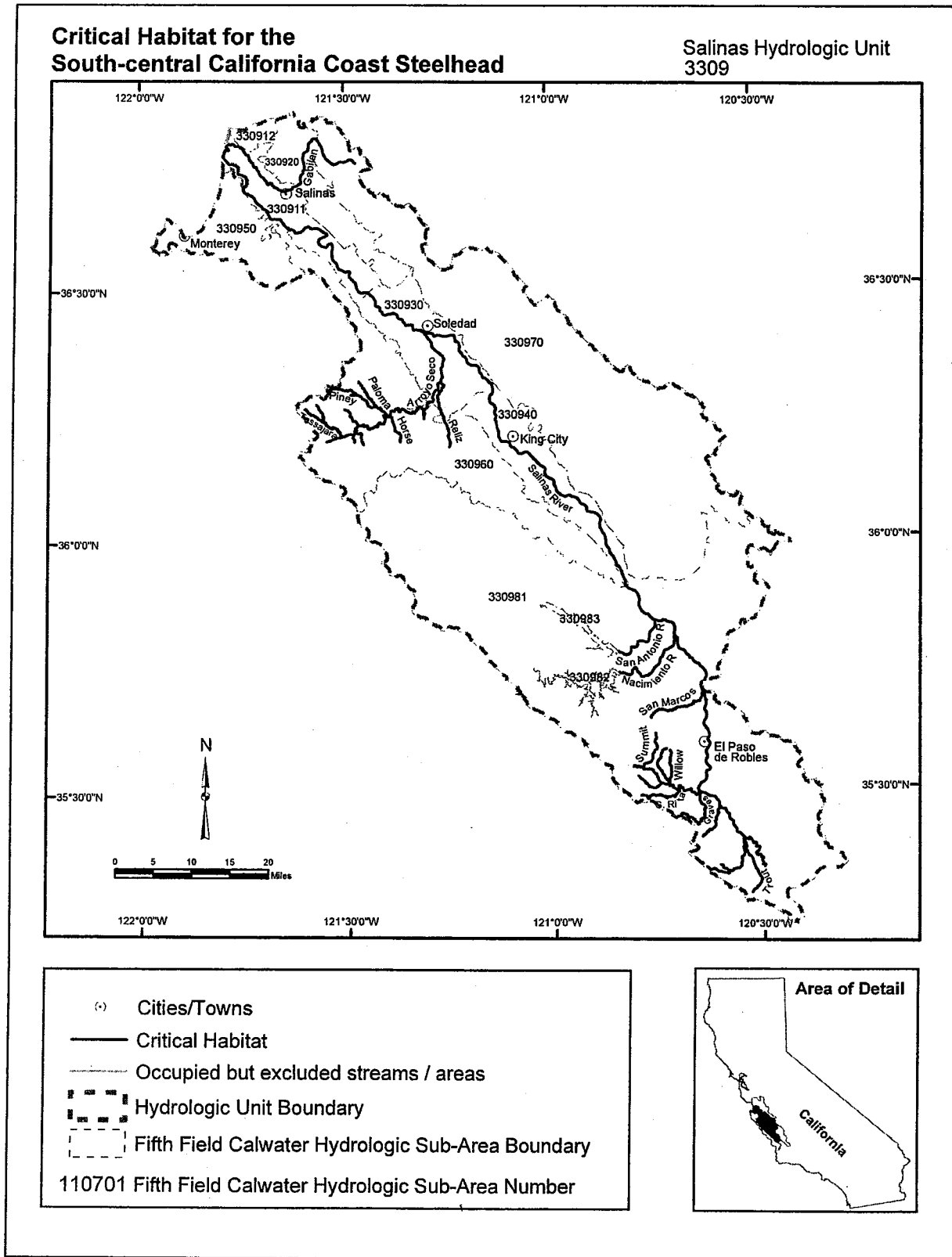
### Critical Habitat for the South-central California Coast Steelhead

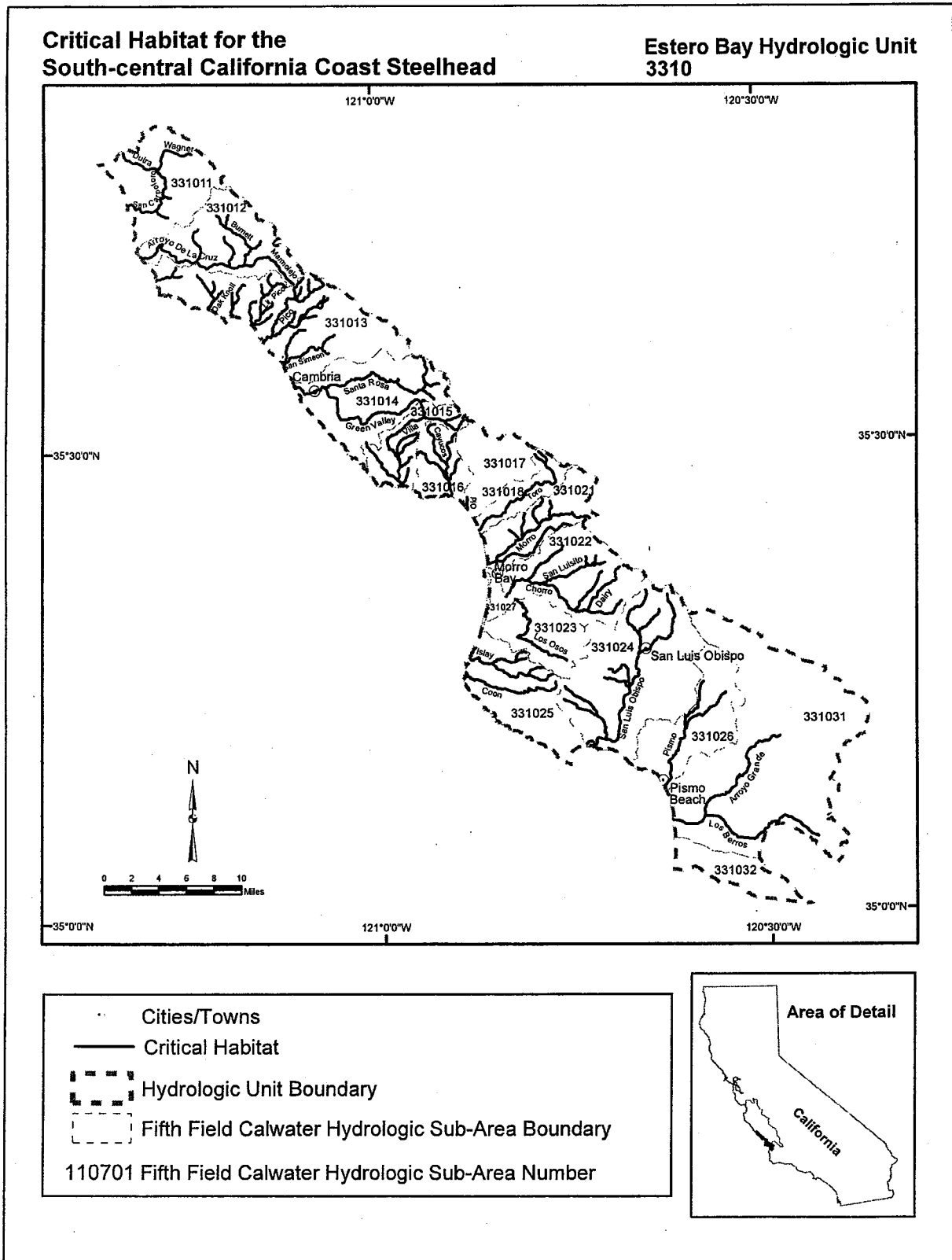
Santa Lucia Hydrologic Unit  
3308



-  Cities/Towns
  -  Critical Habitat
  -  Hydrologic Unit Boundary
  -  Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number







(j) *Southern California Steelhead (O. mykiss)*. Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Santa Maria River Hydrologic Unit 3312—(i) *Santa Maria Hydrologic Sub-area 331210*. Outlet(s) = Santa Maria River (Lat 34.9710, Long -120.6504) upstream to endpoint(s) in: Cuyama River (34.9058, -120.3026); Santa Maria River (34.9042, -120.3077); Sisquoc River (34.8941, -120.3063).

(ii) *Sisquoc Hydrologic Sub-area 331220*. Outlet(s) = Sisquoc River (Lat 34.8941, Long -120.3063) upstream to endpoint(s) in: Abel Canyon (34.8662, -119.8354); Davey Brown Creek (34.7541, -119.9650); Fish Creek (34.7531, -119.9100); Foresters Leap (34.8112, -119.7545); La Brea Creek (34.8804, -120.1316); Horse Creek (34.8372, -120.0171); Judell Creek (34.7613, -119.6496); Manzana Creek (34.7082, -119.8324); North Fork La Brea Creek (34.9681, -120.0112); Sisquoc River (34.7087, -119.6409); South Fork La Brea Creek (34.9543, -119.9793); South Fork Sisquoc River (34.7300, -119.7877); Unnamed Tributary (34.9342, -120.0589); Unnamed Tributary (34.9510, -120.0140); Unnamed Tributary (34.9687, -120.1419); Unnamed Tributary (34.9626, -120.1500); Unnamed Tributary (34.9672, -120.1194); Unnamed Tributary (34.9682, -120.0990); Unnamed Tributary (34.9973, -120.0662); Unnamed Tributary (34.9922, -120.0294); Unnamed Tributary (35.0158, -120.0337); Unnamed Tributary (34.9464, -120.0309); Unnamed Tributary (34.7544, -119.9476); Unnamed Tributary (34.7466, -119.9047); Unnamed Tributary (34.7646, -119.8673); Unnamed Tributary (34.8726, -119.9525); Unnamed Tributary (34.8884, -119.9325); Unnamed Tributary (34.8659, -119.8982); Unnamed Tributary (34.8677, -119.8513); Unnamed Tributary (34.8608, -119.8541); Unnamed Tributary (34.8784, -119.8458); Unnamed Tributary (34.8615, -119.8159); Unnamed Tributary (34.8694, -119.8229); Unnamed Tributary (34.7931, -119.8485); Unnamed Tributary (34.7846, -119.8337); Unnamed Tributary (34.7872, -119.7684); Unnamed Tributary (34.7866, -119.7552); Unnamed Tributary (34.8129, -119.7714); Unnamed Tributary (34.7760, -119.7448); Unnamed Tributary (34.7579, -119.7999); Unnamed Tributary (34.7510, -119.7921); Unnamed Tributary

(34.7769, -119.7149); Unnamed Tributary (34.7617, -119.6878); Unnamed Tributary (34.7680, -119.6503); Unnamed Tributary (34.7738, -119.6493); Unnamed Tributary (34.7332, -119.6286); Unnamed Tributary (34.7519, -119.6209); Unnamed Tributary (34.7188, -119.6673); Water Canyon (34.8754, -119.9324).

(2) Santa Ynez Hydrologic Unit 3314—(i) *Mouth of Santa Ynez Hydrologic Sub-area 331410*. Outlet(s) = Santa Ynez River (Lat 34.6930, Long -120.6033) upstream to endpoint(s) in: San Miguelito Creek (34.6309, -120.4631).

(ii) *Santa Ynez, Salsipuedes Hydrologic Sub-area 331420*. Outlet(s) = Santa Ynez River (Lat 34.6335, Long -120.4126) upstream to endpoint(s) in: El Callejon Creek (34.5475, -120.2701); El Jaro Creek (34.5327, -120.2861); Llanito Creek (34.5499, -120.2762); Salsipuedes Creek (34.5711, -120.4076).

(iii) *Santa Ynez, Zaca Hydrologic Sub-area 331430*. Outlet(s) = Santa Ynez River (Lat 34.6172, Long -120.2352) upstream.

(iv) *Santa Ynez to Bradbury Hydrologic Sub-area 331440*. Outlet(s) = Santa Ynez River (Lat 34.5847, Long -120.1445) upstream to endpoint(s) in: Alisal Creek (34.5465, -120.1358); Hilton Creek (34.5839, -119.9855); Quiota Creek (34.5370, -120.0321); San Lucas Creek (34.5558, -120.0119); Santa Ynez River (34.5829, -119.9805); Unnamed Tributary (34.5646, -120.0043).

(3) South Coast Hydrologic Unit 3315—(i) *Arroyo Hondo Hydrologic Sub-area 331510*. Outlet(s) = Alegria Creek (Lat 34.4688, Long -120.2720); Arroyo Hondo Creek (34.4735, -120.1415); Cojo Creek (34.4531, -120.4165); Dos Pueblos Creek (34.4407, -119.9646); El Capitan Creek (34.4577, -120.0225); Gato Creek (34.4497, -119.9885); Gaviota Creek (34.4706, -120.2267); Jalama Creek (34.5119, -120.5023); Refugio Creek (34.4627, -120.0696); Sacate Creek (34.4708, -120.2942); San Augustine Creek (34.4588, -120.3542); San Onofre Creek (34.4699, -120.1872); Santa Anita Creek (34.4669, -120.3066); Tecolote Creek (34.4306, -119.9173) upstream to endpoint(s) in: Alegria Creek (34.4713, -120.2714); Arroyo Hondo Creek (34.5112, -120.1704); Cojo Creek (34.4840, -120.4106); Dos Pueblos Creek (34.5230, -119.9249); El Capitan Creek (34.5238, -119.9806); Escondido Creek (34.5663, -120.4643); Gato Creek (34.5203, -119.9758); Gaviota Creek (34.5176, -120.2179); Jalama Creek (34.5031, -120.3615); La Olla (34.4836, -120.4071); Refugio Creek (34.5109,

-120.0508); Sacate Creek (34.4984, -120.2993); San Augustine Creek (34.4598, -120.3561); San Onofre Creek (34.4853, -120.1890); Santa Anita Creek (34.4742, -120.3085); Tecolote Creek (34.5133, -119.9058); Unnamed Tributary (34.5527, -120.4548); Unnamed Tributary (34.4972, -120.3026).

(ii) *UCSB Slough Hydrologic Sub-area 331531*. Outlet(s) = San Pedro Creek (Lat 34.4179, Long -119.8295); Tecolito Creek (34.4179, -119.8295) upstream to endpoint(s) in: Atascadero Creek (34.4345, -119.7755); Carneros Creek (34.4674, -119.8584); Cieneguitas Creek (34.4690, -119.7565); Glen Annie Creek (34.4985, -119.8666); Maria Ygnacio Creek (34.4900, -119.7830); San Antonio Creek (34.4553, -119.7826); San Pedro Creek (34.4774, -119.8359); San Jose Creek (34.4919, -119.8032); Tecolito Creek (34.4478, -119.8763); Unnamed Tributary (34.4774, -119.8846).

(iii) *Mission Hydrologic Sub-area 331532*. Outlet(s) = Arroyo Burro Creek (Lat 34.4023, Long -119.7430); Mission Creek (34.4124, -119.6876); Sycamore Creek (34.4166, -119.6668) upstream to endpoint(s) in: Arroyo Burro Creek (34.4620, -119.7461); Mission Creek (34.4482, -119.7089); Rattlesnake Creek (34.4633, -119.6902); San Roque Creek (34.4530, -119.7323); Sycamore Creek (34.4609, -119.6841).

(iv) *San Ysidro Hydrologic Sub-area 331533*. Outlet(s) = Montecito Creek (Lat 34.4167, Long -119.6344); Romero Creek (34.4186, -119.6208); San Ysidro Creek (34.4191, -119.6254); upstream to endpoint(s) in: Cold Springs Creek (34.4794, -119.6604); Montecito Creek (34.4594, -119.6542); Romero Creek (34.4452, -119.5924); San Ysidro Creek (34.4686, -119.6229); Unnamed Tributary (34.4753, -119.6437).

(v) *Carpinteria Hydrologic Sub-area 331534*. Outlet(s) = Arroyo Paredon (Lat 34.4146, Long -119.5561); Carpinteria Lagoon (Carpenteria Creek) (34.3904, -119.5204); Rincon Lagoon (Rincon Creek) (34.3733, -119.4769) upstream to endpoint(s) in: Arroyo Paredon (34.4371, -119.5481); Carpinteria Creek (34.4429, -119.4964); El Dorado Creek (34.4682, -119.4809); Gobernador Creek (34.4249, -119.4746); Rincon Lagoon (Rincon Creek) (34.3757, -119.4777); Steer Creek (34.4687, -119.4596); Unnamed Tributary (34.4481, -119.5112).

(4) Ventura River Hydrologic Unit 4402—(i) *Ventura Hydrologic Sub-area 440210*. Outlet(s) = Ventura Estuary (Ventura River) (Lat 34.2742, Long -119.3077) upstream to endpoint(s) in: Canada Larga (34.3675, -119.2377); Hammond Canyon (34.3903,

–119.2230); Sulphur Canyon (34.3727, –119.2362); Unnamed Tributary (34.3344, –119.2426); Unnamed Tributary (34.3901, –119.2747).

(ii) *Ventura Hydrologic Sub-area 440220*. Outlet(s) = Ventura River (Lat 34.3517, Long –119.3069) upstream to endpoint(s) in: Coyote Creek (34.3735, –119.3337); Matilija Creek (34.4846, –119.3086); North Fork Matilija Creek (34.5129, –119.2737); San Antonio Creek (34.4224, –119.2644); Ventura River (34.4852, –119.3001).

(iii) *Lions Hydrologic Sub-area 440231*. Outlet(s) = Lion Creek (Lat 34.4222, Long –119.2644) upstream to endpoint(s) in: Lion Creek (34.4331, –119.2004).

(iv) *Thatcher Hydrologic Sub-area 440232*. Outlet(s) = San Antonio Creek (Lat 34.4224, Long –119.2644) upstream to endpoint(s) in: San Antonio Creek (34.4370, –119.2417).

(5) Santa Clara Calleguas Hydrologic Unit 4403—(i) *Mouth of Santa Clara Hydrologic Sub-area 440310*. Outlet(s) = Santa Clara River (Lat 34.2348, Long –119.2568) upstream.

(ii) *Santa Clara, Santa Paula Hydrologic Sub-area 440321*. Outlet(s) = Santa Clara River (Lat 34.2731, Long –119.1474) upstream to endpoint(s) in: Santa Paula Creek (34.4500, –119.0563).

(iii) *Sisar Hydrologic Sub-area 440322*. Outlet(s) = Sisar Creek (Lat 34.4271, Long –119.0908) upstream to endpoint(s) in: Sisar Creek (34.4615, –119.1312).

(iv) *Sespe, Santa Clara Hydrologic Sub-area 440331*. Outlet(s) = Santa Clara River (Lat 34.3513, Long –119.0397) upstream to endpoint(s) in: Sespe Creek (34.4509, –118.9258).

(v) *Sespe Hydrologic Sub-area 440332*. Outlet(s) = Sespe Creek (Lat

34.4509, Long –118.9258) upstream to endpoint(s) in: Abadi Creek (34.6099, –119.4223); Alder Creek (34.5691, –118.9528); Bear Creek (34.5314, –119.1041); Chorro Grande Creek (34.6285, –119.3245); Fourfork Creek (34.4735, –118.8893); Howard Creek (34.5459, –119.2154); Lady Bug Creek (34.5724, –119.3173); Lion Creek (34.5047, –119.1101); Little Sespe Creek (34.4598, –118.8938); Munson Creek (34.6152, –119.2963); Park Creek (34.5537, –119.0028); Piedra Blanca Creek (34.6109, –119.1838); Pine Canyon Creek (34.4488, –118.9661); Portrero John Creek (34.6010, –119.2695); Red Reef Creek (34.5344, –119.0441); Rose Valley Creek (34.5195, –119.1756); Sespe Creek (34.6295, –119.4412); Timber Creek (34.5184, –119.0698); Trout Creek (34.5869, –119.1360); Tule Creek (34.5614, –119.2986); Unnamed Tributary (34.5125, –118.9311); Unnamed Tributary (34.5537, –119.0088); Unnamed Tributary (34.5537, –119.0048); Unnamed Tributary (34.5757, –119.3051); Unnamed Tributary (34.5988, –119.2736); Unnamed Tributary (34.5691, –119.3428); West Fork Sespe Creek (34.5106, –119.0502).

(vi) *Santa Clara, Hopper Canyon, Piru Hydrologic Sub-area 440341*. Outlet(s) = Santa Clara River (Lat 34.3860, Long –118.8711) upstream to endpoint(s) in: Hopper Creek (34.4263, –118.8309); Piru Creek (34.4613, –118.7537); Santa Clara River (34.3996, –118.7837).

(6) Santa Monica Bay Hydrologic Unit 4404—(i) *Topanga Hydrologic Sub-area 440411*. Outlet(s) = Topanga Creek (Lat 34.0397, Long –118.5831) upstream to

endpoint(s) in: Topanga Creek (34.0838, –118.5980).

(ii) *Malibu Hydrologic Sub-area 440421*. Outlet(s) = Malibu Creek (Lat 34.0322, Long –118.6796) upstream to endpoint(s) in: Malibu Creek (34.0648, –118.6987).

(iii) *Arroyo Sequit Hydrologic Sub-area 440444*. Outlet(s) = Arroyo Sequit (Lat 34.0445, Long –118.9338) upstream to endpoint(s) in: Arroyo Sequit (34.0839, –118.9186); West Fork Arroyo Sequit (34.0909, –118.9235).

(7) Calleguas Hydrologic Unit 4408—(i) *Calleguas Estuary Hydrologic Sub-area 440813*. Outlet(s) = Mugu Lagoon (Calleguas Creek) (Lat 34.1093, Long –119.0917) upstream to endpoint(s) in: Mugu Lagoon (Calleguas Creek) (Lat 34.1125, Long –119.0816).

(ii) [Reserved]

(8) San Juan Hydrologic Unit 4901—(i) *Middle Trabuco Hydrologic Sub-area 490123*. Outlet(s) = Trabuco Creek (Lat 33.5165, Long –117.6727) upstream to endpoint(s) in: Trabuco Creek (33.5264, –117.6700).

(ii) *Lower San Juan Hydrologic Sub-area 490127*. Outlet(s) = San Juan Creek (Lat 33.4621, Long –117.6842) upstream to endpoint(s) in: San Juan Creek (33.4929, –117.6610); Trabuco Creek (33.5165, –117.6727).

(iii) *San Mateo Hydrologic Sub-area 490140*. Outlet(s) = San Mateo Creek (Lat 33.3851, Long –117.5933) upstream to endpoint(s) in: San Mateo Creek (33.4779, –117.4386); San Mateo Canyon (33.4957, –117.4522).

(9) Maps of critical habitat for the Southern California Steelhead ESU follow:

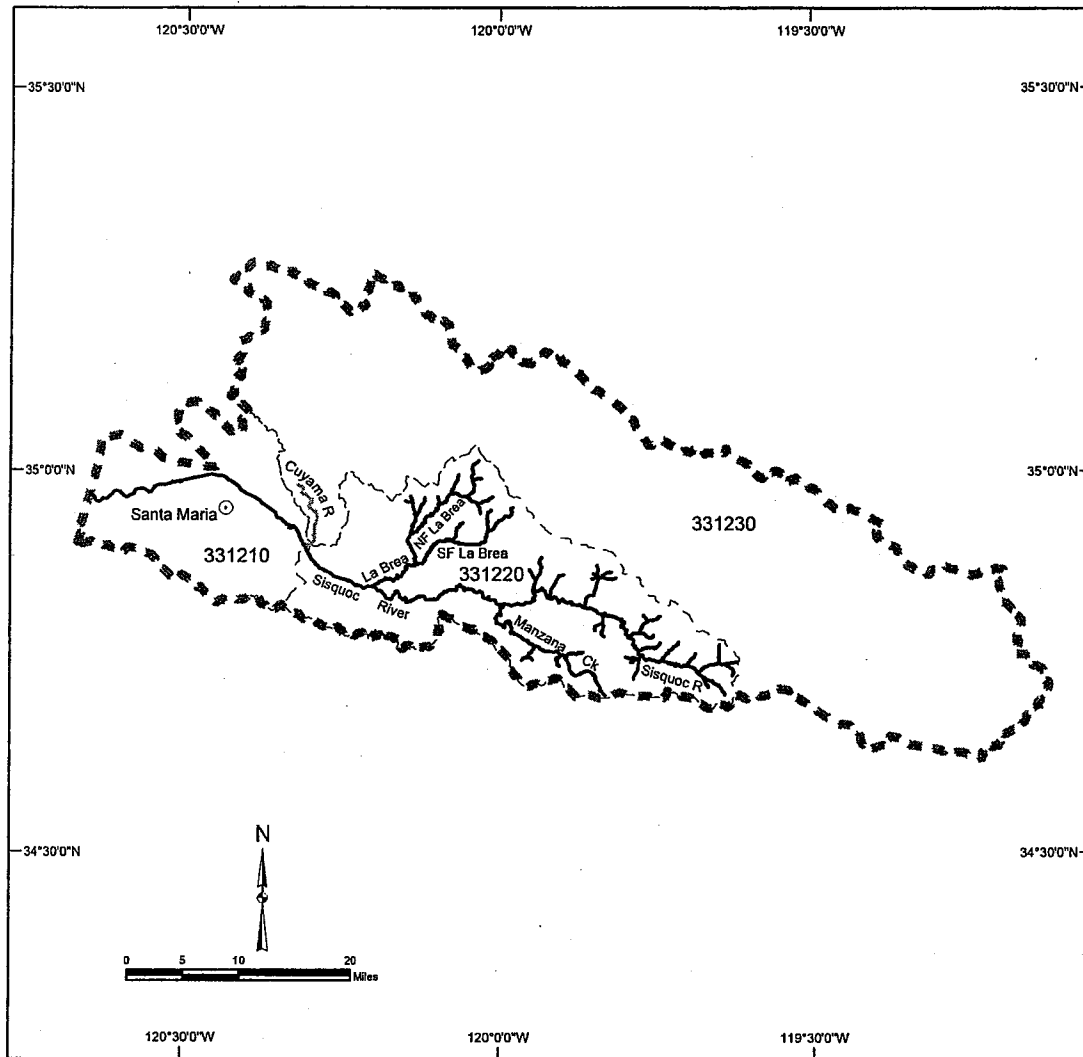
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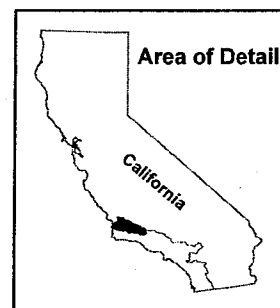


**Critical Habitat for the  
Southern California Steelhead**

**Santa Maria River Hydrologic Unit  
3312**

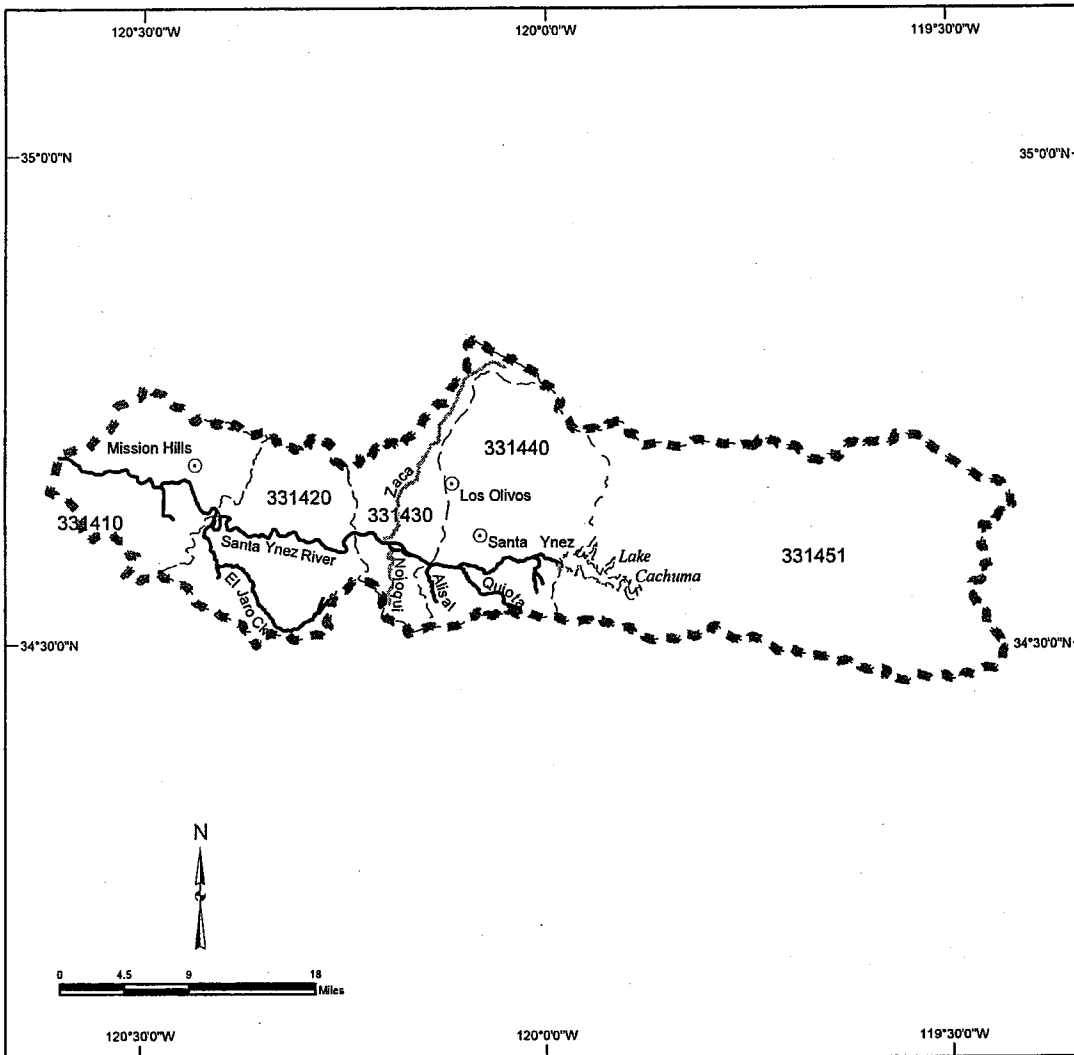


- ⊙ Cities/Towns
  - Critical Habitat
  - - - Occupied but excluded streams / areas
  - ⋯ Calwater Hydrologic Unit Boundary
  - ⋯ Fifth Field Calwater Hydrologic Sub-Area Boundary
- 331210 Fifth Field Calwater Hydrologic Sub-Area Number

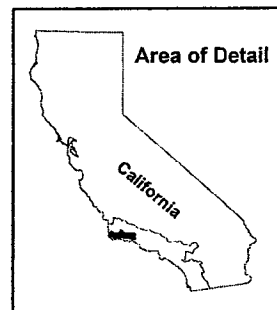


**Critical Habitat for the  
Southern California Steelhead**

**Santa Ynez Hydrologic Unit  
3314**

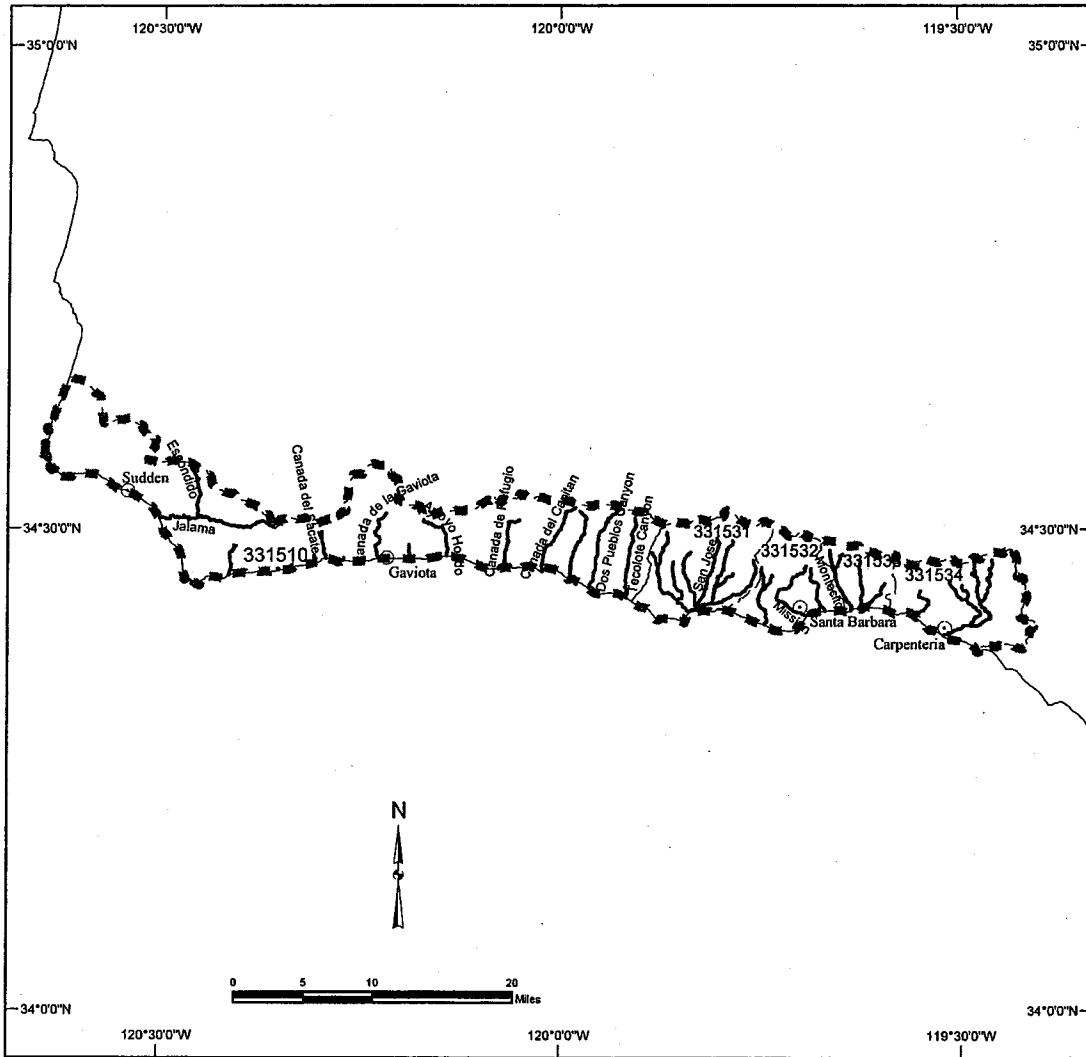


- Cities/Towns
- Critical Habitat
- Occupied but excluded streams / areas
- ⋯ Calwater Hydrologic Unit Boundary
- ⋯ Fifth Field Calwater Hydrologic Sub-Area Boundary
- 331210 Fifth Field Calwater Hydrologic Sub-Area Number



**Critical Habitat for the Southern California Steelhead**

**South Coast Hydrologic Unit 3315**

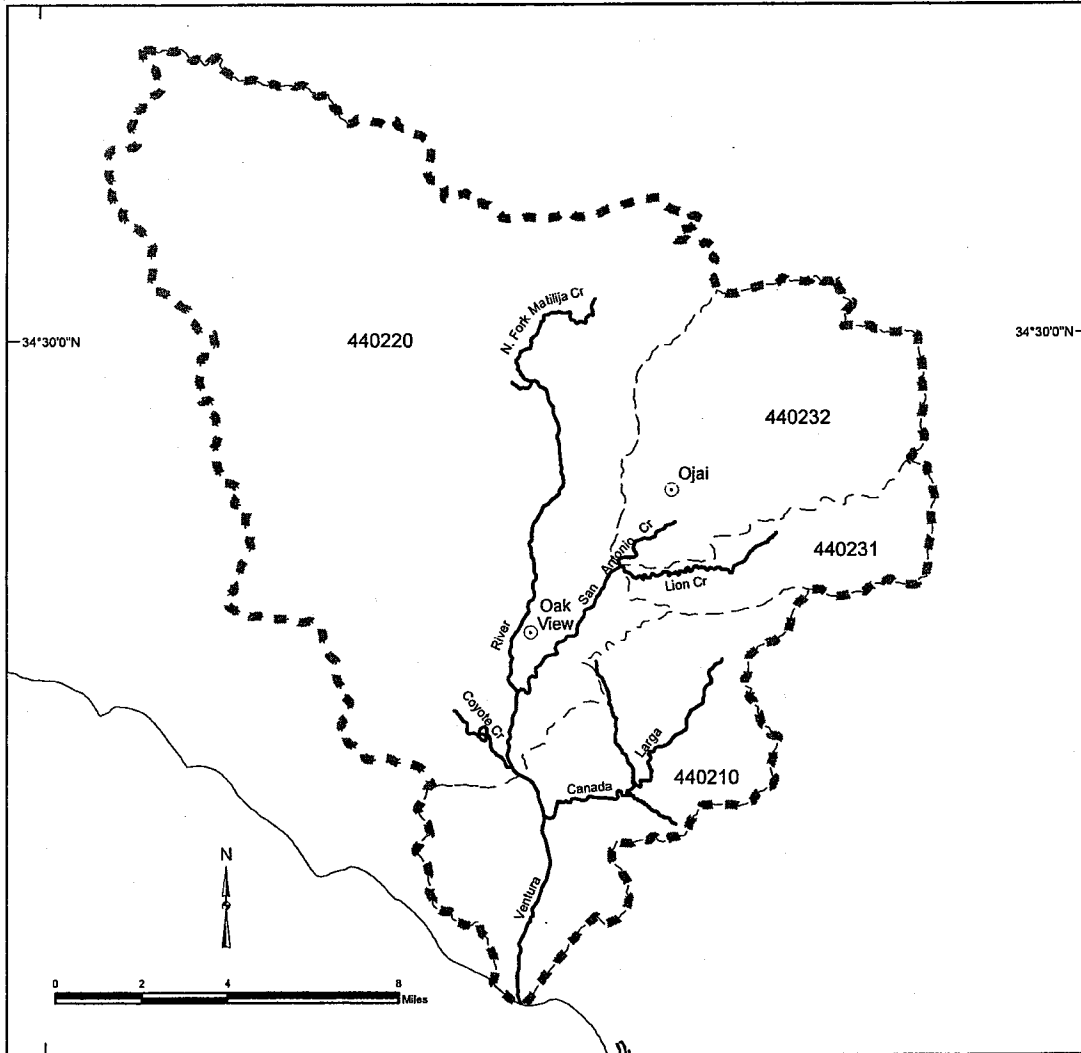


	Cities/Towns
	Critical Habitat
	Calwater Hydrologic Unit Boundary
	Fifth Field Calwater Hydrologic Sub-Area Boundary
331210 Fifth Field Calwater Hydrologic Sub-Area Number	



**Critical Habitat for the  
Southern California Steelhead**

**Ventura River Hydrologic Unit  
4402**

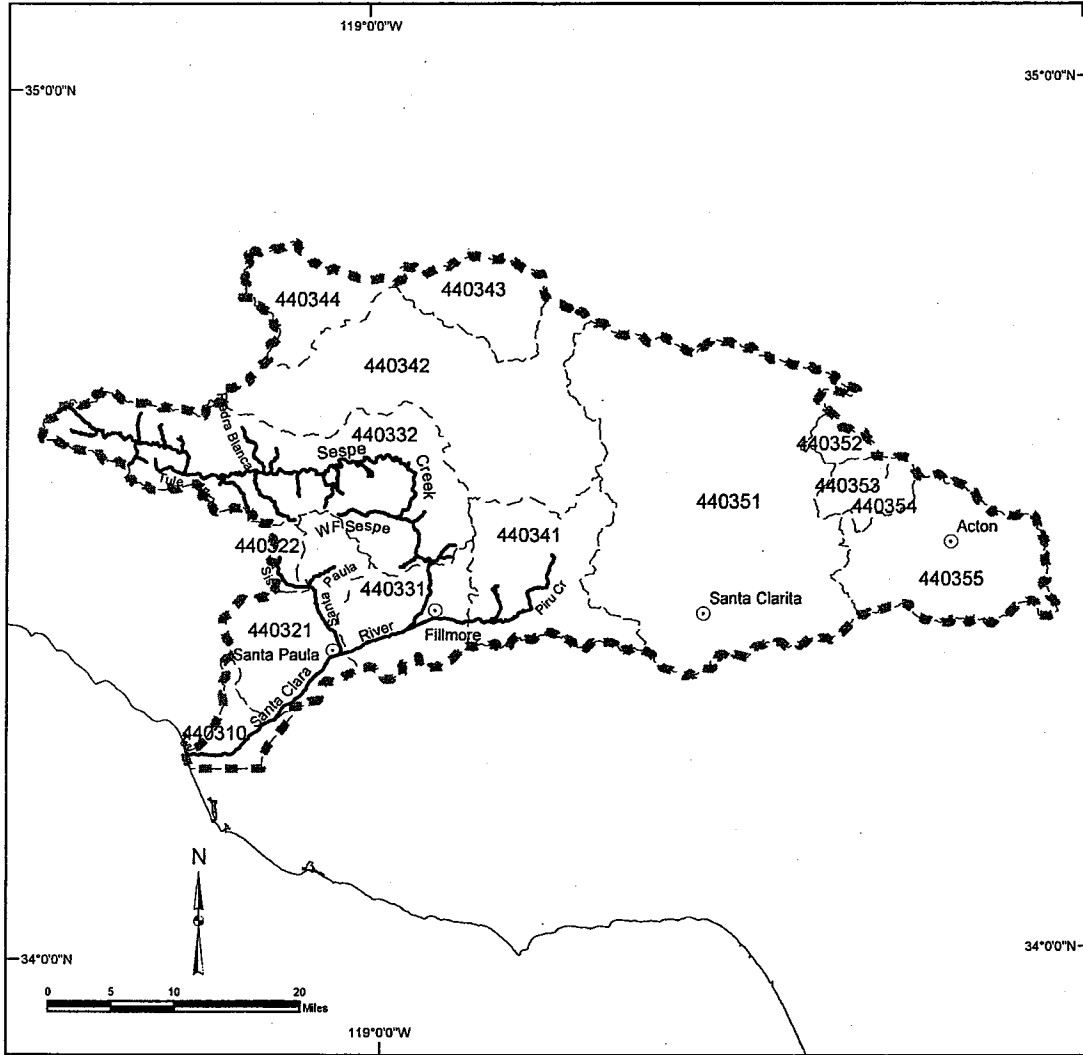


⊙	Cities/Towns
—	Critical Habitat
⋯	Calwater Hydrologic Unit Boundary
- - -	Fifth Field Calwater Hydrologic Sub-Area Boundary
331210 Fifth Field Calwater Hydrologic Sub-Area Number	

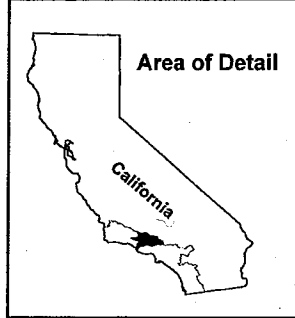


**Critical Habitat for the  
Southern California Steelhead**

**Santa Clara-Calleguas Hydrologic Unit  
4403**



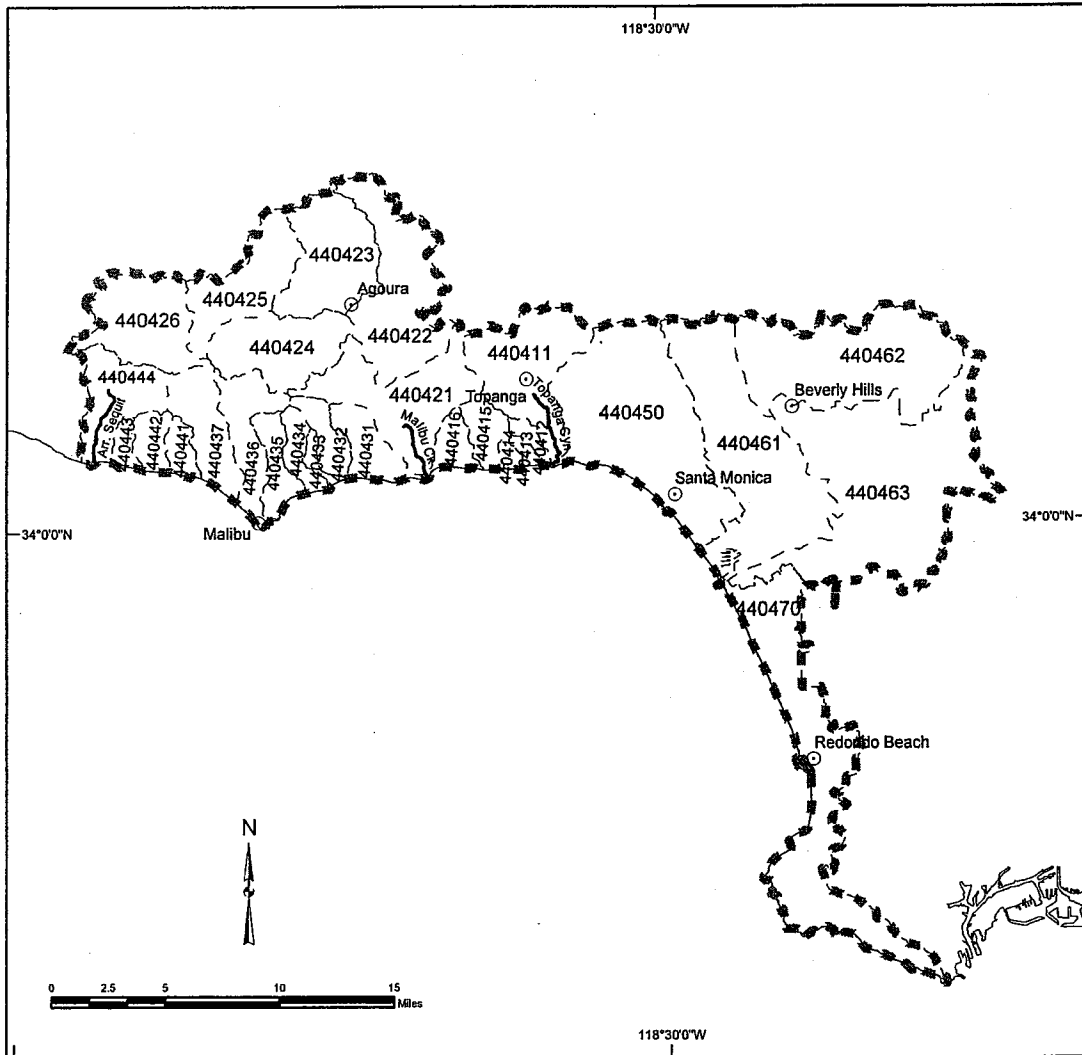
- Cities/Towns
- Critical Habitat
- - - Calwater Hydrologic Unit Boundary
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary
- 331210 Fifth Field Calwater Hydrologic Sub-Area Number





### Critical Habitat for the Southern California Steelhead

### Santa Monica Bay Hydrologic Unit 4404

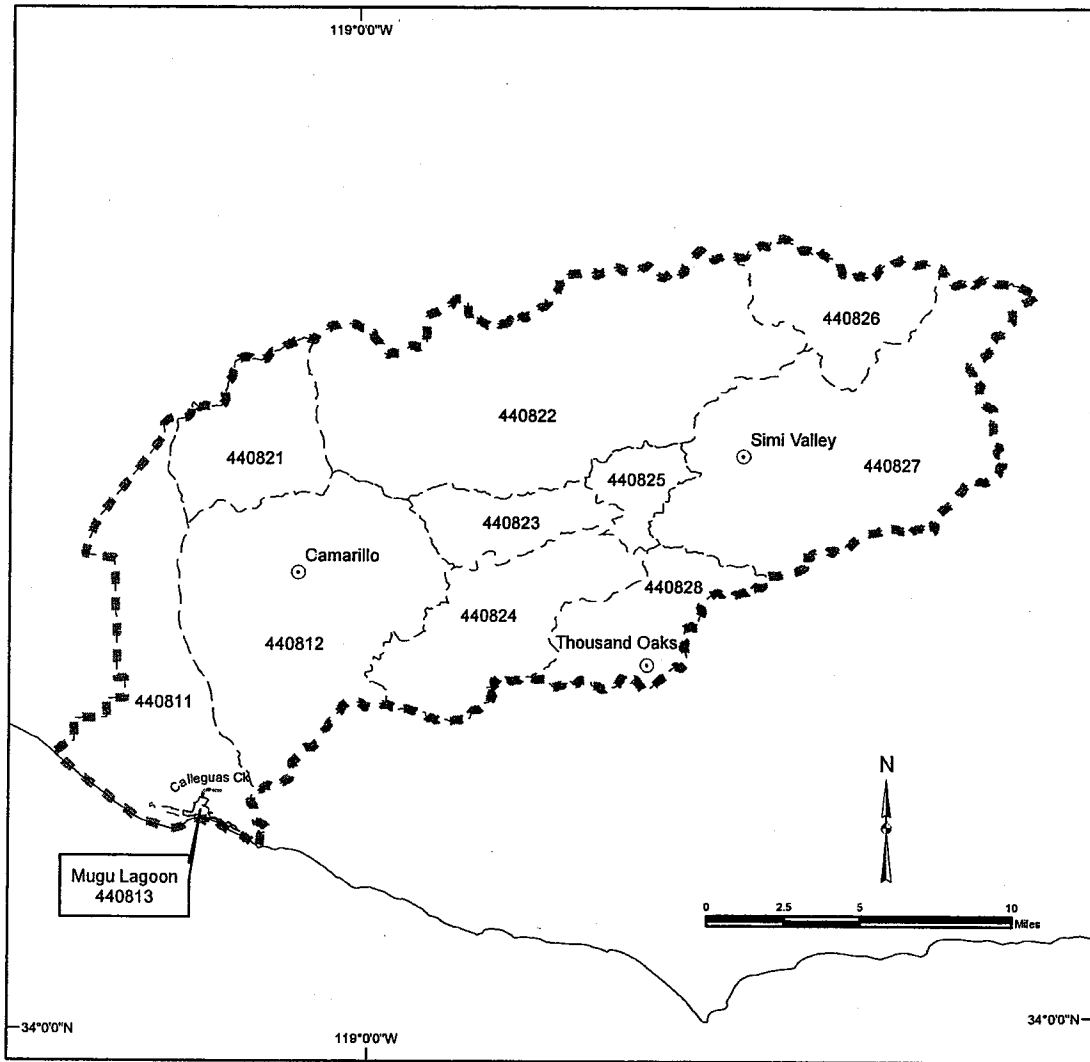


○	Cities/Towns
—	Critical Habitat
⋯	Calwater Hydrologic Unit Boundary
- - -	Fifth Field Calwater Hydrologic Sub-Area Boundary
331210 Fifth Field Calwater Hydrologic Sub-Area Number	

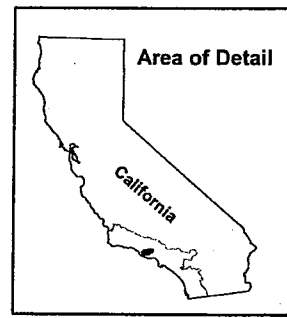


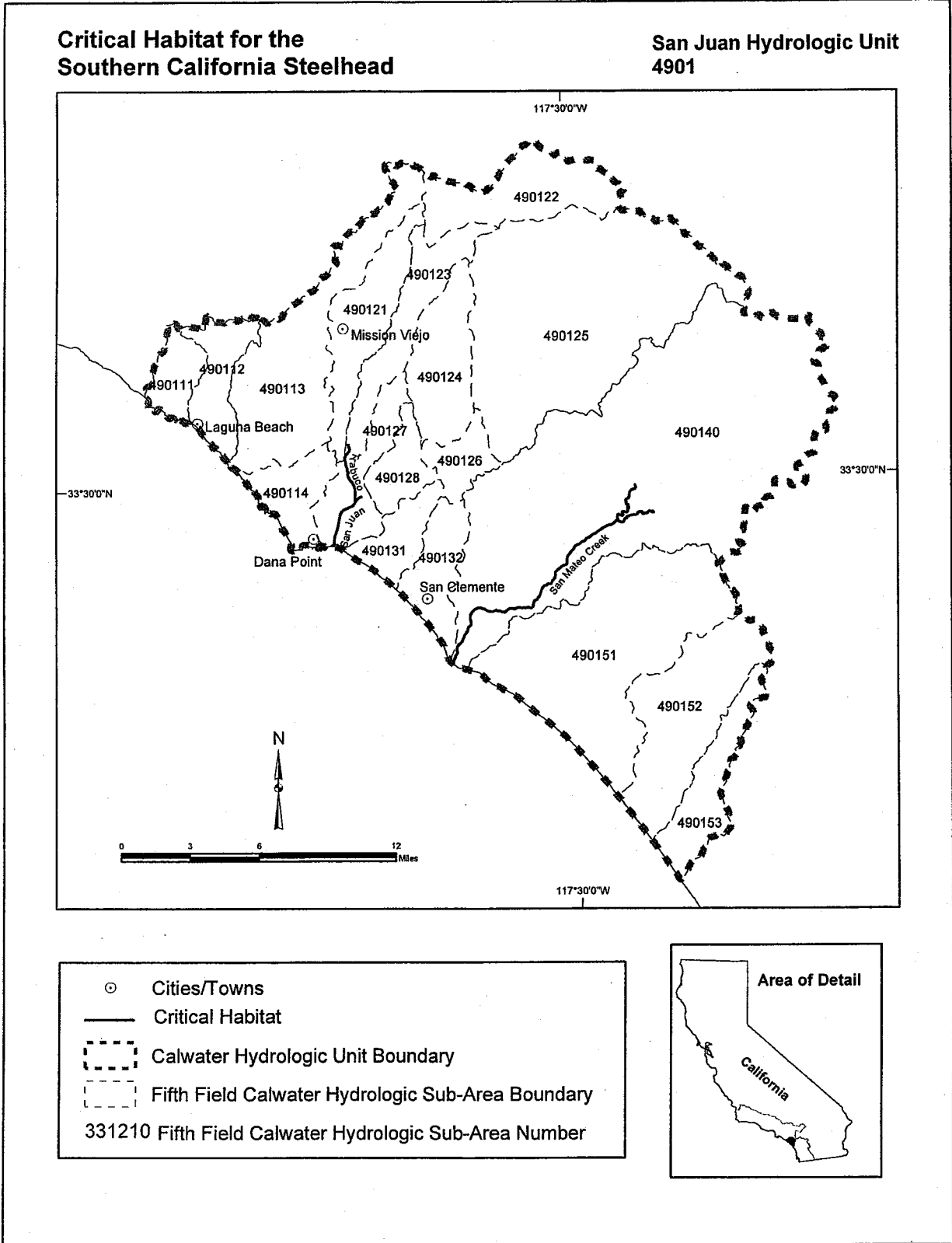
### Critical Habitat for the Southern California Steelhead

### Calleguas Hydrologic Unit 4408



- Cities/Towns
- Critical Habitat
- ..... Occupied but excluded streams / areas
- - - - - Calwater Hydrologic Unit Boundary
- - - - - Fifth Field Calwater Hydrologic Sub-Area Boundary
- 331210 Fifth Field Calwater Hydrologic Sub-Area Number





(k) *Central Valley Spring Run Chinook Salmon (O. tshawytscha)*. Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Tehama Hydrologic Unit 5504—(i) *Lower Stony Creek Hydrologic Sub-area 550410*. Outlet(s) = Glenn-Colusa Canal (Lat 39.6762, Long -122.0151); Stony Creek (39.7122, -122.0072) upstream to endpoint(s) in: Glenn-Colusa Canal (39.7122, -122.0072); Stony Creek (39.8178, -122.3253).

(ii) *Red Bluff Hydrologic Sub-area 550420*. Outlet(s) = Sacramento River (Lat 39.6998, Long -121.9419) upstream to endpoint(s) in: Antelope Creek (40.2023, -122.1275); Big Chico Creek (39.7757, -121.7525); Blue Tent Creek (40.2284, -122.2551); Burch Creek (39.8526, -122.1502); Butler Slough (40.1579, -122.1320); Coyote Creek (40.0929, -122.1621); Craig Creek (40.1617, -122.1350); Deer Creek (40.0144, -121.9481); Dibble Creek (40.2003, -122.2420); Dye Creek (40.0904, -122.0767); Elder Creek (40.0526, -122.1717); Jewet Creek (39.8913, -122.1005); Kusal Slough (39.7577, -121.9699); Lindo Channel (39.7623, -121.7923); McClure Creek (40.0074, -122.1729); Mill Creek (40.0550, -122.0317); Mud Creek (39.7931, -121.8865); New Creek (40.1873, -122.1350); Oat Creek (40.0847, -122.1658); Pine Creek (39.8760, -121.9777); Red Bank Creek (40.1391, -122.2157); Reeds Creek (40.1687, -122.2377); Rice Creek (39.8495, -122.1626); Rock Creek (39.8189, -121.9124); Salt Creek (40.1869, -122.1845); Singer Creek (39.9200, -121.9612); Thomes Creek (39.8822, -122.5527); Toomes Creek (39.9808, -122.0642); Unnamed Tributary (39.8532, -122.1627); Unnamed Tributary (40.1682, -122.1459); Unnamed Tributary (40.1867, -122.1353).

(2) Whitmore Hydrologic Unit 5507—(i) *Inks Creek Hydrologic Sub-area 550711*. Outlet(s) = Inks Creek (Lat 40.3305, Long -122.1520) upstream to endpoint(s) in: Inks Creek 40.3418, -122.1332).

(ii) *Battle Creek Hydrologic Sub-area 550712*. Outlet(s) = Battle Creek (Lat 40.4083, Long -122.1102) upstream to endpoint(s) in: Battle Creek (40.4228, -121.9975); North Fork Battle Creek (40.4746, -121.8436); South Fork Battle Creek (40.3549, -121.6861).

(iii) *Inwood Hydrologic Sub-area 550722*. Outlet(s) = Bear Creek (Lat 40.4352, Long -122.2039) upstream to endpoint(s) in: Bear Creek (40.4859, -122.1529); Dry Creek (40.4574, -122.1993).

(3) Redding Hydrologic Unit 5508—(i) *Enterprise Flat Hydrologic Sub-area 550810*. Outlet(s) = Sacramento River (Lat 40.2526, Long -122.1707) upstream to endpoint(s) in: Anderson Creek (40.3910, -122.1984); Ash Creek (40.4451, -122.1815); Battle Creek (40.4083, -122.1102); Churn Creek (40.5431, -122.3395); Clear Creek (40.5158, -122.5256); Cow Creek (40.5438, -122.1318); Olney Creek (40.5262, -122.3783); Paynes Creek (40.2810, -122.1587); Stillwater Creek (40.4789, -122.2597).

(ii) *Lower Cottonwood Hydrologic Sub-area 550820*. Outlet(s) = Cottonwood Creek (Lat 40.3777, Long -122.1991) upstream to endpoint(s) in: Cottonwood Creek (40.3943, -122.5254); Middle Fork Cottonwood Creek (40.3314, -122.6663); South Fork Cottonwood Creek (40.1578, -122.5809).

(4) Eastern Tehama Hydrologic Unit 5509—(i) *Big Chico Creek Hydrologic Sub-area 550914*. Outlet(s) = Big Chico Creek (Lat 39.7757, Long -121.7525) upstream to endpoint(s) in: Big Chico Creek (39.8873, -121.6979).

(ii) *Deer Creek Hydrologic Sub-area 550920*. Outlet(s) = Deer Creek (Lat 40.0144, Long -121.9481) upstream to endpoint(s) in: Deer Creek (40.2019, -121.5130).

(iii) *Upper Mill Creek Hydrologic Sub-area 550942*. Outlet(s) = Mill Creek (Lat 40.0550, Long -122.0317) upstream to endpoint(s) in: Mill Creek (40.3997, -121.5131).

(iv) *Antelope Creek Hydrologic Sub-area 550963*. Outlet(s) = Antelope Creek (Lat 40.2023, Long -122.1272) upstream to endpoint(s) in: Antelope Creek (40.2416, -121.8630); North Fork Antelope Creek (40.2691, -121.8226); South Fork Antelope Creek (40.2309, -121.8325).

(5) Sacramento Delta Hydrologic Unit 5510—(i) *Sacramento Delta Hydrologic Sub-area 551000*. Outlet(s) = Sacramento River (Lat 38.0612, Long -121.7948) upstream to endpoint(s) in: Cache Slough (38.3086, -121.7633); Delta Cross Channel (38.2433, -121.4964); Elk Slough (38.4140, -121.5212); Elkhorn Slough (38.2898, -121.6271); Georgiana Slough (38.2401, -121.5172); Miners Slough (38.2864, -121.6051); Prospect Slough (38.1477, -121.6641); Sevenmile Slough (38.1171, -121.6298); Steamboat Slough (38.3052, -121.5737); Sutter Slough (38.3321, -121.5838); Threemile Slough (38.1155, -121.6835); Yolo Bypass (38.5800, -121.5838).

(ii) [Reserved]

(6) Valley-Putah-Cache Hydrologic Unit 5511—(i) *Lower Putah Creek Hydrologic Sub-area 551120*. Outlet(s) = Yolo Bypass (Lat 38.5800, Long

-121.5838) upstream to endpoint(s) in: Sacramento Bypass (38.6057, -121.5563); Yolo Bypass (38.7627, -121.6325).

(ii) [Reserved]

(7) Marysville Hydrologic Unit 5515—(i) *Lower Yuba River Hydrologic Sub-area 551510*. Outlet(s) = Bear River (Lat 38.9398, Long -121.5790) upstream to endpoint(s) in: Bear River (38.9783, -121.5166).

(ii) *Lower Yuba River Hydrologic Sub-area 551530*. Outlet(s) = Yuba River (Lat 39.1270, Long -121.5981) upstream to endpoint(s) in: Yuba River (39.2203, -121.3314).

(iii) *Lower Feather River Hydrologic Sub-area 551540*. Outlet(s) = Feather River (Lat 39.1270, Long -121.5981) upstream to endpoint(s) in: Feather River (39.5203, -121.5475).

(8) Yuba River Hydrologic Unit 5517—(i) *Browns Valley Hydrologic Sub-Area 551712*. Outlet(s) = Dry Creek (Lat 39.2207, Long -121.4088); Yuba River (39.2203, -121.3314) upstream to endpoint(s) in: Dry Creek (39.3201, -121.3117); Yuba River (39.2305, -121.2813).

(ii) *Englebright Hydrologic Sub-area 551714*. Outlet(s) = Yuba River (Lat 39.2305, Long -121.2813) upstream to endpoint(s) in: Yuba River (39.2388, -121.2698).

(9) Valley-American Hydrologic Unit 5519—(i) *Lower American Hydrologic Sub-area 551921*. Outlet(s) = American River (Lat 38.5971, Long -121.5088) upstream to endpoint(s) in: American River (38.5669, -121.3827).

(ii) *Pleasant Grove Hydrologic Sub-area 551922*. Outlet(s) = Sacramento River (Lat 38.5965, Long -121.5086) upstream to endpoint(s) in: Feather River (39.1270, -121.5981).

(10) Colusa Basin Hydrologic Unit 5520—(i) *Sycamore-Sutter Hydrologic Sub-area 552010*. Outlet(s) = Sacramento River (Lat 38.7604, Long -121.6767) upstream to endpoint(s) in: Tisdale Bypass (39.0261, -121.7456).

(ii) *Sutter Bypass Hydrologic Sub-area 552030*. Outlet(s) = Sacramento River (Lat 38.7849, Long -121.6219) upstream to endpoint(s) in: Butte Creek (39.1987, -121.9285); Butte Slough (39.1987, -121.9285); Nelson Slough (38.8901, -121.6352); Sacramento Slough (38.7843, -121.6544); Sutter Bypass (39.1417, -121.8196); 39.1484, -121.8386); Tisdale Bypass (39.0261, -121.7456); Unnamed Tributary (39.1586, -121.8747).

(iii) *Butte Basin Hydrologic Sub-area 552040*. Outlet(s) = Butte Creek (Lat 39.1990, Long -121.9286); Sacramento River (39.4141, -122.0087) upstream to endpoint(s) in: Butte creek (39.7095, -121.7506); Colusa Bypass (39.2276,

-121.9402); Unnamed Tributary (39.6762, -122.0151).

(11) Butte Creek Hydrologic Unit 5521—*Upper Little Chico Hydrologic Sub-area 552130*. Outlet(s) = Butte Creek (Lat 39.7096, -121.7504) upstream to endpoint(s) in Butte Creek (39.8665, -121.6344).

(12) Shasta Bally Hydrologic Unit 5524—(i) *Platina Hydrologic Sub-area 552436*. Outlet(s) = Middle Fork

Cottonwood Creek (Lat 40.3314, -122.6663) upstream to endpoint(s) in Beegum Creek (40.3066, -122.9205); Middle Fork Cottonwood Creek (40.3655, -122.7451).

(ii) *Spring Creek Hydrologic Sub-area 552440*. Outlet(s) = Sacramento River (Lat 40.5943, Long -122.4343) upstream to endpoint(s) in: Sacramento River (40.6116, -122.4462)

(iii) *Kanaka Peak Hydrologic Sub-area 552462*. Outlet(s) = Clear Creek (Lat 40.5158, Long -122.5256) upstream to endpoint(s) in: Clear Creek (40.5992, -122.5394).

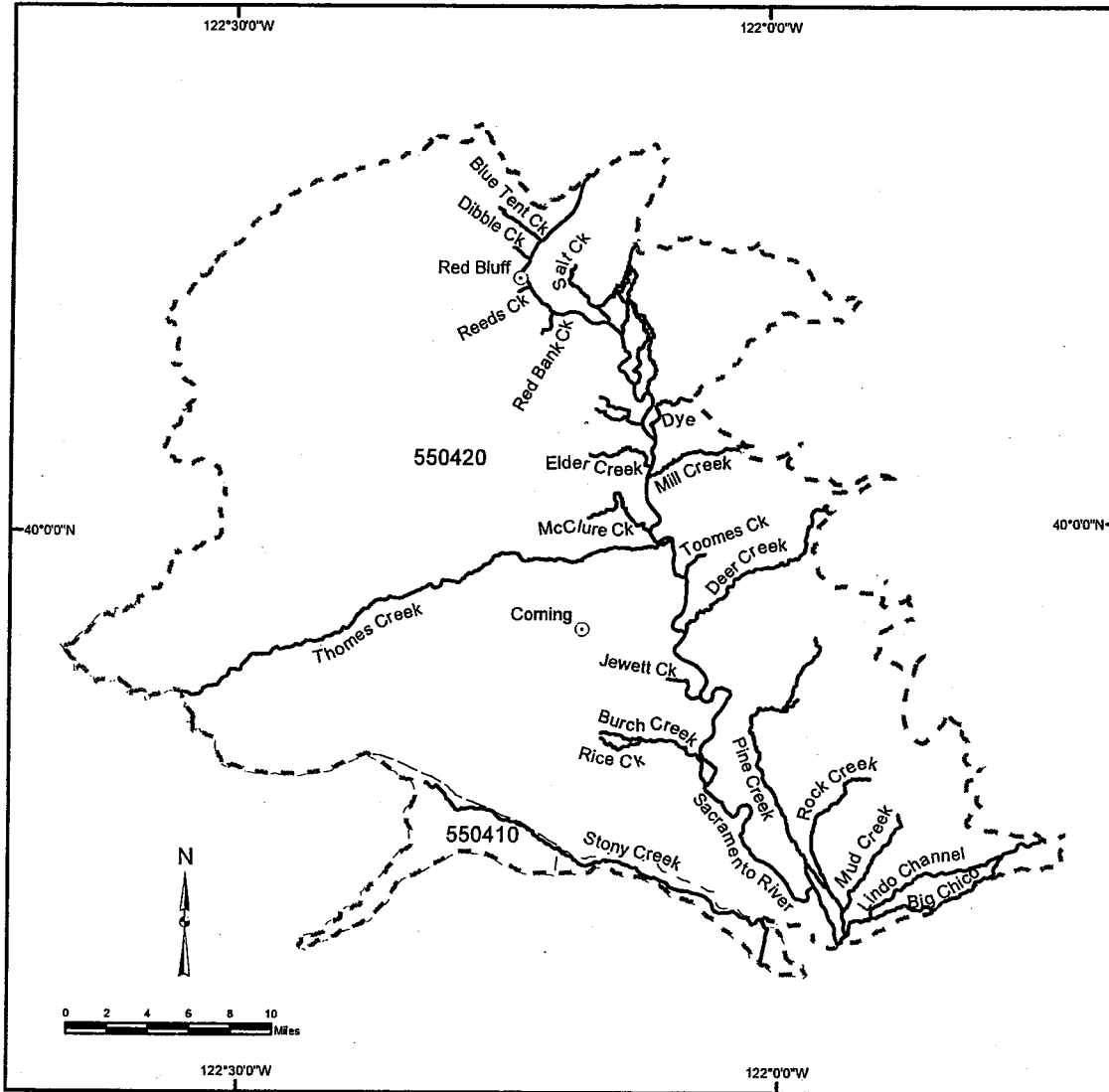
(13) Maps of critical habitat for the Central Valley Spring Run Chinook ESU follow:

BILLING CODE 3510-22-P

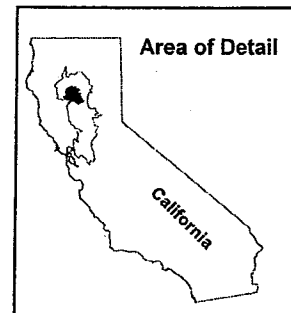


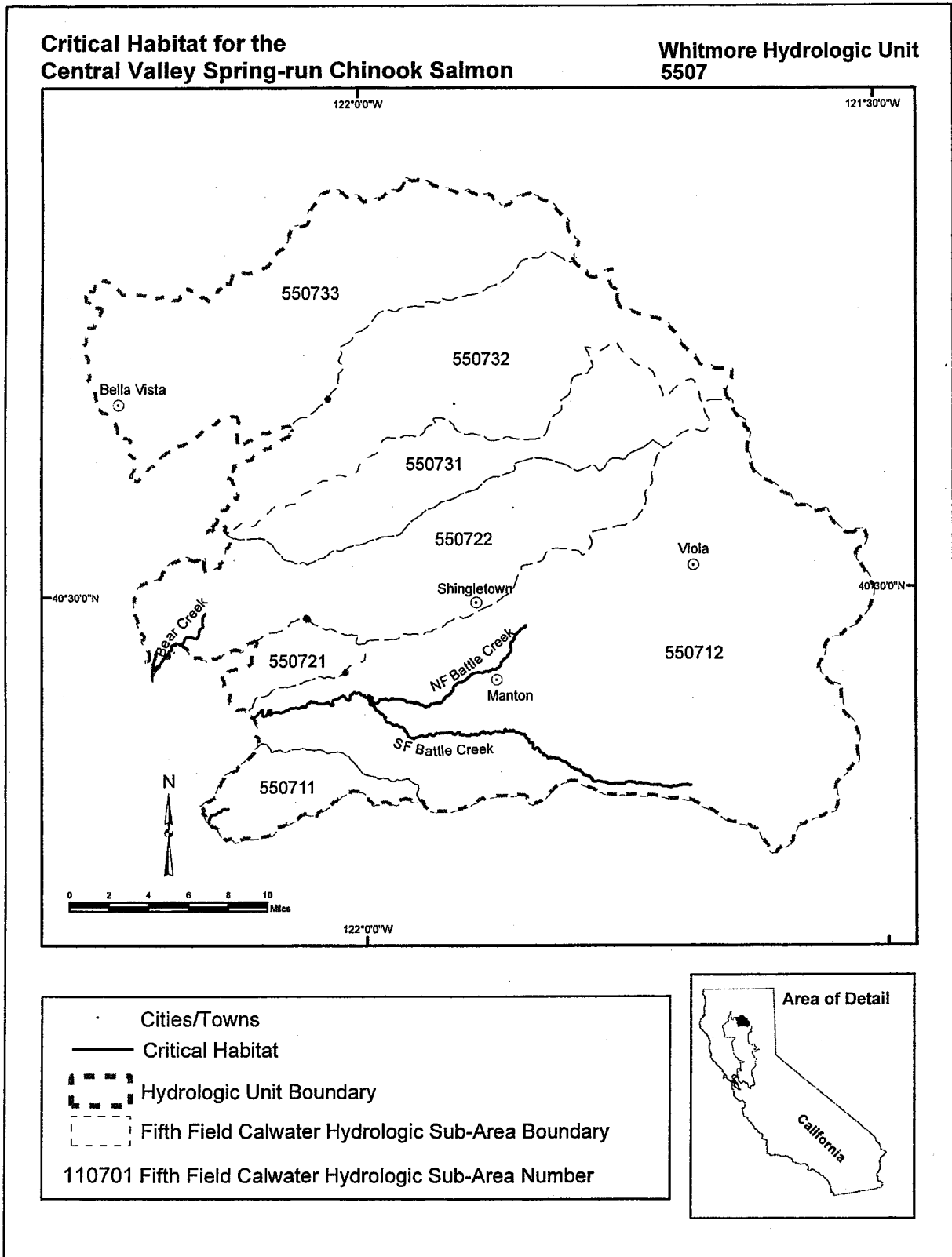
### Critical Habitat for the Central Valley Spring-run Chinook Salmon

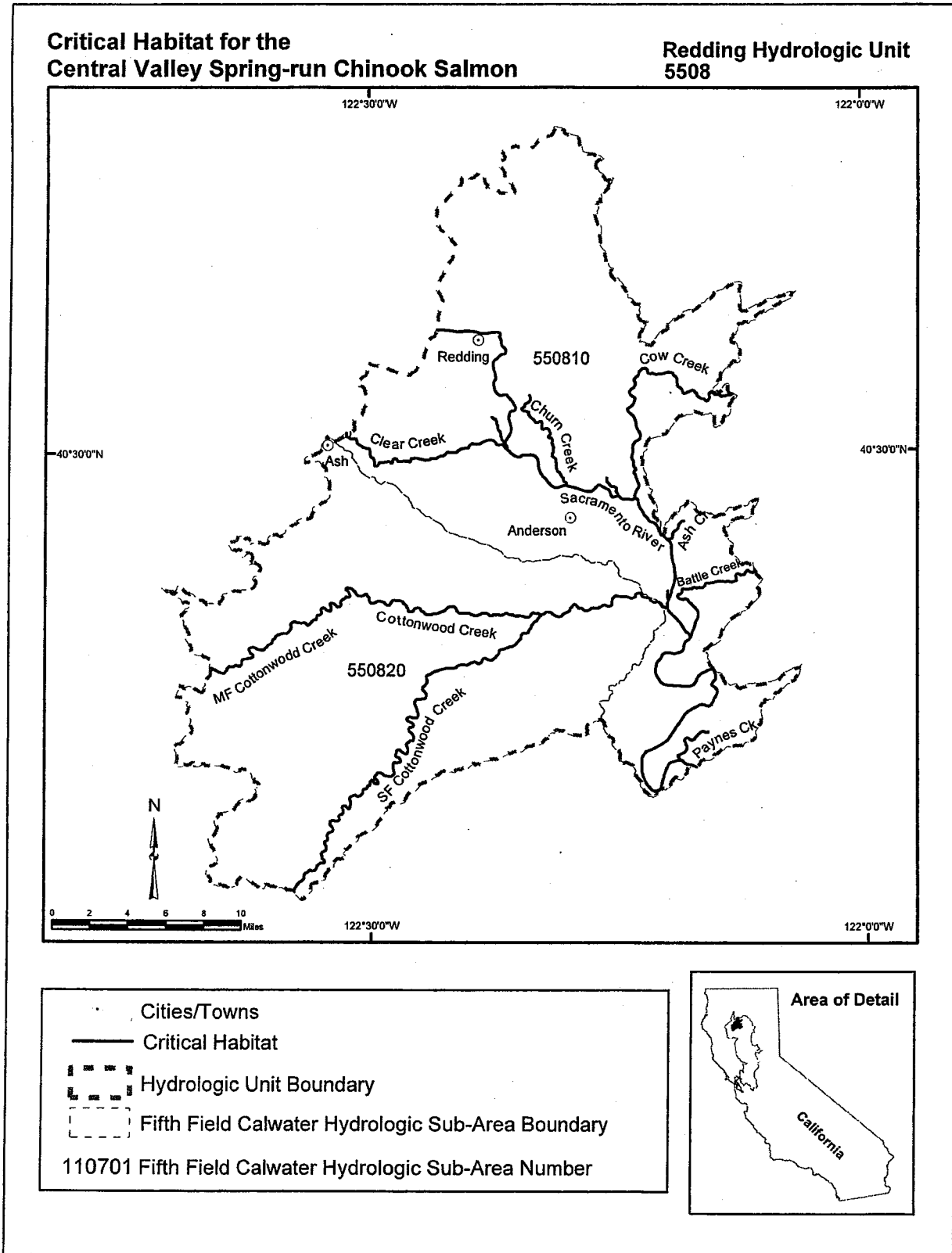
Tehama Hydrologic Unit 5504

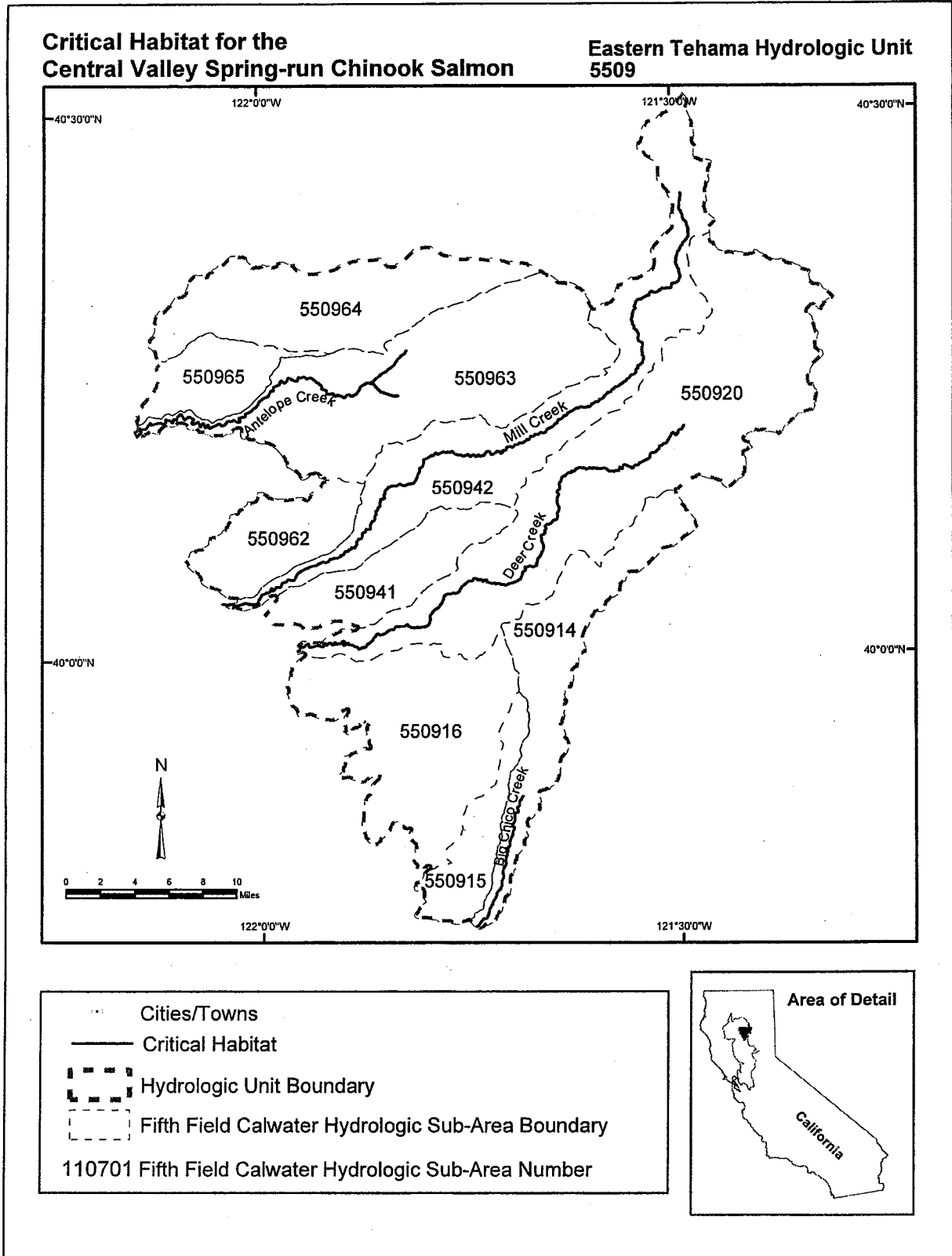


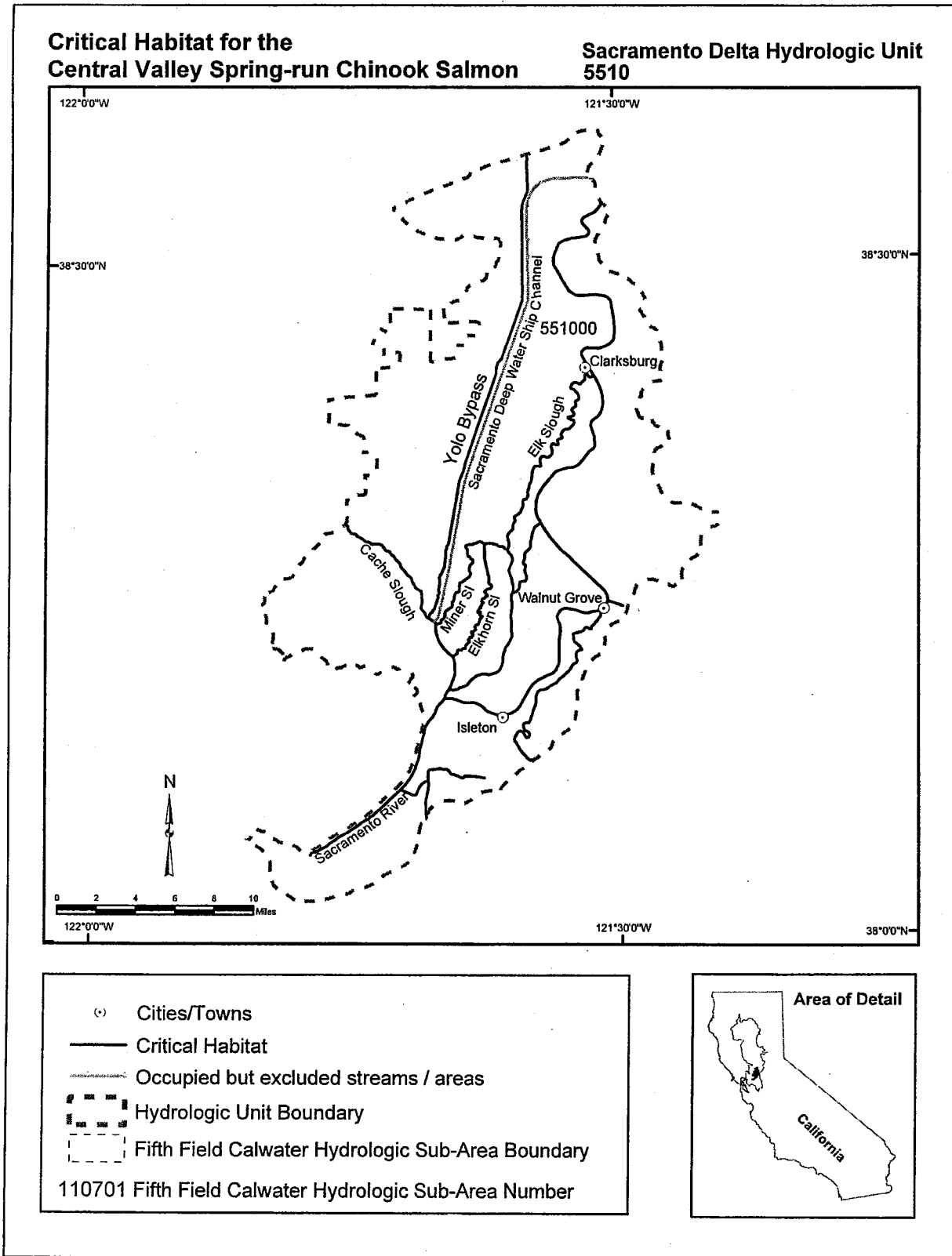
•• Cities/Towns  
— Critical Habitat  
- - - Hydrologic Unit Boundary  
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary  
110701 Fifth Field Calwater Hydrologic Sub-Area Number





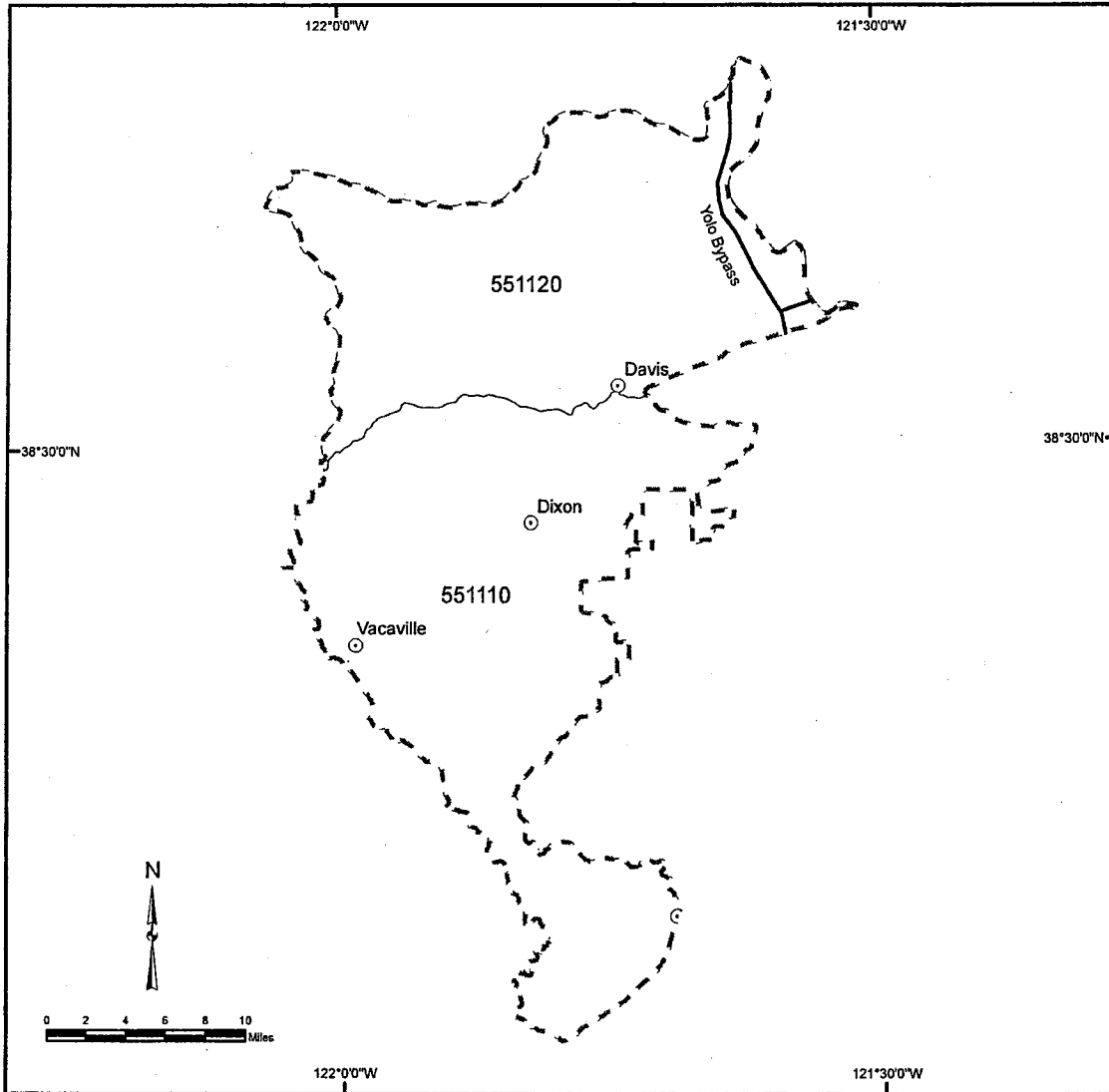




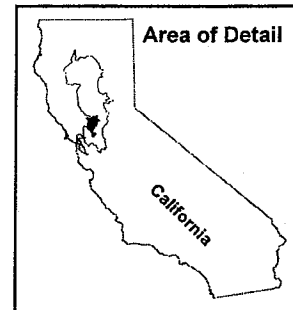


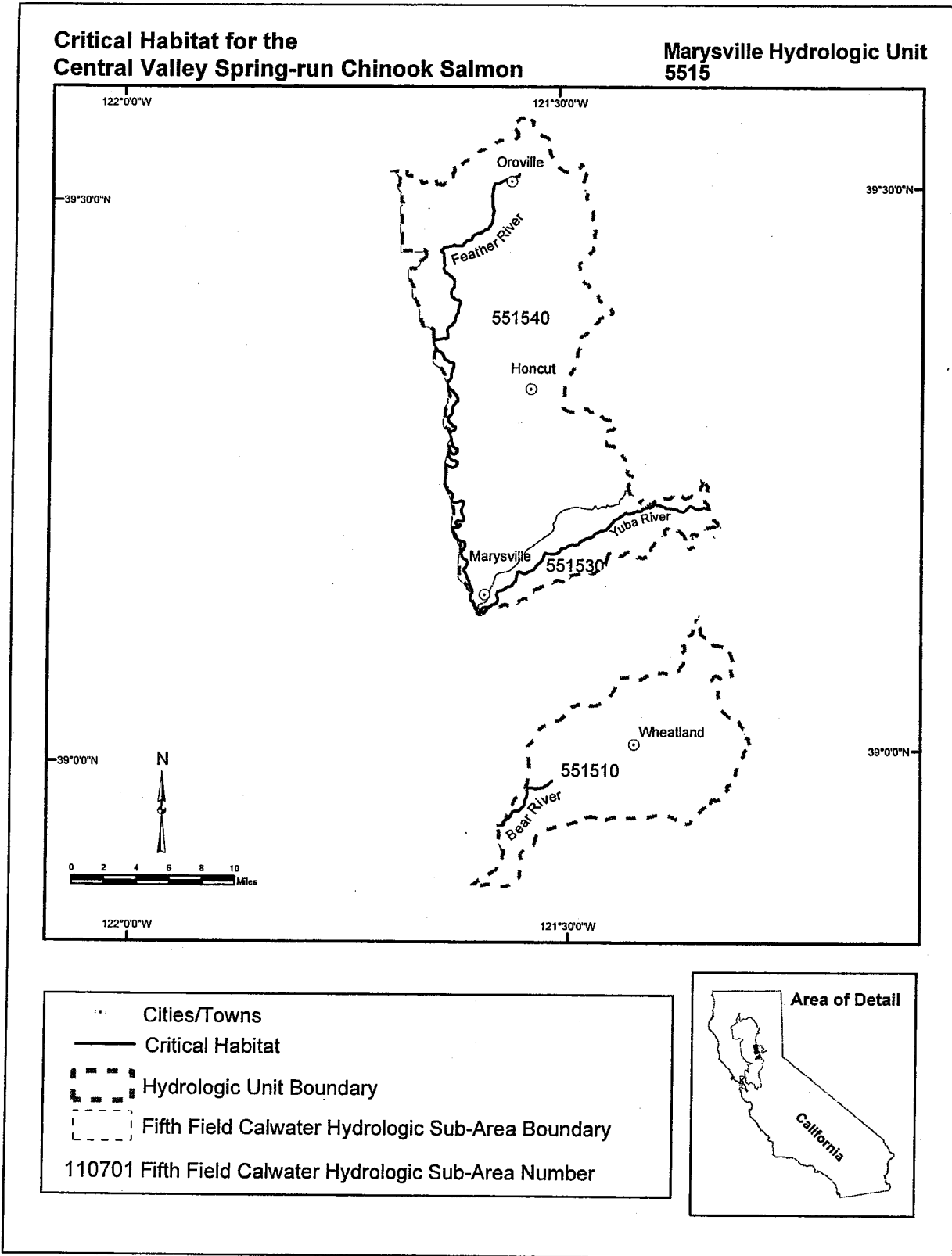


**Critical Habitat for the Central Valley Spring-run Chinook Salmon** **Valley Putah-Cache Hydrologic Unit 5511**



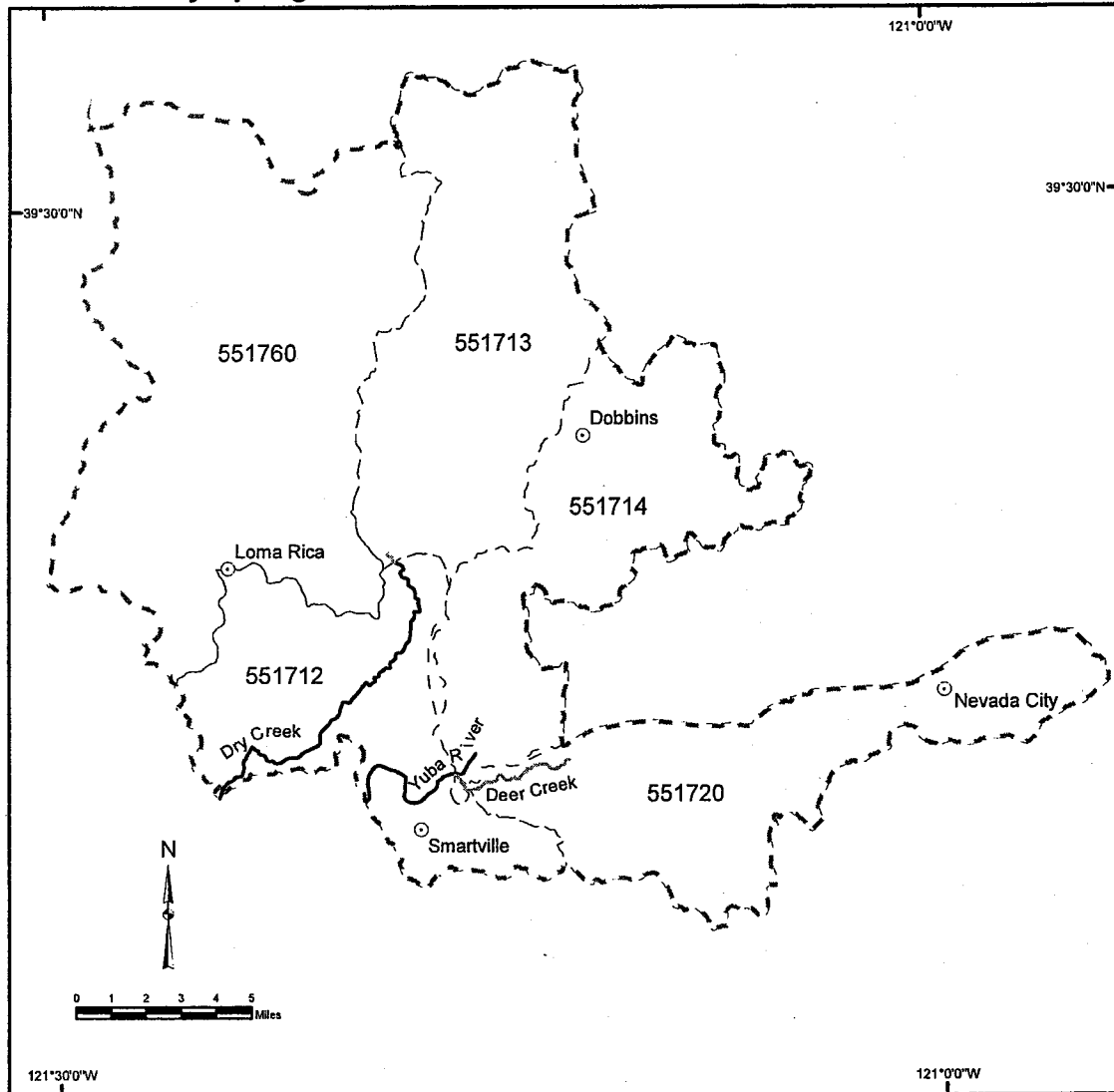
- Cities/Towns
  - Critical Habitat
  - - - Hydrologic Unit Boundary
  - - - Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number



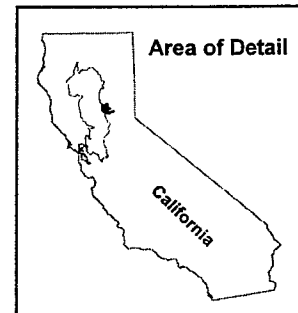


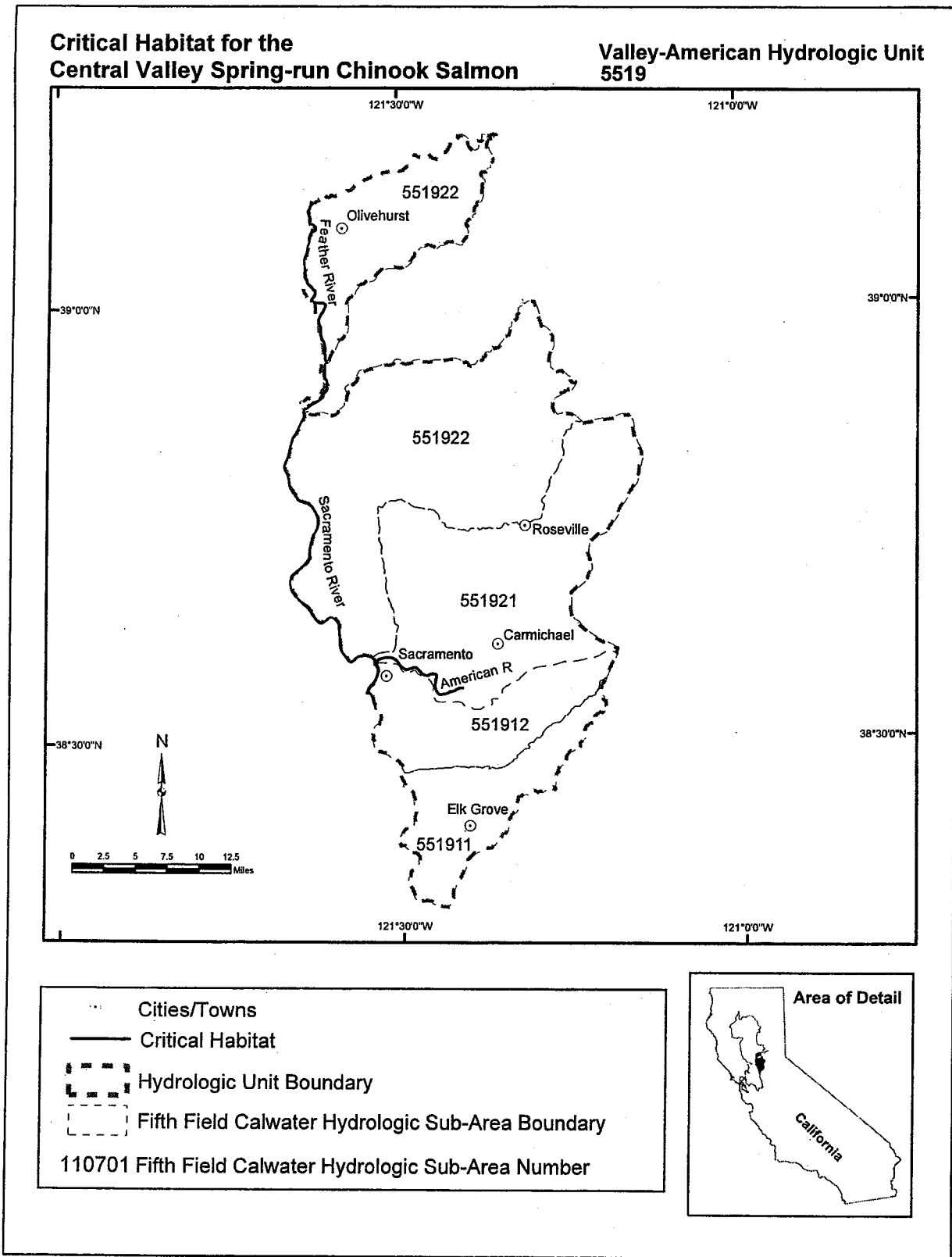
**Critical Habitat for the  
Central Valley Spring-run Chinook Salmon**

**Yuba River Hydrologic Unit  
5517**



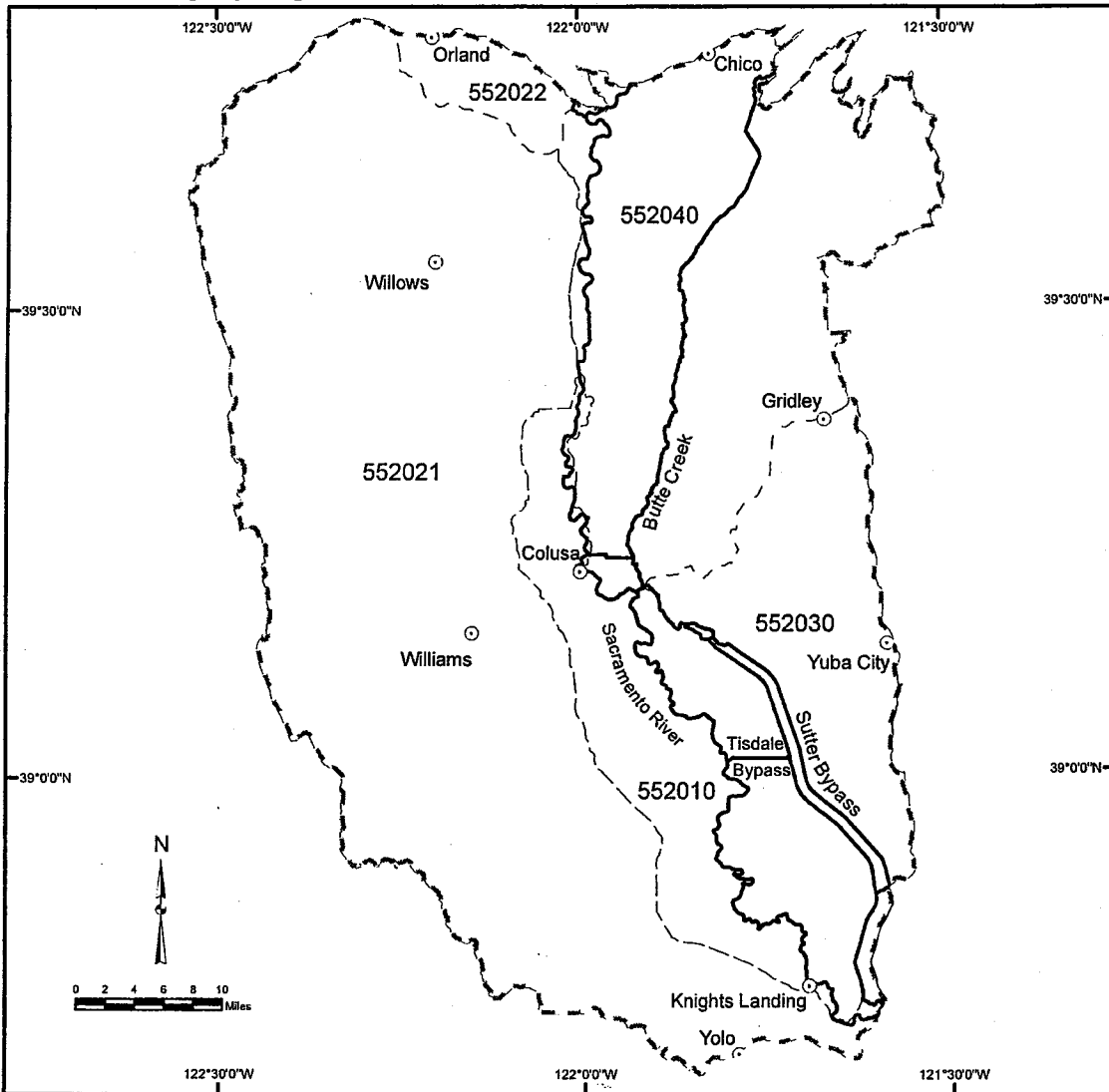
○ Cities/Towns  
— Critical Habitat  
- - - Occupied but excluded streams / areas  
[Dashed Box] Hydrologic Unit Boundary  
[Dotted Box] Fifth Field Calwater Hydrologic Sub-Area Boundary  
110701 Fifth Field Calwater Hydrologic Sub-Area Number



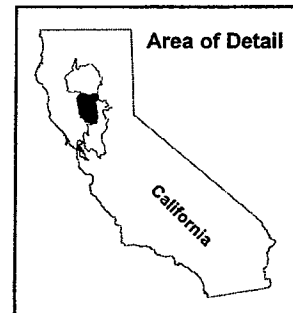


**Critical Habitat for the  
Central Valley Spring-run Chinook Salmon**

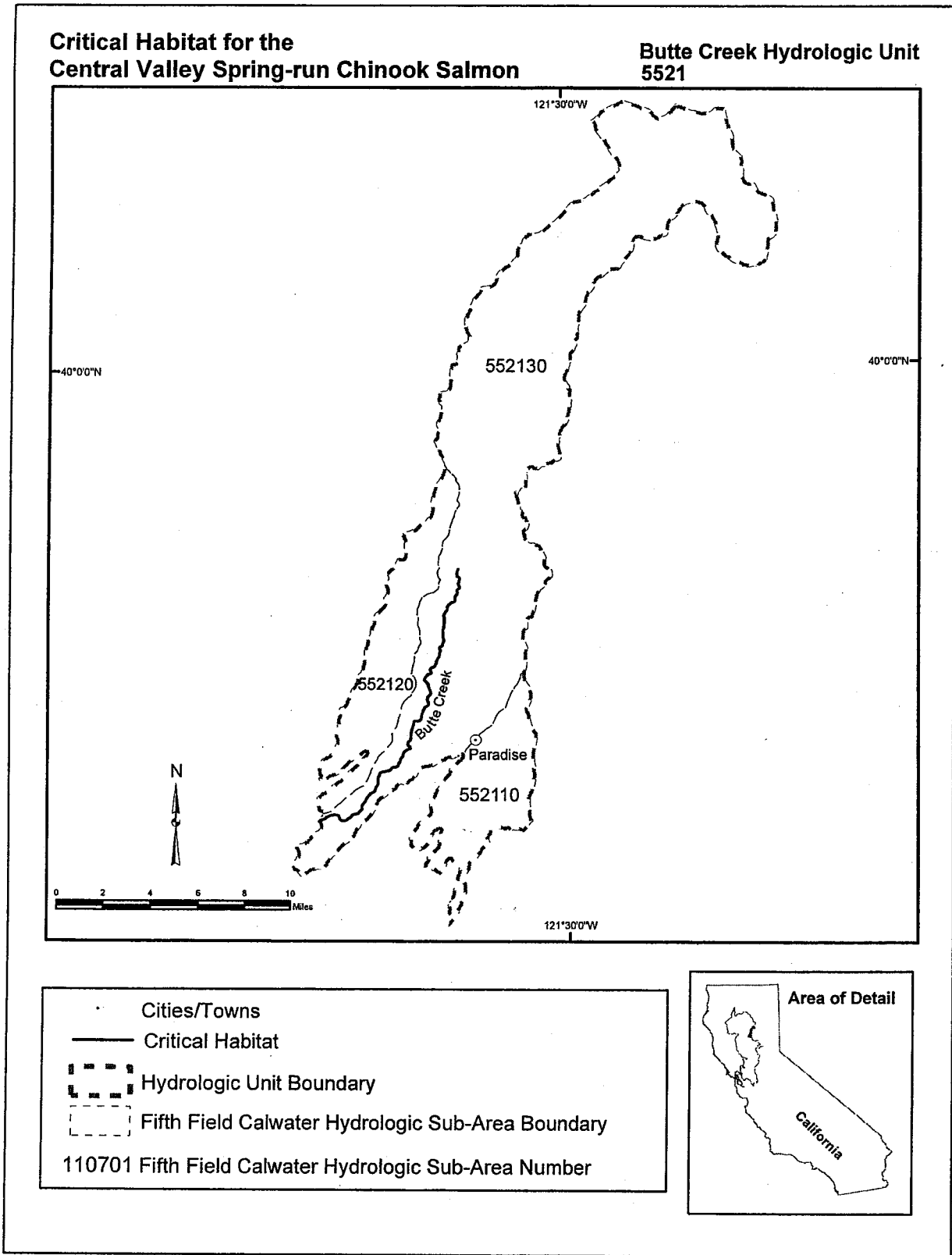
**Colusa Basin Hydrologic Unit  
5520**

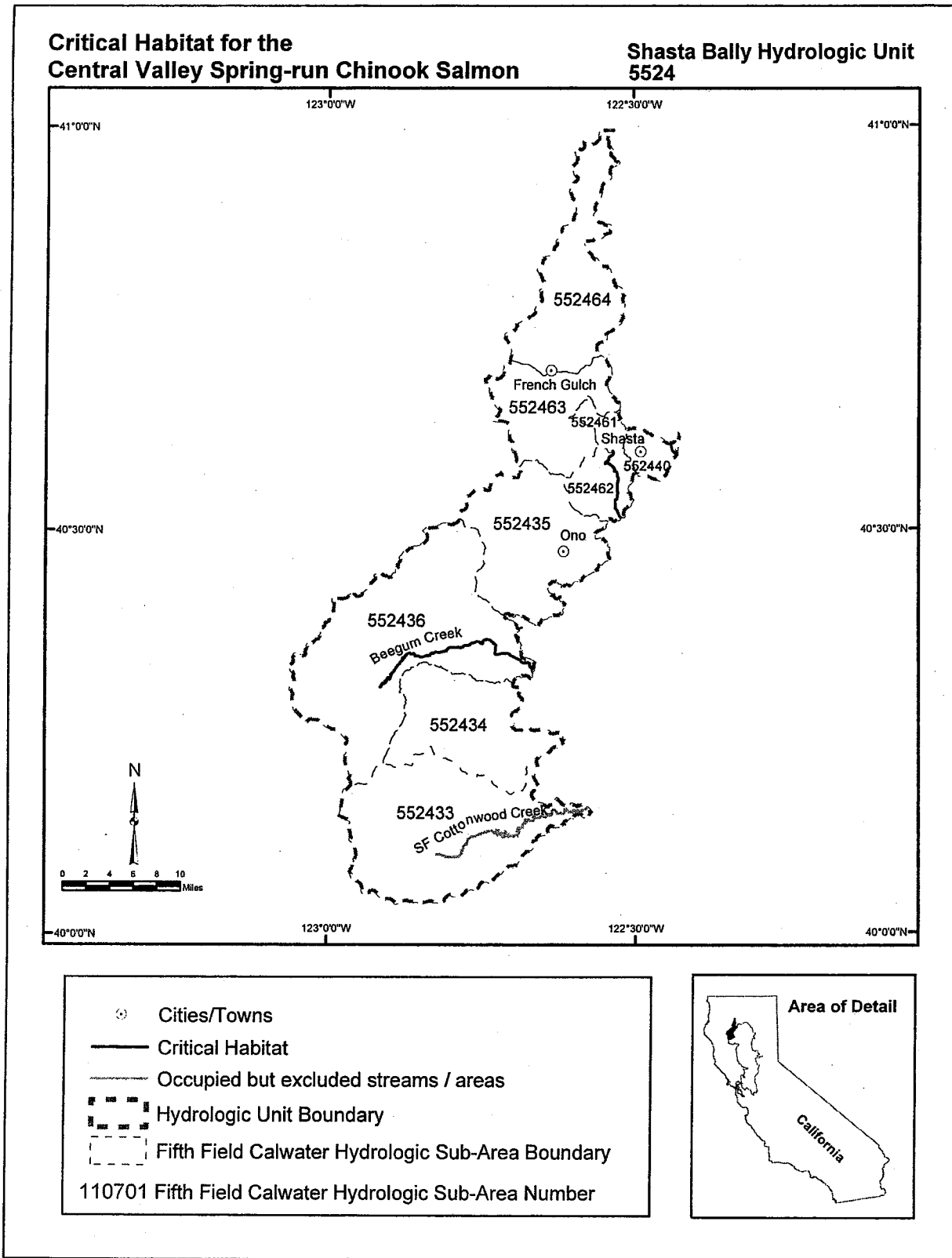


Cities/Towns  
 Critical Habitat  
 Hydrologic Unit Boundary  
 Fifth Field Calwater Hydrologic Sub-Area Boundary  
 110701 Fifth Field Calwater Hydrologic Sub-Area Number









(l) *Central Valley steelhead (O. mykiss)*. Critical habitat is designated to include the areas defined in the following CALWATER Hydrologic Units:

(1) Tehama Hydrologic Unit 5504—(i) *Lower Stony Creek Hydrologic Sub-area 550410*. Outlet(s) = Stony Creek (Lat 39.6760, Long -121.9732) upstream to endpoint(s) in: Stony Creek (39.8199, -122.3391).

(ii) Red Bluff Hydrologic Sub-area 550420. Outlet(s) = Sacramento River (Lat 39.6998, Long -121.9419) upstream to endpoint(s) in: Antelope Creek (40.2023, -122.1272); Big Chico Creek (39.7757, -121.7525); Blue Tent Creek (40.2166, -122.2362); Burch Creek (39.8495, -122.1615); Butler Slough (40.1579, -122.1320); Craig Creek (40.1617, -122.1350); Deer Creek (40.0144, -121.9481); Dibble Creek (40.2002, -122.2421); Dye Creek (40.0910, -122.0719); Elder Creek (40.0438, -122.2133); Lindo Channel (39.7623, -121.7923); McClure Creek (40.0074, -122.1723); Mill Creek (40.0550, -122.0317); Mud Creek (39.7985, -121.8803); New Creek (40.1873, -122.1350); Oat Creek (40.0769, -122.2168); Red Bank Creek (40.1421, -122.2399); Rice Creek (39.8495, -122.1615); Rock Creek (39.8034, -121.9403); Salt Creek (40.1572, -122.1646); Thomes Creek (39.8822, -122.5527); Unnamed Tributary (40.1867, -122.1353); Unnamed Tributary (40.1682, -122.1459); Unnamed Tributary (40.1143, -122.1259); Unnamed Tributary (40.0151, -122.1148); Unnamed Tributary (40.0403, -122.1009); Unnamed Tributary (40.0514, -122.0851); Unnamed Tributary (40.0530, -122.0769).

(2) Whitmore Hydrologic Unit 5507—(i) *Inks Creek Hydrologic Sub-area 550711*. Outlet(s) = Inks Creek (Lat 40.3305, Long -122.1520) upstream to endpoint(s) in: Inks Creek (40.3418, -122.1332).

(ii) *Battle Creek Hydrologic Sub-area 550712*. Outlet(s) = Battle Creek (Lat 40.4083, Long -122.1102) upstream to endpoint(s) in: Baldwin Creek (40.4369, -121.9885); Battle Creek (40.4228, -121.9975); Brush Creek (40.4913, -121.8664); Millseat Creek (40.4808, -121.8526); Morgan Creek (40.3654, -121.9132); North Fork Battle Creek (40.4877, -121.8185); Panther Creek (40.3897, -121.6106); South Ditch (40.3997, -121.9223); Ripley Creek (40.4099, -121.8683); Soap Creek (40.3904, -121.7569); South Fork Battle Creek (40.3531, -121.6682); Unnamed Tributary (40.3567, -121.8293); Unnamed Tributary (40.4592, -121.8671).

(iii) *Ash Creek Hydrologic Sub-area 550721*. Outlet(s) = Ash Creek (Lat 40.4401, Long -122.1375) upstream to endpoint(s) in: Ash Creek (40.4628, -122.0066).

(iv) *Inwood Hydrologic Sub-area 550722*. Outlet(s) = Ash Creek (Lat 40.4628, Long -122.0066); Bear Creek (40.4352, -122.2039) upstream to endpoint(s) in: Ash Creek (40.4859, -121.8993); Bear Creek (40.5368, -121.9560); North Fork Bear Creek (40.5736, -121.8683).

(v) *South Cow Creek Hydrologic Sub-area 550731*. Outlet(s) = South Cow Creek (Lat 40.5438, Long -122.1318) upstream to endpoint(s) in: South Cow Creek (40.6023, -121.8623).

(vi) *Old Cow Creek Hydrologic Sub-area 550732*. Outlet(s) = Clover Creek (Lat 40.5788, Long -122.1252); Old Cow Creek (40.5442, -122.1317) upstream to endpoint(s) in: Clover Creek (40.6305, -122.0304); Old Cow Creek (40.6295, -122.9619).

(vii) *Little Cow Creek Hydrologic Sub-area 550733*. Outlet(s) = Little Cow Creek (Lat 40.6148, -122.2271); Oak Run Creek (40.6171, -122.1225) upstream to endpoint(s) in: Little Cow Creek (40.7114, -122.0850); Oak Run Creek (40.6379, -122.0856).

(3) Redding Hydrologic Unit 5508—(i) *Enterprise Flat Hydrologic Sub-area 550810*. Outlet(s) = Sacramento River (Lat 40.2526, Long -122.1707) upstream to endpoint(s) in: Ash Creek (40.4401, -122.1375); Battle Creek (40.4083, -122.1102); Bear Creek (40.4360, -122.2036); Calaboose Creek (40.5742, -122.4142); Canyon Creek (40.5532, -122.3814); Churn Creek (40.5986, -122.3418); Clear Creek (40.5158, -122.5256); Clover Creek (40.5788, -122.1252); Cottonwood Creek (40.3777, -122.1991); Cow Creek (40.5437, -122.1318); East Fork Stillwater Creek (40.6495, -122.2934); Inks Creek (40.3305, -122.1520); Jenny Creek (40.5734, -122.4338); Little Cow Creek (40.6148, -122.2271); Oak Run (40.6171, -122.1225); Old Cow Creek (40.5442, -122.1317); Olney Creek (40.5439, -122.4687); Oregon Gulch (40.5463, -122.3866); Paynes Creek (40.3024, -122.1012); Stillwater Creek (40.6495, -122.2934); Sulphur Creek (40.6164, -122.4077).

(ii) *Lower Cottonwood Hydrologic Sub-area 550820*. Outlet(s) = Cottonwood Creek (Lat 40.3777, Long -122.1991) upstream to endpoint(s) in: Cold Fork Cottonwood Creek (40.2060, -122.6608); Cottonwood Creek (40.3943, -122.5254); Middle Fork Cottonwood Creek (40.3314, -122.6663); North Fork Cottonwood Creek (40.4539, -122.5610); South Fork Cottonwood Creek (40.1578, -122.5809).

(4) Eastern Tehama Hydrologic Unit 5509—(i) *Big Chico Creek Hydrologic Sub-area 550914*. Outlet(s) = Big Chico Creek (Lat 39.7757, Long -121.7525) upstream to endpoint(s) in: Big Chico Creek (39.8898, -121.6952).

(ii) *Deer Creek Hydrologic Sub-area 550920*. Outlet(s) = Deer Creek (Lat 40.0142, Long -121.9476) upstream to endpoint(s) in: Deer Creek (40.2025, -121.5130).

(iii) *Upper Mill Creek Hydrologic Sub-area 550942*. Outlet(s) = Mill Creek (Lat 40.0550, Long -122.0317) upstream to endpoint(s) in: Mill Creek (40.3766, -121.5098); Rocky Gulch Creek (40.2888, -121.5997).

(iv) *Dye Creek Hydrologic Sub-area 550962*. Outlet(s) = Dye Creek (Lat 40.0910, Long -122.0719) upstream to endpoint(s) in: Dye Creek (40.0996, -121.9612).

(v) *Antelope Creek Hydrologic Sub-area 550963*. Outlet(s) = Antelope Creek (Lat 40.2023, Long -122.1272) upstream to endpoint(s) in: Antelope Creek (40.2416, -121.8630); Middle Fork Antelope Creek (40.2673, -121.7744); North Fork Antelope Creek (40.2807, -121.7645); South Fork Antelope Creek (40.2521, -121.7575).

(5) Sacramento Delta Hydrologic Unit 5510—*Sacramento Delta Hydrologic Sub-area 551000*. Outlet(s) = Sacramento River (Lat 38.0653, Long -121.8418) upstream to endpoint(s) in: Cache Slough (38.2984, -121.7490); Elk Slough (38.4140, -121.5212); Elkhorn Slough (38.2898, -121.6271); Georgiana Slough (38.2401, -121.5172); Horseshoe Bend (38.1078, -121.7117); Lindsey Slough (38.2592, -121.7580); Miners Slough (38.2864, -121.6051); Prospect Slough (38.2830, -121.6641); Putah Creek (38.5155, -121.5885); Sevenmile Slough (38.1171, -121.6298); Steamboat Slough (38.3052, -121.5737); Sutter Slough (38.3321, -121.5838); Threemile Slough (38.1155, -121.6835); Ulatis Creek (38.2961, -121.7835); Unnamed Tributary (38.2937, -121.7803); Unnamed Tributary (38.2937, -121.7804); Yolo Bypass (38.5800, -121.5838).

(6) Valley-Putah-Cache Hydrologic Unit 5511—*Lower Putah Creek Hydrologic Sub-area 551120*. Outlet(s) = Sacramento Bypass (Lat 38.6057, Long -121.5563); Yolo Bypass (38.5800, -121.5838) upstream to endpoint(s) in: Sacramento Bypass (38.5969, -121.5888); Yolo Bypass (38.7627, -121.6325).

(7) American River Hydrologic Unit 5514—*Auburn Hydrologic Sub-area 551422*. Outlet(s) = Auburn Ravine (Lat 38.8921, Long -121.2181); Coon Creek (38.9891, -121.2556); Doty Creek (38.9401, -121.2434) upstream to

endpoint(s) in: Auburn Ravine (38.8888, -121.1151); Coon Creek (38.9659, -121.1781); Doty Creek (38.9105, -121.1244).

(8) Marysville Hydrologic Unit 5515—(i) *Lower Bear River Hydrologic Sub-area 551510*. Outlet(s) = Bear River (Lat 39.9398, Long -121.5790) upstream to endpoint(s) in: Bear River (39.0421, -121.3319).

(ii) *Lower Yuba River Hydrologic Sub-area 551530*. Outlet(s) = Yuba River (Lat 39.1270, Long -121.5981) upstream to endpoint(s) in: Yuba River (39.2203, -121.3314).

(iii) *Lower Feather River Hydrologic Sub-area 551540*. Outlet(s) = Feather River (Lat 39.1264, Long -121.5984) upstream to endpoint(s) in: Feather River (39.5205, -121.5475).

(9) Yuba River Hydrologic Unit 5517—(i) *Browns Valley Hydrologic Sub-area 551712*. Outlet(s) = Dry Creek (Lat 39.2215, Long -1121.4082); Yuba River (39.2203, -1121.3314) upstream to endpoint(s) in: Dry Creek (39.3232, Long -1121.3155); Yuba River (39.2305, -1121.2813).

(ii) *Englebright Hydrologic Sub-area 551714*. Outlet(s) = Yuba River (Lat 39.2305, Long -1121.2813) upstream to endpoint(s) in: Yuba River (39.2399, -1121.2689).

(10) Valley American Hydrologic Unit 5519—(i) *Lower American Hydrologic Sub-area 551921*. Outlet(s) = American River (Lat 38.5971, -1121.5088) upstream to endpoint(s) in: American River (38.6373, -1121.2202); Dry Creek (38.7554, -1121.2676); Miner's Ravine (38.8429, -1121.1178); Natomas East Main Canal (38.6646, -1121.4770); Secret Ravine (38.8541, -1121.1223).

(ii) *Pleasant Grove Hydrologic Sub-area 551922*. Outlet(s) = Sacramento River (Lat 38.6026, Long -1121.5155) upstream to endpoint(s) in: Auburn Ravine (38.8913, -1121.2424); Coon Creek (38.9883, -1121.2609); Doty Creek (38.9392, -1121.2475); Feather River (39.1264, -1121.5984).

(11) Colusa Basin Hydrologic Unit 5520—(i) *Sycamore-Sutter Hydrologic Sub-area 552010*. Outlet(s) = Sacramento River (Lat 38.7604, Long -1121.6767) upstream to endpoint(s) in: Tisdale Bypass (39.0261, -1121.7456).

(ii) *Sutter Bypass Hydrologic Sub-area 552030*. Outlet(s) = Sacramento River (Lat 38.7851, Long -1121.6238) upstream to endpoint(s) in: Butte Creek (39.1990, -1121.9286); Butte Slough (39.1987, -1121.9285); Nelson Slough (38.8956, -1121.6180); Sacramento Slough (38.7844, -1121.6544); Sutter Bypass (39.1586, -1121.8747).

(iii) *Butte Basin Hydrologic Sub-area 552040*. Outlet(s) = Butte Creek (Lat 39.1990, Long -1121.9286); Sacramento

River (39.4141, -1122.0087) upstream to endpoint(s) in: Butte Creek (39.7096, -1121.7504); Colusa Bypass (39.2276, -1121.9402); Little Chico Creek (39.7380, -1121.7490); Little Dry Creek (39.6781, -1121.6580).

(12) Butte Creek Hydrologic Unit 5521—(i) *Upper Dry Creek Hydrologic Sub-area 552110*. Outlet(s) = Little Dry Creek (Lat 39.6781, -1121.6580) upstream to endpoint(s) in: Little Dry Creek (39.7424, -1121.6213).

(ii) *Upper Butte Creek Hydrologic Sub-area 552120*. Outlet(s) = Little Chico Creek (Lat 39.7380, Long -1121.7490) upstream to endpoint(s) in: Little Chico Creek (39.8680, -1121.6660).

(iii) *Upper Little Chico Hydrologic Sub-area 552130*. Outlet(s) = Butte Creek (Lat 39.7096, Long -1121.7504) upstream to endpoint(s) in: Butte Creek (39.8215, -1121.6468); Little Butte Creek (39.8159, -1121.5819).

(13) Ball Mountain Hydrologic Unit 5523—*Thomes Creek Hydrologic Sub-area 552310*. Outlet(s) = Thomes Creek (39.8822, -1122.5527) upstream to endpoint(s) in: Doll Creek (39.8941, -1122.9209); Fish Creek (40.0176, -1122.8142); Snake Creek (39.9945, -1122.7788); Thomes Creek (39.9455, -1122.8491); Willow Creek (39.8941, -1122.9209).

(14) Shasta Bally Hydrologic Unit 5524—(i) *South Fork Hydrologic Sub-area 552433*. Outlet(s) = Cold Fork Cottonwood Creek (Lat 40.2060, Long -1122.6608); South Fork Cottonwood Creek (40.1578, -1122.5809) upstream to endpoint(s) in: Cold Fork Cottonwood Creek (40.1881, -1122.8690); South Fork Cottonwood Creek (40.1232, -1122.8761).

(ii) *Platina Hydrologic Sub-area 552436*. Outlet(s) = Middle Fork Cottonwood Creek (Lat 40.3314, Long -1122.6663) upstream to endpoint(s) in: Beegum Creek (40.3149, -1122.9776); Middle Fork Cottonwood Creek (40.3512, -1122.9629).

(iii) *Spring Creek Hydrologic Sub-area 552440*. Outlet(s) = Sacramento River (Lat 40.5943, Long -1122.4343) upstream to endpoint(s) in: Middle Creek (40.5904, -1121.4825); Rock Creek (40.6155, -1122.4702); Sacramento River (40.6116, -1122.4462); Salt Creek (40.5830, -1122.4586); Unnamed Tributary (40.5734, -1122.4844).

(iv) *Kanaka Peak Hydrologic Sub-area 552462*. Outlet(s) = Clear Creek (Lat 40.5158, Long -1122.5256) upstream to endpoint(s) in: Clear Creek (40.5998, 122.5399).

(15) North Valley Floor Hydrologic Unit 5531—(i) *Lower Mokelumne Hydrologic Sub-area 553120*. Outlet(s) =

Mokelumne River (Lat 38.2104, Long -1121.3804) upstream to endpoint(s) in: Mokelumne River (38.2263, -1121.0241); Murphy Creek (38.2491, -1121.0119).

(ii) *Lower Calaveras Hydrologic Sub-area 553130*. Outlet(s) = Calaveras River (Lat 37.9836, Long -1121.3110); Mormon Slough (37.9456, -121.2907) upstream to endpoint(s) in: Calaveras River (38.1025, -1120.8503); Mormon Slough (38.0532, -1121.0102); Stockton Diverting Canal (37.9594, -1121.2024).

(16) Upper Calaveras Hydrologic Unit 5533—*New Hogan Reservoir Hydrologic Sub-area 553310*. Outlet(s) = Calaveras River (Lat 38.1025, Long -1120.8503) upstream to endpoint(s) in: Calaveras River (38.1502, -1120.8143).

(17) Stanislaus River Hydrologic Unit 5534—*Table Mountain Hydrologic Sub-area 553410*. Outlet(s) = Stanislaus River (Lat 37.8355, Long -1120.6513) upstream to endpoint(s) in: Stanislaus River (37.8631, -1120.6298).

(18) San Joaquin Valley Floor Hydrologic Unit 5535—(i) *Riverbank Hydrologic Sub-area 553530*. Outlet(s) = Stanislaus River (Lat 37.6648, Long -1121.2414) upstream to endpoint(s) in: Stanislaus River (37.8355, -1120.6513).

(ii) *Turlock Hydrologic Sub-area 553550*. Outlet(s) = Tuolumne River (Lat 37.6059, Long -1121.1739) upstream to endpoint(s) in: Tuolumne River (37.6401, -1120.6526).

(iii) *Montpelier Hydrologic Sub-area 553560*. Outlet(s) = Tuolumne River (Lat 37.6401, Long -1120.6526) upstream to endpoint(s) in: Tuolumne River (37.6721, -1120.4445).

(iv) *El Nido-Stevinson Hydrologic Sub-area 553570*. Outlet(s) = Merced River (Lat 37.3505, Long -1120.9619) upstream to endpoint(s) in: Merced River (37.3620, -1120.8507).

(v) *Merced Hydrologic Sub-area 553580*. Outlet(s) = Merced River (Lat 37.3620, Long -1120.8507) upstream to endpoint(s) in: Merced River (37.4982, -1120.4612).

(vi) *Fahr Creek Hydrologic Sub-area 553590*. Outlet(s) = Merced River (Lat 37.4982, Long -1120.4612) upstream to endpoint(s) in: Merced River (37.5081, -1120.3581).

(19) Delta-Mendota Canal Hydrologic Unit 5541—(i) *Patterson Hydrologic Sub-area 554110*. Outlet(s) = San Joaquin River (Lat 37.6763, Long -1121.2653) upstream to endpoint(s) in: San Joaquin River (37.3491, -1120.9759).

(ii) *Los Banos Hydrologic Sub-area 554120*. Outlet(s) = Merced River (Lat 37.3490, Long -1120.9756) upstream to endpoint(s) in: Merced River (37.3505, -1120.9619).

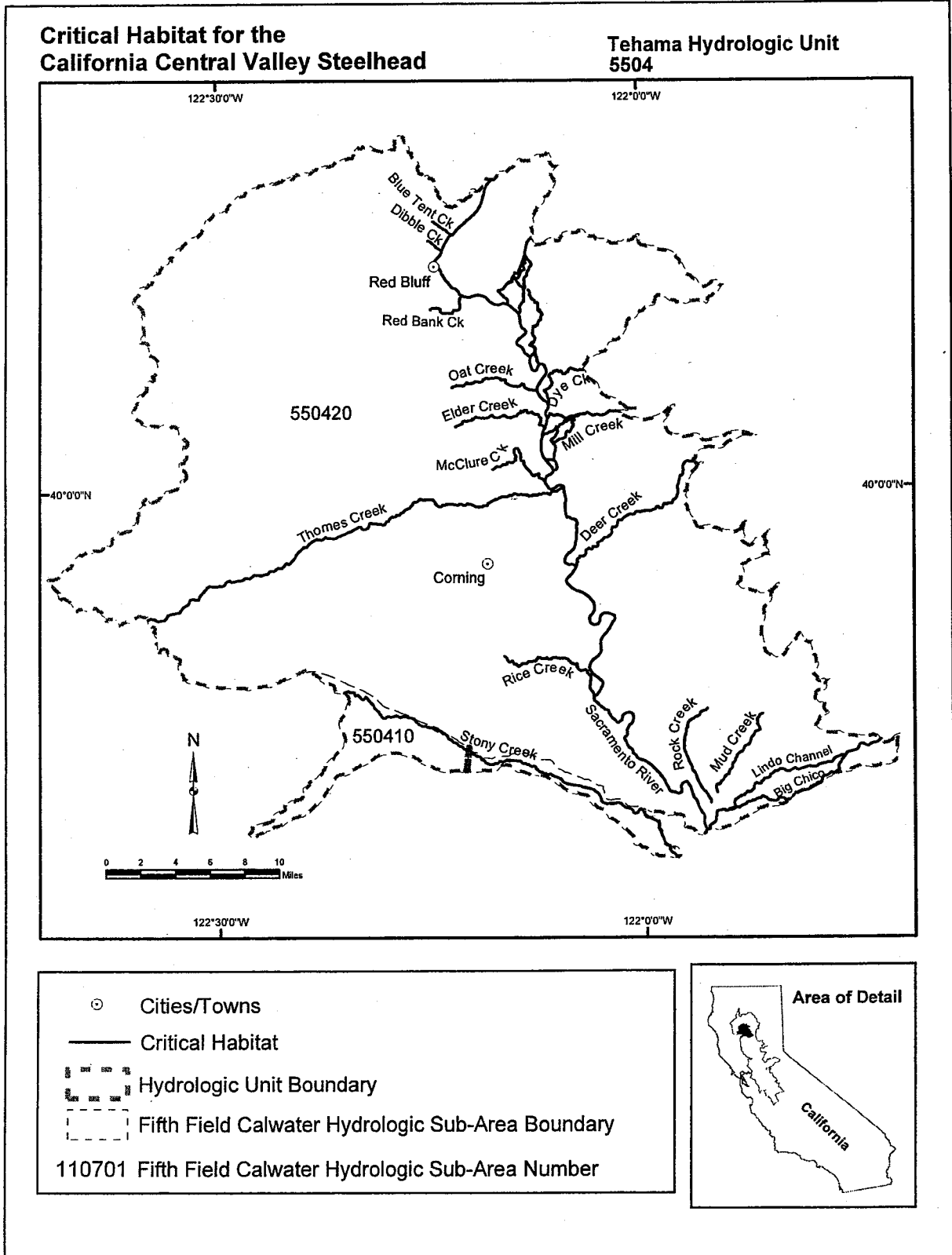
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**52606** Federal Register / Vol. 70, No. 170 / Friday, September 2, 2005 / Rules and Regulations

- (20) North Diablo Range Hydrologic Unit 5543—*North Diablo Range Hydrologic Sub-area 554300*. Outlet(s) = San Joaquin River (Lat 38.0247, Long -1121.8218) upstream to endpoint(s) in: San Joaquin River (38.0246, -1121.7471).
- (21) San Joaquin Delta Hydrologic Unit 5544—*San Joaquin Delta Hydrologic Sub-area 554400*. Outlet(s) = San Joaquin River (Lat 38.0246, Long -1121.7471) upstream to endpoint(s) in: Big Break (38.0160, -1121.6849); Bishop Cut (38.0870, -1121.4158); Calaveras River (37.9836, -1121.3110); Cosumnes River (38.2538, -1121.4074); Disappointment Slough (38.0439, -1121.4201); Dutch Slough (38.0088, -1121.6281); Empire Cut (37.9714, -1121.4762); False River (38.0479, -1121.6232); Frank's Tract (38.0220, -1121.5997); Frank's Tract (38.0300, -1121.5830); Holland Cut (37.9939, -1121.5757); Honker Cut (38.0680, -1121.4589); Kellog Creek (37.9158, -1121.6051); Latham Slough (37.9716, -1121.5122); Middle River (37.8216, -1121.3747); Mokelumne River (38.2104, -1121.3804); Mormon Slough (37.9456, -121.2907); Mosher Creek (38.0327, -1121.3650); North Mokelumne River (38.2274, -1121.4918); Old River (37.8086, -1121.3274); Orwood Slough (37.9409, -1121.5332); Paradise Cut (37.7605, -1121.3085); Pixley Slough (38.0443, -1121.3868); Potato Slough (38.0440, -1121.4997); Rock Slough (37.9754, -1121.5795); Sand Mound Slough (38.0220, -1121.5997); Stockton Deep Water Channel (37.9957, -1121.4201); Turner Cut (37.9972, -1121.4434); Unnamed Tributary (38.1165, -1121.4976); Victoria Canal (37.8891, -1121.4895); White Slough (38.0818, -1121.4156); Woodward Canal (37.9037, -1121.4973).
- (22) Maps of critical habitat for the Central Valley Steelhead ESU follow:  
BILLING CODE 3510-22-P

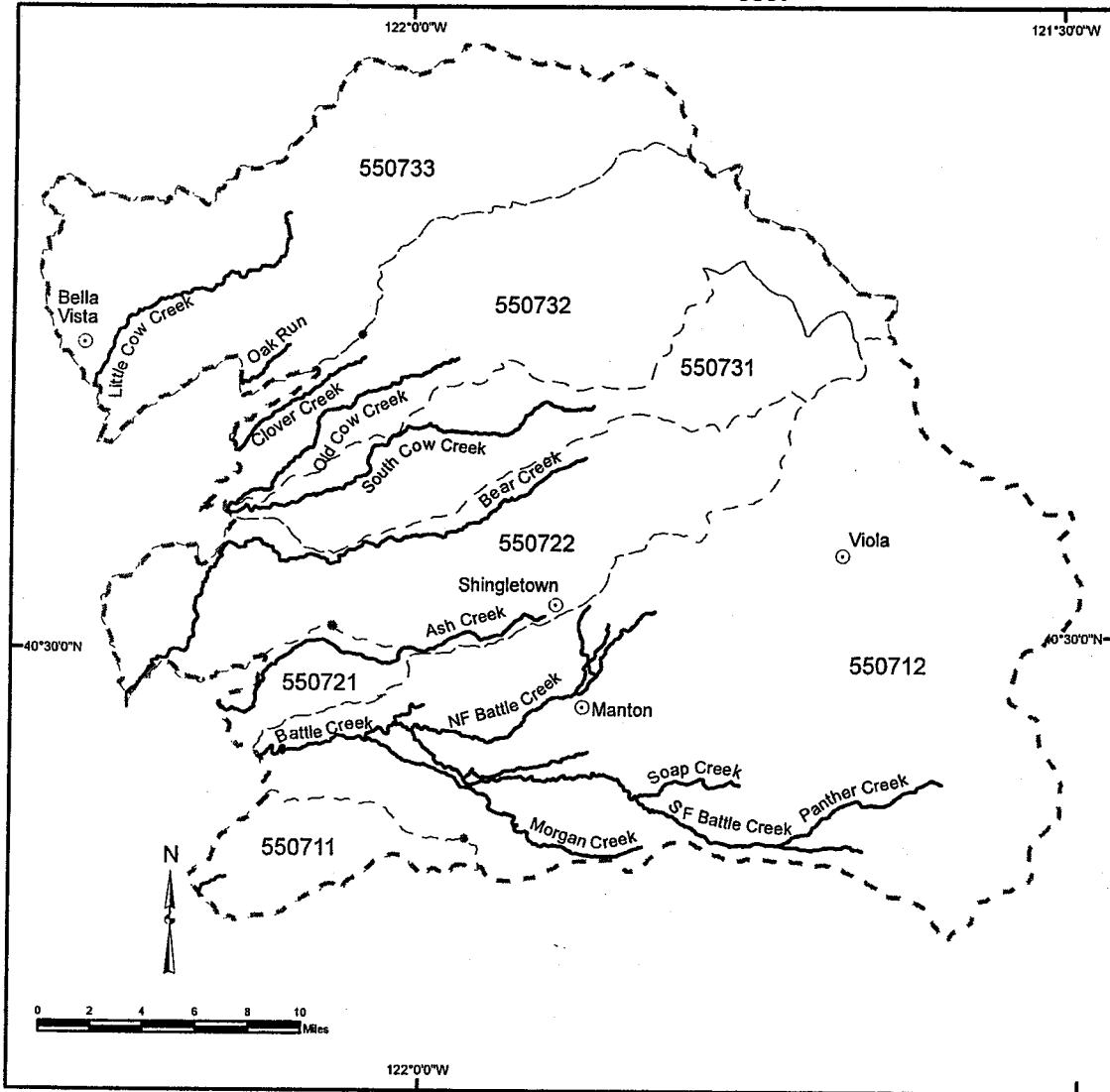
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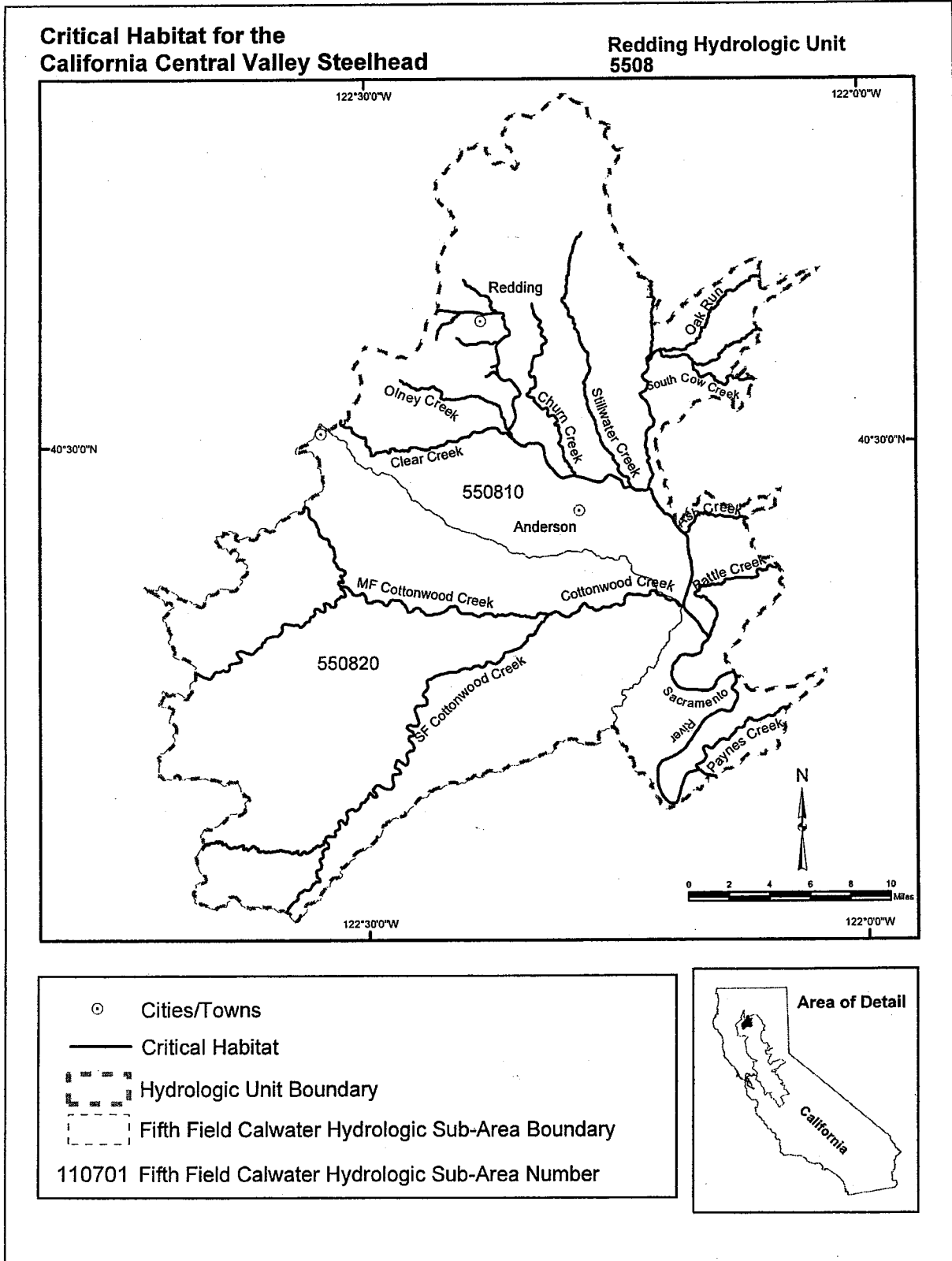
### Critical Habitat for the California Central Valley Steelhead

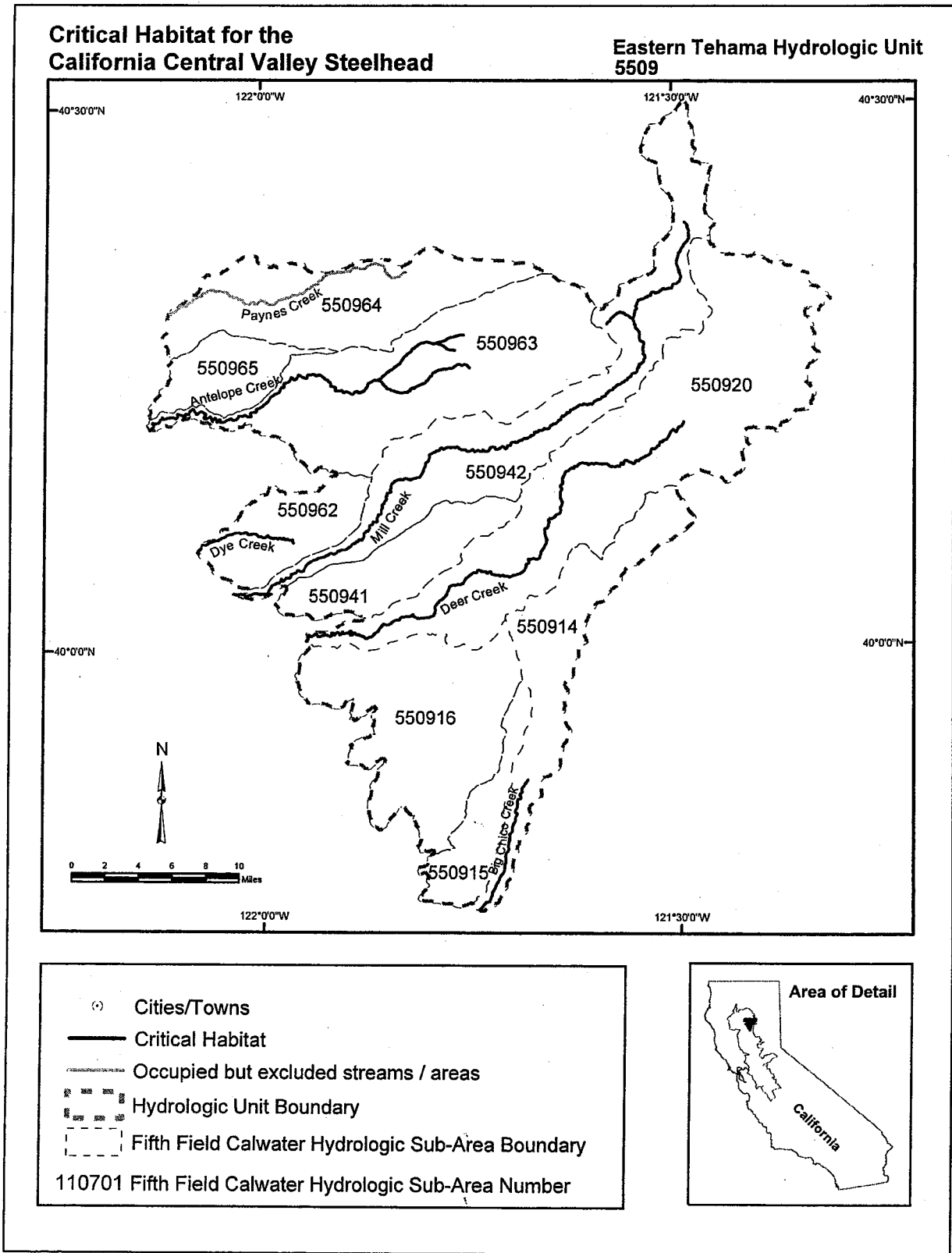
Whitmore Hydrologic Unit  
5507

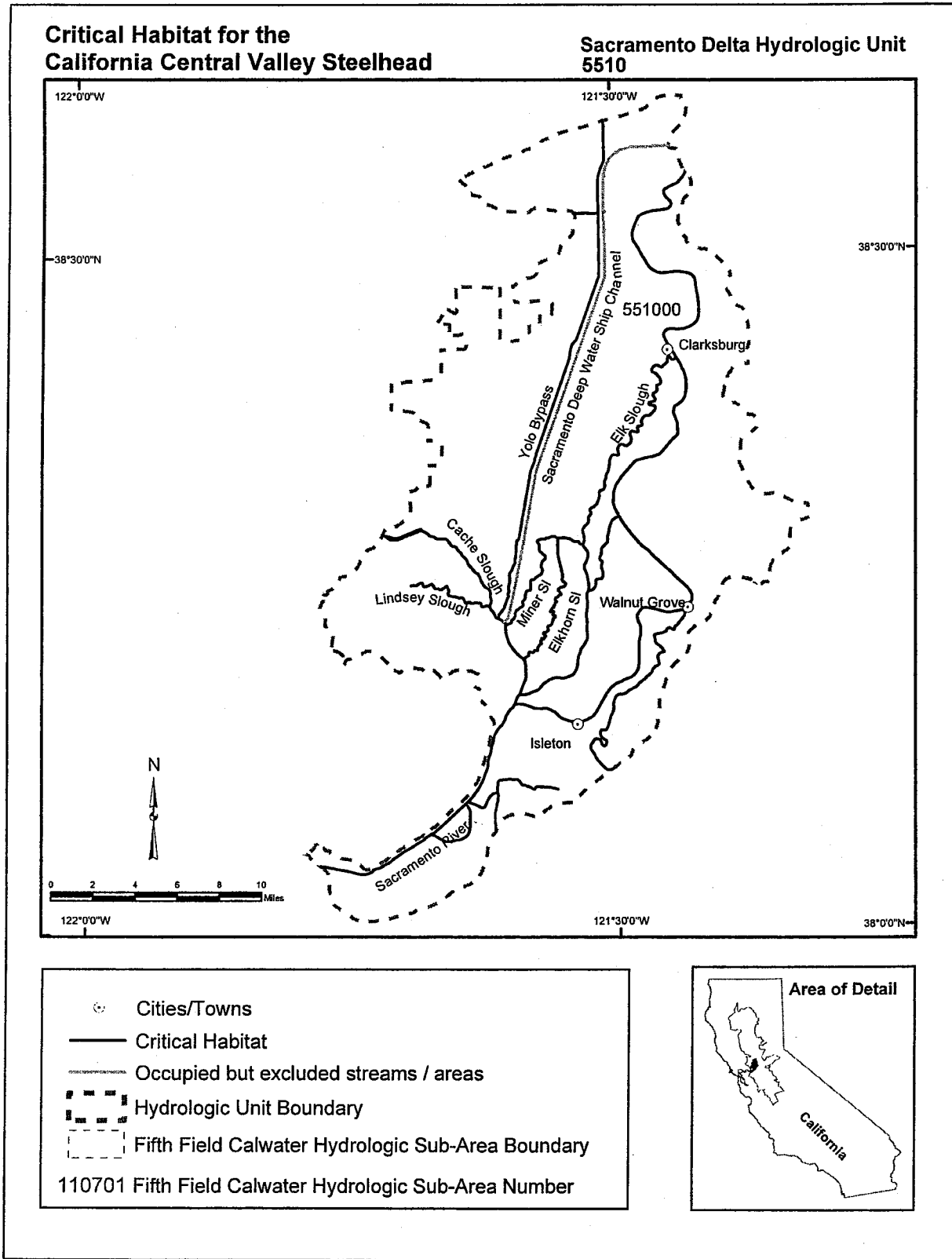


- ⊙ Cities/Towns
- Critical Habitat
- - - Hydrologic Unit Boundary
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number

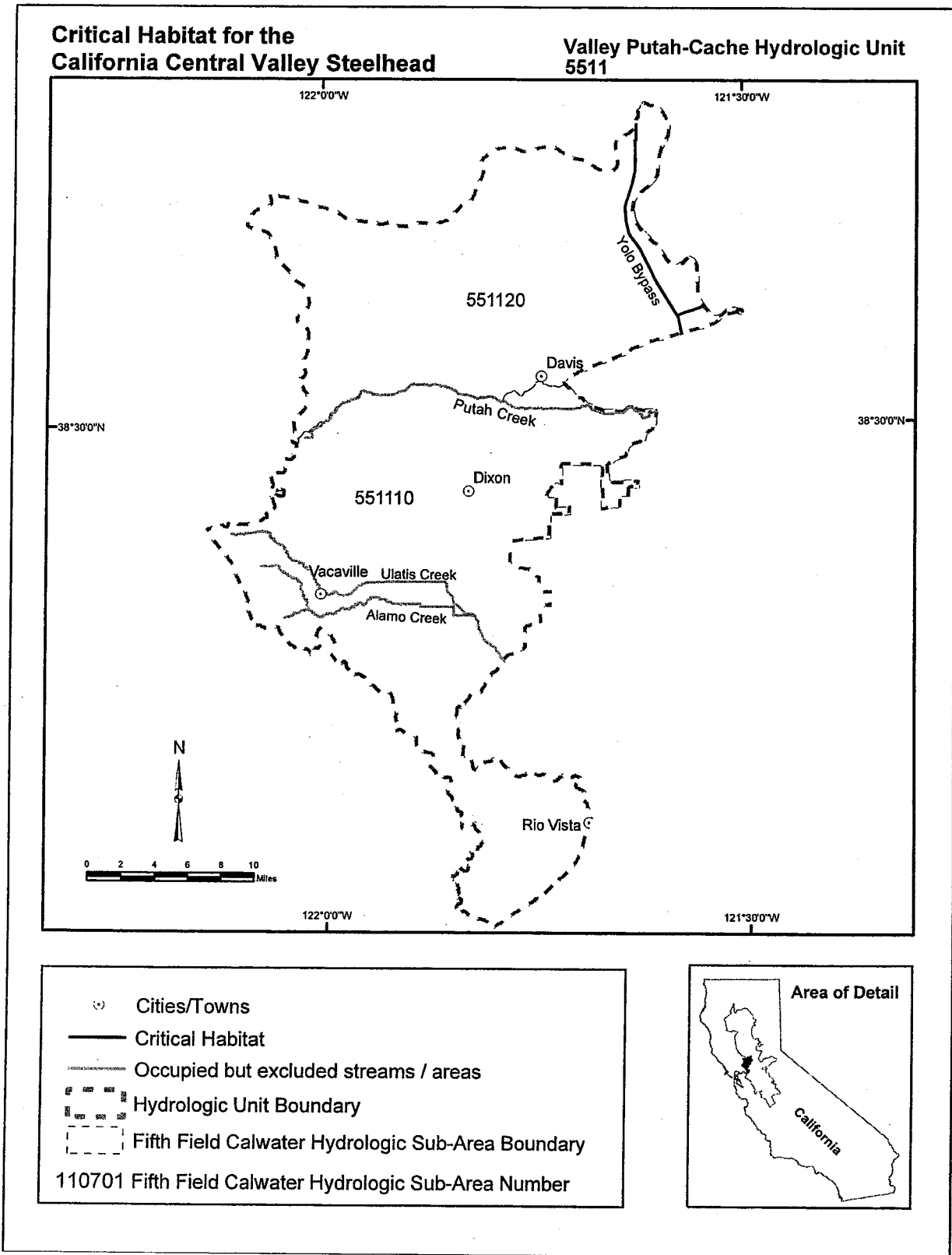






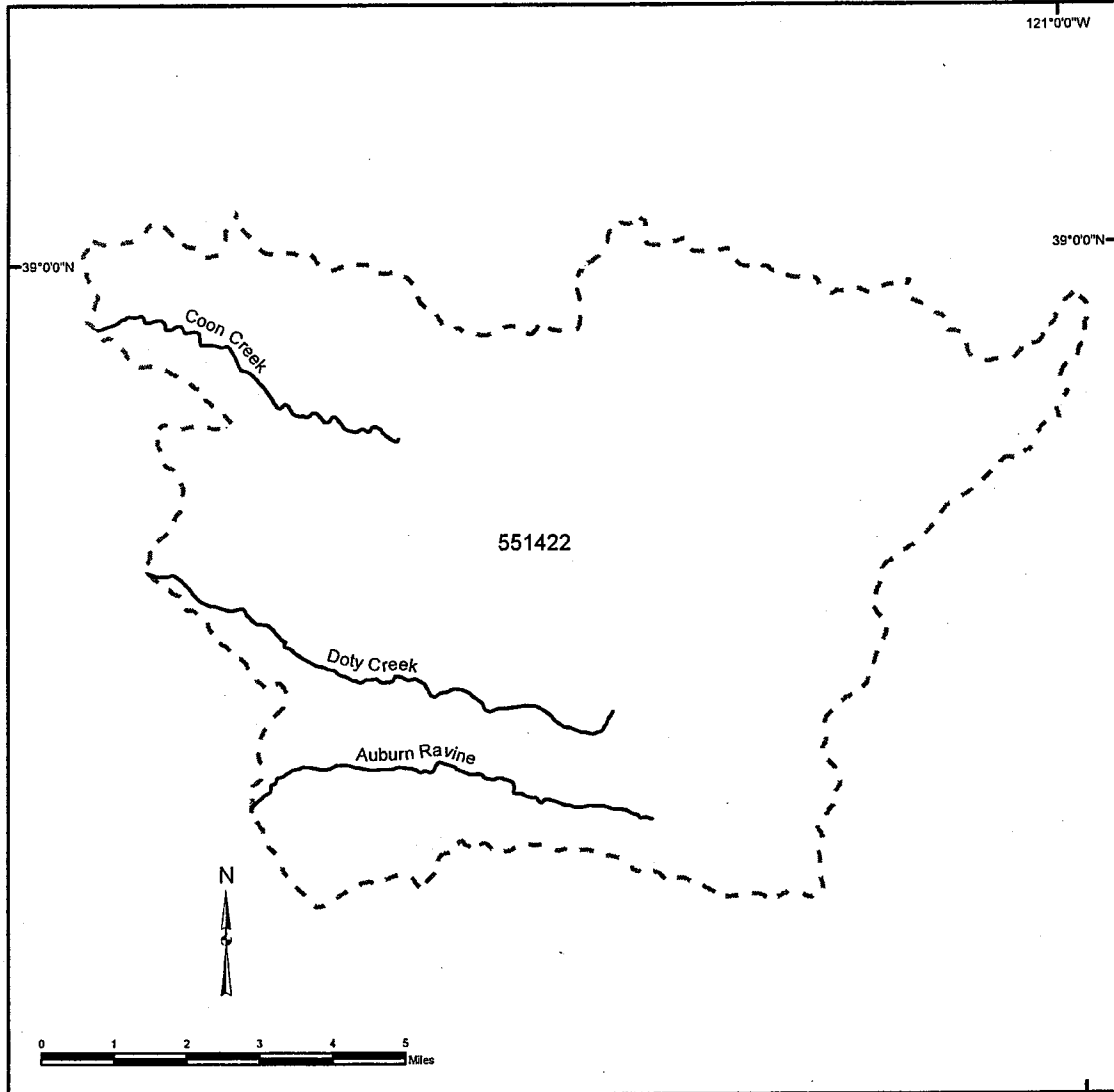




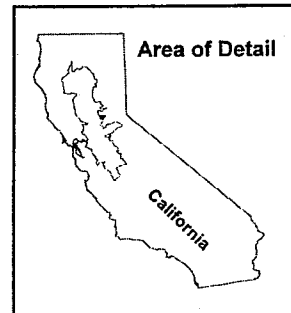


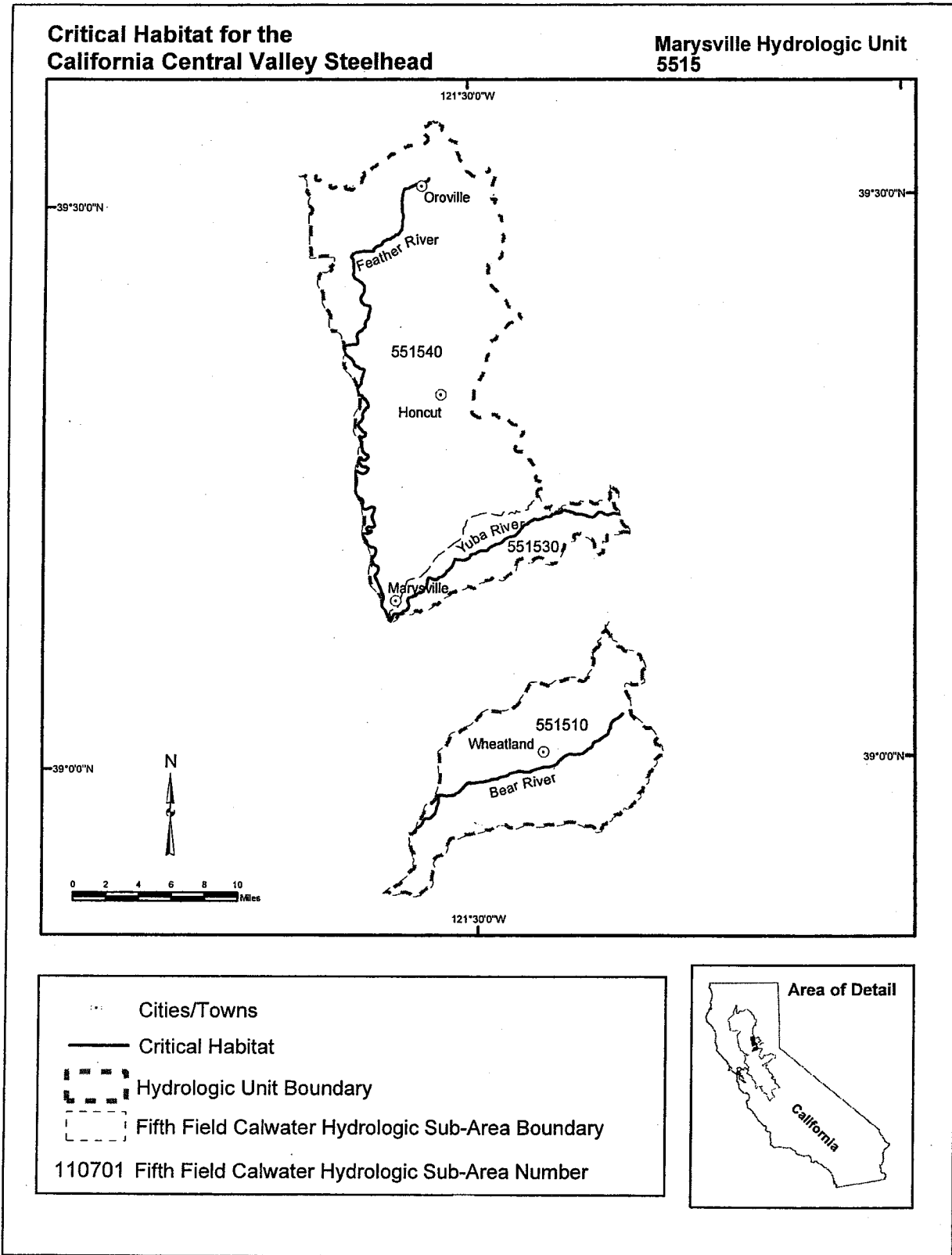
**Critical Habitat for the  
California Central Valley Steelhead**

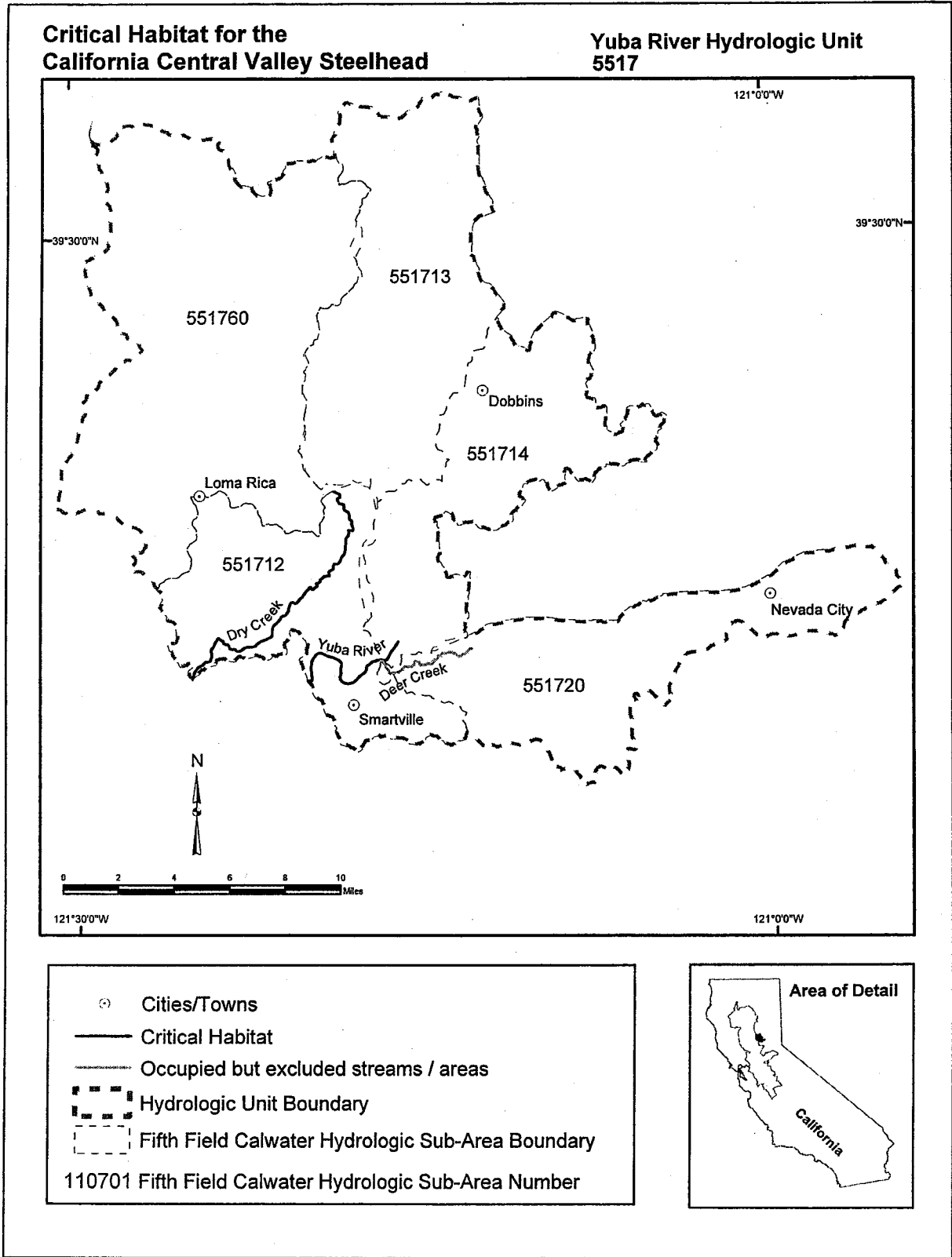
**American River Hydrologic Unit  
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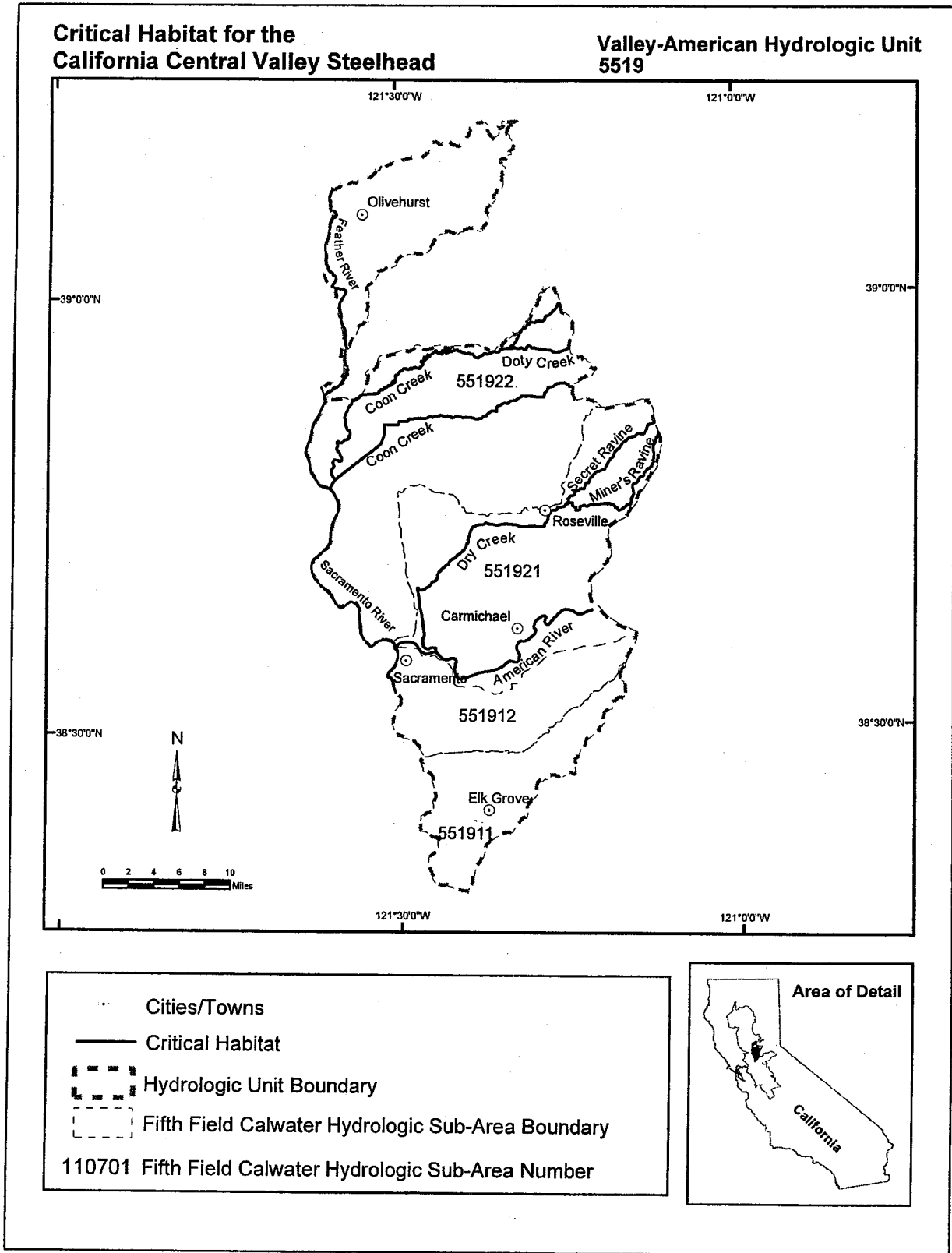


- Cities/Towns
  - Critical Habitat
  - - - Hydrologic Unit Boundary
  - · · Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number

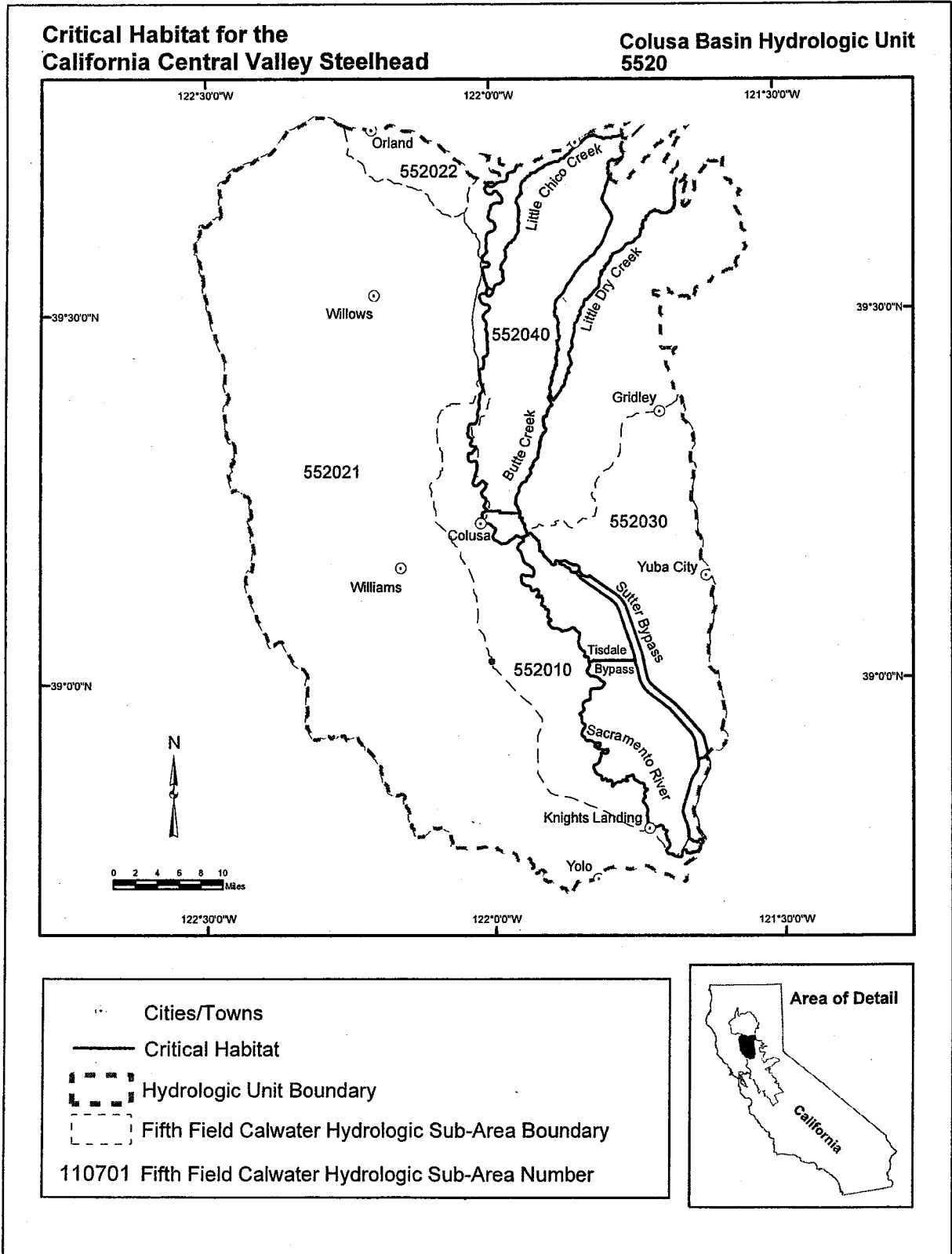


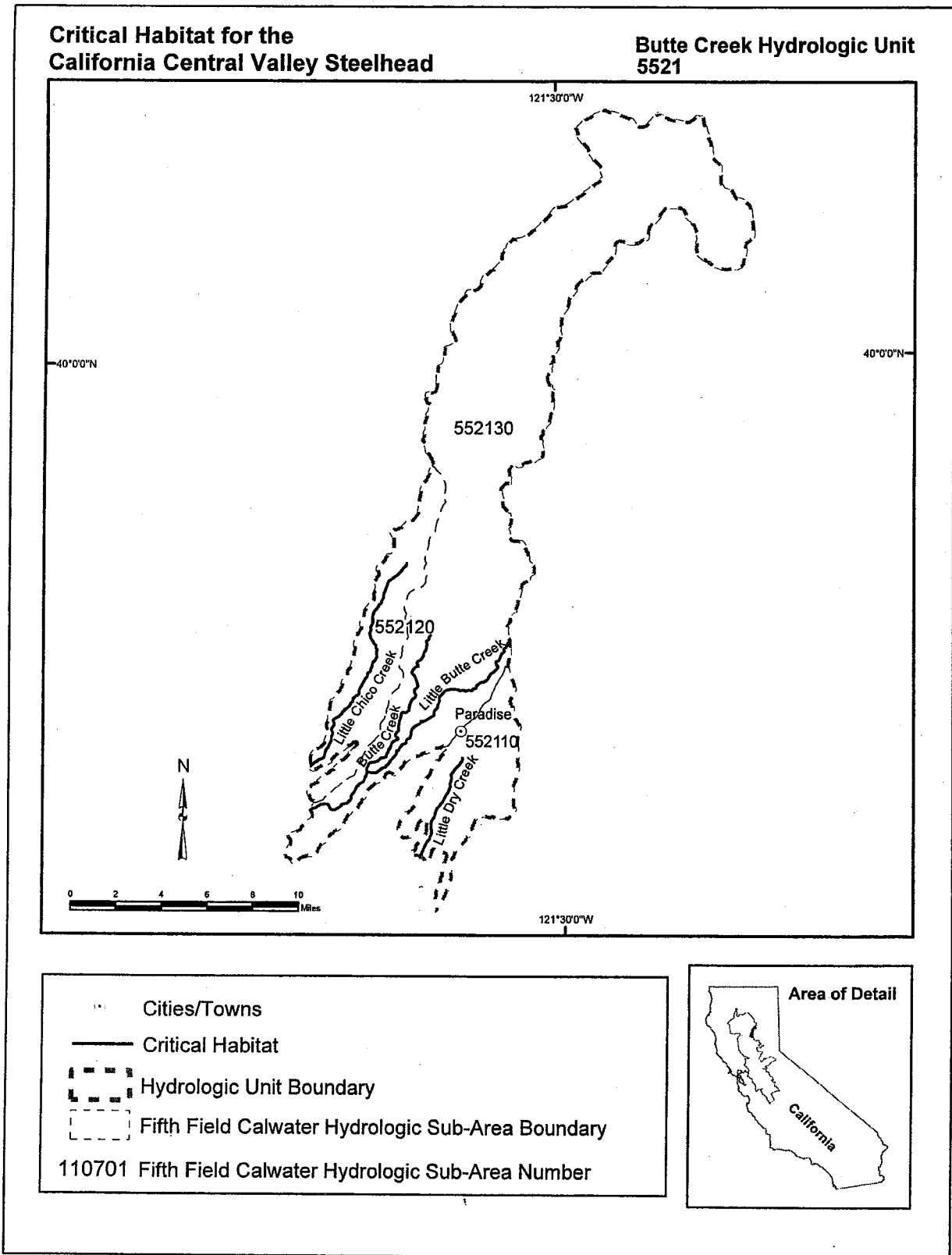


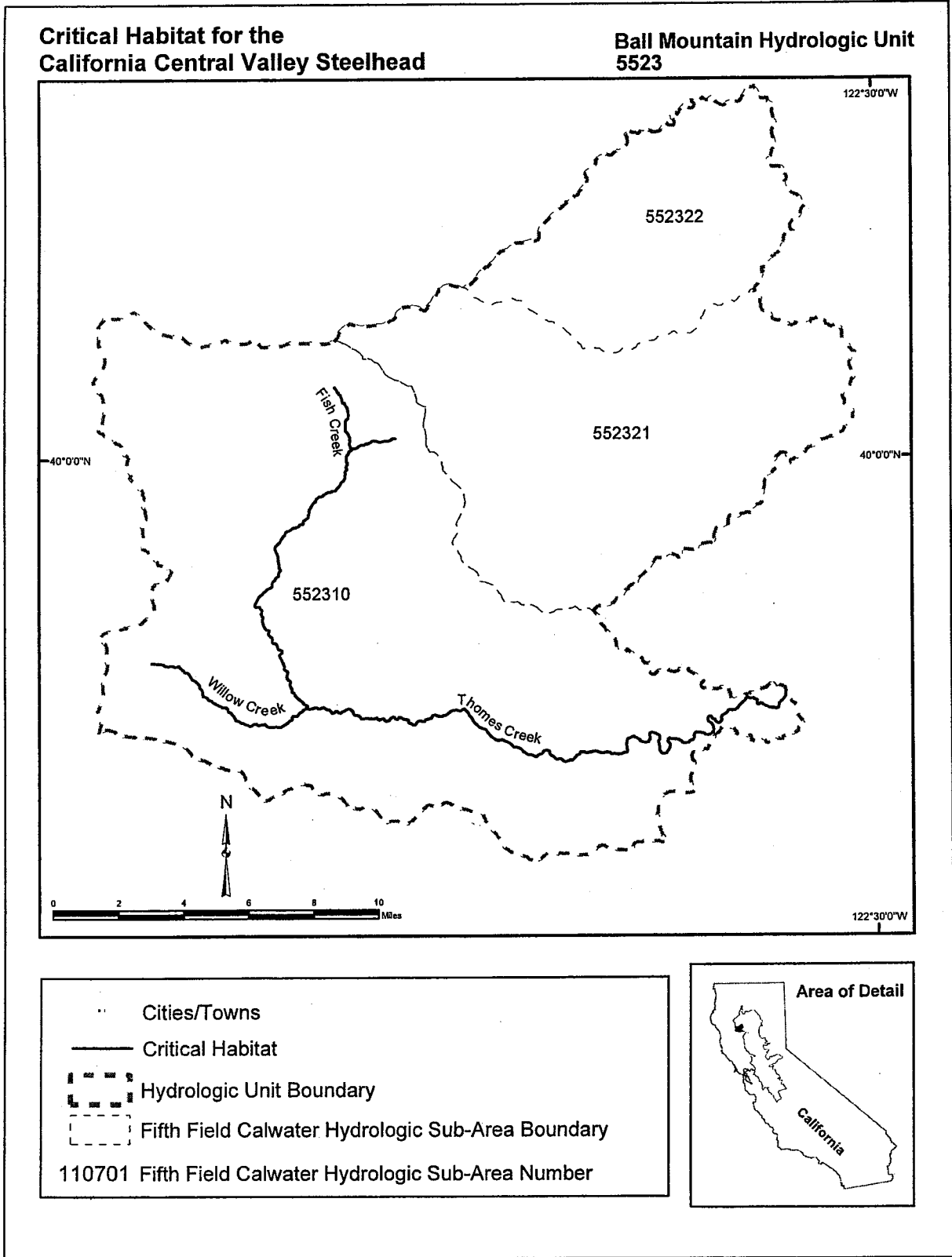






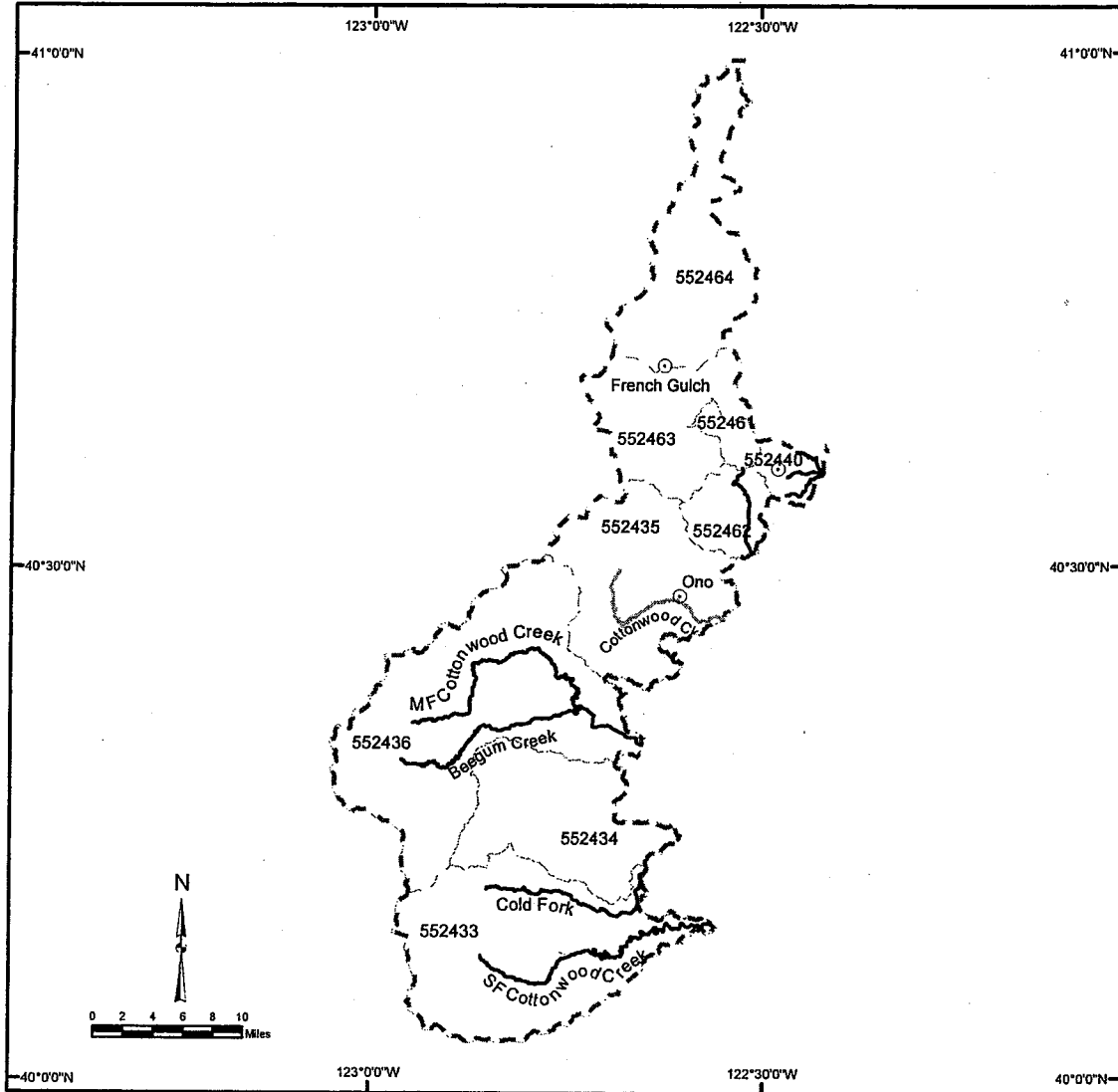






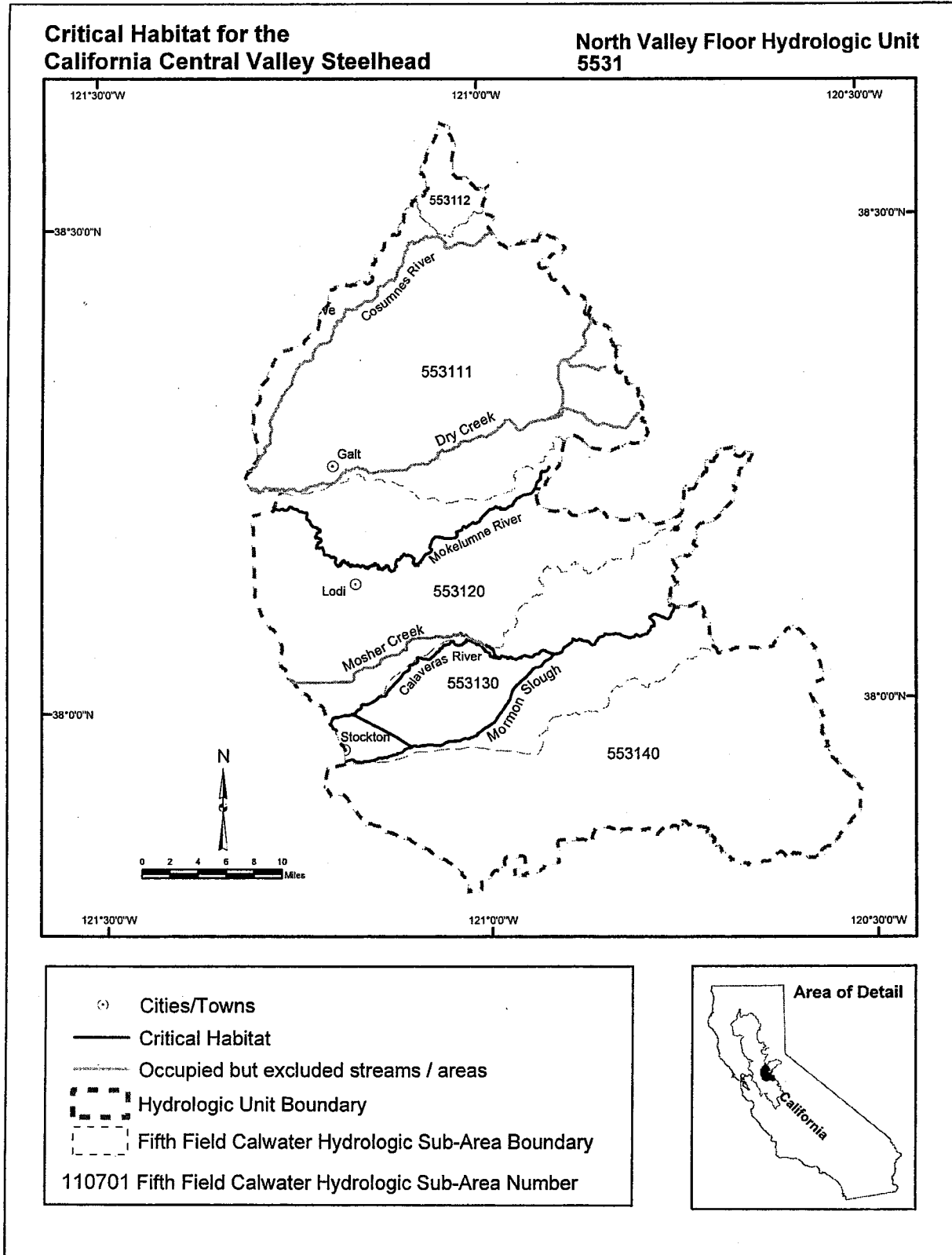
### Critical Habitat for the California Central Valley Steelhead

### Shasta Bally Hydrologic Unit 5524



○ Cities/Towns  
— Critical Habitat  
- - - Occupied but excluded streams / areas  
- - - Hydrologic Unit Boundary  
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary  
110701 Fifth Field Calwater Hydrologic Sub-Area Number

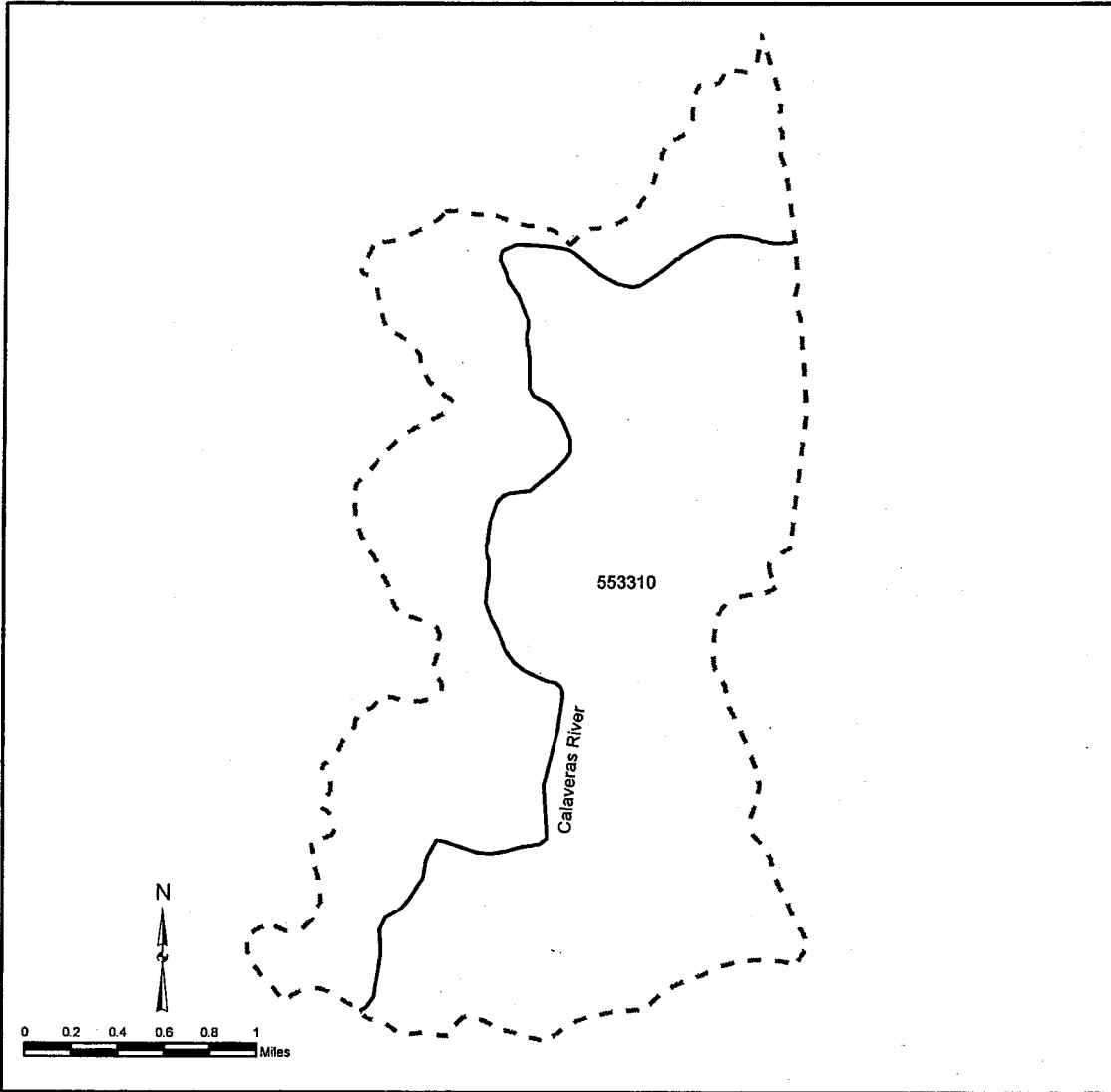






**Critical Habitat for the  
California Central Valley Steelhead**

**Upper Calaveras Hydrologic Unit  
5533**

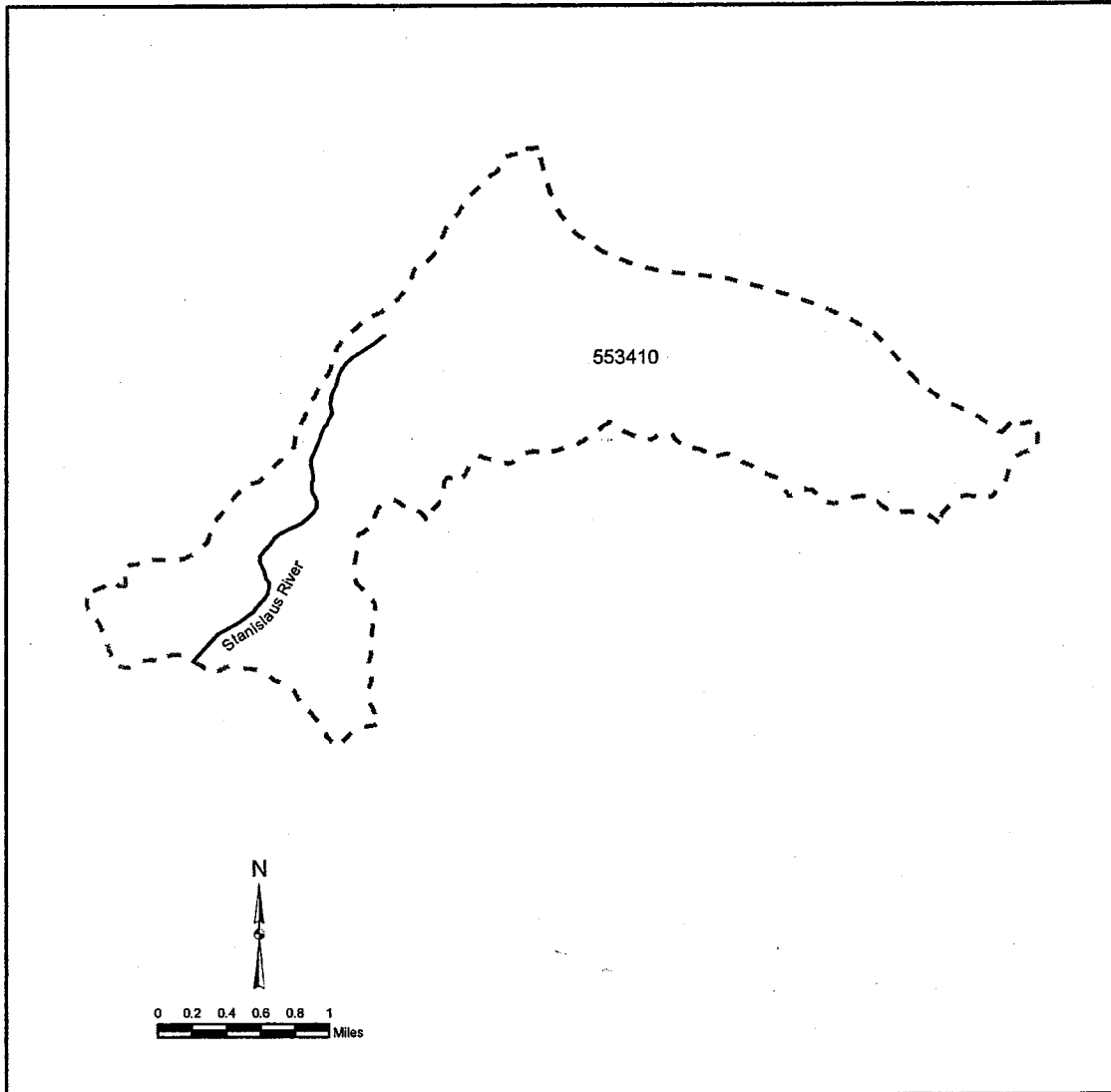


- Critical Habitat
  - - - Hydrologic Unit Boundary
  - · · Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number

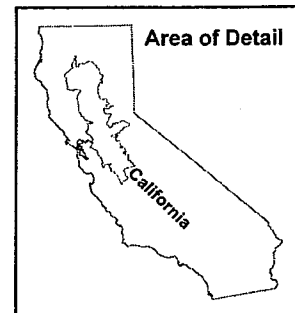


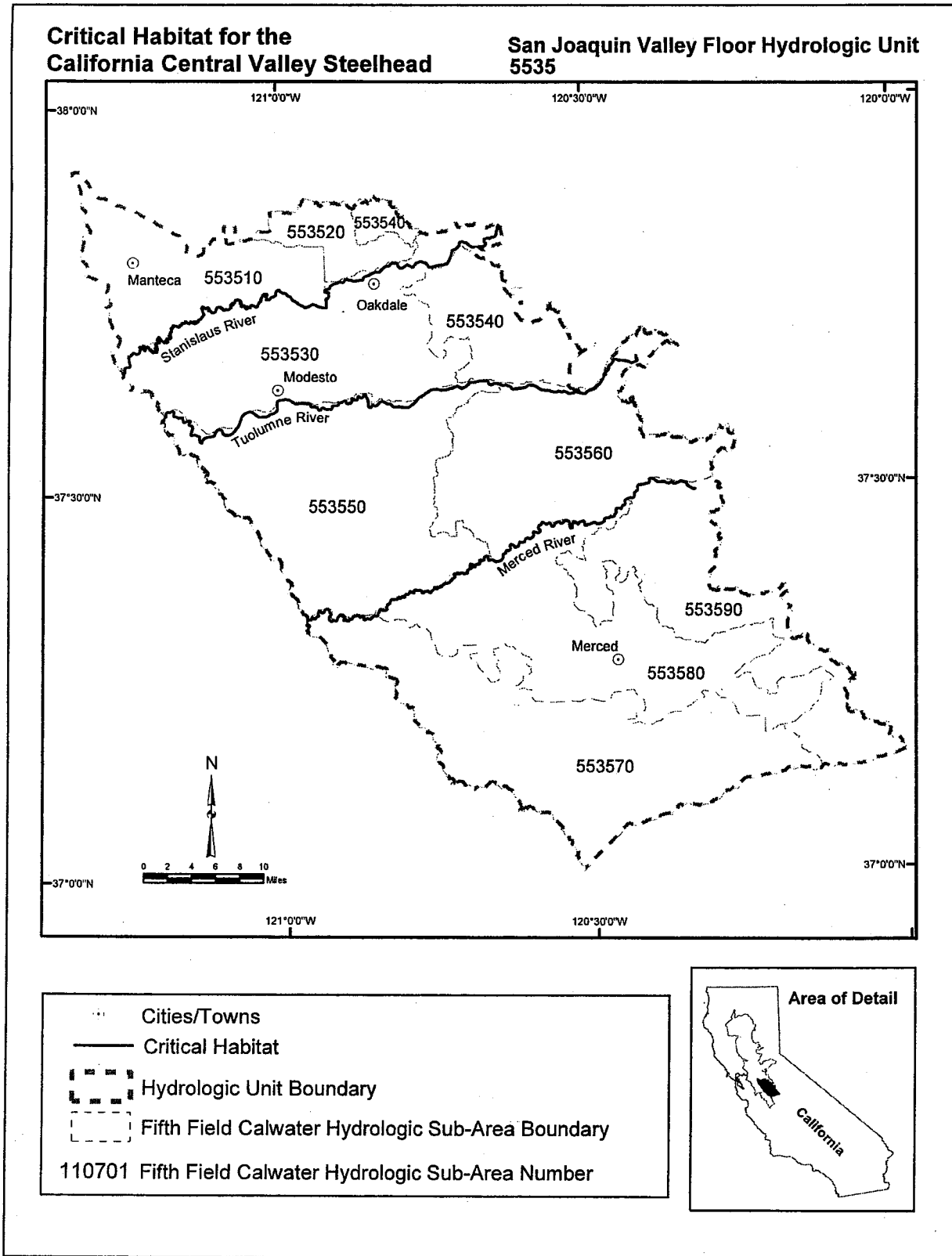
**Critical Habitat for the  
California Central Valley Steelhead**

**Stanislaus River Hydrologic Unit  
5534**



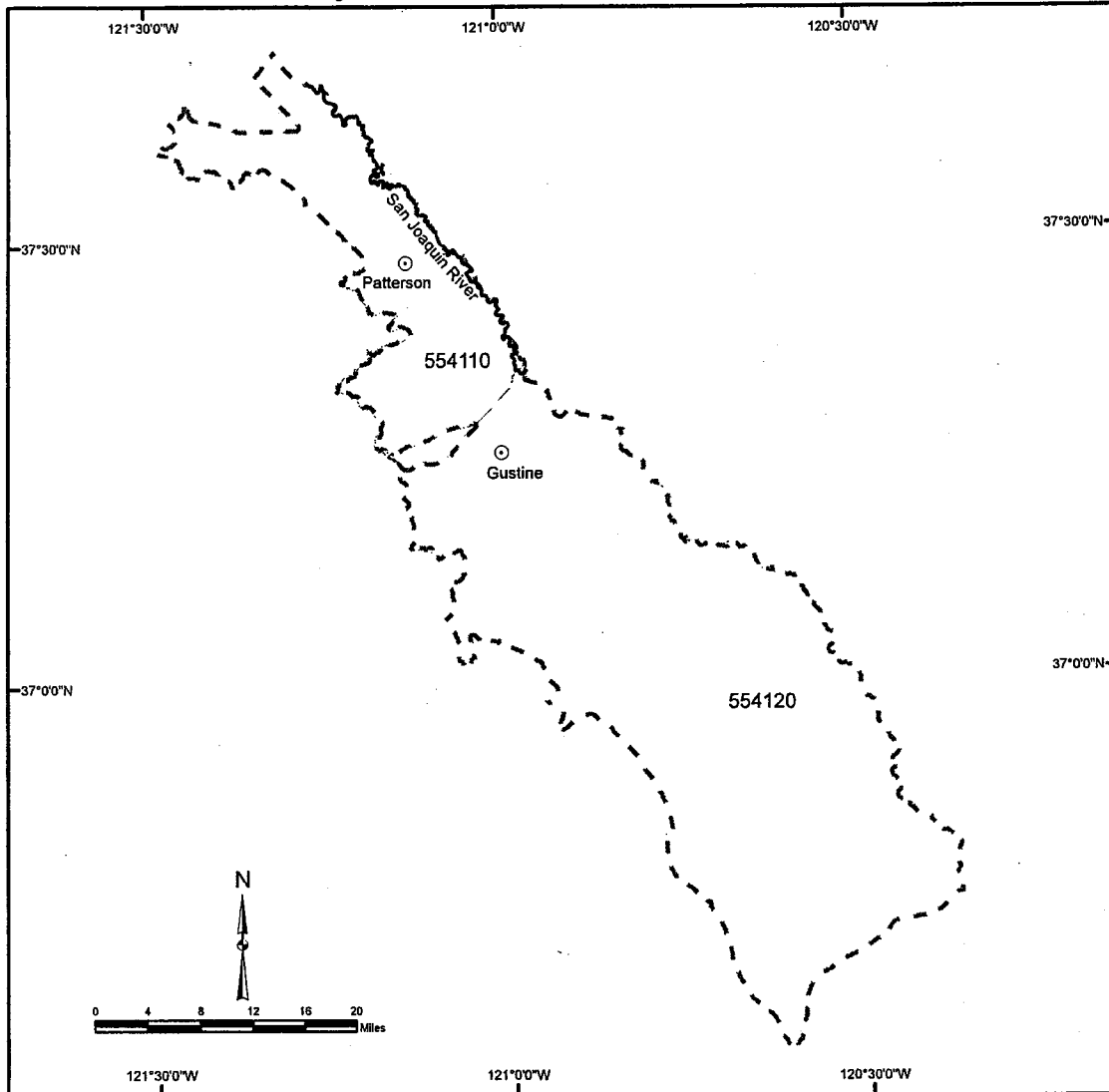
- Critical Habitat
  - - - Hydrologic Unit Boundary
  - - - Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number



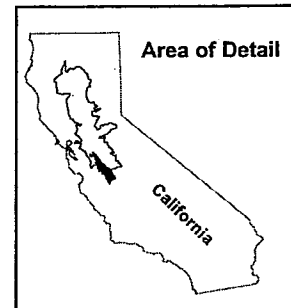


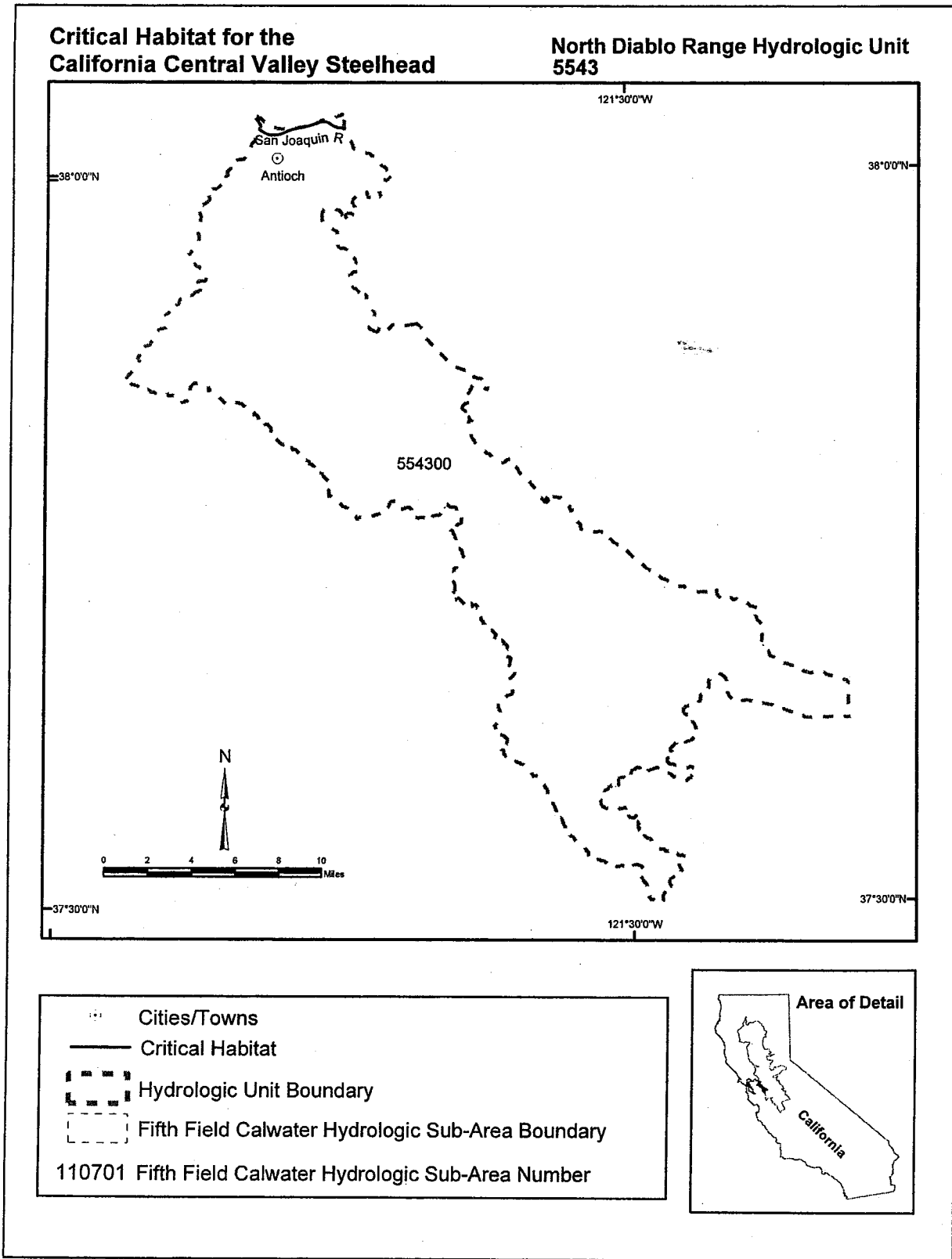
**Critical Habitat for the California Central Valley Steelhead**

**Delta-Mendota Canal Hydrologic Unit 5541**

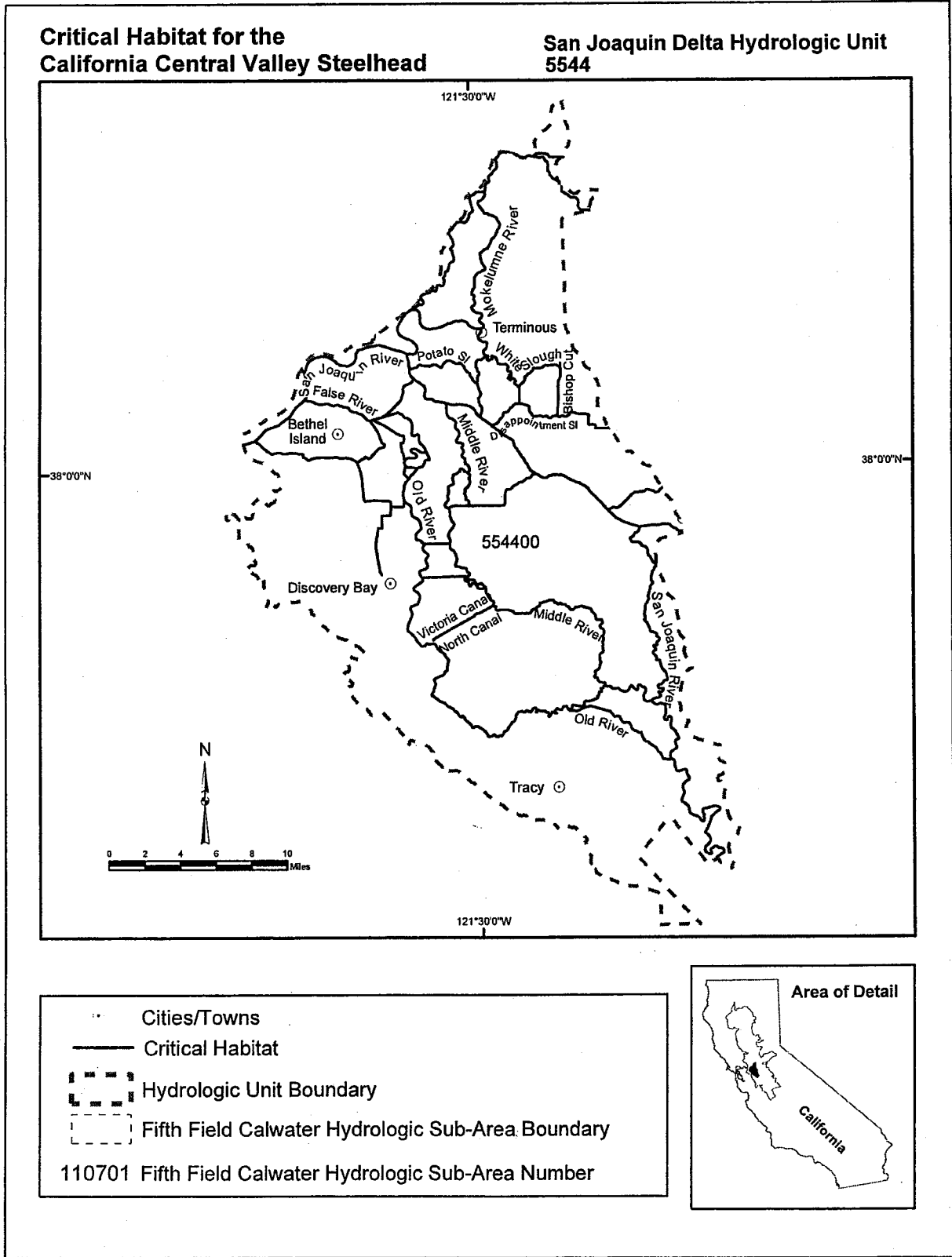


- Cities/Towns
- Critical Habitat
- - - Hydrologic Unit Boundary
- - - Fifth Field Calwater Hydrologic Sub-Area Boundary
- 110701 Fifth Field Calwater Hydrologic Sub-Area Number









**No. 17-15245**

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IN THE UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT

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CACHIL DEHE BAND OF WINTUN INDIANS OF THE COLUSA  
INDIAN COMMUNITY, a federally recognized Indian Tribe,  
Plaintiff-Appellant,

v.

KENNETH LEE SALAZAR, Secretary of the Interior, *et al.*,  
Defendants-Appellees.

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APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE  
EASTERN DISTRICT OF CALIFORNIA (No. 2:12-cv-03021-TLN-AC)

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**PLAINTIFF-APPELLANT'S ADDENDUM TO OPENING BRIEF**

**VOLUME 4**

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VOLUME 4  
(000365-000422)**

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**FEDERAL REGISTER**

73 Fed. Reg. 29354, 29356, 29357 000365-000368

74 Fed. Reg. 52300 000369-000420

77 Fed. Reg. 71612 000421

78 Fed. Reg. 114 000422

29354

Federal Register / Vol. 73, No. 98 / Tuesday, May 20, 2008 / Rules and Regulations

**DEPARTMENT OF THE INTERIOR****Bureau of Indian Affairs****25 CFR Part 292**

RIN 1076-AE81

**Gaming on Trust Lands Acquired After October 17, 1988**

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Final rule.

**SUMMARY:** The Bureau of Indian Affairs (BIA) is publishing regulations implementing section 2719 of the Indian Gaming Regulatory Act (IGRA). IGRA allows Indian tribes to conduct class II and class III gaming activities on land acquired after October 17, 1988, only if the land meets certain exceptions. This rule articulates standards that the BIA will follow in interpreting the various exceptions to the gaming prohibitions contained in section 2719 of IGRA. It also establishes a process for submitting and considering applications from Indian tribes seeking to conduct class II or class III gaming activities on lands acquired in trust after October 17, 1988.

DATES: Effective Date: June 19, 2008.

**FOR FURTHER INFORMATION CONTACT:** George Skibine, Director, Office of Indian Gaming, (202) 219-4066.

**SUPPLEMENTARY INFORMATION:** The authority to issue this document is vested in the Secretary of the Interior by 5 U.S.C. 301 and 25 U.S.C. 2, 9, and 2719. The Secretary has delegated this authority to the Assistant Secretary—Indian Affairs by part 209 of the Departmental Manual.

**Background**

The Indian Gaming Regulatory Act (IGRA), 25 U.S.C. 2701-2721, was signed into law on October 17, 1988. 25 U.S.C. 2719 (a)/k/a section 20 of IGRA prohibits gaming on lands that the Secretary of the Interior acquires in trust for an Indian tribe after October 17, 1988, unless the land qualifies under at least one of the exceptions contained in that section. If none of the exceptions in section 2719 applies, section 2719(b)(1)(A) of IGRA provides that gaming can still occur on the lands if:

(1) The Secretary consults with the Indian tribe and appropriate State and local officials, including officials of other nearby tribes;

(2) After consultation, the Secretary determines that a gaming establishment on newly acquired lands would be in the best interest of the Indian tribe and its members, and would not be detrimental to the surrounding community; and

(3) The Governor of the State in which the gaming activity is to be conducted concurs in the Secretary's determination.

On September 28, 1994, the BIA issued to all Regional Directors a Checklist for Gaming Acquisitions and Two-Part Determinations under section 20 of IGRA. This Checklist was revised and replaced on February 18, 1997. On November 9, 2001, an October 2001 Checklist was issued revising the February 18, 1997 Checklist to include gaming related acquisitions. On March 7, 2005 a new Checklist was issued to all Regional Directors replacing the October 2001 Checklist. On September 21, 2007 the Checklist was revised and issued to all Regional Directors replacing the March 2005 Checklist.

The regulations implement section 2719 of IGRA by articulating standards that the Department will follow in interpreting the various exceptions to the gaming prohibition on after-acquired trust lands contained in section 2719 of IGRA. Subpart A of the regulations define key terms contained in section 2719 or used in the regulation. Subpart B delineates how the Department will interpret the "settlement of a land claim" exception contained in section 2719(b)(1)(B)(i) of IGRA. This subpart clarifies that, in almost all instances, Congress must enact the settlement into law before the land can qualify under the exception. Subpart B also delineates what criteria must be met for a parcel of land to qualify under the "initial reservation" exception contained in section 2719(b)(1)(B)(ii) of IGRA. The regulation sets forth that the tribe must have present and historical connections to the land, and that the land must be proclaimed to be a new reservation pursuant to 25 U.S.C. 467 before the land can qualify under this exception. Finally, subpart B articulates what criteria must be met for a parcel of land to qualify under the "restored land for a restored tribe" exception contained in section 2719(b)(1)(B)(iii) of IGRA. The regulation sets forth the criteria for a tribe to qualify as a "restored tribe" and articulates the requirement for the parcel to qualify as "restored lands." Essentially, the regulation requires the tribe to have modern connections to the land, historical connections to the area where the land is located, and requires a temporal connection between the acquisition of the land and the tribe's restoration. Subpart C sets forth how the Department will evaluate tribal applications for a two-part Secretarial Determination under section 2719(b)(1)(A) of IGRA. Under this exception, gaming can occur on off-reservation trust lands if the Secretary,

after consultation with appropriate State and local officials, including officials of nearby tribes, makes a determination that a gaming establishment would be in the best interest of the tribe and its members and would not be detrimental to the surrounding community. The Governor of the State must concur in any Secretarial two-part determination. The regulation sets forth how consultation with local officials and nearby tribes will be conducted and articulates the factors the Department will consider in making the two-part determination. The regulation also gives the State Governor up to one year to concur in a Secretarial two-part determination, with an additional 180 days extension at the request of either the Governor or the applicant tribe. Subpart D clarifies that the regulations do not disturb existing decisions made by the BIA or the National Indian Gaming Commission (NIGC).

**Previous Rulemaking Activity**

On September 14, 2000, we published proposed regulations in the **Federal Register** (65 FR 55471) to establish procedures that an Indian tribe must follow in seeking a Secretarial Determination that a gaming establishment would be in the best interest of the Indian tribe and its members and would not be detrimental to the surrounding community. The comment period closed on November 13, 2000. On December 27, 2001 (66 FR 66847), we reopened the comment period to allow consideration of comments received after November 13, 2000, and to allow additional time for comment on the proposed rule. The comment period ended on March 27, 2002. On January 28, 2002 we published a notice in the **Federal Register** (67 FR 3846) to correct the effective date section which incorrectly stated that the deadline for receipt of comments was February 25, 2002 and was corrected to read "Comments must be received on or before March 27, 2002." No further action was taken to publish the final rule.

On October 5, 2006, we published a new proposed rule in the **Federal Register** (71 FR 58769) because we have determined that the rule should address not only the exception contained in section 2719(b)(1)(A) of IGRA (Secretarial Determination), but also the other exceptions contained in section 2719, in order to explain to the public how the Department interprets these exceptions. The comment period ended on December 5, 2006. On December 4, 2006, we published a notice in the **Federal Register** (71 FR 70335) to extend the comment period and make

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corrections. The comment period ended on December 19, 2006. On January 17, 2007, we published a notice in the *Federal Register* (72 FR 1954) to reopen the comment period to allow for consideration of comments received after December 19, 2006. Comments received during the comment period ending December 5, 2006, and February 1, 2007, were considered in the drafting of this final rule.

#### Review of Public Comments

Stylistic and conforming changes were made to the proposed regulations and are reflected throughout the final regulations. Substantive changes, if any, are addressed in the comments and responses below:

##### *Subpart A—General Provisions*

Section 292.1 What is the purpose of this part?

One comment regarded the applicability of section 2719 of IGRA to restricted fee lands and suggested a change in § 292.1. Another comment regarded the applicability of section 2719 to trust or restricted lands of individual Indians.

Response: The recommendation to modify § 292.1 was not adopted, because section 2719(a) refers only to lands acquired in trust after October 17, 1988. The omission of restricted fee from section 2719(a) is considered purposeful, because Congress referred to restricted fee lands elsewhere in IGRA, including at sections 2719(a)(2)(A)(ii) and 2703(4)(B). Section 292.1 was not amended to include land taken in trust after October 17, 1988 for individual Indians, nor land acquired after October 17, 1988 in restricted fee by individual Indians, because the language in section 2719 of IGRA is limited to Indian tribes. Also, it is important to note that the final regulations do not address any restrictions on tribally owned fee land within reservation boundaries, because even though such lands are “Indian lands” pursuant to section 2703(4), they are not encompassed by the prohibition in section 2719. In addition, tribally owned fee land outside of reservation boundaries is not encompassed by section 2703(4) unless a Federal law, other than 25 U.S.C. 177, directly imposes such limitations on the land, and the Indian tribe exercises governmental power over them.

Several comments regarded whether the regulations for section 2719 should include the requirements of “governmental powers” referenced in section 2703(4), and “jurisdiction” referenced in section 2710.

Response: Section 2719 does not specifically reference the “governmental powers” and “jurisdictional” requirements that are referenced in other sections of IGRA. Therefore, the final regulations do not include references to these requirements. The governmental powers and jurisdictional analysis is not required for the specific purpose of determining whether newly acquired lands are otherwise exempt from the general prohibition for lands acquired after October 17, 1988. The governmental powers and jurisdictional requirements are, however, a necessary element for determining whether gaming may be conducted on newly acquired lands. Therefore, depending on the nature of the application or request, the governmental powers and jurisdictional elements may be part of the analysis.

Section 292.2 How are key terms defined in this part?

##### Appropriate State and Local Officials

Several comments suggested that the 25-mile radius is too narrow and either recommended that the regulation include a larger mile limit or no mile limit at all.

Response: These recommendations were not adopted. From the Department’s prior experience implementing section 2719, the 25-mile radius allows for the adequate representation of local officials when conducting an analysis under section 2719(b)(1)(A). See discussion of the term “surrounding community” below.

A few comments suggested that the regulation is too broad as it applies to “local officials” and suggested that the regulation qualify the term “local officials” by using examples. A few other comments suggested that the term “local officials” was too vague and similarly suggested that the regulation qualify the term by using examples.

Response: These recommendations were not adopted. The term “local officials” is adequate. Because governmental organization varies from community to community, it is not practical to qualify the term “local officials” in either an effort to broaden or limit its applicability.

One comment suggested that the definition should be broadened to include other State officials or the Attorney General.

Response: This recommendation was not adopted. The only State official recognized under the definition is the Governor. However, the regulation does not limit the Governor from consulting with other State officials.

One comment suggested that the definition should apply to appropriate

State and local officials in other States if within the 25-mile radius.

Response: The definition includes local officials from other States if they are within the 25-mile radius. However, the definition only recognizes the Governor of the State in which the proposed gaming establishment is located.

Section 292.2 How are key terms defined in this part?

##### Contiguous

Several comments related to the definition of contiguous. One comment suggested removing the definition from the section. A few other comments suggested keeping the definition, but removing the second sentence that specifies that contiguous includes parcels divided by non-navigable waters or a public road or right-of-way. A few comments suggested including both navigable and non-navigable waters in the definition. Many comments regarded the concept of “corner contiguity.” Some comments suggested including the concept, which would allow parcels that only touch at one point, in the definition. Other comments suggested that the definition exclude parcels that only touch at a point.

Response: The recommendation to remove the definition was not adopted. Likewise, the recommendation to remove the qualifying language pertaining to non-navigable waters, public roads or right-of-ways was not adopted. Additionally, the suggestion to include navigable waters was not adopted. The concept of “corner contiguity” was included in the definition. However, to avoid confusion over this term of art, the definition uses the language “parcels that touch at a point.”

Section 292.2 How are key terms defined in this part?

##### *Federal recognition or federally recognized:*

A few comments suggested modifying the definition to follow the Department of the Interior (DOI) and NIGC definitions of Indian tribe in 25 CFR 290.2 and 502.13.

Response: This recommendation was adopted in part. We maintained the reference to the list of recognized tribes as it provides notice to the public. In response to comments indicating confusion caused by separate definitions of “tribe” and “Federal recognition or federally recognized,” the Department deleted the separate definitions and included a single definition of “Indian tribe or tribe.”



Section 292.2 How are key terms defined in this part?

*Former reservation:*

One comment suggested deleting the word "last" in the definition.

Response: This recommendation was not adopted because the definition clarifies that the last reservation be in Oklahoma, which is consistent with the language of the statute.

Section 292.2 How are key terms defined in this part?

*Land claim:*

One comment suggested striking the words "any claim" and adding the words "a legal action seeking title or possession of land."

Response: This recommendation was not adopted because a land claim does not have to be filed in court in order to fall under the definition; the land claim does have to allege that the subject land was held in trust or subject to a prohibition against alienation on or before October 17, 1988. IGRA's date of enactment was added to clarify that claims accruing after its enactment are not included within its scope.

One comment suggested modifying paragraph (1) to read, "or a constitutional, common law, statutory or treaty-based right to be protected from government taking of Indian lands."

Response: This recommendation was adopted in part. The words "the Constitution" were added to paragraph (1), but the recommendation to qualify the cause of action to a takings claim was not adopted.

One comment suggested including State law claims in the definition.

Response: The recommendation was not adopted because the land claims within the meaning of IGRA arise under Federal statute, Federal common law, the U.S. Constitution or a treaty and jurisdiction lies in Federal, not State court.

One comment suggested adding language in paragraph (1) that reads, "for the determination of title to lands," and language in paragraph (2) that reads, "or the United States."

Response: The recommendation to modify paragraph (1) was not adopted because it is too narrow; not all claims brought under the definition are for the determination of title to lands—sometimes they are brought for compensation. The recommendation regarding adding the words "or the United States" was not adopted because the United States is included in the word "governmental."

A few comments suggested various modifications to paragraph (1) regarding

the words "Indian" or "Indian lands" in order to remove confusion with the definition of Indian lands in IGRA.

Response: These recommendations were adopted and the references to Indian and Indian lands were removed.

Section 292.2 How are key terms defined in this part?

*Legislative termination:*

One comment suggested deleting the brackets around "and/or its members" in order to be consistent with § 292.9(b) and § 292.10(c).

Response: This recommendation was adopted.

Section 292.2 How are key terms defined in this part?

*Nearby Indian tribe:*

A number of comments regarded the 25-mile radius limitation. Some comments suggested the definition include no mile limitation while others offered various extensions of the mile limitation based on whether the area is urban or rural.

Response: These recommendations were not adopted. The 25-mile radius is consistent throughout the regulations and provides uniformity for all the parties involved in the Secretarial Determination process.

One comment suggested that the definition include a tribe's Federal agency service area.

Response: This recommendation was not adopted because a tribe's service area is too difficult to define for purposes of applying a limitation to nearby Indian tribes.

One comment suggested striking the reference to 25 U.S.C. 2703(4).

Response: This recommendation was adopted.

A few comments suggested that the definition should include any tribes with significant cultural or historical ties to the proposed site. One comment suggested that the definition include any tribe within the same county as the proposed gaming site, and another comment suggested that the definition include any tribe within the same State.

Response: These recommendations were not adopted because they are beyond the scope of the regulations and inconsistent with IGRA. The statute specifically uses the word nearby. Therefore, "any" tribe cannot be included in the definition.

One comment suggested that the definition should include tribes whose on-reservation economic interest may be detrimentally affected by the proposed gaming site. Another comment suggested creating a standard for "detrimental impact on nearby tribe."

Response: These recommendations were not adopted. The definition

qualifies a "nearby tribe" in terms of distance to a proposed gaming establishment. Thus, if an Indian tribe qualifies as a nearby Indian tribe under the distance requirements of the definition, the detrimental effects to the tribe's on-reservation economic interests will be considered. If the tribe is outside of the definition, the effects will not be considered. The Department will consider detrimental impacts on a case-by-case basis, so it is unnecessary to include a standard. The definition of "nearby Indian tribe" is made consistent with the definition of "surrounding community" because we believe that the purpose of consulting with nearby Indian tribes is to determine whether a proposed gaming establishment will have detrimental impacts on a nearby Indian tribe that is part of the surrounding community under section 20(b)(1)(A) of IGRA. See discussion of the term "surrounding community" below.

Section 292.2 How are key terms defined in this part?

*Newly acquired lands:*

Several comments inquired as to the applicability of section 2719 to restricted fee lands, and to trust or restricted lands of individual Indians.

Response: In response to these inquiries, a definition of "newly acquired lands" was added to the regulations. It encompasses lands the Secretary takes in trust for the benefit of an Indian tribe after October 17, 1988. It does not encompass lands acquired by a tribe in restricted fee after October 17, 1988 as discussed above in a response in § 292.1. It does not include land taken in trust after October 17, 1988 for individual Indians, nor land acquired after October 17, 1988 in restricted fee by individual Indians, because the language in section 2719 of IGRA is limited to Indian tribes.

Section 292.2 How are key terms defined in this part?

*Reservation:*

In response to comments, the definition of reservation is clarified and amended to include four paragraphs. The definition now specifically includes land acquired by a tribe from a sovereign, such as pueblo grant lands, acknowledged by the United States. Such grants occurred prior to the land coming under the jurisdiction of the United States, and is a closed set. The definition also specifically includes land set aside by the United States for Indian colonies and rancherias for the permanent settlement of the tribe, which were encompassed in part by the prior reference to "judicial

determination, or court-approved stipulated entry of judgment to which the United States is a party." Both pueblo grant lands and rancherías are treated as reservations under existing Indian lands opinions.

One comment objected that land acquired under the Indian Reorganization Act (IRA), for purposes of reorganizing the half-bloods residing thereon, would not fall within the meaning of reservation as defined in the proposed rule.

Response: This recommendation was adopted and such land is now specifically included in the definition. If such land was proclaimed a reservation by the Secretary, it would be encompassed with the definition of reservation under both paragraphs (1) and (3). If that land was not proclaimed a reservation, it would nevertheless fall within paragraph (3) of the revised definition, as land acquired by the United States to reorganize adult Indians pursuant to statute.

One comment questioned whether the definition of reservation could be interpreted as including a disestablished reservation, or the area of a reservation that was ceded, leaving a diminished reservation.

Response: Reservation within these regulations does not include a disestablished reservation. Reservation does not include land ceded from the reservation that resulted in a diminished reservation. In addition, because the term "reservation" has different meanings under different statutes, the reference to "judicial determination, or court-approved stipulated entry of judgment to which the United States is a party" was deleted as overly broad and likely inconsistent with both the purposes of IGRA and the distinction in IGRA between "reservation" and "trust land."

One comment suggested that the term "reservation" in IGRA be the same as Indian Country in 25 U.S.C. 1151.

Response: We did not adopt this comment because Congress in enacting IGRA chose to use the concept of Indian lands instead of Indian Country. Moreover, Congress in IGRA distinguishes between trust lands and reservations in section 2719. Therefore for the purposes of these regulations that interpret section 2719 of IGRA, "reservation" for purposes of gaming on after acquired lands is limited to the four delineated categories in the definition of reservation and not lands that could be Indian Country for other purposes. Thus for the purposes of determining whether gaming can occur pursuant to section 2719, reservation does not include all property held in

trust, as IGRA distinguishes reservation from trust lands in its definitions.

Section 292.2 How are key terms defined in this part?

*Surrounding community:*

Several comments related to the requirement that local governments and nearby Indian tribes be within 25 miles of the site of the proposed gaming establishment. Some comments suggested a greater distance, for example 50 miles; others urged no limit and instead recommended alternate factors, for example the community as defined by the National Environmental Policy Act (NEPA). One comment suggested that the surrounding community include any tribe in the State where the gaming facility is located.

Response: These recommendations were not adopted. The definition was modified so it is consistent with the rest of the regulations and the word radius was added. The 25-mile radius is consistent throughout the regulations and provides uniformity for all parties involved in the Secretarial Determination process. There is no legislative history informing Congressional intent in defining how the term "surrounding community" in section 20(b)(1)(A) of IGRA should be interpreted. However, it is reasonable to assume that Congress did not intend that all possible communities be consulted, no matter how distant, because Congress was concerned with how a proposed gaming establishment would affect those individuals and entities living in close proximity to the gaming establishment, or those located within commuting distance of the gaming establishment. The "surrounding community" is defined in order for the Secretary to determine whether a proposed gaming establishment would be detrimental to the "surrounding community." Since 1994, the BIA has published a "Checklist" to guide agency officials in implementing section 20 of IGRA. The "surrounding community" was first defined to include local governments within 30 miles of the proposed gaming establishment, and nearby Indian tribes within 100 miles of the proposed gaming establishment. The Checklist was subsequently modified in 1997 to include only those local governments whose jurisdiction includes or borders the land, and nearby Indian tribes located within 50 miles of the proposed gaming establishment because our experience with the 1994 standard was that it included communities that were not impacted by the gaming establishment. In addition, this

modification was made so that the term "surrounding community" would be similar to the consulted community under 25 CFR part 151. In 2005 the Checklist modified the term "surrounding community" to include local governments within ten miles of the proposed gaming establishment. The 2005 modification was made because the purpose of the consultation with State and local officials is to assess detriment to the surrounding community, and our experience in limiting the consultation to those local governments with jurisdiction over the land or adjacent to the land was too narrow. Ultimately, our objective in the regulation is to identify a reasonable and consistent standard to define the term "surrounding community" and we believe that it is reasonable to define the surrounding community as the geographical area located within a 25-mile radius from the proposed gaming establishment. Based on our experience, a 25-mile radius best reflects those communities whose governmental functions, infrastructure or services may be affected by the potential impacts of a gaming establishment. The 25-mile radius provides a uniform standard that is necessary for the term "surrounding community" to be defined in a consistent manner. We have, however, included a rebuttable presumption to the 25-mile radius. A local government or nearby Indian tribe located beyond the 25-mile radius may petition for consultation if it can establish that its governmental functions, infrastructure or services will be directly, immediately and significantly impacted by the proposed gaming establishment.

One comment suggested changing the definition to "surrounding governmental entities" because it would limit the consultation process to a government-to-government basis.

Response: This recommendation was not adopted because IGRA uses "surrounding community."

One comment suggested that the definition be limited to local governments and nearby Indian tribes within the State of the applicant tribe's jurisdiction.

Response: This recommendation was not adopted. The definition includes local governments and nearby tribes located in other States if they are within a 25-mile radius.

Section 292.2 How are key terms defined in this part?

*Tribe:*

Several comments requested a more elaborate definition of tribe. One comment suggested that all references of "Indian tribe" be changed to "tribe."

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**DEPARTMENT OF COMMERCE****National Oceanic and Atmospheric Administration****50 CFR Part 226**

[Docket No. 080730953-91263-02]

RIN 0648-AX04

**Endangered and Threatened Wildlife and Plants: Final Rulemaking To Designate Critical Habitat for the Threatened Southern Distinct Population Segment of North American Green Sturgeon**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule.

**SUMMARY:** We, the National Marine Fisheries Service (NMFS), designate critical habitat for the threatened Southern distinct population segment of North American green sturgeon (Southern DPS of green sturgeon) pursuant to section 4 of the Endangered Species Act (ESA). Specific areas proposed for designation include: Coastal U.S. marine waters within 60 fathoms (fm) depth from Monterey Bay, California (including Monterey Bay), north to Cape Flattery, Washington, including the Strait of Juan de Fuca, Washington, to its United States boundary; the Sacramento River, lower Feather River, and lower Yuba River in California; the Sacramento-San Joaquin Delta and Suisun, San Pablo, and San Francisco bays in California; the lower Columbia River estuary; and certain coastal bays and estuaries in California (Humboldt Bay), Oregon (Coos Bay, Winchester Bay, Yaquina Bay, and Nehalem Bay), and Washington (Willapa Bay and Grays Harbor). This rule designates approximately 515 kilometer (km) (320 miles (mi)) of freshwater river habitat, 2,323 km<sup>2</sup> (897 mi<sup>2</sup>) of estuarine habitat, 29,581 km<sup>2</sup> (11,421 mi<sup>2</sup>) of marine habitat, 784 km (487 mi) of habitat in the Sacramento-San Joaquin Delta, and 350 km<sup>2</sup> (135 mi<sup>2</sup>) of habitat within the Yolo and Sutter bypasses (Sacramento River, CA) as critical habitat for the Southern DPS of green sturgeon.

This rule excludes the following areas from designation because the economic benefits of exclusion outweigh the benefits of inclusion and exclusion will not result in the extinction of the species: Coastal U.S. marine waters within 60 fm depth from the California/Mexico border north to Monterey Bay, CA, and from the Alaska/Canada border

northwest to the Bering Strait; the lower Columbia River from river kilometer (RKM) 74 to the Bonneville Dam; and certain coastal bays and estuaries in California (Elkhorn Slough, Tomales Bay, Noyo Harbor, and the estuaries to the head of the tide in the Eel and Klamath/Trinity rivers), Oregon (Tillamook Bay and the estuaries to the head of the tide in the Rogue, Siuslaw, and Alsea rivers), and Washington (Puget Sound). Particular areas are also excluded based on impacts on national security and impacts on Indian lands. The areas excluded from the designation comprise approximately 0.2 km (0.1 mi) of freshwater habitat, 2,945 km<sup>2</sup> (1,137 mi<sup>2</sup>) of estuarine habitat and 1,034,935 km<sup>2</sup> (399,590 mi<sup>2</sup>) of marine habitat.

This final rule responds to and incorporates public comments received on the proposed rule and supporting documents, as well as peer reviewer comments received on the draft biological report and draft ESA section 4(b)(2) report.

**DATES:** This rule will take effect on November 9, 2009.

**ADDRESSES:** Reference materials regarding this determination can be obtained via the Internet at: <http://www.nmfs.noaa.gov> or by submitting a request to the Assistant Regional Administrator, Protected Resources Division, Southwest Region, NMFS, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213.

**FOR FURTHER INFORMATION CONTACT:** Melissa Neuman, NMFS, Southwest Region (562) 980-4115; Steve Stone, NMFS, Northwest Region (503) 231-2317; or Lisa Manning, NMFS, Office of Protected Resources (301) 713-1401.

**SUPPLEMENTARY INFORMATION:****Background**

Under the ESA, we are responsible for determining whether certain species, subspecies, or distinct population segments (DPS) are threatened or endangered, and designating critical habitat for them (16 U.S.C. 1533). On April 7, 2006, we determined that the Southern DPS of green sturgeon is likely to become endangered in the foreseeable future throughout all or a significant portion of its range and listed the species as threatened under the ESA (71 FR 17757). A proposed critical habitat rule for the Southern DPS was published in the **Federal Register** on September 8, 2008 (73 FR 52084), with a technical correction and notification of a public workshop published on October 7, 2008 (73 FR 58527). Pursuant to a court-ordered settlement agreement, NMFS agreed to make a final critical habitat designation for the Southern

DPS by June 30, 2009. However, an extension was requested and granted, with a new deadline of October 1, 2009. This rule describes the final critical habitat designation, including responses to public comments and peer reviewer comments, a summary of changes from the proposed rule, and supporting information on green sturgeon biology, distribution, and habitat use, and the methods used to develop the final designation.

We considered various alternatives to the critical habitat designation for the green sturgeon. The alternative of not designating critical habitat for the green sturgeon would impose no economic, national security, or other relevant impacts, but would not provide any conservation benefit to the species. This alternative was considered and rejected because such an approach does not meet the legal requirements of the ESA and would not provide for the conservation of green sturgeon. The alternative of designating all potential critical habitat areas (*i.e.*, no areas excluded) also was considered and rejected because, for a number of areas, the economic benefits of exclusion outweighed the benefits of inclusion, and NMFS did not determine that exclusion of these areas would significantly impede conservation of the species or result in extinction of the species. The total estimated annualized economic impact associated with the designation of all potential critical habitat areas would be \$64 million to \$578 million (discounted at 7 percent) or \$63.9 million to \$578 million (discounted at 3 percent).

An alternative to designating critical habitat within all of the units considered for designation is the designation of critical habitat within a subset of these units. Under section 4(b)(2) of the ESA, NMFS must consider the economic impacts, impacts to national security, and other relevant impacts of designating any particular area as critical habitat. NMFS has the discretion to exclude an area from designation as critical habitat if the benefits of exclusion (*i.e.*, the impacts that would be avoided if an area were excluded from the designation) outweigh the benefits of designation (*i.e.*, the conservation benefits to the Southern DPS if an area were designated), so long as exclusion of the area will not result in extinction of the species. Exclusion under section 4(b)(2) of the ESA of one or more of the units considered for designation would reduce the total impacts of designation. The determination of which units and how many to exclude depends on NMFS' ESA 4(b)(2) analysis, which is conducted for each unit and described



in detail in the ESA 4(b)(2) analysis report. Under this preferred alternative, NMFS originally proposed to exclude 13 out of 40 units considered. The total estimated economic impact associated with the proposed rule was \$22.5 million to \$76.4 million (discounted at 7 percent) or \$22.5 million to \$76.3 million (discounted at 3 percent). In response to public comments and additional information received, this final rule excludes 14 units out of 41 units considered where the economic benefits of exclusion outweighed the conservation benefits of designation. NMFS determined that the exclusion of these 14 units would not significantly impede the conservation of the Southern DPS. The total estimated economic impact associated with this final rule is \$20.2 million to \$74.1 million (discounted at 7 percent) or \$20.1 million to \$74 million (discounted at 3 percent). NMFS selected this alternative because it results in a critical habitat designation that provides for the conservation of the Southern DPS while reducing the economic impacts on entities. This alternative also meets the requirements under the ESA and our joint NMFS-USFWS regulations concerning critical habitat.

#### Green Sturgeon Natural History

The green sturgeon (*Acipenser medirostris*) is an anadromous fish species that is long-lived and among the most marine oriented sturgeon species in the family Acipenseridae. Green sturgeon is one of two sturgeon species occurring on the U.S. west coast, the other being white sturgeon (*Acipenser transmontanus*). Green sturgeon range from the Bering Sea, Alaska, to Ensenada, Mexico, with abundance increasing north of Point Conception, CA (Moyle *et al.* 1995). Green sturgeon occupy freshwater rivers from the Sacramento River up through British Columbia (Moyle 2002), but spawning has been confirmed in only three rivers, the Rogue River in Oregon and the Klamath and Sacramento rivers in California. Based on genetic analyses and spawning site fidelity (Adams *et al.* 2002; Israel *et al.* 2004), NMFS has determined green sturgeon are comprised of at least two distinct population segments (DPSs): (1) A Northern DPS consisting of populations originating from coastal watersheds northward of and including the Eel River (*i.e.*, the Klamath and Rogue rivers) ("Northern DPS"); and (2) a southern DPS consisting of populations originating from coastal watersheds south of the Eel River, with the only known spawning population in the Sacramento River ("Southern DPS").

The Northern DPS and Southern DPS are distinguished based on genetic data and spawning locations, but their distribution outside of natal waters generally overlap with one another (Chadwick 1959; Miller 1972; California Department of Fish and Game (CDFG) 2002; Israel *et al.* 2004; Moser and Lindley 2007; Erickson and Hightower 2007; Lindley *et al.* 2008.). Both Northern DPS and Southern DPS green sturgeon occupy coastal estuaries and coastal marine waters from southern California to Alaska, including Humboldt Bay, the lower Columbia river estuary, Willapa Bay, Grays Harbor, and coastal waters between Vancouver Island, BC, and southeast Alaska (Israel *et al.* 2004; Moser and Lindley 2007; Lindley *et al.* 2008).

Spawning frequency is not well known, but the best information suggests adult green sturgeon spawn every 2–4 years (pers. comm. with Steve Lindley, NMFS, and Mary Moser, NMFS, 2004, cited in 70 FR 17386, April 6, 2005; Erickson and Webb 2007). Beginning in late February, adult green sturgeon migrate from the ocean into fresh water to begin their spawning migrations (Moyle *et al.* 1995). Spawning occurs from March to July, with peak activity from mid-April to mid-June (Emmett *et al.* 1991; Poytress *et al.* 2009). Spawning in the Sacramento River occurs in fast, deep water over gravel, cobble, or boulder substrates (Emmett *et al.* 1991; Moyle *et al.* 1995; Poytress *et al.* 2009). Eggs and larvae develop in freshwater, likely near the spawning site (Kynard *et al.* 2005). Development of early life stages is affected by water flow and temperature (optimal temperatures from 11 to 17–18 °C; Cech *et al.* 2000, cited in COSEWIC 2004; Van Eenennaam *et al.* 2005). Juvenile green sturgeon rear and feed in fresh and estuarine waters from 1 to 4 years prior to dispersing into marine waters as subadults (Nakamoto *et al.* 1995).

Adults are defined as sexually mature fish, subadults as sexually immature fish that have entered into coastal marine waters (usually at 3 years of age), and juveniles as fish that have not yet made their first entry into marine waters. Green sturgeon spend a large portion of their lives in coastal marine waters as subadults and adults. Subadult male and female green sturgeon spend at least approximately 6 and 10 years, respectively, at sea before reaching reproductive maturity and returning to freshwater to spawn for the first time (Nakamoto *et al.* 1995). Adult green sturgeon spend as many as 2–4 years at sea between spawning events (pers. comm. with Steve Lindley,

NMFS, and Mary Moser, NMFS, cited in 70 FR 17386, April 6, 2005; Erickson and Webb 2007). Prior to reaching sexual maturity and between spawning years, subadults and adults occupy coastal estuaries adjacent to their natal rivers, as well as throughout the West coast, and coastal marine waters within 110 meters (m) depth. Green sturgeon inhabit certain estuaries on the northern California, Oregon, and Washington coasts during the summer, and inhabit coastal marine waters along the central California coast and between Vancouver Island, British Columbia, and southeast Alaska over the winter (Lindley *et al.* 2008). Green sturgeon likely inhabit these estuarine and marine waters to feed and to optimize growth (Moser and Lindley 2007). Particularly large aggregations of green sturgeon occur in the Columbia River estuary and Washington estuaries and include green sturgeon from all known spawning populations (Moser and Lindley 2007). Although adult and subadult green sturgeon occur in coastal marine waters as far north as the Bering Sea, green sturgeon have not been observed in freshwater rivers or coastal bays and estuaries in Alaska.

Detailed information on the natural history of green sturgeon is provided in the proposed rule to designate critical habitat (73 FR 52084; September 8, 2008) and in the final biological report (NMFS 2009a) prepared in support of this final rule.

#### Summary of Comments and Responses

We requested comments on the proposed rule to designate critical habitat for the Southern DPS of green sturgeon (73 FR 52084; September 8, 2008) and on the supporting documents (*i.e.*, the draft biological report, draft economic analysis report, and draft ESA section 4(b)(2) report). To facilitate public participation, the proposed rule and supporting documents were made available on our Southwest Region Web site (<http://swr.nmfs.noaa.gov>) and on the Federal eRulemaking Portal Web site (<http://www.regulations.gov>). Public comments were accepted via standard mail, fax, or through the Federal eRulemaking Portal. In response to requests from the public, the original 60-day public comment period was extended an additional 45 days (73 FR 65283; November 3, 2008), ending on December 22, 2008. A public workshop was held in Sacramento, CA, on October 16, 2008, and attended by 21 participants, including researchers and representatives from industries and Federal, State, and local agencies. The draft biological report and draft

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economic analysis report were also each reviewed by three peer reviewers.

Thirty-nine written public comments were received on the proposed rule and supporting documents from Federal agencies, State agencies, local entities, non-governmental organizations, Tribes, and industry representatives. Seven comments generally supported the proposed rule, 29 comments did not agree with the designation of critical habitat in particular areas, and 3 comments provided additional information but did not support or oppose the proposed rule. Several commenters requested that certain particular areas or specific areas be considered ineligible for designation because they do not meet the definition of critical habitat. Several commenters also requested exclusion of areas based on economic impacts, impacts on national security, or impacts on Indian lands. Additional data were provided to inform the biological and economic analyses, as well as comments regarding the methods used in these analyses. NMFS considered all public and peer reviewer comments. A summary of the comments by major issue categories and the responses thereto are presented here. Similar comments are combined where appropriate.

#### Physical or Biological Features Essential for Conservation

*Comment 1:* Several commenters felt that the critical habitat designation is not supported by the relatively sparse data and that the physical or biological habitat features or primary constituent elements (PCE) identified for green sturgeon are too general and vague, such that no habitat would exist without them. One commenter noted that the level of detail provided on the PCEs in the supplementary information section of the proposed rule is greater than the level of detail provided in the regulatory text section of the proposed rule.

*Response:* The critical habitat designation was developed using the best available scientific data, as required by the ESA. We recognize that uncertainties exist and have noted where they occur in the final rule and supporting documents. When appropriate, we incorporated additional data provided by the public comments regarding the PCEs, the biological evaluation, and the economic analysis. The level of specificity of the PCEs was consistent with that provided in previous critical habitat designations (e.g., for West coast salmon and steelhead evolutionarily significant units (ESU) and Southern Resident killer whales). In addition, specific ranges of values for the PCEs cannot be

provided (e.g., water flow levels, adequately low contaminant levels), because the data are not currently available and because these values may vary based on the location, time of year, and other factors specific to an area. The level of detail provided in different sections of the proposed rule differs because the regulatory text section typically provides a more brief description of the PCEs, whereas the supplementary information section typically provides a more thorough description. The supplementary information section and the supporting documents provide additional details to describe the process of the critical habitat designation and the biological and economic analyses that were conducted in support of the designation, whereas the regulatory text reports the final designation.

*Comment 2:* One commenter requested clarification regarding how acceptably low levels of contaminants would be determined on a case-by-case basis (as it pertains to the water quality and sediment quality PCEs). Specifically, the commenter asked whether case-by-case meant that this would be determined for each Permittee/Project (and if so, what would be the basis for differentiation) or by contaminant (and if so, how this would be determined and disseminated to the public).

*Response:* Consultations under section 7 of the ESA on contaminants may be conducted on a case-by-case basis for each project or by contaminant, depending on the scope of the consultation. NMFS has typically dealt with consultations for contaminants, such as pesticides, on a project-by-project basis. These consultations have generally resulted in recommended measures to avoid exposure of the listed species to the contaminants in question, for example, by spatially or temporally limiting the introduction of the contaminant into waterways occupied by the species. However, the recommended measures are site-specific and will vary depending on the site, the contaminant(s) in question, the type of use, the purpose of the project, and the species potentially affected. NMFS recently conducted two consultations on the national level with the Environmental Protection Agency (EPA) addressing the registration of pesticides containing carbaryl, carbofuran, and methomyl (NMFS 2009b) and pesticides containing chlorpyrifos, diazinon, and malathion (NMFS 2008a). In both consultations, NMFS issued a biological opinion finding that the registration of these pesticides would jeopardize the continued existence of most listed

salmonids and adversely modify critical habitat. The reasonable and prudent alternatives provided to the EPA recommended labeling requirements that specify criteria for the use and application of the pesticides, including no-application buffer zones adjacent to salmonid habitat, restrictions on application during high wind speeds and when a rain storm is predicted, reporting of any fish mortalities within four days, and implementation of a monitoring plan for off-channel habitats. To the extent the alternatives minimize entry of pesticides into water bodies and result in better information, green sturgeon and other aquatic species will benefit.

*Comment 3:* One commenter provided additional information from recent studies indicating that green sturgeon are more sensitive to methylmercury and selenium (two contaminants found in sediments) than white sturgeon (Kaufman *et al.* 2008). The commenter noted that the studies were unable to determine a “no effect” concentration for selenomethionine for green sturgeon, a contaminant found in bays including the San Francisco, San Pablo, and Suisun bays and the Sacramento-San Joaquin Delta (hereafter, the Delta). The commenter stated that it may be unlikely that many areas will qualify as having the sediment quality PCE as it is described in the proposed rule.

*Response:* We appreciate the updated information regarding the sensitivity of green sturgeon to contaminants and have incorporated this information into the final rule and biological report. We recognize the concern expressed by the commenter that few, if any, areas have sediments free of elevated levels of contaminants (*i.e.*, levels at which green sturgeon are not negatively affected). This brings up two issues. First, whether this affects the eligibility of the specific areas considered for designation. Because all of the proposed areas containing the sediment quality PCE also contained at least one other PCE, the eligibility of the specific areas is not affected. Related to this is the question of whether a PCE can be considered to exist within an area if it has been altered and degraded by past, current, or ongoing activities. The ESA’s definition of critical habitat focuses on PCEs that may require special management considerations or protection. Thus, the ESA recognizes that the PCEs may exist at varying levels of quality and allows for the consideration of PCEs that have been or may be altered or degraded. Second, this brings up the question of how this PCE will be addressed in consultations under section 7 of the ESA. The

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specifics of each consultation would vary depending on each project, but would likely focus on measures to control the introduction of selenium into the environment. The Sacramento River basin is naturally very low in selenium and little selenium enters the watercourses from the surrounding watershed. Conversely, the San Joaquin River basin, due to the geology of the west side of the valley and the human agricultural practices conducted in this region, create conditions of elevated selenium in the waters of the basin draining the west side and running through the valley floor towards the Delta. It should also be recognized that selenium is a micronutrient which is necessary for life, though toxic at levels above trace amounts. Continued monitoring of selenium levels in sediments and research on the sensitivity of green sturgeon to this and other contaminants would be supported.

#### Geographical Area Occupied by the Species

*Comment 4:* One commenter stated that the range of the Southern DPS needs to be clarified as previous publications in the **Federal Register** do not clearly define the range. Another commenter stated that the final decision to list the Southern DPS as threatened under the ESA only applied the listing to the population in California and that, although Southern DPS green sturgeon move into the Northern DPS' range outside California, the protections under the listing do not apply to Southern DPS fish once they enter the Northern DPS' range. The commenter felt that NMFS should not designate Oregon and Washington rivers and marine waters as critical habitat if the species is not listed in these areas.

*Response:* We acknowledge that in the final listing rule and the corresponding regulatory language at 50 CFR 223.102(a)(23), it is stated, "Where listed: USA, CA. The southern DPS includes all spawning populations of green sturgeon south of the Eel River (exclusive), principally including the Sacramento River green sturgeon spawning population." This statement limits the listing to the Southern DPS of green sturgeon, but does not limit the geographic range to which the listing applies. A Southern DPS green sturgeon is defined to originate from spawning populations south of the Eel River (*i.e.*, from the Sacramento River). Each individual Southern DPS fish carries the listing, and the protections afforded to it under the ESA, wherever it goes. In other words, a Southern DPS green sturgeon is listed as threatened and protected under the ESA no matter

where that individual is found. Thus, Southern DPS green sturgeon are listed throughout their range, including waters north of California within the range of the Northern DPS.

NMFS recognizes that previous publications in the **Federal Register** have defined the range of Southern DPS green sturgeon with varying levels of specificity and that this may have resulted in confusion. The range of the Southern DPS is more clearly defined in the proposed critical habitat rule and in the draft biological report (NMFS 2008b). We restate this definition here to further clarify the definition and range of the Southern DPS of green sturgeon. The proposed critical habitat rule (73 FR 52084, September 8, 2008) and the draft biological report (NMFS 2008b) define the Southern DPS as consisting of populations originating from coastal watersheds south of the Eel River, with the only confirmed spawning population in the Sacramento River. The Northern DPS consists of populations originating from coastal watersheds northward of and including the Eel River, with the only confirmed spawning populations in the Klamath and Rogue rivers. Thus, the Northern DPS and the Southern DPS of green sturgeon are defined based on their natal streams. However, the ranges of the Northern DPS and Southern DPS are defined by the distribution of each DPS including and beyond their natal waters. Based on genetic information and telemetry data from tagged Southern DPS green sturgeon, the occupied geographic range of the Southern DPS extends from Monterey Bay, CA, to Graves Harbor, AK. Within this geographic range, the presence of Southern DPS green sturgeon has been confirmed in the following areas: Sacramento River, CA; lower Feather River, CA; lower Yuba River, CA; the Sacramento-San Joaquin Delta, CA; Suisun Bay, CA; San Pablo Bay, CA; San Francisco Bay, CA; Monterey Bay, CA; Humboldt Bay, CA; Coos Bay, OR; Winchester Bay, OR; Yaquina Bay, OR; the lower Columbia River and estuary; Willapa Bay, WA; Grays Harbor, WA; the Strait of Juan de Fuca, WA; Puget Sound, WA; and Graves Harbor, AK (*see* final biological report (NMFS 2009a) for references for each area). Northern DPS and Southern DPS green sturgeon co-occur across much of their occupied ranges, are not morphologically distinguishable, and, based on the best available data at this time, do not appear to differ in temporal or spatial distribution within areas where their ranges overlap. Thus, within areas where the Southern DPS has been

confirmed, protections for the Southern DPS would apply to all green sturgeon based on similarity of appearance. The critical habitat designation recognizes not only the importance of natal habitats, but of habitats throughout their range for the conservation of Southern DPS green sturgeon.

*Comment 5:* One commenter stated that the genetic analysis does not provide sufficient information to determine the presence or absence of Southern DPS green sturgeon in the bays and estuaries on the Oregon coast.

*Response:* To determine the presence of Southern DPS green sturgeon in an area, a critical habitat review team (CHRT), comprised of 9 Federal biologists from various agencies, primarily relied on the best available information from tagging studies. Monitoring of tagged Southern DPS green sturgeon has confirmed their use of several coastal bays and estuaries from Monterey Bay, California, north to Puget Sound, Washington (Moser and Lindley 2007; Lindley *et al.* 2008; pers. comm. with Steve Lindley, NMFS, and Mary Moser, NMFS, February 24–25, 2008). Therefore, presence has already generally been established based on the tagging data. The available genetic data supports the tagging data by assigning or confirming the DPS of individuals (*e.g.*, assigning individuals caught in non-natal waters to the Northern DPS or Southern DPS) and has also been useful in estimating what proportion of green sturgeon observed in non-natal estuaries belong to the Southern DPS. In addition, the genetic data would provide supplemental presence information once the data set is large enough to ensure detection of Southern DPS fish, particularly if the estuary or bay has a low frequency of use.

*Comment 6:* One commenter requested that additional telemetry data regarding green sturgeon use of coastal marine waters at Siletz Reef and Seal Rock Reef off the coast of Oregon be incorporated into the final biological report and considered in the final critical habitat designation. The commenter also requested that additional information be included to support the designation of coastal marine waters from 0 to 20 m depth and from 90 to 110 m depth.

*Response:* NMFS is currently analyzing the data on green sturgeon detections off the Oregon coast. Preliminary results indicate that green sturgeon use deeper depths (between 40 to 80 m) more than shallower depths, but reasons for this observation are not known. Detection data for shallower depths may be affected by noise. However, because these data represent

only two areas along the Oregon coast, it may not be appropriate to extrapolate these observations to other areas along the West coast. Other available data indicate that green sturgeon occur throughout all depths from 0 to 110 m depth. Some green sturgeon have been caught deeper than 110 m depth, but the majority occur in waters shallower than 110 m depth (Erickson and Hightower 2007).

#### Specific Areas

*Comment 7:* Two commenters felt that the areas proposed for designation as critical habitat were too broad. One commenter stated that NMFS failed to show that the areas are essential for conservation of the Southern DPS. Another commenter suggested that the areas be refined based on the spatial and temporal presence of the PCEs. For example, the commenter stated that riverine areas designated as critical habitat for spawning purposes should be designated only if actually used for spawning and only during the time of year that spawning occurs, because areas spatially or temporally outside of this would not contain the PCEs for spawning. The commenter stated that such refinement would help ensure that the designation is not applied in an overly restrictive manner to activities that occur in areas where no green sturgeon spawn and that this reasoning can be applied to other PCEs and habitat uses.

*Response:* The joint NMFS/U.S. Fish and Wildlife Service (USFWS) regulations regarding the designation of critical habitat focus on the primary biological or physical constituent elements (PCEs) that are essential to the conservation of the species. The ESA states that an area qualifies as critical habitat if it is occupied and has one or more PCE(s) that may require special management considerations or protection. Specific areas are eligible for designation if they meet these criteria. Neither the ESA definition of critical habitat nor the joint NMFS/USFWS regulations require that critical habitat be designated only within the most important core habitats of the species.

In addition, the ESA focuses on the spatial presence of the PCEs, but does not mention the temporal presence of the PCEs. The level of refinement described by the commenter is typically considered during the consultation process under section 7 of the ESA, not during the critical habitat designation process. Consistent with ESA section 7 consultation practices, spatial and temporal considerations are commonly assessed during the impact analysis of the proposed action. While temporal

considerations generally look at impacts to individual fish (*i.e.*, avoidance of exposure as inferred by work windows), actions can, and often do, affect the habitat that fish use or occupy after the action is completed. The commenter's example of spawning areas does not address what potential impacts the "action" may have on the quality of the spawning area after the action is completed. Actions that temporally avoid areas of use (*i.e.*, spawning activities on the spawning grounds) during the implementation of the action may still impact the use of the area after the action is completed. For example, installing bridge piers upstream of a spawning area still impacts the spawning area after-the-fact through road runoff entering the river channel from the bridge, traffic vibrations being transmitted through the column into the substrate of the river channel during "normal use," and sedimentation from roadway runoff and altered riparian habitat. Furthermore, actions that do not occur exactly in the same place as the area of concern may nonetheless still affect the area of concern. For example, wastewater discharge upstream of a spawning area can generate an effluent plume that travels downstream to spawning areas, and reservoir releases occurring upstream may affect water flow, velocity, and temperature in the area of concern. Thus, details such as the specific activities being conducted, the location, and the spatial and temporal scale are considered in order to determine the potential effects of the activity on critical habitat and, ultimately, whether the activity is likely to destroy or adversely modify critical habitat. Then a determination is made of what, if any, additional actions or modifications to the proposed action will need to be implemented to provide protection to the species and their designated critical habitat. The section 7 consultation process allows NMFS to address the action's impacts on a case-by-case basis and incorporate the appropriate level of analysis as needed. A categorical exemption would not allow this level of review to occur and in fact would diminish the ability to consistently and accurately assess action impacts and adjust actions to fit the current status of the species and the condition of the critical habitat used by the species.

*Comment 8:* One commenter suggested that the shoreward boundary for coastal marine habitats should extend to the line of mean lower low water (MLLW) instead of extreme high tide, and that the seaward boundary of

110 m depth should be rounded to the 60 fm contour line.

*Response:* The CHRT, a team of Federal biologists who conducted the biological analysis, considered and agreed with the recommendations. The area between the MLLW line and the extreme high tide line along the coast is small and likely not occupied by green sturgeon. Whereas studies indicate that intertidal zones within estuaries and protected bays are important habitat for green sturgeon, green sturgeon likely do not occupy shallow intertidal areas or high energy surf zones along the open coast. The CHRT compared the MLLW line along the coast with the extreme high tide line and found that the area that would be excluded by defining the shoreward boundary using the MLLW line would be small and would not contain any areas identified to be important for green sturgeon. Thus, the CHRT agreed to extend the coastal marine areas to the area inundated by mean lower low water, rather than to the extreme high tide. The CHRT also agreed to round the 110 m depth contour line to the 60 fm contour line, because the 60-fm contour is already described in Federal regulations for the West Coast groundfish bottom trawl fishery and is approximately equal to 110 m (60 fm = 109.7 m).

*Comment 9:* Several comments were received regarding the proposed designation of the lower Columbia River estuary. The commenters felt that the geographic definition of the estuary used was too broad and that the boundary for the estuary in the lower Columbia River should be defined by the maximum extent of saltwater intrusion, which was defined by one commenter to occur at RKM 64 and another commenter to occur at RKM 74. The commenters recommended that the Willamette River and the lower Columbia River from RKM 64 or RKM 74 to Bonneville Dam should be excluded from the designation. One commenter asserted that there are no data indicating that green sturgeon captured above Columbia RKM 64 are part of the Southern DPS, and that because recent green sturgeon tagging data indicate that Northern DPS green sturgeon occupy more interior habitats in the Columbia River estuary than Southern DPS green sturgeon, a smaller critical habitat area for the Columbia River estuary is justified.

*Response:* In the proposed rule, the specific area in the lower Columbia River estuary was defined as the area from the river mouth to the Bonneville Dam (RKM 146). The CHRT considered the comments received and agreed that this specific area should be divided into

two specific areas as follows: (1) The lower Columbia River estuary from the river mouth to RKM 74; and (2) the lower Columbia River from RKM 74 to the Bonneville Dam (RKM 146). This division was based on differences in environmental parameters and green sturgeon use and presence between the lower estuary (river mouth to RKM 74) and the lower river (RKM 74 to Bonneville Dam). River kilometer 74 marks the approximate location of the maximum extent of saltwater intrusion into the lower Columbia River and has been used in other reports as the location to divide the lower estuary and tidal freshwater (Johnson *et al.* 2003). Commercial gillnet harvest data for green sturgeon from 1981–2004 (Washington Department of Fish and Wildlife (WDFW) 2007, ESA informal consultation) indicate the greatest numbers of green sturgeon catch in zone 1 (RKM 1–32; 29,124 green sturgeon harvested) and zone 2 (RKM 32–84; 8,082 green sturgeon harvested). Green sturgeon catch declines sharply upstream of RKM 84, with a total of 290 green sturgeon caught in zones 3–5 (RKM 84–227) from 1981–2004. Observations by WDFW and Oregon Department of Fish and Wildlife (ODFW) also indicate concentrations of green sturgeon in the lower estuary with fewer numbers moving upstream. Unpublished telemetry data support these observations, showing greater numbers of detections of both Southern DPS and Northern DPS green sturgeon in the lower portion of the estuary compared to the upper portion (pers. comm. with Mary Moser, NMFS, February 25, 2009). However, because the most upstream monitor location is at RKM 74, the telemetry data provide data on the distribution of tagged Southern DPS and Northern DPS fish within the lower estuary but do not provide data on the movement and distribution of tagged green sturgeon upstream of RKM 74. Tagged Southern DPS green sturgeon have been detected at the monitor at RKM 74 and are able to access the lower Columbia River upstream of RKM 74, though data are not available to determine the number of Southern DPS green sturgeon moving upstream of RKM 74 or the relative levels of Southern DPS and Northern DPS fish in this area. Based on information provided in the public comments indicating that green sturgeon have not been observed in the lower Willamette River, the CHRT agreed that the Willamette River should not be included in the areas considered for designation. Thus, the specific area delineated in the lower Columbia River

from RKM 74 to the Bonneville Dam does not now include the Willamette River. The CHRT's evaluation of the two specific areas resulted in a conservation value rating of High for the lower Columbia River estuary from the river mouth to RKM 74 and a conservation value rating of Low for the lower Columbia River from RKM 74 to RKM 146 (*see* response to Comment 14 and the section titled "Methods for Assessment of Specific Areas" for an explanation of how the conservation value ratings were determined). The final biological report (NMFS 2009a) provides additional information about the CHRT's evaluation of each specific area.

*Comment 10:* One commenter recommended that South San Francisco Bay be considered a separate area from Central San Francisco Bay and that South San Francisco Bay should be excluded from the designation because use of the area by green sturgeon is moderate and it is not needed for any life history stage that is not supported by the northern reach of the Bay.

*Response:* The CHRT acknowledged that Central San Francisco Bay and South San Francisco Bay can be distinguished by different environmental and oceanographic features. However, these differences likely do not affect green sturgeon use of the areas. The best available catch data for the San Francisco Bay indicate that comparably low numbers of green sturgeon have been caught in both Central and South San Francisco Bay. In 2006, a local sport fishing group reported 2 green sturgeon caught in Central San Francisco Bay, 3 caught in South-Central San Francisco Bay, and 4 caught in South San Francisco Bay (pers. comm. with Pete Davidson, Coastside Fishing Club, May 31, 2006). The total green sturgeon catch in the sport fishery for 2006 is not known, because sturgeon report cards were not required in California until March 2007 (Gleason 2007). Low numbers of green sturgeon were caught in CDFG's otter trawl (1980 to 2004) and midwater trawl (1980 to 2001) surveys in the bays and the Delta (Delta:  $n = 19$ ; Suisun Bay/Carquinez Strait:  $n = 27$ ; San Pablo Bay:  $n = 9$ ; Central San Francisco Bay:  $n = 8$ ; South San Francisco Bay:  $n = 2$ ) (Jahn 2006). It is important to note that the surveys and sampling gear were not designed to target green sturgeon, and thus the data may not be truly representative of the relative levels of green sturgeon use among the bays and the Delta. For example, given that all green sturgeon must migrate through Central San Francisco Bay in their migrations to and from the ocean, much

larger numbers of green sturgeon catch would be expected in this area. In addition, the catch data do not provide information about the distribution of juvenile green sturgeon throughout the bays and the Delta. Based on the best available information, juvenile green sturgeon are believed to distribute widely throughout the bays and Delta for feeding and rearing and are present in all months of the year (Ganssle 1966, CDFG 2002, Bay Delta and Tributaries Project 2005). Thus, the CHRT determined that the best available information does not support dividing the specific area in San Francisco Bay into Central San Francisco Bay and South San Francisco Bay, and reconfirmed that this specific area has a High conservation value for the Southern DPS (*see* response to Comment 14 and the section titled "Methods for Assessment of Specific Areas" for an explanation of how the conservation value ratings were determined). Based on the CHRT's assessment of San Francisco Bay, NMFS determined that this area should be included in the final critical habitat designation. Studies focused on green sturgeon, particularly on the juvenile life stages, would help address the data gaps and inform ESA section 7 consultations resulting from this critical habitat designation as well as future revisions to the designation.

*Comment 11:* One commenter recommended consideration of Nehalem Bay, Oregon, as a specific area and designation of critical habitat in Tillamook Bay, Oregon. Sport fish catch from 1986 to 2007 indicate that 279 green sturgeon were taken in the fishery in Tillamook Bay (corrected catch data provided via pers. comm. with Mary Hanson, ODFW, July 16, 2009). The habitat in Tillamook Bay is comparable to other Oregon Bays and estuaries, and genetic analyses have not excluded the presence of southern DPS green sturgeon. Nehalem Bay was not considered in the designation and had a sport fish catch record of 254 green sturgeon from 1986 to 2007 (corrected catch data provided via pers. comm. with Mary Hanson, ODFW, July 16, 2009). Another commenter stated that a tagged Southern DPS green sturgeon was detected in Yaquina Bay, Oregon, in May 2006 and recommended that the biological report be revised to state that the presence of the Southern DPS in this area is confirmed.

*Response:* Based on the additional green sturgeon catch and telemetry data provided by the commenters, the CHRT added Nehalem Bay as a new specific area to be considered and re-evaluated Tillamook Bay and Yaquina Bay. The

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CHRT assigned Nehalem Bay a Medium conservation value rating based on the large number of green sturgeon captured from 1986 to 2007 and its location between Tillamook Bay and the Columbia River. The CHRT also assigned Tillamook Bay a Medium conservation value rating (compared to its previous Low conservation value rating), based on the large number of green sturgeon captured in this bay from 1986 to 2007 and information indicating that Tillamook Bay contains suitable depths for green sturgeon. The CHRT assigned Yaquina Bay a Low conservation value rating, which was the same rating given previously. The CHRT then considered whether Southern DPS presence has been confirmed within the areas. If Southern DPS green sturgeon presence is likely, but not yet confirmed, the conservation value rating was reduced by one level. Because Southern DPS green sturgeon have not yet been confirmed in Nehalem Bay and Tillamook Bay, the conservation value ratings were reduced to Low. Because Southern DPS green sturgeon have been confirmed in Yaquina Bay, the conservation value rating stayed at Low and was not reduced to Ultra-Low. These ratings were then used as the final conservation value ratings for the areas. The final biological report provides more information about the CHRT's evaluation of Nehalem Bay and re-evaluation of Tillamook Bay and Yaquina Bay. Ultimately only Tillamook Bay was excluded because the benefits of exclusion outweigh the benefits of designation.

*Comment 12:* Two commenters felt that the Umpqua River may warrant designation because green sturgeon occur in this river, and it was identified as a potential spawning river in the 2005 status review.

*Response:* The CHRT evaluated Winchester Bay, the estuary at the mouth of the Umpqua River, as a specific area eligible for designation as critical habitat. The Southern DPS consists of green sturgeon originating from coastal watersheds south of the Eel River, CA (currently, the only confirmed spawning river is the Sacramento River, CA). The Northern DPS consists of green sturgeon originating from coastal watersheds north of and including the Eel River, CA (confirmed spawning rivers are the Klamath River, CA, and Rogue River, OR). As described in the proposed rule and biological report, NMFS defined the Southern DPS' occupied range to include coastal bays and estuaries upstream to the head of the tide in areas north of and including the Eel River. In waters north of and

including the Eel River, green sturgeon occurring upstream of the head of the tide are presumed to belong to the Northern DPS because it is unlikely that Southern DPS green sturgeon would venture further into non-natal streams beyond the head of tide. Thus, green sturgeon observed in the Umpqua River upstream of the head of tide are presumed to be Northern DPS fish. Genetic analyses have confirmed the presence of Southern DPS green sturgeon in Winchester Bay and Umpqua River, but the tissue samples were collected downstream of the head of tide on the Umpqua River (between RKM 6.4 and 19.3). Thus, the available genetic data also do not provide information on the presence of Southern DPS green sturgeon in the Umpqua River upstream of the head of tide (pers. comm. with Josh Israel, University of California, Davis (UC Davis), July 10, 2009). The Umpqua River was therefore not identified as an area occupied by the Northern DPS.

*Comment 13:* One commenter felt that Chinook salmon should be used as a surrogate species in place of white sturgeon, because green sturgeon do not have populations that are isolated from the sea. The commenter presented a Chinook salmon-based conceptual model for the life history of green sturgeon in San Francisco Bay, which indicated that, like Chinook, juvenile green sturgeon most likely migrate from the San Francisco Bay as soon as possible to coastal marine waters where food is abundant for feeding and growth.

*Response:* The CHRT considered the Chinook salmon-based conceptual model. The CHRT noted that, while green sturgeon may share some similarities with Chinook salmon with regard to habitat use and needs, the best available data indicate there are several important differences between the life history and distribution of green sturgeon and Chinook salmon that limit the application of the Chinook salmon-based conceptual model to green sturgeon. Unlike Chinook salmon, green sturgeon will transit through the San Francisco Bay and Delta complex several times during their lifetime. Laboratory studies indicate that Chinook salmon juveniles may occupy fresh to brackish waters at any age, but do not completely transition to salt water until about 1.5 years of age. Studies in the Klamath River show that juvenile green sturgeon rear in fresh and estuarine waters for 1 to 4 years before dispersing into salt water, at lengths of about 300 to 750 mm. Although there have been few studies on juvenile green sturgeon distribution throughout the

San Francisco Bay, the available data indicate that juvenile green sturgeon also rear in the area's bays and estuaries for 1 to 4 years before migrating out to coastal marine waters as subadults. Residence times in the Delta appear to be variable, based on the temporal frequency of juvenile fish recovered at the fish salvage facilities of the Central Valley Project and State Water Project and the data collected from both the 2007 and 2008 sturgeon report cards from CDFG (Gleason 2008). Green sturgeon can be found in any month of the year, and apparently multiple year classes are present in the Delta based on the size distribution of catches, although for green sturgeon few fish were actually measured (sizes ranged from 12 inches to 68 inches, 19 fish measured out of 240 reported caught; Gleason 2008). Based on the 2008 report cards, adult green sturgeon were caught by sport fishermen in every season of the year in the Delta and in the Sacramento River (from Rio Vista to Chipps Island and from Red Bluff to Colusa). This year-round presence of adult and juvenile green sturgeon in the Central Valley differs from the typical Chinook salmon life history as described by the commenter's conceptual model, in which juveniles rear in freshwater prior to migrating to the San Francisco Bay estuary, through which they move rapidly to get to marine waters, where conditions are better for feeding and growth. In addition, subadult and adult green sturgeon migrate throughout the West coast from southern California to Alaska, and are known to occupy overwintering habitats in coastal bays and estuaries from northern California to Washington (including Humboldt Bay, Coos Bay, Winchester Bay, the lower Columbia River estuary, Willapa Bay, and Grays Harbor) for weeks to months to feed during multiple summers over the course of their lives. In contrast, Chinook salmon generally use estuaries only at the beginning and end of their ocean residence (Quinn 2005). Unlike green sturgeon, they spend their summers in the ocean and do not rely nearly as heavily on estuarine habitats over their lifespans.

#### **Biological Evaluation of Conservation Value**

*Comment 14:* One commenter stated that the qualitative approach used by the CHRT to assess the biological conservation benefits of designation was not adequate because the approach did not provide an objective estimate of the relative conservation benefit of including a specific area or a clear standard to compare with the estimated economic impacts. The commenter

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noted that the approach did not contain an estimate of the species' current population level, the increase in survival or abundance expected from the designation of critical habitat, or an estimate of the economic or monetary value of the conservation benefits.

*Response:* The ESA requires that a critical habitat designation be based on the best available scientific data. Data are not available regarding the current absolute population abundance of the Southern DPS or green sturgeon in general. Data are also not available to estimate the monetary value of the conservation benefits of designation and thereby make a direct comparison to the economic impacts of designation. In the absence of these data, a qualitative conservation value rating approach was developed to evaluate the conservation benefits of designation. The approach incorporated the best available data and allowed for consideration of the best professional judgment of the CHRT. The conservation value ratings (High, Medium, Low, Ultra-low) provided a relative measure of the benefits of designation for each specific area, at a level appropriate for the level of data available. This approach has been used in critical habitat designations for salmonids and has been recognized as an appropriate alternative where data are not available to monetize the benefits of designation.

*Comment 15:* One commenter recommended that further evaluation of whether green sturgeon use particular coastal estuaries and their habitat value be conducted prior to designation of these areas as critical habitat. The commenter focused on the coastal estuaries considered for designation in Oregon, stating that the proposed rule did not provide information regarding the use or extent of use by green sturgeon in these areas or the habitat value of these areas to green sturgeon. Specifically, the commenter stated that: (1) The genetic analyses do not provide sufficient information to determine the presence of Southern DPS green sturgeon in Winchester Bay and more sampling is needed; (2) it is not clear whether tissue samples collected for genetic analyses were taken from green sturgeon in Winchester Bay or in the Umpqua River and the results regarding the proportion of Southern DPS green sturgeon in the area may be affected by sample size; (3) it is not clear why the Rogue River was excluded, but Coos Bay was not; and (4) reasons for the designation of Yaquina Bay and the exclusion of Tillamook Bay and the Siuslaw River estuary are not clear.

*Response:* We agree that additional studies are needed to address

information gaps regarding the extent of use of coastal estuaries by Northern DPS and Southern DPS green sturgeon and to better understand the habitat function and value of these areas for the species. However, the ESA requires that NMFS use the best available scientific and commercial data to designate critical habitat within specific statutory timelines. Thus, in the face of uncertainty and varying levels of information available for different areas, NMFS relied on the best available information and used its best professional judgment where data were lacking or uncertainty was great.

To evaluate specific areas considered for designation as critical habitat, the CHRT considered both the use of each area by green sturgeon and the value of the habitat to green sturgeon. Specifically, the CHRT evaluated the presence and condition of the PCEs, the habitat functions provided, and the life stages of green sturgeon confirmed or most likely to occur there. To confirm the presence of the PCEs, the CHRT used the presence of green sturgeon, along with the best available habitat data. To evaluate the relative habitat value of each area, the CHRT considered the abundance of green sturgeon along with the best available data on the life stages and uses supported, the consistency of use, and the temporal and spatial distribution of green sturgeon within an area. To determine the extent to which Southern DPS green sturgeon used an area, and the relative value of each area to the Southern DPS, the CHRT used the best available tagging and genetic data. The CHRT's analyses and the data used are summarized in this final rule and described in greater detail in the final biological report (NMFS 2009a). In the following paragraph, we summarize the relevant information in response to the comments on specific coastal estuaries in Oregon.

First, the presence of Southern DPS green sturgeon within coastal estuaries in Oregon was primarily confirmed by telemetry data and supported by genetic data, where available. For Winchester Bay, genetic tissue samples were collected between RKM 6.4 and 19.3, which is downstream of the head of tide in Umpqua River (head of tide = RKM 40) and within the boundaries of the specific area delineated for the bay (pers. comm. with Josh Israel, UC Davis, July 10, 2009; pers. comm. with Pete Baki, ODFW, July 17, 2009). It is possible that the sample size affected the analysis of the proportion of Southern DPS green sturgeon in the bay, but that does not negate the use of these data to confirm the presence of

Southern DPS fish in this area. The CHRT assigned Winchester Bay a Medium conservation value rating based on high use of the area by green sturgeon and the presence of suitable habitat features (see final biological report, NMFS 2009a).

Second, certain coastal estuaries in Oregon were excluded from the designation because the economic benefits of exclusion outweighed the conservation benefits of designation. Coastal estuaries in Oregon are primarily occupied by green sturgeon during the summer and contain PCEs (including prey resources, water quality, and migratory corridors) that support feeding and aggregation of subadult and adult green sturgeon. During the public comment period, additional data were provided by the ODFW regarding green sturgeon sport catch records in coastal Oregon estuaries. These data were used to update the data reported in the draft biological report (NMFS 2008b). The data were considered by the CHRT and incorporated into the final rule and biological report (see response to Comment 11). The data indicate that from 1986 to 2007, the largest numbers of green sturgeon were caught in Winchester Bay (n = 1,889), Tillamook Bay (n = 279), and Nehalem Bay (n = 254), followed by Coos Bay and Yaquina Bay (n = 201) (ODFW 2009a, b). Southern DPS green sturgeon tagged in the Sacramento River and San Pablo Bay have been detected in Coos Bay, Winchester Bay, and Yaquina Bay (pers. comm. with Steve Lindley, NMFS, and Mary Moser, NMFS, February 24–25, 2008; pers. comm. with Dan Erickson, ODFW, September 3, 2008). The CHRT initially assigned a Medium conservation value to Winchester Bay, Coos Bay, Tillamook Bay, and Nehalem Bay, based on data indicating consistent use by and relatively large numbers of green sturgeon in these estuaries. However, the conservation value for Tillamook Bay and Nehalem Bay was reduced by one level to Low, because there was no evidence to confirm that any green sturgeon in those areas belong to the Southern DPS. Although Southern DPS presence has been confirmed in Yaquina Bay, the CHRT assigned the area a Low conservation value (NMFS 2009a). Finally, the estuaries at the mouths of the Siuslaw and Alsea rivers were assigned a Low conservation value based on relatively low numbers of green sturgeon recorded in the sport catch data (sport catch = 50 green sturgeon in Siuslaw estuary and 30 green sturgeon in Alsea estuary from 1986 to 2007; ODFW 2009a, b). The conservation value was reduced to an

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Ultra-low because we lack data to confirm the presence of Southern DPS green sturgeon in these estuaries.

Under section 4(b)(2) of the ESA, NMFS has the discretion to exclude an area from the designation if the benefits of exclusion outweigh the benefits of designation. Tillamook Bay, Siuslaw River estuary, Alsea River estuary, Coos Bay, and the Rogue River estuary were all determined to be potentially eligible for exclusion under ESA section 4(b)(2) based on economic impacts. All of these, except for Coos Bay, were excluded based on NMFS' determination that the economic benefits of exclusion outweighed the conservation benefits of designation. Although data demonstrate that the Rogue River estuary is consistently used by large numbers of green sturgeon, the area was assigned an Ultra-Low conservation value because the best available data indicate that the green sturgeon observed there belong to the Northern DPS. Thus, the designation of critical habitat in the Rogue River estuary would not likely benefit the conservation of the Southern DPS. Coos Bay was not excluded, because the data indicate consistent use by relatively large numbers of green sturgeon that include Southern DPS fish. The CHRT determined that protection of Coos Bay as critical habitat is important for the conservation of green sturgeon, and exclusion of Coos Bay would significantly impede conservation. Based on the CHRT's recommendation, NMFS determined that the economic benefits of exclusion do not outweigh the conservation benefits of designation for Coos Bay and included Coos Bay in the final critical habitat designation. We recognize that the level of data available varies across areas and may affect the evaluation of these areas. We encourage additional studies of green sturgeon distribution in, and use of, coastal estuaries to inform NMFS' consultations under section 7 of the ESA, recovery planning and implementation, and future revisions to the critical habitat designation for the Southern DPS.

*Comment 16:* One commenter noted that many of the coastal marine and estuarine areas proposed for designation as critical habitat are already altered habitats, wanting NMFS to recognize that routine, regular maintenance activities (including maintenance dredging of navigation channels) are conducted within these areas by the U.S. Army Corps of Engineers to support ongoing multi-purpose projects.

*Response:* NMFS acknowledges that many of the coastal marine and estuarine areas proposed for designation as critical habitat contain habitats that

have been altered by past and ongoing activities. These past and ongoing activities have likely affected the PCEs within each area, but have not degraded the PCEs such that they no longer exist within the areas. The continued presence and use by green sturgeon of each area indicate that the PCEs exist and still provide habitat functions to support the species. In addition, the presence of regular routine maintenance indicates that the PCEs within the coastal marine and estuarine areas may require special management considerations or protection.

*Comment 17:* One commenter noted that the proposed rule incorrectly stated that green sturgeon present in estuaries of the Eel, Klamath/Trinity, and Rogue rivers are believed to belong to the Northern DPS, based on the fact that these are spawning rivers for the Northern DPS (73 FR page 52091, bottom of third column). The commenter requested clarification that green sturgeon spawning has not been confirmed in the Eel River.

*Response:* We acknowledge this error in the proposed rule. The final rule corrects this error and states that green sturgeon present in estuaries of the Klamath/Trinity and Rogue rivers are presumed to belong to the Northern DPS because these are spawning rivers for the Northern DPS and no tagged Southern DPS green sturgeon have ever been detected in the estuaries. Green sturgeon in the Eel River estuary are presumed to belong to the Northern DPS based on the definition of the Northern DPS (which includes the Eel River). In 2008, a hydroacoustic array was installed in the Eel River estuary and detected one tagged Northern DPS green sturgeon. More data from tagging and genetics studies are needed to confirm whether or not Southern DPS green sturgeon occupy the Eel River estuary.

*Comment 18:* Commenters requested additional information to be presented in the biological report, including: A table citing the references used to determine the presence of green sturgeon in each specific area; the results from the CHRT's three approaches for evaluating the conservation value of the species areas; and additional telemetry data and references provided by reviewers and commenters. Two commenters also noted an error in Table 5 of the draft biological report regarding the tally of conservation value rating votes for Grays Harbor, WA.

*Response:* The final biological report incorporates the changes requested and the additional information provided by the peer reviewers and public comments. First, a table listing each

specific area, the life stages of green sturgeon that are present, and the relevant references was added to the report. Second, the CHRT had used three different approaches for assigning conservation values to the specific areas, but only the results of the final method were reported in the draft biological report. The final biological report provides the results for all three approaches for comparison. Third, additional telemetry data and information regarding green sturgeon spawning in the Sacramento River were incorporated into the report and considered by the CHRT. Finally, corrections were made to the conservation value rating tally for Grays Harbor in Table 7 of the final biological report (formerly Table 5 in the draft biological report). Specifically, the draft biological report incorrectly reported 6 votes for Medium and 2 votes for Low conservation values. The correct tally was 6 votes for High and 2 votes for Medium conservation values.

#### Special Management Considerations

*Comment 19:* One commenter stated that most of the 13 types of activities that potentially require special management are already regulated under existing environmental regulations that address effects on the PCEs. The commenter requested additional information to describe the cause/effect relationship between the PCEs and each of the 13 types of activities that potentially require special management.

*Response:* This comment raises the concern of whether the specific areas considered for designation as critical habitat are eligible for designation. To be eligible for designation, the specific area must meet the definition of critical habitat. That is, the specific area must contain at least one PCE that may require special management considerations or protection. The focus of this comment is on whether the "special management considerations or protection" criterion is satisfied. Special management considerations or protection mean "any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species" (50 CFR 424.02). In determining whether a specific area met the definition of critical habitat, the CHRT was asked to identify whether any PCE could be found in the specific area, whether there were any actions (either ongoing or anticipated) occurring in the area that may threaten the PCE(s), and whether there would be any methods or procedures useful in protecting the PCE(s). The CHRT based

their assessment on their knowledge of the areas and the PCEs and their experience conducting section 7 consultations or field research on green sturgeon in the areas. The CHRT was not asked to identify existing protections within each area, nor was the CHRT asked to evaluate whether existing protections were adequate. The existence of environmental regulations does not negate the fact that the PCEs within an area may require special management considerations or protection. Thus, the existence of environmental regulations that already regulate the activities of concern was not a factor to be considered by the CHRT in determining the eligibility of an area for consideration as critical habitat. Instead, the consideration of existing environmental regulations and other protections that address the PCEs is a question to be considered in the ESA 4(b)(2) analysis when weighing the benefits of exclusion against the benefits of designation. The final biological report was revised to include a more detailed description of the 13 types of activities that may require special management and how these types of activities may affect the PCEs.

*Comment 20:* One commenter recommended that gravel augmentation should not be under the “in-water construction or alteration” category, but should be included in the “habitat restoration” category because there will be potential habitat benefits from gravel augmentation. Otherwise, the commenter noted that a large number of restoration activities should also be included in the “in-water construction or alteration” category. The commenter requested that in-water construction or alteration activities and habitat restoration activities be more clearly defined.

*Response:* We revised the final rule and supporting documents to more clearly define in-water construction or alteration activities and habitat restoration activities. In-water construction or alteration activities include activities that involve the construction or maintenance of some physical in-water structure (e.g., breakwaters, docks, piers, pilings, bulkheads, boat ramps, utility lines) or the alteration of physical in-water habitat features (e.g., channel modification/diking, sand and gravel mining), including activities occurring outside of the water but that may affect in-water habitat (such as road building and maintenance, forestry, grazing, and urbanization that may lead to increased erosion and sedimentation). Habitat restoration activities are activities conducted for the primary purpose of

restoring natural aquatic or riparian habitat conditions or processes. We agree that gravel augmentation can be included as a habitat restoration activity and have included it in this category in addition to the in-water construction or alteration activity category. We note, however, that gravel augmentation and other habitat restoration activities may have either positive or negative effects on critical habitat for green sturgeon, depending on the type of activity, location, time of year, scale, and other factors. For example, gravel augmentation could possibly fill in deep pools (greater than 5 meters in depth) used by green sturgeon for holding and spawning. These activities would be subject to requirements under section 7 of the ESA to address potential effects on critical habitat.

*Comment 21:* Two commenters were concerned about the effect that invasive submerged aquatic vegetation may have on the physical or biological features essential for conservation in shallow water habitats and felt that this should be considered in the designation. One commenter also requested that the CHRT consider activities that may result in a large increase of erosion, including logging, gravel mining, and the use of recreational off-road vehicles near riparian areas, and their effects on present or future spawning streams.

*Response:* The CHRT identified the introduction and spread of non-native species as a potential threat to the PCEs that may result in the need for special management considerations or protection. We recognize that invasive submerged aquatic vegetation, such as the *Egeria densa* mentioned by one commenter, may affect shallow waters by trapping sediments, forming thick mats that obstruct passage, and crowding out native vegetation. Activities that result in increased erosion were also considered by the CHRT under the “in-water construction or alterations” category. The final rule clarifies that activities that occur outside of designated critical habitat, including those conducted upstream, upland, or adjacent to designated critical habitat areas, can destroy or adversely modify critical habitat and would also be subject to requirements under section 7 of the ESA with regard to critical habitat. Therefore, the commenters’ concerns have been addressed.

*Comment 22:* Several commenters provided information on additional activities that should be considered which occur within the specific areas and that may threaten the PCEs.

*Response:* We considered the information provided on additional

activities and incorporated the information into the final rule and supporting documents. The changes include: (1) Feather River—added habitat restoration activities; (2) Yolo Bypass—added dams (Lisbon Weir and Fremont Weir), water diversions, pollution, and habitat restoration; (3) Sutter Bypass—added dams (weirs located in the toe drain), water diversions, pollution, habitat restoration, and in-water construction or alteration activities; (4) Sacramento-San Joaquin Delta—added dams (locks, weirs, and temporary barriers) and commercial shipping; (5) lower Columbia River estuary (from RKM 0 to 74)—the two LNG projects identified by the commenters were already considered in the proposed rule, however, based on public comments received, we divided the lower Columbia River and estuary into two specific areas (the lower Columbia River estuary from RKM 0 to 74 and the lower Columbia River from RKM 74 to 146; see response to comment 15) and the LNG projects were assigned to the lower Columbia River estuary specific area; and (6) coastal marine waters off Oregon—added 5 proposed wave energy projects.

#### Potential Effects of the Critical Habitat Designation on Activities

*Comment 23:* One commenter requested that further clarification be given whether a Federal nexus exists for the commercial crab and pink shrimp State-managed fisheries that may trigger section 7 requirements. The commenter noted that consultation may also be required for bottom trawl fisheries conducted in coastal marine waters off Oregon.

*Response:* Based on the information provided by the commenters and the current management regime at this time, NMFS does not believe that a Federal nexus exists for the commercial crab and pink shrimp State-managed fishery off Oregon. However, the fishery may be subject to the ESA section 4(d) rule for the Southern DPS of green sturgeon (proposed May 21, 2009, 74 FR 23822) if take of green sturgeon occurs in this fishery. NMFS is working with the Pacific Fishery Management Council (PFMC) to prepare for a consultation under section 7 of the ESA on the groundfish bottom trawl fishery conducted off California, Oregon, and Washington. The consultation would address impacts on green sturgeon critical habitat within coastal marine waters.

*Comment 24:* Several commenters requested additional information on what changes might be recommended

for the California State Water Project (SWP) and the Central Valley Project (CVP) operations and how these areas may require special management.

*Response:* The effects of the combined CVP and SWP operations on the Southern DPS were analyzed by NMFS in the recently issued Biological and Conference Opinion (2009 OCAP BO). The most conspicuous change to CVP operations is the operations of Red Bluff Diversion Dam (RBDD). Following the issuance of the 2009 OCAP BO, gates will remain open from September 1st through June 14th until May of 2012. By May 14th, 2012, the Red Bluff alternative intake pumps are anticipated to be operational. This will allow the Tehama-Colusa Canal Authority (TCCA) to divert sufficient water through screened pumps to meet its obligations without relying on the operations of the RBDD to back up water to supply its current gravity fed diversion. The operation of the screened pumps will allow for the decommissioning and eventual removal of the RBDD. During the interim period (2009 to 2012), screened pumps will be installed adjacent to the current location of the RBDD to divert sufficient volumes of water to meet TCCA needs through June 14th of each year. After June 14th, the RBDD gates will be lowered to back up river water and supply the gravity fed diversions. When the gates are operational, a minimum of 18 inches of clearance will be maintained beneath the radial gate to allow for downstream passage of adult green sturgeon. In addition, the TCCA and the Bureau of Reclamation will fund studies over the next 3 years specifically focused on green sturgeon to determine population size, movements of fish within the system, and habitat preferences and usage within the Central Valley. Within the Delta, reoperation of the Delta Cross Channel gates will result in closing the gates earlier to prevent emigrating fish from entering the Delta interior. Although primarily designed for salmonid protection, the closing of the gates may have some utility in protecting adult and juvenile green sturgeon emigrating during the same time period (better conditions in the Sacramento River migratory corridor versus less hospitable conditions within the Mokelumne River corridor). Likewise, export curtailments designed to benefit emigrating salmonids are expected to benefit juvenile green sturgeon and reduce their entrainment by the pumps during the periods of export reduction. Modifications to the fish salvage facilities to enhance the efficiency of the overall salvage will

benefit green sturgeon. Increases in sampling rate/duration at the fish salvage facilities will better quantify the effects of the export actions on green sturgeon. The section 7 consultation on the Federal Energy Regulatory Commission (FERC) relicensing of Oroville Dam is assessing the river temperature profile downstream of the Thermalito Afterbay outlet to ascertain whether additional spawning habitat can be gained through modifications of facilities, and/or operations of dam releases, or reconfiguration of the Thermalito Afterbay itself.

#### Economic Analysis

*Comment 25:* One commenter felt that NMFS cannot adequately estimate the incremental economic effects of the critical habitat designation, because NMFS has not yet issued an ESA 4(d) rule for the Southern DPS.

*Response:* The economic analysis (Industrial Economics Inc. (Indecon) 2009) complies with the ESA's mandate to use the best available information, and NMFS believes it provides a sufficient assessment of the baseline and incremental economic impacts of designating critical habitat for green sturgeon. The baseline for the incremental impacts analysis includes the estimated costs attributed to the listing of the species and the protections under section 7 of the ESA requiring Federal agencies to ensure their actions do not jeopardize ESA-listed species. The baseline also includes protections already provided to green sturgeon critical habitat under existing protections for other listed species, such as West Coast salmon and steelhead, delta smelt, and marine mammal species. The incremental analysis of impacts looks at what is required to avoid adverse modification of green sturgeon critical habitat, above and beyond what is already required to avoid jeopardy of listed species and adverse modification of existing critical habitat, and to comply with other existing Federal, State, and local protections.

To assess the baseline and incremental impacts, the best available information was used from the short consultation history for green sturgeon, as well as information from surrogate species (e.g., salmonids) whose distribution and life history traits overlap with the green sturgeon's, because the protective measures that have been established for these species are similar to what NMFS would anticipate for green sturgeon. Uncertainties related to assessing incremental impacts exist, but this is partly due to the project-specific nature

of the ESA section 7 consultations that NMFS conducts with other Federal agencies. To address this uncertainty, a conservative approach was taken to ensure that the analysis adequately represents the potential impacts and incremental costs associated with the critical habitat designation. Therefore, promulgation of take prohibitions under an ESA 4(d) rule is not necessary to assess the baseline and incremental impacts of the critical habitat designation.

*Comment 26:* Several commenters disagreed with the draft economic analysis' method for assessing incremental impacts. One commenter also noted the draft economic analysis did not adequately define the baseline used in the analysis. Specifically, commenters suggested that the baseline should not include protections for green sturgeon offered by conservation measures undertaken for Pacific salmon. One commenter noted that the economic analysis should consider both incremental and baseline impacts. In particular, the commenter suggested that baseline impacts should be considered because if one of the listed salmonids were delisted, the designation of critical habitat for green sturgeon could become the primary reason certain conservation measures are undertaken. Another commenter stated that NMFS' consideration of all potential project modifications that may be required under section 7 of the ESA, regardless of whether those changes may also be required under the jeopardy provision, appears to be contrary to the reasoning of the *Cape Hatteras Access Preservation Alliance v. U.S. Department of Interior* (344 F. Supp. 2d 108 (D.D.C., 2004)) (*Cape Hatteras*) court decision that the effects of listing and the jeopardy provision should not be considered as part of the impacts of a designation in the ESA 4(b)(2) analysis for a critical habitat designation.

*Response:* As outlined in Section 1.3 of the final economic analysis report (Indecon 2009), the analysis does not attribute all potential project modifications required under section 7 to the critical habitat designation. Rather, it takes an incremental approach, comparing the state of the world with and without the designation of critical habitat for green sturgeon. The "without critical habitat" scenario represents the baseline for the analysis, considering habitat protections already afforded green sturgeon under its Federal listing or under other Federal, State, and local regulations, including protections afforded green sturgeon resulting from protections for other listed species, such as West Coast



salmon and steelhead, delta smelt, and marine mammal species. The “with critical habitat” scenario attempts to describe the incremental impacts associated specifically with green sturgeon critical habitat designation. The courts in several cases have held that an incremental analysis is proper (see for example: *Cape Hatteras; Center for Biological Diversity v. United States Bureau of Land Management*, 422 F. Supp. 2d, 1115 (N.D. Calif. 2006); and *Arizona Cattle Growers v. Kempthorne*, 534 F. Supp. 2d 1013 (D. Ariz. 2008)).

Section 1.4 of the final economic analysis report clarifies how the economic analysis defines its baseline, or “without critical habitat” scenario. As described in Section 1.4.5 of the final economic analysis report, project-specific conservation efforts that benefit green sturgeon are frequently undertaken due to the joint presence of multiple anadromous fish species and habitats and may therefore be implemented regardless of the presence of green sturgeon critical habitat. This complicates the identification of changes in behavior associated specifically with the green sturgeon critical habitat. This analysis employs best professional judgment in calculating the probability that green sturgeon conservation needs are a primary driver of the implementation of a joint conservation effort. Thus, this analysis estimates the likelihood that consideration of green sturgeon critical habitat will weigh heavily in the implementation of a conservation effort undertaken due to the presence of multiple species and habitats. This probability is dependent upon a number of factors, including the details of the project and conservation effort in question and the number of sensitive species present. By excluding impacts for which green sturgeon critical habitat is not a key reason for a conservation effort implementation, this analysis focuses the quantification of impacts on those associated specifically with green sturgeon habitat conservation. Because the probability that any given conservation effort is being driven by green sturgeon conservation as opposed to other species is subject to significant uncertainty, the final economic analysis report presents a sensitivity analysis for these assumptions. Appendix E of the final economic analysis describes alternative results assuming the extreme case that green sturgeon is always a primary driver of the conservation efforts (e.g., that 100 percent of the time fish screens are installed, it is primarily due to green sturgeon conservation needs).

*Comment 27:* Several commenters noted that it would be helpful if the draft economic analysis provided additional, detailed explanations of the methodology for calculating impacts for specific activities, including dam projects.

*Response:* Section 1.4 of the final economic analysis report provides a revised discussion of how the various cost estimates are developed and aggregated to develop total annualized impacts per unit. Every section for a specific economic activity contains exhibits on these three data points: (1) Number of affected projects by unit; (2) expected annualized costs of conservation efforts for anadromous fish species per project; and (3) the probability that green sturgeon drives the impact for that activity in that unit (for units where listed salmon and steelhead habitat overlap occurs). The analysis multiplies the number of affected projects in each unit by the annualized costs per project and the probability score for each unit to arrive at projected impacts. For example, costs of fish screens at water diversions are developed by estimating average costs of fish screens (\$80,000 to \$130,000), annualizing over 20 years, and multiplying by the number of water diversions in affected units. For units where listed salmon and steelhead species are present, the costs are again multiplied by the probability that green sturgeon will be the driver of passage costs. Specific costs of fish passage projects in critical habitat areas provided by public commenters have been incorporated into the analysis of impacts on dam projects.

*Comment 28:* One commenter noted that the designation of critical habitat may result in economic activities not being carried out (e.g., dredging, project, in-water construction, development project) or otherwise lead to time delays. The draft economic analysis should address losses in consumer surplus resulting from these potential delays.

*Response:* As discussed in Section 1.3.2 of the final economic analysis report, the analysis does consider time delay impacts associated with the section 7 consultation process and/or compliance with other laws triggered by designation where applicable. For example, estimated impacts to dredging projects include impacts associated with possible work window constraints (see Exhibit 2–4).

*Comment 29:* One commenter stated that the draft economic analysis employed a “cost-effectiveness” analysis to analyze impacts; however, the draft economic analysis did not

provide sufficient data to determine which areas would provide the greatest biological benefit for each dollar of associated impact.

*Response:* As discussed in Section 1.2.1 of the final economic analysis report, we used an alternative form of cost-effectiveness analysis for this rulemaking. This alternative form develops an ordinal measure of the benefits of critical habitat designation. Although it is difficult to monetize or quantify benefits of critical habitat designation, it is possible to differentiate among habitat areas based on their estimated relative value to the conservation of the species. For example, habitat areas can be rated as having a high, medium, or low biological value. The output, a qualitative ordinal ranking, may better reflect the state of the science for the geographic scale considered here than a quantified output and can be done with available information. The final ESA section 4(b)(2) report (NMFS 2009c) discusses the specific weighing process that we performed for this rule.

*Comment 30:* One commenter stated that the cumulative economic impact of baseline protections was not included in the economic analysis.

*Response:* The economic analysis estimates costs associated with conducting an ESA section 7 consultation to ensure Federal agency actions are not likely to destroy or adversely modify critical habitat. We did not have information available to determine the cumulative economic impacts of baseline protections, nor did the commenter provide us data that would allow us to make such a determination.

*Comment 31:* One commenter stated that although little impact is expected on the part of the Bureau of Land Management, additional review is needed to ensure that the economic analysis accurately reflects increased administrative costs associated with section 7 consultation for other Federal agencies.

*Response:* The final economic analysis report now includes an overview in section 1.3.2 of the estimated future annual administrative costs associated with section 7 consultations for green sturgeon. Based on the consultation history for completed consultations that included green sturgeon to date (2006–2009), the economic analysis forecasts an average future annual rate of section 7 consultation for green sturgeon of 12 formal consultations, 67 informal consultations, and eight technical assistance efforts. The additional, incremental administrative effort

associated with these consultations is estimated to be approximately \$251,000 per year, including efforts by the Service, Action agencies, and third parties.

*Comment 32:* Several commenters stated that the economic analysis failed to consider community level impacts.

*Response:* We acknowledge that modifications to economic activities within one unit may affect economic activities in other units. The analysis also acknowledges that potential impacts could result in regional economic effects, for example in fishing communities, should the level of bottom trawl fishing catch be curtailed as a result of this designation. However, the regional economic effects of the critical habitat designation are unknown because many uncertainties exist. For example, potential reductions in fishing effort in critical habitat areas may or may not lead to reductions in profits, depending on the availability and quality of alternative sites. Therefore, the economic analysis report describes the potential regional economic effects and the uncertainties associated with their analysis, but does not quantify these effects.

*Comment 33:* One commenter thought that the draft economic analysis failed to consider energy impacts resulting from potential changes in management at the Red Bluff Diversion Dam and other water diversions. Specifically, the commenter was concerned the farmers may need to seek out replacement water supplies that may require additional energy consumption. The commenter also was concerned that permanent crop loss in some areas could lead to losses of carbon dioxide conversion and result in widespread changes in energy consumption over a wide geographic area.

*Response:* Appendix D of the final economic analysis report now presents an energy impacts analysis. This energy impacts analysis assesses whether the green sturgeon critical habitat designation would result in one of nine outcomes that may constitute "a significant adverse effect" as outlined by the Office of Management and Budget in their guidance on implementing Executive Order 13211. These include: (1) Reductions in crude oil supply in excess of 10,000 barrels per day; (2) reductions in fuel production in excess of 4,000 barrels per day; (3) reductions in coal production in excess of 5 million tons per year; (4) reductions in natural gas production in excess of 25 million Mcf per year; (5) reductions in electricity production in excess of 1 billion kilowatt-hours per year or in excess of 500 megawatts of

installed capacity; (6) increases in energy use required by the regulatory action that exceed the thresholds above; (7) increases in the cost of energy production in excess of one percent; (8) increase in the cost of energy distribution in excess of one percent; or (9) other similarly adverse outcomes. Of these, the most relevant criteria to green sturgeon critical habitat are potential changes in natural gas and electricity production, as well as changes in the cost of energy production. Possible energy impacts may occur as the result of requested project modifications to hydropower dams, alternative energy hydrokinetic projects, and LNG facilities. The potential impacts of permanent crop loss on carbon dioxide levels in the atmosphere and the potential changes in climate and energy consumption in affected regions are unclear at this time due to many uncertainties. For example, it is uncertain what the effects of crop loss are on atmospheric carbon dioxide levels and subsequently on climate and on energy consumption by consumers. Further complicating matters is the uncertainty regarding how these relationships may be affected by other impacts on atmospheric carbon dioxide levels from activities related to or outside of this critical habitat designation. Therefore, these impacts cannot be analyzed at this time.

*Comment 34:* One commenter asked how the lost revenue figures estimated in the small business analysis related to the estimated impacts calculated in the rest of the economic report. In addition, the commenter specifically requested that the small business analysis provide information about the potential revenue losses for farmers as a share of their total revenues.

*Response:* The estimated lost revenues per small business included in the Final Regulatory Flexibility Analysis (Indecon 2009) are calculated by taking the mid-range scenario impacts presented in Chapters 3 through 5 of the final economic analysis report, and then dividing by the estimated number of small entities by activity by unit, as presented in Exhibit C-3. Average net operational dollar gain per farm (ignoring government payments) in the study area (\$147,000, average for affected communities) are now included in the analysis for context.

*Comment 35:* One commenter stated that impacts to the Yaquina River unit were underestimated because there are on-going dredging and in-water construction projects in that area.

*Response:* The final economic analysis report considers dredging and in-water construction projects as

potential threats to green sturgeon in the Yaquina River unit. However, the 404 permit data from the U.S. Army Corps of Engineers used to estimate the level of dredging and in-water construction activity taking place in the Yaquina River Unit do not indicate current projects in that area.

*Comment 36:* One commenter noted that the critical habitat designation could result in a significant, additional regulatory burden for the Port of Portland for in-water work activities (e.g., dredging, wharf construction, and routine dock repairs).

*Response:* The economic analysis considers potential impacts to the Port's in-water work activities. The Port of Portland appears to fall within Unit 24b, the Lower Columbia River. For this unit, the final economic analysis report forecasts total annualized impacts of between \$106,000 and \$413,000 for dredging projects and \$151,000 to \$1,230,000 for in-water construction in this unit. A discussion of potentially affected commercial shipping resources is included in Section 4 of the final economic analysis report, and includes the Port of Portland.

*Comment 37:* Several commenters thought that the draft economic analysis failed to consider impacts to shoreline development. Specifically, the commenters argued that the proposed rule identified development and upland activities as economic activities that may adversely modify critical habitat and therefore may need to be altered. Therefore, the commenters believed that shoreline development should be addressed in the economic analysis.

*Response:* Typically the development issue of most concern is the potential for critical habitat to inhibit the development potential of affected land parcels, thereby constraining (or reducing) the land available for future development. In areas that are highly developed, or where developable land is scarce (for non-critical habitat related reasons), the reduction in available land due to critical habitat can impose significant economic impacts. However, the designation of critical habitat for the green sturgeon is not expected to result in these types of direct impacts on residential development for multiple reasons.

First, unlike terrestrial species, habitat for the green sturgeon is not itself part of the supply of developable land. For this reason, protection of the aquatic habitat need not take the form of supplanting development if the impacts of the development can be mitigated. Given the minimal consultation history for green sturgeon, a review of the information available for west coast



salmon and steelhead can provide further insight on this issue. For salmon and steelhead, NOAA fisheries personnel indicated that consultations regarding development projects are rare. Review of the salmon consultation history further supports this assessment, but more importantly, development consultations only addressed specific development activities with a Federal nexus, such as stormwater outfall structures (*i.e.*, consultations did not address the entire residential project, nor were any mitigation or land offsetting required). Based on this information, residential development for salmon and steelhead were not expected to have direct impact on the supply of land or housing for residential development. However, potential impacts on National Pollutant Discharge Elimination System (NPDES) permitted facilities were included.

Following this same approach, the final economic analysis report similarly does not anticipate any direct impacts to residential development in the form of reduced developable land. Rather, impacts to development activities are limited to the additional costs that would result from NPDES-related activities where a Federal nexus exists. The estimated number of NPDES-permitted facilities and the costs associated with these facilities as a result of the rulemaking are provided in Section 2.3 of the final economic analysis report. Potential threats from industrial or municipal runoff do not have a clear Federal connection; therefore, they are assumed to be dealt with primarily outside of the section 7 consultation realm.

*Comment 38:* Several commenters stated that the economic analysis did not consider impacts to specific projects involving dams and water diversions. One commenter stated that the draft economic analysis failed to discuss implications of the designation on the operations of the State Water Project and Central Valley Project. Another commenter inquired as to why specific discussion of Red Bluff Diversion Dam was not included in the draft economic analysis, and provided information on costs of constructing the Red Bluff Pumping Plant. In particular, the commenter noted that RBDD has undertaken a \$165 million screened pumping plant as part of a Fish passage Improvement Project in the hope of minimizing impacts resulting from critical habitat designation. Another commenter provided information on potential costs of fish passage and dam removal at Daguerre Point Dam.

*Response:* Because of the large geographic area covered by proposed

green sturgeon critical habitat and the large number of dams and water diversions located within the study area, Section 2.5 of the final economic analysis report broadly assumes that all dams do not currently have, but will require fish passage, and that all water diversions in affected watersheds do not currently have, but will require fish screens. For projects that already have fish passage facilities or fish screens, the analysis may overstate potential impacts. Because the analysis relies on average ranges of costs of these requirements, this approach may understate potential impacts for some individual projects. As a result, where public commenters provided specific cost estimates associated with potential fish passage issues in green sturgeon critical habitat areas, these have been incorporated into the final economic analysis report. Due to the regional importance the State Water Project and Central Valley Project, the final economic analysis report incorporates a more detailed discussion of these projects than was included in the draft economic analysis (*also see* response to Comment 24). Particularly relevant to the green sturgeon critical habitat area are the Red Bluff Diversion Dam and Daguerre Point Dam, which are now discussed in more detail.

*Comment 39:* One commenter stated that costs on the Upper and Lower Sacramento River units appear to be inordinately low. Specifically, the commenter noted that incremental impacts from possible special management measures and protections involving releases from dams or limiting diversions have potential to greatly magnify the economic impacts of the proposed rule and were not accurately captured in the economic analysis or proposed rule. The commenter also stated that agricultural operations are greatly affected by the operations of the Red Bluff Diversion Dam, which may not have been taken into account in the analysis.

*Response:* The amount of water within particular areas that may be diverted from activities such as irrigation, flood control, municipal water supply, and hydropower, for the purposes of green sturgeon is uncertain. As a result, a comprehensive prospective analysis of the impacts of potential water diversion from these activities would be highly speculative. In addition, the interrelated nature of dam and diversion projects, and hydrology, across river systems makes it impossible to attribute flow-related impacts from potential green sturgeon conservation measures to specific units. We acknowledge this limitation in the

economic analysis. The final economic analysis, however, includes an expanded discussion of the potential impacts of changes in flow regimes on hydropower production and prices and water diversions on irrigation based on historical examples.

*Comment 40:* One commenter stated that the number of affected water diversions on the Upper Sacramento River may be underestimated because the designation may result in impacts to every single farm turnout in each of 17 water agencies.

*Response:* The final economic analysis report applies a watershed-based approach to determine the dams and water diversions potentially affected by this rule in riverine and estuarine areas. That is, all water diversions that fall within watersheds that contain proposed critical habitat for green sturgeon are assumed to require fish screens. The analysis does not expect that diversions outside of these watersheds will require fish screens on behalf of green sturgeon. In California, the final economic analysis report uses available GIS data from CalFish (A California Cooperative Anadromous Fish and Habitat Data Program; <http://www.calfish.org>) to estimate an aggregate number of potentially affected dams and water diversions by unit (*see* Exhibits 2–15 and 2–16). To the extent that the GIS data used does not reflect the locations of all water diversions, impacts could be understated for particular diversions.

*Comment 41:* One commenter noted that a recent ESA section 7 consultation for salmonids expanded pesticide buffer zones beyond the buffers used in the economic analysis. Specifically, the consultation widens the pesticide buffer to 1,000 feet for aerial applications and 500 feet for ground applications. The commenter noted that in the draft economic analysis, the buffer zone on which agricultural impacts were based was 300 feet for aerial application and 60 feet for ground application. The commenter stated that, consequently, the estimated impacts of green sturgeon critical habitat on agriculture were likely underestimated in the draft economic analysis. The commenter requested NMFS to clarify that no buffer is or will be required for green sturgeon regarding agricultural impacts, or alternatively, to revise the economic analysis consistent with the recent biological opinion.

*Response:* Section 2.4.3 of the final economic analysis report discusses the history of the Washington Toxics litigation (*Washington Toxics Coalition et al. v. EPA*, No. 04–35138), and the two recent consultations on salmon and

steelhead species with regard to specific pesticides and their use. Listed salmon and steelhead species are found in all units where agricultural pesticide application is a threat to green sturgeon habitat. There is evidence that triphenyltin, a common agricultural fungicide, has caused skeletal and/or morphological deformities in Chinese sturgeon (Hu *et al.* 2009). Also, laboratory studies conducted by researchers at UC Davis have shown that certain toxins cause deformities in white sturgeon and green sturgeon (Kruse and Scarnecchia 2002; Feist *et al.* 2005). At this time we do not have information on the effects of the use of agricultural chemicals on green sturgeon in the wild. However, given the similar responses of sturgeon (multiple species) to contaminants as compared to rainbow trout (representing salmonids), the application of buffer zones to protect salmonids from the application of pesticides and herbicides would be appropriate. Therefore, wherever and whenever protective buffer zones are applied for salmonid protection through the section 7 consultation process, green sturgeon would also benefit from the buffer zone guidelines.

The final economic analysis report assumes that the court-ordered injunction restricting pesticide use represents the dominant outcome of section 7 consultations for this activity, and that although the injunction is specifically for listed salmonid species, green sturgeon requirements could result in spray buffer increases of 20 percent, either through wider buffers or additional river segments requiring buffers.

The final economic analysis report also assumes that the agricultural net revenue generated by land within specified distances in critical habitat areas will be completely lost. That is, the analysis assumes that no changes in behavior are undertaken to mitigate the impact of pesticide restrictions. For example, this analysis assumes that no adjustments in cropping or pesticide practices are possible that would allow continued crop production without these pesticides. This assumption may lead to overestimated impacts of restricting pesticide use.

It should be noted that buffer distances have not yet been determined for many pesticides, and it may be that the salmon and steelhead injunction and subsequent consultation requirements will prove to be adequately protective of green sturgeon. As such, green sturgeon critical habitat would not be expected to add costs to those already expected to occur without the current rulemaking. Since the

particular sensitivities of green sturgeon are not well understood, this analysis assumes that green sturgeon may require additional protections over and above those required for salmon species. To the extent that no additional requirements for green sturgeon are imposed over and above those put in place for salmonids, impacts of green sturgeon critical habitat could be overstated. To the extent that much wider buffers are identified than were included in the injunction, overall impacts to agriculture in green sturgeon critical habitat areas could be underestimated.

*Comment 42:* One commenter requested that the impacts to fisheries using other bottom tending gear be considered. The commenter stated that the economic analysis underestimated the economic impact of the proposed rule because it did not consider potential impacts on the shrimp fishery, gear types other than bottom trawl, or community level impacts.

*Response:* NMFS specifically identified the use of bottom trawl gear as a potential threat to green sturgeon and its habitat (*see* 73 FR 52093–52094), and other gears have not been identified as a threat. The best available information indicates that other bottom tending gear (e.g., pot traps, long line) does not adversely affect benthic habitats, whereas the use of bottom trawl gear has a much more apparent effect on benthic habitats. Therefore, the economic analysis does not quantify economic impacts to fishing activities with other gear types. This analysis assumes that State-managed fisheries, such as the commercial crab fishery and pink shrimp fishery will not be affected by this rule. Information provided by the commenter, including the estimate that between two and 11 percent of shrimp tows may occur within the critical habitat area, have been included in the final economic analysis report.

*Comment 43:* One commenter noted that with regard to bottom trawl fishing impacts, the draft economic analysis could have produced more precise and geographically specific estimates for Washington Coast units. In particular, the commenter stated that catch attributed to Unit 37 should be attributed to Unit 36. Another commenter stated that the estimates of bottom trawl revenues seemed low for the area from Humboldt Bay to Cape Flattery, and provides alternative estimates based on log book data. In addition, the commenter noted that the broad scope of the economic analysis obscures the fact that impacts associated with critical habitat likely would fall disproportionately on particular vessels

and coastal communities rather than evenly through a unit.

*Response:* The draft economic analysis used a series of assumptions to estimate the level of bottom trawl fishing effort occurring within proposed boundaries. The final economic analysis report revises this methodology, utilizing data provided by the Washington Department of Fish and Wildlife. As part of this effort, bottom trawl fishing estimates have been reallocated from Unit 37 to Unit 36, and landings data have been better tailored to appropriate units in California, Oregon and Washington. In addition, the economic analysis now discusses the potential for uneven distribution of green sturgeon impacts across fishing vessels and communities.

*Comment 44:* One comment provided additional information on the location of proposed tidal- and wave-energy projects. The comment specifically described five wave energy projects in Oregon waters.

*Response:* All of the projects described by the commenter are included in the final economic analysis report, as presented in Exhibit 3–3.

*Comment 45:* One commenter noted that the economic analysis failed to consider proposed wave and wind energy projects in Grays Harbor and other areas in Washington.

*Response:* The final economic analysis report does consider and project potential costs associated with wave and wind energy projects in the State of Washington. Specifically, Exhibit 3–3 of the final economic analysis report identifies one project (Grays Harbor Ocean Energy and Coastal Protection) in Grays Harbor and nine additional projects in Willapa Bay and Puget Sound.

*Comment 46:* One comment identified three LNG terminals approved or proposed in Oregon: the Jordan Cove LNG project (proposed) located in Coos Bay and the Bradford Landing LNG project (approved) and Oregon LNG project (proposed) located in the lower Columbia River estuary. The commenter stated that proposed dredging activities associated with these projects will impact green sturgeon feeding habitat. The commenter also noted other potential impacts associated with these projects from effects on water quality and quantity, an influx of invasive species, or entrainment of fish at water intake structures.

*Response:* The three LNG terminals identified by the commenter were already included and analyzed in the economic analysis for Coos Bay and the lower Columbia River estuary. The information regarding the potential

impacts of LNG projects on green sturgeon critical habitat are incorporated into this final rule and supporting documents.

*Comment 47:* According to one commenter, the draft economic analysis mischaracterized impacts to aquaculture operations in Willapa Bay and Grays Harbor. Specifically, the commenter noted that operations in these areas have not adopted the conservation measures outlined in the draft economic analysis, and that the adoption of these measures is economically infeasible. The commenter also noted that the draft economic analysis failed to consider the economic contribution of these operations to the regional economy.

*Response:* Section 4.2.4 of the final economic analysis report incorporates the comments provided, including a more detailed discussion of aquaculture practices in Washington and the economic significance of the aquaculture industry to Grays Harbor and Pacific counties. In addition, the final economic analysis report discusses the high level of uncertainty regarding potential conservation measures for aquaculture. The final economic analysis report now includes a discussion of the outcome of a recent consultation on aquaculture in Willapa Bay and Grays Harbor, which concluded that no reasonable and prudent measures were necessary for either salmonid or green sturgeon under the ESA. As such, it may be that no impacts to aquaculture are likely in these units related to green sturgeon critical habitat.

#### **ESA Section 4(b)(2) Analysis— Exclusion of Areas**

*Comment 48:* Several commenters requested an explanation of how the monetary thresholds used to determine the eligibility of an area for exclusion were derived.

*Response:* The economic impact level at which the economic benefits of exclusion outweigh the conservation benefits of designation is a matter of discretion. The ESA provides NMFS with the discretion to consider making exclusions if the benefits of exclusion outweigh the benefits of designation, unless exclusion will result in extinction of the species. The ESA gives NMFS broad discretion in what weight to give benefits. The benefits of exclusion (economic impacts) are estimated in monetary values, whereas the benefits of designation (conservation value of the areas) are expressed in qualitative conservation values. Because we could not directly compare the benefits of exclusion and benefits of designation, we applied a set of decision rules based on selected dollar

thresholds representing the levels at which the potential economic impact associated with a specific area may outweigh the conservation benefits of designating that area. These thresholds varied depending on the conservation value of the area, where areas with a higher conservation value rating had a higher threshold dollar value. To determine these threshold values, we examined the range in economic impacts across all areas within a conservation value rating category, determined where the breakpoint occurred between relatively low economic impacts and relatively high economic impacts, and selected a value within the range of that breakpoint where the economic impacts may outweigh the conservation benefits for that area.

Our consideration of economic impacts under section 4(b)(2) of the ESA consisted of two parts. First, we applied the threshold dollar values to identify areas that may be eligible for exclusion based on economic impacts. We then presented the areas to the CHRT and asked the CHRT to further characterize the conservation benefit of designation for these areas by determining whether exclusion of the identified areas would significantly impede conservation of the Southern DPS. If the CHRT determined that exclusion of an area would significantly impede conservation of the Southern DPS, we used this information to analyze the conservation benefit of designation, leading to the final conservation value of the area being increased by one level.

*Comment 49:* One commenter stated that the economic thresholds established for the ESA section 4(b)(2) process only trigger consideration or eligibility of an area for potential exclusion. The commenter requested that an upper threshold be established above which the economic impact becomes disproportionate to the relative conservation benefit of designation and exclusion is definite. The commenter focused on the lower Feather River, stating that the economic costs are well above the \$100,000 threshold.

*Response:* Section 4(b)(2) of the ESA requires that NMFS consider the economic impacts, impacts on national security, and other relevant impacts of designating any particular area as critical habitat. The ESA also provides NMFS with the discretion to exclude areas if the benefits of exclusion outweigh the benefits of designation, but does not require that exclusions be made. To weigh the economic benefits of exclusion against the benefits of designation, NMFS established monetary thresholds above which an

area was potentially eligible for exclusion. These thresholds represent the level at which the economic impact may outweigh the relative conservation benefit of designation. NMFS did not define an upper threshold at which exclusion is required, however, because within a conservation value rating category there is variation, with some areas being of higher conservation value to the Southern DPS than others. In the case of the lower Feather River, the estimated economic impacts exceeded the dollar threshold value, signaling that the economic benefits of exclusion may outweigh the conservation benefits of exclusion for this area and that it may be eligible for exclusion. However, the CHRT determined that exclusion of the lower Feather River would significantly impede conservation of the Southern DPS, adding more weight to the conservation benefit of designation for this area, and leading to NMFS' determination that the economic benefits of exclusion do not outweigh the conservation benefits of designation. Thus, the lower Feather River was proposed for designation.

*Comment 50:* One commenter disagreed with the decision rule for areas with a High conservation value, that no economic impact could outweigh the benefit of designation for these specific areas (*i.e.*, specific areas with a High conservation value are not eligible for exclusion). The commenter stated that this decision rule is arbitrary and unreasonable.

*Response:* Section 4(b)(2) of the ESA provides NMFS the discretion to exclude any area from critical habitat if the benefits of exclusion (based on economic, national security, or other relevant impacts) outweigh the benefits of designation, unless exclusion of the area will result in extinction of the species. The ESA does not describe how this weighing process is to be conducted. Because data were not available to quantify or monetize the benefits of designation, we used the CHRT's conservation value ratings to represent the relative benefits of designation for each specific area. Areas with a High conservation value rating were identified by the CHRT as areas with a relatively high likelihood of promoting the conservation of the Southern DPS compared to the other areas. Based on the purposes of the ESA, which include providing a program for the conservation of threatened and endangered species, and the policy of Congress that all Federal agencies shall seek to conserve threatened and endangered species, NMFS exercised its broad discretion to designate all of the areas with a High conservation value.



This decision rule was also applied in the ESA 4(b)(2) analysis to support the 2005 critical habitat designations for listed West coast salmon and steelhead ESUs.

*Comment 51:* Two commenters requested the exclusion of Federal navigation channels and dredged material placement sites within Humboldt Bay, San Francisco Bay, Suisun Bay, San Pablo Bay, the Delta, and the Sacramento River and tributaries. The commenters asserted that the benefits of navigation traffic outweigh the conservation benefits of designation because these areas are dredged annually, are often deeper than green sturgeon depth preferences for all life stages, lack the PCEs, and make up a small proportion of the total area proposed for designation in estuaries and freshwater rivers.

*Response:* We appreciate the data provided by the commenter regarding dredging and disposal operations in the Central Valley, California, and in Humboldt Bay. We recognize that routine maintenance dredging and disposal operations are conducted to maintain the Federal navigation channels and that these activities have already altered the habitat within these channels and associated disposal sites. The CHRT considered the information provided, but determined that the areas requested for exclusion do contain PCEs that may require special management considerations or protection and provide valuable habitat for the Southern DPS. The Sacramento River supports all life stages and is the only confirmed spawning river for the Southern DPS. The Delta and the San Francisco, Suisun, and San Pablo bays support feeding, rearing, and migration by juvenile, subadult, and adult Southern DPS green sturgeon. Subadult and adult Southern DPS green sturgeon occupy Humboldt Bay for long periods of time, presumably for feeding during summer months. The best available data indicate that subadult and adult green sturgeon occur widely throughout these areas, based on detections of tagged green sturgeon through the estuaries and the Sacramento River. In addition, juvenile green sturgeon are believed to occur throughout the Delta and the San Francisco, Suisun, and San Pablo bays throughout all months of the year. The PCEs to support Southern DPS green sturgeon within these areas are affected by activities such as dredging and disposal (as described in the comments), dams and water diversions, in-water construction or alteration activities, and other activities as described in the final rule and supporting documents.

It is important to note that designation of critical habitat within these areas does not preclude dredging and disposal operations, but requires that Federal activities, or those requiring a Federal permit or funding and that may affect critical habitat, be evaluated under section 7 of the ESA to ensure that they do not destroy or adversely modify the habitat. The protective measures that may be required to address effects of dredging and disposal activities on critical habitat will depend on the specifics of the activity (*e.g.*, scale, location, time of year, *etc.*). NMFS will continue to work with the affected entities to determine the effects of the activities on critical habitat and to develop protective measures to address those effects.

*Comment 52:* One commenter stated that Central San Francisco Bay and Suisun Bay do not meet the definition of critical habitat because these specific areas are not essential for conservation of the Southern DPS and do not require special management considerations or protection. The commenter focused on sand mining activities, stating that sand mining operations result in localized, temporary disturbances that do not pose a serious threat to the PCEs and will not adversely affect migration and foraging. Also, the commenter stated that sand mining is heavily regulated and occurs in limited specific designated lease areas, only a portion of which is actually mined.

*Response:* The ESA defines critical habitat as specific areas within the geographical area occupied that contain physical or biological features essential to the conservation of the species and which may require special management considerations or protection. The CHRT considered the comments and verified that both Central San Francisco Bay and Suisun Bay meet the definition of critical habitat. Central San Francisco Bay and Suisun Bay were both rated as High conservation value areas that support feeding and migration for juvenile, subadult, and adult Southern DPS green sturgeon. Both areas contain at least one PCE that may require special management considerations or protection. We appreciate the information provided regarding the effects of sand mining on critical habitat and will consider such information in future consultations under section 7 of the ESA regarding sand mining operations. Final determinations will be made on a case-by-case basis during the section 7 consultation process. However, sand mining is only one of several activities identified that may affect the PCEs. Thus, even if sand mining does not adversely affect critical

habitat, other activities occur within the areas that may affect the PCEs, including but not limited to: dredging and disposal of dredged material, in-water construction or alteration activities, and pollution. Finally, the fact that activities may already be regulated does not negate the need for special management considerations or protection. In determining whether a PCE may require special management considerations or protection, the CHRT focused on whether or not any activities may threaten the PCE.

*Comment 53:* One commenter requested the exclusion of nearshore regions where industrial activities occur within the San Francisco Bay, because these areas are not essential to the conservation of green sturgeon.

*Response:* The CHRT considered the comments but determined that the best available scientific data do not support the exclusion of these nearshore regions. San Francisco Bay supports feeding, rearing, and migration for juvenile, subadult, and adult Southern DPS green sturgeon. Green sturgeon occupy a diversity of depths throughout their different life stages, including shallow nearshore areas. Recent telemetry data and literature references indicate green sturgeon distribute widely throughout the bay and use extensive mudflats and sand flats for feeding. Based on the available data, it is reasonable to believe that green sturgeon use nearshore regions within San Francisco Bay. NMFS encourages research to better understand the use of these areas by different life stages of green sturgeon.

*Comment 54:* A commenter suggested that the Port of Stockton be excluded because it consists of deep water and developed shoreline and does not have the sediment quality that green sturgeon require.

*Response:* The CHRT considered this request to exclude the Port of Stockton from critical habitat, but ultimately decided that sufficient data to support exclusion are not available at this time. The best available data indicate that the Port of Stockton provides PCEs to support the rearing, feeding, and migration of juvenile, subadult, and adult Southern DPS green sturgeon. The PCEs may be affected by activities conducted within the area, but still continue to support the presence and use of this area by Southern DPS green sturgeon. Adult and subadult Southern DPS green sturgeon have been observed in the eastern Delta, including in the area adjacent to the Port of Stockton. Tagged green sturgeon have been detected at all three hydroacoustic monitors in the Deep Water Channel adjacent to the Port of Stockton.

Hydroacoustic monitors have not yet been installed in the Port of Stockton, however, and specific data on use of this area are lacking. In addition, juvenile green sturgeon rearing and feeding habitats are believed to occur throughout the Delta, but data are lacking on juvenile green sturgeon distribution in the Delta. At this time, the CHRT believes that juvenile green sturgeon are distributed widely throughout the Delta, and are, therefore, presumed to be in the Port of Stockton area. Studies focused on juvenile green sturgeon distribution in the Delta and San Francisco, San Pablo, and Suisun bays would help to address these data gaps and inform future revisions to the critical habitat designation.

*Comment 55:* One commenter requested that the area of the Sacramento River immediately upstream and downstream of RBDD be excluded from the critical habitat designation, because data for this area are not sufficient to support designation of critical habitat. The commenter was unclear whether RBDD is included as an existing structure as part of critical habitat or not. If it is, the commenter asserted that operation of the dam has no specific relationship to the numbers, range, or viability of green sturgeon. The commenter also stated that no analysis was done on the impacts that will result from restrictions on water diversions at RBDD.

*Response:* The CHRT identified the lower and upper Sacramento River, including the area immediately upstream and downstream of RBDD, as areas of High conservation value, recognizing that the areas support all life stages of Southern DPS green sturgeon and provide PCEs (including food resources, depth, migratory corridor, substrates, water quality, and water flow) to support migration, feeding, spawning, and rearing. The presence and operation of the RBDD has several effects on the Southern DPS. For example, the RBDD can hinder or block upstream and downstream migration when the gates are down, or cause injury or mortality if the gate opening is too small. In 2007, 10 green sturgeon were found injured and dead at or just downstream of RBDD, purportedly injured while trying to move under the gates. In addition, the RBDD may alter water quality and spawning habitats by altering the flow regime. Spawning by adult Southern DPS green sturgeon has been confirmed to occur both upstream and downstream of the RBDD, although conditions directly below the RBDD may not be favorable for spawning success due to high sedimentation levels (Poytress *et al.* 2009). Thus, the

area immediately upstream and downstream of RBDD is of high conservation value to the Southern DPS and would benefit from protections under a critical habitat designation. The Sacramento River would be designated as critical habitat, but the RBDD itself would not be designated as critical habitat. The effects of operations at RBDD on critical habitat would be subject to consultation under section 7 of the ESA to address effects on critical habitat in the Sacramento River. As described in the response to comments 38 and 39, the potential impacts on RBDD are discussed in more detail in the final economic analysis report.

*Comment 56:* One commenter agreed with the CHRT that exclusion of the lower Feather River would significantly impede conservation of the Southern DPS, but two commenters disagreed and stated that the lower Feather River should be excluded from the designation because: (1) The estimated economic impacts substantially exceeded the \$100,000 threshold for exclusion; (2) the area is not a confirmed spawning river and habitat improvements needed to make this area of High conservation value are not financially and logistically feasible; (3) designating the lower Feather River as a second spawning river for the Southern DPS is not warranted because the population is already protected from catastrophic risk by a naturally occurring second population in marine waters; and (4) the jeopardy provision under section 7 of the ESA provides adequate protection for the species. One commenter was unclear whether the biological analysis was based on current conditions or future conditions in the area. One commenter stated that there is little evidence to suggest green sturgeon occupy the lower Feather River above RKM 95, and another commenter stated that Fish Barrier Dam is the uppermost barrier, not Oroville Dam.

*Response:* The CHRT's evaluation of the lower Feather River was based on current conditions within the area as well as the potential future conditions if efforts to improve habitat conditions and passage are conducted. The best available data from surveys and anecdotal observations of green sturgeon indicate that green sturgeon consistently occupy and use the lower Feather River. Although spawning has not yet been confirmed, the CHRT believes the lower Feather River is the area most likely to serve as a second spawning river for the Southern DPS. The CHRT recognized that only part of the population returns to the Sacramento River to spawn each year, providing some protection should a catastrophic event occur. However, a

second spawning river would provide not only additional protection from a catastrophic event but also additional spawning habitat should spawning habitats be inaccessible or subject to disturbance in the Sacramento River. Current and ongoing habitat monitoring and improvement activities are being conducted within the lower Feather River that may benefit the Southern DPS. NMFS encourages continued efforts to restore habitat and improve fish passage within the lower Feather River. The CHRT considered all of this information in making their determination that exclusion of this area would significantly impede conservation of the Southern DPS. This led NMFS to determine that, although the economic impacts for this area exceeded the \$100,000 threshold, the economic benefit of exclusion did not outweigh the conservation benefit of designation. Thus, the lower Feather River was proposed for designation.

The CHRT considered the public comments received but, based on the information as described above, maintained its determination that exclusion of the Feather River would significantly impede conservation of the Southern DPS. NMFS also maintains its determination that the benefits of exclusion do not outweigh the benefits of designation for this area. However, the CHRT agreed that the upstream boundary for the lower Feather River should be changed from the Oroville Dam to the Fish Barrier Dam (RKM 109), because the Fish Barrier Dam represents the current upstream extent of green sturgeon passage. Green sturgeon have been observed at the Thermalito Outlet and in riffles between Thermalito Outlet and the Fish Barrier Dam (pers. comm. with Alicia Seesholtz, California Department of Water Resources (CDWR), March 10, 2009), confirming that green sturgeon do occur upstream of RKM 95, up to the Fish Barrier Dam (RKM 109). Thus, the specific area in the Lower Feather River was redefined as the area from the river mouth at the confluence with the Sacramento River, upstream to the Fish Barrier Dam.

*Comment 57:* Two commenters suggested that the lower Yuba River downstream of Daguerre Dam should not be designated as critical habitat, because data do not support that the lower Yuba River was historically a spawning river for green sturgeon as no green sturgeon juveniles, larvae, or eggs have been observed in the lower Yuba River to date and because adult and subadult green sturgeon occur infrequently in this area. The commenters cited numerous surveys that have been conducted since the



1970s with only one sighting of an adult green sturgeon in 2006. In addition, the commenters noted that flow regimes for green sturgeon may differ from those established under the Yuba Accord to protect salmonids and their habitat, which may result in conflicts in management and potentially high economic costs.

*Response:* We recognize that spawning has not been confirmed in the lower Yuba River downstream of Daguerre Dam and have revised the final rule accordingly. However, the CHRT determined that the lower Yuba River likely provides spawning habitat for Southern DPS green sturgeon. Although only one confirmed green sturgeon has been observed in the lower Yuba River, this does not indicate green sturgeon do not use the area more frequently. Surveys have been conducted in this area, but have not targeted green sturgeon. Observations of green sturgeon are difficult even during surveys targeting green sturgeon. For example, green sturgeon surveys in the lower Feather River conducted in 2000–2004 did not observe any green sturgeon, despite anecdotal observations of green sturgeon during the time surveys were conducted (CDWR 2005). More information is needed to determine the optimal flow regime for green sturgeon in the lower Yuba River and how this compares with flows established for salmonids. Consultation under section 7 of the ESA would take into account the needs of both the Southern DPS and the listed salmonid species.

*Comment 58:* Two commenters suggested that in the Columbia River, Grays Harbor, and Willapa Bay, critical habitat should be confined to certain portions of the estuaries because sturgeon are not evenly dispersed throughout these waters. The commenters requested that shellfish aquaculture areas be excluded from critical habitat, because green sturgeon do not use shellfish beds but instead occupy areas of high burrowing shrimp density outside of shellfish farming areas. In addition, the commenters asserted that carbaryl does not affect burrowing shrimp populations outside of treated areas and thus does not adversely affect green sturgeon prey resources. The commenters cited a recent study (Dumbauld *et al.* 2008) that suggests burrowing shrimp populations are abundant throughout the estuaries and are not likely to be a limiting factor for green sturgeon. The commenters also noted that carbaryl will be phased out by 2012 and replaced by more benign chemical, biological, or mechanical methods of eradication.

*Response:* The CHRT considered the comments but determined that the best available data do not support confining the critical habitat designation to certain portions of the lower Columbia River estuary, Grays Harbor, and Willapa Bay. Telemetry data show that tagged green sturgeon disperse widely throughout these estuaries, most likely for foraging. In addition, anecdotal accounts have noted observations of sturgeon in intertidal aquaculture beds in the past, likely when populations of sturgeon were more abundant in these estuaries, and have suggested that predation by sturgeon and other predators may help control burrowing shrimp populations in these beds (Dumbauld *et al.* 2008). Designation of critical habitat would require shellfish aquaculture activities that are funded, permitted, or carried out by Federal agencies to comply with section 7 of the ESA. During the consultation, factors such as the location and size of the project and the entity's initial evaluation of the effects of the project on critical habitat would be considered in determining whether the project adversely affects critical habitat. Information such as that provided by the commenters regarding the effects of carbaryl on green sturgeon prey resources would also be taken into account in the consultation.

*Comment 59:* One commenter suggested that the inner half of the Strait of Juan de Fuca and the area around the San Juan Islands should be excluded from the designation because these are areas of low use by green sturgeon.

*Response:* The CHRT considered the comment but determined that the best available scientific data support inclusion of the Strait of Juan de Fuca. Tagged Southern DPS green sturgeon are known to use the inner half of the Strait of Juan de Fuca, because they have been detected at receivers in the Strait of Juan de Fuca as well as in Puget Sound and Rosario Strait. The low numbers of detections may be due to relatively few tagged green sturgeon and relatively few receiver arrays located in the area. In addition, the receiver arrays were installed and operated to monitor other species and may not be programmed or positioned for optimal monitoring of green sturgeon.

*Comment 60:* One commenter stated that critical habitat should not be designated in coastal marine waters because there is insufficient data to show that bottom trawl fisheries affect green sturgeon migration or prey resources within coastal marine waters. The commenter noted that bottom trawling is not allowed in State waters off California and Washington and trawling off Oregon occurs deeper than

40 fm, leaving ample area for green sturgeon feeding and movement. The commenter suggested that coastal marine waters off southeast Alaska should be considered for designation because, although bottom trawling does not occur there, other bottom tending gear is used. The commenter stated that if critical habitat is to be designated in coastal marine waters, then other bottom tending gear should be considered and coastal marine waters off southeast Alaska should be designated.

*Response:* The CHRT considered all coastal marine waters within 110 m depth from the California-Mexico border to the Bering Sea, Alaska. The coastal marine areas off southeast Alaska were excluded based on economic impacts, not because bottom trawling fisheries do not occur in the area. Bottom trawling was only one of several activities identified that may affect the PCEs within the coastal marine areas. Other activities include hydrokinetic projects, disposal of dredged material, and pollution from activities such as commercial shipping. Thus, even if bottom trawl fisheries did not adversely affect the PCEs, there are other activities affecting the PCEs within the coastal marine areas. The CHRT focused on bottom trawl gear because bycatch of green sturgeon occurs in bottom trawl fisheries and this gear was identified by NMFS biologists as being the most likely to affect bottom habitat used by green sturgeon, compared with other bottom tending gear. However, all activities that may affect critical habitat would be subject to section 7 of the ESA even if not specifically mentioned in the final rule. Whether bottom trawl or other gear types adversely affect critical habitat would be determined through the ESA section 7 consultation process and would depend on factors such as the location, scale, and frequency of potential disturbances.

*Comment 61:* One commenter agreed that exclusion of Coos Bay from the designation would significantly impede conservation of the Southern DPS, whereas one commenter disagreed, stating that the inclusion of Coos Bay is not supported by the available data that indicate low numbers of green sturgeon and no evidence of use by Southern DPS fish.

*Response:* Coos Bay was identified as an area that may be eligible for exclusion based on economic impacts, but was proposed for designation and is included in this final designation based on a determination that exclusion of this area would significantly impede conservation of the Southern DPS and, therefore, the economic benefits of

exclusion do not outweigh the conservation benefits of designation. The CHRT considered the comments and maintained its determination that exclusion of Coos Bay would significantly impede conservation of the Southern DPS based on the best available information showing that Coos Bay is one of two large estuaries on the Oregon coast where relatively large numbers of green sturgeon are consistently observed (ODFW 2009a, b) and Southern DPS are confirmed to occur (Lindley and Moser, unpublished data, cited in the Memo to the Record from C. Grimes, October 23, 2006; pers. comm. with Dan Erickson, ODFW, September 3, 2008). In addition, there is uncertainty regarding the economic impact estimates for Coos Bay. As described in the ESA 4(b)(2) report, a large proportion of the estimated economic costs (ranging from \$73,000 to \$16 million) for Coos Bay was associated with impacts to a proposed LNG project in the bay. The high economic cost estimate of \$16 million includes the estimated costs to re-site an LNG project due to this rule. The upper bound of the economic cost range is unlikely because: (1) It is highly uncertain whether the LNG project will be constructed; and (2) the high economic cost was associated with having to relocate the project, which is unlikely to occur. The low economic cost estimate of \$73,000 was based on the assumption that additional measures would not be required for LNG projects for the protection of green sturgeon critical habitat, or that any required measures would result in minimal costs (*i.e.*, the economic impact for LNG projects is \$0). We recognize, however, that an estimated economic impact of \$0 for potential economic impacts to LNG projects is highly unlikely. Therefore, the actual economic impact on LNG projects is likely to be within this range (greater than \$0, but much lower than \$16 million), but we currently lack sufficient information to estimate this cost. Based on the information regarding the conservation value of Coos Bay to the Southern DPS and uncertainty regarding the estimated economic impacts, NMFS determined that the economic benefits of exclusion do not outweigh the conservation benefits of designation and Coos Bay is included in the final critical habitat designation.

*Comment 62:* One commenter requested an explanation for the exclusion of some waterways in the Sacramento-San Joaquin Delta, CA, from the proposed designation.

*Response:* The specific area designated as critical habitat in the Delta includes all tidally influenced

areas up to the mean higher high water line within the legal boundaries of the Delta as defined in California Water Code Section 12220, except for two modifications. The CHRT defined the boundary between the Delta and Suisun Bay by a line extending from the mouth of Spoonbill Creek across the channel to the city of Pittsburg, CA, resulting in Chipps Island being fully contained within the Suisun Bay specific area. In addition, the following slough areas are excluded from the Delta specific area: Five Mile Slough, Seven Mile Slough, Snodgrass Slough (at Lambert Road), Tom Paine Slough, and Trapper Slough. These areas were identified and excluded by the CHRT as areas that all have manmade barriers isolating them from the rest of the Delta and where green sturgeon do not occur. Structures such as gated culverts, tidal gates, and siphons control the flow of water into the channels of these sloughs, which then primarily serve as “reservoirs” for irrigation water delivered to surrounding farm fields.

*Comment 63:* One commenter agreed with NMFS’ proposal to exclude the waters off Alaska from the critical habitat designation, stating that Southern DPS green sturgeon rarely occur off the coast of southeast Alaska and that green sturgeon observed off Alaska most likely belong to the Northern DPS.

*Response:* There have been few observations of green sturgeon, particularly Southern DPS green sturgeon, in coastal marine waters off Alaska compared to coastal marine and estuarine waters in Washington, Oregon, and California. NMFS would like to clarify, however, that green sturgeon observed off Alaska could belong to either the Northern DPS or the Southern DPS. Since 1990, a total of 8 green sturgeon have been observed in the groundfish bottom trawl fishery conducted around the Aleutian Islands and in the Bering Sea (pers. comm. with Vanessa Tuttle, NMFS, November 20, 2006; pers. comm. with Jennifer Ferdinand, NMFS, November 24, 2006). Tissue samples were collected from 2 individuals captured in 2006, but genetic analyses to determine to which DPS the individuals belong were inconclusive (pers. comm. with Josh Israel, UC Davis). Two tagged Southern DPS green sturgeon were detected at the monitor in Graves Harbor, AK (currently the only monitor located on the Alaska coast; Lindley *et al.* 2008; pers. comm. with Steve Lindley, NMFS, September 12, 2007), showing that Southern DPS green sturgeon do migrate as far north as southeast Alaska. Given that there are no physical or environmental barriers

present, it is possible that these fish migrate further north to the Aleutian Islands and the Bering Sea. Expansion of the monitoring array and collection of more tissue samples for genetic analyses are needed to better characterize the presence and distribution of Northern DPS and Southern DPS green sturgeon in coastal marine waters off Alaska.

#### Impacts on National Security

*Comment 64:* The Department of Defense (DOD) requested the exclusion of coastal marine waters in Oregon adjacent to the military training facility, Camp Rilea, due to national security concerns. The area requested for exclusion included an area from one-half mile north to one-half mile south of Camp Rilea to a distance of two miles offshore of Camp Rilea. This area encompasses the surface danger zone for weapons training ranges on Camp Rilea, but is not part of the Camp Rilea facility.

*Response:* We corresponded with representatives from Camp Rilea to discuss the activities occurring within the coastal marine waters adjacent to Camp Rilea and the potential impacts of the critical habitat designation on national security within this area. The activities identified to occur within this area included shooting range training exercises and amphibious landings. No in-water construction activities or activities affecting water quality were identified. The representatives for Camp Rilea agreed that the activities occurring within the area requested for exclusion would not likely affect critical habitat for the Southern DPS and that the critical habitat designation would not likely affect national security within the area. Thus, the benefits to national security of excluding this area were low. In addition, the area is located within a specific area with High conservation value that provides an important connectivity corridor for green sturgeon and is located just south of the lower Columbia River estuary, another specific area with High conservation value, and there are other Federal activities occurring in the area (*e.g.*, a submarine cable installation project) that may affect critical habitat. Thus, we determined that the benefits to national security of excluding this area did not outweigh the conservation benefits of designating the area. A more detailed analysis is provided in the final ESA section 4(b)(2) report (NMFS 2009c).

*Comment 65:* The DOD requested that the following areas off the coast of Washington be excluded from the critical habitat designation: (1) Strait of Juan de Fuca and Whidbey Island Naval Restricted Areas adjacent to the runways at the Naval Air Station (NAS)

Whidbey Island; (2) Strait of Juan de Fuca Naval Air-to-Surface Weapon Range Restricted Area; (3) Admiralty Inlet Naval Restricted Area; (4) Navy 3 Operating Area in the Strait of Juan de Fuca; (5) Navy 7/Admiralty Bay Naval Restricted Area 6701 in Puget Sound; and (6) the surf zone portion of the Quinault Underwater Tracking Range (QUTR) within the Pacific Northwest Operating Area.

*Response:* NMFS considered the DOD's request and the information provided by representatives from the Navy regarding the activities occurring within each of the areas requested for exclusion and the potential impacts on national security. NMFS determined that the benefits to national security of excluding the following areas outweigh the conservation benefits of designating the areas: Strait of Juan de Fuca and Whidbey Island Naval Restricted Area; Strait of Juan de Fuca Naval Air-to-Surface Weapon Range Restricted Area; Admiralty Inlet Naval Restricted Area; and Navy 3 Operating area (NMFS 2009c). We determined that the benefits of designation are low for these areas, because there are relatively few detections of green sturgeon in the area and the consultation history indicates that there are currently no other Federal activities occurring within these areas that may affect critical habitat. In addition, the size of the areas are small relative to the Strait of Juan de Fuca and the total critical habitat designation, and the Navy's presence provides some protection for green sturgeon habitat, either through regulatory control of public access or the nature of the Navy's activities that limit the kinds of other Federal activities that would occur in the areas. We also determined that the potential impacts on national security are low for these areas, because the Navy's current activities have a low likelihood of affecting critical habitat. However, we recognize that the range of activities that may be carried out in these areas are often critical to national security and that a critical habitat designation in these areas could delay or halt these activities in the future. Based on this information, we determined that the benefits of exclusion outweigh the benefits of designation and exclude the areas from the final designation. We note, however, that consultation under section 7 of the ESA would still be required to address activities that may cause jeopardy to or take of Southern DPS green sturgeon.

The Navy 7/Admiralty Bay Naval Restricted Area 6701 occurs in Puget Sound (an area that is excluded from the final critical habitat designation) and does not overlap with the specific area

delineated in the Strait of Juan de Fuca (*see* "Corrections from proposed rule"). Therefore, the Navy 7/Admiralty Bay Naval Restricted Area 6701 does not overlap with the critical habitat designation for the Southern DPS. In addition, at this time NMFS cannot determine whether the surf zone portion of the QUTR warrants exclusion from the critical habitat designation because the surf zone area has not yet been defined by the Navy. The surf zone portion of the QUTR is part of a proposed extension of the QUTR range that has not yet been finalized. The Navy informed NMFS that one of three alternative sites for the surf zone portion will be selected following completion of analyses under the National Environmental Policy Act (NEPA), estimated to be completed by the end of the year 2009. Until the area has been defined, NMFS cannot evaluate the impacts on national security and determine if those impacts outweigh the benefits of designating the area as critical habitat, because the location and size of the areas could change. Thus, the area will not be excluded from the critical habitat designation at this time. Once the location of the surf zone portion of the QUTR has been selected, the Navy may request that NMFS revise the critical habitat designation to exclude the area from critical habitat based on impacts on national security. A more detailed analysis for each of the areas requested for exclusion by the Navy is provided in the final ESA section 4(b)(2) report (NMFS 2009c).

*Comment 66:* The DOD commented that the area within the boundaries of the Mare Island US Army Reserve Center (USAR) near Vallejo, California, should not be eligible for consideration as critical habitat, because an integrated natural resources management plan (INRMP) is currently in place that provides the same, if not better, protection for listed species in waters adjacent to the Mare Island USAR Center. In addition, the DOD requested that the Mare Island USAR Center be excluded from designation based on impacts on national security.

*Response:* NMFS corresponded with representatives from the Mare Island USAR Center to discuss the INRMP and the potential impacts on national security. The Mare Island USAR Center is located in Mare Island Strait, where the Napa River flows into San Pablo Bay, California. The Mare Island USAR Center facilities include the waters between and around Piers 22 and 23, which overlap with the habitat areas considered for designation as critical habitat. NMFS' primary concerns were that: (1) The INRMP discusses the status

and occurrence of green sturgeon in the area, but does not include protective measures specifically for green sturgeon; and (2) in-bay disposal of dredged material from dredging activities between and around the piers may affect proposed green sturgeon critical habitat.

Based on the information provided by the DOD, NMFS determined that the benefits to national security of excluding waters within the boundaries of the Mare Island USAR Center facility between and around Piers 22 and 23 outweigh the conservation benefit of designating the area (NMFS 2009c). One of the major national security concerns is that limitations on pier maintenance activities or on dredging activities between and around the piers could hinder the ability of vessels to move in and out of the piers for missions. Thus, the Mare Island USAR Center is excluded from the critical habitat designation for the Southern DPS. However, NMFS determined that the INRMP does not provide adequate protection for the threatened Southern DPS (*i.e.*, the INRMP does not provide a benefit to the species, as required by ESA section 4(a)(3)(B)(i)) and recommended revisions to the INRMP to adequately address the Southern DPS, including: (1) Providing updated data on tagged green sturgeon detections from monitors placed at Piers 22 and 23; and (2) providing conservation measures to address the effects of activities on green sturgeon. In addition, NMFS requests that, upon publication of this final rule, the INRMP be updated to incorporate information about the designation of critical habitat for the Southern DPS in waters adjacent to the Mare Island USAR Center in San Pablo Bay. Although the Mare Island USAR Center is excluded from the critical habitat designation, consultation under section 7 of the ESA would be required to address activities that may cause jeopardy to or take of Southern DPS green sturgeon, and to address activities that may affect designated critical habitat (for example, consultation would be required for the disposal of dredged material within designated critical habitat areas).

*Comment 67:* The DOD commented that the Military Ocean Terminal Concord (MOTCO) facility in Suisun Bay should not be eligible for consideration as critical habitat, because an existing INRMP for the facility already includes fishery measures that benefit green sturgeon. In addition, the DOD requested that the area be excluded from designation based on impacts on national security. The MOTCO operates within the property of the former Naval Weapons Station,



Detachment Concord, California, which was transferred from the U.S. Navy to the U.S. Army in fiscal year 2009. The U.S. Army is continuing operations at the MOTCO facilities in accordance with the INRMP prepared for the Naval Weapons Station Concord, as well as a Memorandum of Understanding (MOU) with the USFWS relating to the designation of a wetland preserve on the Naval Weapons Station Concord.

*Response:* NMFS corresponded with a representative from MOTCO to discuss the MOTCO facilities and the INRMP. Upon further review of the MOTCO facility maps and the information provided by the MOTCO representative, NMFS determined that the MOTCO facilities are adjacent to, but do not overlap with, the habitat areas considered for designation as critical habitat for the Southern DPS in Suisun Bay, California. The MOTCO representative agreed with the determination that there is no overlap between the MOTCO facilities and the areas considered for designation as critical habitat in Suisun Bay. Thus, the MOTCO facilities are not included in the critical habitat designation for Southern DPS green sturgeon. However, NMFS clarified that consultation under section 7 of the ESA would still be required to address jeopardy to or take of Southern DPS green sturgeon, or to address effects on designated critical habitat areas. NMFS also requested to be involved in reviewing the INRMP for the MOTCO facilities to ensure that green sturgeon are adequately addressed.

#### Impacts on Indian Lands

*Comment 68:* Several Tribes in Oregon and Washington requested the exclusion of Indian lands from the critical habitat designation. Some of the Tribes also requested the exclusion of the Tribes' usual and accustomed fishing areas due to concerns regarding the potential effects of the critical habitat designation on Tribal fisheries. The Tribes provided information regarding Tribal activities that may be affected by the critical habitat designation and maps showing the location of Indian lands and usual and accustomed fishing areas that may overlap with the areas considered for designation as critical habitat.

*Response:* NMFS corresponded with several Tribes in Washington and Oregon to discuss and better understand their concerns regarding the critical habitat designation. Based on the information received from the Tribes, NMFS determined that the areas of overlap between Indian lands and the areas considered for designation is

small. In contrast, the benefits of excluding Indian lands from the designation are high and include: maintenance of NMFS' co-management and trust relationship with the Tribes and continued respect for Tribal sovereignty and self-governance, particularly with regard to the management of natural resources on Indian lands. Thus, NMFS determined that the benefits of exclusion outweigh the benefits of designation for Indian lands and that Indian lands are eligible for exclusion. This final rule excludes from the critical habitat designation Indian lands (as defined under the Secretarial Order titled "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act") of the following Tribes: the Hoh, Jamestown S'Klallam, Lower Elwha, Makah, Quileute, Quinault, and Shoalwater Bay Tribes in Washington; the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians and the Coquille Tribe in Oregon; and the Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, Cher-Ae Heights Trinidad Rancheria, Wiyot Tribe, and Yurok Tribe in California. This exclusion applies only to current Indian lands and would not apply to additional Indian lands acquired by the Tribes in the future. The Tribes would need to request that NMFS revise the critical habitat designation for the Southern DPS to exclude any Indian lands acquired after the publication of this final rule. The final ESA section 4(b)(2) report (NMFS 2009c) documents NMFS' correspondence with the Tribes and NMFS' determination regarding the exclusion of Indian lands.

Three Tribes in Washington also requested the exclusion of usual and accustomed fishing areas from the critical habitat designation. The Tribes were primarily concerned with the potential impact of the critical habitat designation on Tribal fisheries in coastal estuaries and coastal marine waters. Based on the information provided by the Tribes, NMFS would expect the critical habitat designation to have minimal effects on Tribal fisheries. Tribal fisheries may cause take of Southern DPS green sturgeon and thus are more likely to be affected by take prohibitions as established in the proposed ESA 4(d) Rule for green sturgeon (74 FR 23822; May 21, 2009) than by the proposed critical habitat designation. In addition, usual and accustomed fishing areas are not necessarily coextensive with areas defined as "Indian lands" in various Federal policies, orders, and

memoranda. Thus, we conclude that exclusion of usual and accustomed fishing areas outside those identified as Indian lands is not warranted. Tribal activities conducted outside of identified Indian lands and that have a Federal nexus (such as participation or funding by the Bureau of Indian Affairs), including those conducted within usual and accustomed fishing areas, would be subject to requirements under section 7 of the ESA to ensure no destruction or adverse modification of critical habitat.

#### Unoccupied Areas

*Comment 69:* Several commenters agreed with NMFS' decision not to designate unoccupied areas at this time, whereas two commenters disagreed with this decision. Several commenters urged NMFS not to designate critical habitat in unoccupied areas, stating that there is insufficient information to determine that any of the currently unoccupied areas identified are essential for conservation, catastrophic risk can be addressed by focusing on habitat improvements in currently occupied areas, and designation of unoccupied areas would result in high economic impacts. Commenters stated that the restoration of passage or habitat for green sturgeon in currently inaccessible or unsuitable habitats can be more appropriately addressed in the recovery planning process. Two commenters asserted that recovery would be impossible without establishing additional spawning populations for the Southern DPS with at least one inhabiting a separate basin from the Sacramento River. One commenter recommended that the removal or alteration of the Daguerre Dam on the Yuba River should be regarded as critical, to allow passage and access to potential spawning habitats in the Yuba River.

*Response:* Although the CHRT identified seven unoccupied areas that *may be essential* for conservation, they did not have data to support a determination that any of the unoccupied areas *are essential* for conservation of the Southern DPS. Of greatest importance was the lack of data on the historical use of these areas by green sturgeon. The CHRT did not have any evidence to confirm that green sturgeon historically occupied any of the seven unoccupied areas identified. In addition, green sturgeon do not appear to occupy the lower American River or the San Joaquin River presently, even though both systems are accessible to green sturgeon (*i.e.*, there is no physical barrier blocking upstream migration). The public comments did

not provide additional information on historical green sturgeon presence and use of these unoccupied areas. Thus, the CHRT maintained their determination that the unoccupied areas *may be essential* but that data are not available to determine that any of the unoccupied areas *are essential* for the conservation of the Southern DPS. The CHRT and NMFS recommend that future research be conducted to monitor these areas for green sturgeon presence and to better understand the current habitat conditions.

#### National Environmental Policy Act of 1969 (NEPA)

*Comment 70:* Two commenters stated that NMFS failed to comply with NEPA and that the absence of the NEPA review causes important impacts to remain unidentified, unrecognized, or ignored.

*Response:* We believe that in *Douglas County v. Babbitt*, 48 F. 3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996), the Ninth Circuit Court of Appeals correctly interpreted the relationship between NEPA and the designation of critical habitat under the ESA. The Court rejected the suggestion that irreconcilable statutory conflict or duplicative statutory procedures are the only exceptions to application of NEPA to Federal actions. The Court held that the legislative history of the ESA demonstrated that Congress intended to displace NEPA procedures with carefully crafted procedures specific to the designation of critical habitat. Further, the Douglas County Court held that the critical habitat mandate of the ESA conflicts with NEPA in that, although the Secretary may exclude areas from critical habitat if such exclusion would be more beneficial than harmful, the Secretary has no discretion to exclude areas from designation if such exclusion would result in extinction. The Court noted that the ESA also conflicts with NEPA's demand for an impact analysis, in that the ESA dictates that the Secretary "shall" designate critical habitat for listed species based upon an evaluation of economic and other "relevant" impacts, which the Court interpreted as narrower than NEPA's directive. Finally, the Court, based upon a review of precedent from several circuits including the Fifth Circuit, held that an environmental impact statement is not required for actions that do not change the physical environment. The impacts of the critical habitat designation on activities occurring within the critical habitat areas were evaluated and considered in the economic analysis

(Indecon 2009) and ESA section 4(b)(2) analysis (NMFS 2009c).

#### Correction From Proposed Rule

We made modifications to the boundaries for the Strait of Juan de Fuca to more accurately reflect the major basins associated with Puget Sound (Batelle Marine Sciences Laboratory *et al.* 2001). The boundary between the Strait of Juan de Fuca and Puget Sound should be defined by a line between Partridge Point on Whidbey Island and Point Wilson at Port Townsend. This final rule makes this correction in the regulatory text.

#### Critical Habitat Identification and Designation

Section 4(b)(2) of the ESA requires the designation of critical habitat for threatened and endangered species "on the basis of the best scientific data available and after taking into consideration the economic impact, impact on national security, and any other relevant impact, of specifying any particular area as critical habitat." This section grants the Secretary [of Commerce] discretion to exclude any area from critical habitat if he determines "the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat." The Secretary may not exclude an area if it "will result in the extinction of the species."

The ESA defines critical habitat under Section 3(5)(A) as:

(i) [T]he specific areas within the geographical area occupied by the species, at the time it is listed \* \* \*, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and

(ii) specific areas outside the geographical area occupied by the species at the time it is listed \* \* \* upon a determination by the Secretary that such areas are essential for the conservation of the species.

The ESA defines conservation under section 3(3) to mean "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary."

Once critical habitat is designated, section 7 of the ESA requires Federal agencies to ensure they do not fund, authorize, or carry out any actions that will destroy or adversely modify that habitat. This requirement is in addition to the ESA section 7 requirement that Federal agencies ensure their actions do not jeopardize the continued existence of listed species.

In the following sections, we describe our methods for evaluating the areas considered for designation as critical habitat, our final determinations, and the final critical habitat designation. This description incorporates the changes described above in response to the public comments and peer reviewer comments.

#### Methods and Criteria Used To Identify Critical Habitat

In accordance with section 4(b)(2) of the ESA and our implementing regulations (50 CFR 424.12(a)), this rule is based on the best scientific information available concerning the Southern DPS' present and historical range, habitat, and biology, as well as threats to its habitat. In preparing this rule, we reviewed and summarized current information on the green sturgeon, including recent biological surveys and reports, peer-reviewed literature, NMFS status reviews for green sturgeon (Moyle *et al.* 1992; Adams *et al.* 2002; Biological Review Team (BRT) 2005), and the proposed and final listing rules for the green sturgeon (70 FR 17386, April 6, 2005; 71 FR 17757, April 7, 2006).

To assist with the evaluation of critical habitat, we convened the CHRT, comprised of nine Federal biologists from NMFS, the USFWS, and the U.S. Bureau of Reclamation (USBR) with experience in green sturgeon biology, consultations, and management, or experience in the critical habitat designation process. The CHRT used the best available scientific and commercial data and their best professional judgment to: (1) Verify the geographical area occupied by the Southern DPS at the time of listing; (2) identify the physical and biological features essential to the conservation of the species; (3) identify specific areas within the occupied area containing those essential physical and biological features; (4) verify whether the essential features within each specific area may need special management considerations or protection and identify activities that may affect these essential features; (5) evaluate the conservation value of each specific area; and (6) determine if any unoccupied areas are essential to the conservation of the Southern DPS. The CHRT's evaluation and conclusions are described in detail in the following sections, as well as in the final biological report (NMFS 2009a).

#### Physical or Biological Features Essential for Conservation

Joint NMFS-USFWS regulations, at 50 CFR 424.12(b), state that in



determining what areas are critical habitat, the agencies “shall consider those physical and biological features that are essential to the conservation of a given species and that may require special management considerations or protection.” Features to consider may include, but are not limited to: “(1) Space for individual and population growth, and for normal behavior; (2) Food, water, air, light, minerals, or other nutritional or physiological requirements; (3) Cover or shelter; (4) Sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and generally; (5) Habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.” The regulations also require the agencies to “focus on the principal biological or physical constituent elements” (hereafter referred to as “Primary Constituent Elements” or PCEs) within the specific areas considered for designation that are essential to conservation of the species, which “may include, but are not limited to, the following: \* \* \* spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, \* \* \* geological formation, vegetation type, tide, and specific soil types.”

The CHRT recognized that the different systems occupied by green sturgeon at specific stages of their life cycle serve distinct purposes and thus may contain different PCEs. Based on the best available scientific information, the CHRT identified PCEs for freshwater riverine systems, estuarine areas, and nearshore marine waters.

The specific PCEs essential for the conservation of the Southern DPS in freshwater riverine systems include:

(1) *Food resources.* Abundant prey items for larval, juvenile, subadult, and adult life stages. Although the CHRT lacked specific data on food resources for green sturgeon within freshwater riverine systems, juvenile green sturgeon most likely feed on fly larvae, amphipods, and bivalves, based on nutritional studies on the closely-related white sturgeon (Schreiber 1962; Radtke 1966; pers. comm. with Jeff Stuart, NMFS, January 14, 2008, and August 13, 2009). Food resources are important for juvenile foraging, growth, and development during their downstream migration to the Delta and bays. In addition, subadult and adult green sturgeon may forage during their downstream post-spawning migration, while holding within deep pools (Erickson *et al.* 2002), or on non-spawning migrations within freshwater rivers. Subadult and adult green

sturgeon in freshwater rivers most likely feed on benthic prey species similar to those fed on in bays and estuaries, including shrimp, clams, and benthic fishes (Moyle *et al.* 1995; Erickson *et al.* 2002; Moser and Lindley 2007; Dumbauld *et al.* 2008).

(2) *Substrate type or size (i.e., structural features of substrates).* Substrates suitable for egg deposition and development (*e.g.*, bedrock sills and shelves, cobble and gravel, or hard clean sand, with interstices or irregular surfaces to “collect” eggs and provide protection from predators, and free of excessive silt and debris that could smother eggs during incubation), larval development (*e.g.*, substrates with interstices or voids providing refuge from predators and from high flow conditions), and subadults and adults (*e.g.*, substrates for holding and spawning). For example, spawning is believed to occur over substrates ranging from clean sand to bedrock (Emmett *et al.* 1991; Moyle *et al.* 1995), with preferences for gravel, cobble, and boulder (Poytress *et al.* 2009; pers. comm. with Dan Erickson, ODFW, September 3, 2008). Eggs likely adhere to substrates, or settle into crevices between substrates (Deng 2000; Van Eenennaam *et al.* 2001; Deng *et al.* 2002). Both embryos and larvae exhibited a strong affinity for benthic structure during laboratory studies (Van Eenennaam *et al.* 2001; Deng *et al.* 2002; Kynard *et al.* 2005), and may seek refuge within crevices, but use flat-surfaced substrates for foraging (Nguyen and Crocker 2007).

(3) *Water flow.* A flow regime (*i.e.*, the magnitude, frequency, duration, seasonality, and rate-of-change of fresh water discharge over time) necessary for normal behavior, growth, and survival of all life stages. Such a flow regime should include stable and sufficient water flow rates in spawning and rearing reaches to maintain water temperatures within the optimal range for egg, larval, and juvenile survival and development (11–19 °C) (Cech *et al.* 2000, cited in COSEWIC 2004; Mayfield and Cech 2004; Van Eenennaam *et al.* 2005; Allen *et al.* 2006). Sufficient flow is needed to reduce the incidence of fungal infestations of the eggs (Deng *et al.* 2002; Parsley *et al.* 2002). In addition, sufficient flow is needed to flush silt and debris from cobble, gravel, and other substrate surfaces to prevent crevices from being filled in (and potentially suffocating the eggs; Deng *et al.* 2002) and to maintain surfaces for feeding (Nguyen and Crocker 2007). Successful migration of adult green sturgeon to and from spawning grounds is also dependent on sufficient water

flow. Spawning success is associated with water flow and water temperature. Spawning in the Sacramento River is believed to be triggered by increases in water flow to about 400 m<sup>3</sup>/s (average daily water flow during spawning months: 198–306 m<sup>3</sup>/s) (Brown 2007). Post-spawning downstream migrations are triggered by increased flows, ranging from 174–417 m<sup>3</sup>/s in the late summer (Vogel 2005) and greater than 100 m<sup>3</sup>/s in the winter (Erickson *et al.* 2002; Benson *et al.* 2007; pers. comm. with Richard Corwin, USBR, June 5, 2008).

(4) *Water quality.* Water quality, including temperature, salinity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages. Suitable water temperatures would include: relatively stable water temperatures within spawning reaches (wide fluctuations could increase egg mortality or deformities in developing embryos); temperatures within 11–17 °C (optimal range = 14–16 °C) in spawning reaches for egg incubation (March–August) (Van Eenennaam *et al.* 2005); temperatures below 20 °C for larval development (Werner *et al.* 2007); and temperatures below 24 °C for juveniles (Mayfield and Cech 2004; Allen *et al.* 2006a). Suitable salinity levels range from fresh water (<3 parts per thousand (ppt) for larvae and early juveniles (about 100 dph) to brackish water (10 ppt) for juveniles prior to their transition to salt water. Exposure to higher salinities may affect the temperature tolerances of juvenile green sturgeon (Sardella *et al.* 2008) and prolonged exposure to higher salinities may result in decreased growth and activity levels and even mortality (Allen and Cech 2007). Adequate levels of dissolved oxygen are needed to support oxygen consumption by fish in their early life stages (ranging from 61.78 to 76.06 mg O<sub>2</sub> hr<sup>-1</sup> kg<sup>-1</sup> for juveniles) (Allen and Cech 2007). Suitable water quality would also include water containing acceptably low levels of contaminants (*e.g.*, pesticides, polyaromatic hydrocarbons (PAHs), elevated levels of heavy metals) that may disrupt normal development of embryonic, larval, and juvenile stages of green sturgeon. Water with acceptably low levels of such contaminants would protect green sturgeon from adverse impacts on growth, reproductive development, and reproductive success (*e.g.*, reduced egg size and abnormal gonadal development) likely to result from exposure to contaminants (Fairey *et al.* 1997; Foster *et al.* 2001a; Foster *et al.* 2001b; Kruse and Scarnecchia 2002; Feist *et al.* 2005; Greenfield *et al.* 2005).

(5) *Migratory corridor*. A migratory pathway necessary for the safe and timely passage of Southern DPS fish within riverine habitats and between riverine and estuarine habitats (e.g., an unobstructed river or dammed river that still allows for safe and timely passage). We define safe and timely passage to mean that human-induced impediments, either physical, chemical or biological, do not alter the migratory behavior of the fish such that its survival or the overall viability of the species is compromised (e.g., an impediment that compromises the ability of fish to reach their spawning habitat in time to encounter conspecifics and reproduce). Unimpeded migratory corridors are necessary for adult green sturgeon to migrate to and from spawning habitats, and for larval and juvenile green sturgeon to migrate downstream from spawning/rearing habitats within freshwater rivers to rearing habitats within the estuaries.

(6) *Water depth*. Deep ( $\geq 5$  m) holding pools for both upstream and downstream holding of adult or subadult fish, with adequate water quality and flow to maintain the physiological needs of the holding adult or subadult fish. Deep pools of  $\geq 5$  m depth with high associated turbulence and upwelling are critical for adult green sturgeon spawning and for summer holding within the Sacramento River (Poytress *et al.* 2009). Adult green sturgeon in the Klamath and Rogue rivers also occupy deep holding pools for extended periods of time, presumably for feeding, energy conservation, and/or refuge from high water temperatures (Erickson *et al.* 2002; Benson *et al.* 2007).

(7) *Sediment quality*. Sediment quality (i.e., chemical characteristics) necessary for normal behavior, growth, and viability of all life stages. This includes sediments free of elevated levels of contaminants (e.g., selenium, PAHs, and pesticides) that may adversely affect green sturgeon. Based on studies of white sturgeon, bioaccumulation of contaminants from feeding on benthic species may adversely affect the growth, reproductive development, and reproductive success of green sturgeon.

The specific PCEs essential for the conservation of the Southern DPS in estuarine areas include:

(1) *Food resources*. Abundant prey items within estuarine habitats and substrates for juvenile, subadult, and adult life stages. Prey species for juvenile, subadult, and adult green sturgeon within bays and estuaries primarily consist of benthic invertebrates and fishes, including

crangonid shrimp, burrowing thalassinidean shrimp (particularly the burrowing ghost shrimp), amphipods, isopods, clams, annelid worms, crabs, sand lances, and anchovies. These prey species are critical for the rearing, foraging, growth, and development of juvenile, subadult, and adult green sturgeon within the bays and estuaries.

(2) *Water flow*. Within bays and estuaries adjacent to the Sacramento River (i.e., the Sacramento-San Joaquin Delta and the Suisun, San Pablo, and San Francisco bays), sufficient flow into the bay and estuary to allow adults to successfully orient to the incoming flow and migrate upstream to spawning grounds. Sufficient flows are needed to attract adult green sturgeon to the Sacramento River to initiate the upstream spawning migration (Kohlhorst *et al.* 1991, cited in CDFG 2002; pers. comm. with Jeff Stuart, NMFS, February 24–25, 2008).

(3) *Water quality*. Water quality, including temperature, salinity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages. Suitable water temperatures for juvenile green sturgeon should be below 24 °C. At temperatures above 24 °C, juvenile green sturgeon exhibit decreased swimming performance (Mayfield and Cech 2004) and increased cellular stress (Allen *et al.* 2006). Suitable salinities range from brackish water (10 ppt) to salt water (33 ppt). Juveniles transitioning from brackish to salt water can tolerate prolonged exposure to salt water salinities, but may exhibit decreased growth and activity levels and a restricted temperature tolerance range (Allen and Cech 2007; Sardella *et al.* 2008), whereas subadults and adults tolerate a wide range of salinities (Kelly *et al.* 2007). Subadult and adult green sturgeon occupy a wide range of dissolved oxygen levels, but may need a minimum dissolved oxygen level of at least 6.54 mg O<sub>2</sub>/l (Kelly *et al.* 2007; Moser and Lindley 2007). As described above, adequate levels of dissolved oxygen are also required to support oxygen consumption by juveniles (ranging from 61.78 to 76.06 mg O<sub>2</sub> hr<sup>-1</sup> kg<sup>-1</sup>) (Allen and Cech 2007). Suitable water quality also includes water with acceptably low levels of contaminants (e.g., pesticides, PAHs, elevated levels of heavy metals) that may disrupt the normal development of juvenile life stages, or the growth, survival, or reproduction of subadult or adult stages.

(4) *Migratory corridor*. A migratory pathway necessary for the safe and timely passage of Southern DPS fish within estuarine habitats and between

estuarine and riverine or marine habitats. We define safe and timely passage to mean that human-induced impediments, either physical, chemical, or biological, do not alter the migratory behavior of the fish such that its survival or the overall viability of the species is compromised (e.g., an impediment that compromises the ability of fish to reach thermal refugia by the time they enter a particular life stage). Within the bays and estuaries adjacent to the Sacramento River, unimpeded passage is needed for juvenile green sturgeon to migrate from the river to the bays and estuaries and eventually out into the ocean. Passage within the bays and the Delta is also critical for adults and subadults for feeding and summer holding, as well as to access the Sacramento River for their upstream spawning migrations and to make their outmigration back into the ocean. Within bays and estuaries outside of the Delta and the Suisun, San Pablo, and San Francisco bays, unimpeded passage is necessary for adult and subadult green sturgeon to access feeding areas, holding areas, and thermal refugia, and to ensure passage back out into the ocean.

(5) *Water depth*. A diversity of depths necessary for shelter, foraging, and migration of juvenile, subadult, and adult life stages. Subadult and adult green sturgeon occupy a diversity of depths within bays and estuaries for feeding and migration. Tagged adults and subadults within the San Francisco Bay estuary primarily occupied waters over shallow depths of less than 10 m, either swimming near the surface or foraging along the bottom (Kelly *et al.* 2007). In a study of juvenile green sturgeon in the Delta, relatively large numbers of juveniles were captured primarily in shallow waters from 1–3 meters deep, indicating juveniles may require even shallower depths for rearing and foraging (Radtke 1966). Thus, a diversity of depths is important to support different life stages and habitat uses for green sturgeon within estuarine areas.

(6) *Sediment quality*. Sediment quality (i.e., chemical characteristics) necessary for normal behavior, growth, and viability of all life stages. This includes sediments free of elevated levels of contaminants (e.g., selenium, PAHs, and pesticides) that can cause adverse effects on all life stages of green sturgeon (see description of “Sediment quality” for riverine habitats above).

The specific PCEs essential for the conservation of the Southern DPS in coastal marine areas include:

(1) *Migratory corridor*. A migratory pathway necessary for the safe and

timely passage of Southern DPS fish within marine and between estuarine and marine habitats. We define safe and timely passage to mean that human-induced impediments, either physical, chemical, or biological, do not alter the migratory behavior of the fish such that its survival or the overall viability of the species is compromised (*e.g.*, an impediment that compromises the ability of fish to reach abundant prey resources during the summer months in Washington and Oregon estuaries). Subadult and adult green sturgeon spend the majority of their lives in marine and estuarine waters outside of their natal rivers. Unimpeded passage within coastal marine waters is critical for subadult and adult Southern DPS green sturgeon to access oversummering habitats within coastal bays and estuaries and overwintering habitats within coastal waters between Vancouver Island, BC, and southeast Alaska (Lindley *et al.* 2008), as well as to return to its natal waters in the Sacramento River to spawn.

(2) *Water quality.* Coastal marine waters with adequate dissolved oxygen levels and acceptably low levels of contaminants (*e.g.*, pesticides, PAHs, heavy metals that may disrupt the normal behavior, growth, and viability of subadult and adult green sturgeon). Based on studies of tagged subadult and adult green sturgeon in the San Francisco Bay estuary, CA, and Willapa Bay, WA, subadults and adults may need a minimum dissolved oxygen level of at least 6.54 mg O<sub>2</sub>/l (Kelly *et al.* 2007; Moser and Lindley 2007). As described above, exposure to and bioaccumulation of contaminants may adversely affect the growth, reproductive development, and reproductive success of subadult and adult green sturgeon. Thus, waters with acceptably low levels of such contaminants are required for the normal development of green sturgeon for optimal survival and spawning success.

(3) *Food resources.* Abundant prey items for subadults and adults, which may include benthic invertebrates and fish. Green sturgeon spend more than half their lives in coastal marine and estuarine waters, spending from 3–20 years at a time out at sea. Abundant food resources are important to support subadults and adults over long-distance migrations, and may be one of the factors attracting green sturgeon to habitats far to the north (off the coasts of Vancouver Island and Alaska) and to the south (Monterey Bay, CA, and off the coast of southern California) of their natal habitat. Although the CHRT lacked direct evidence, prey species likely

include benthic invertebrates and fish similar to those fed upon by green sturgeon in bays and estuaries (*e.g.*, shrimp, clams, crabs, anchovies, sand lances).

#### **Geographical Area Occupied by the Species and Specific Areas Within the Geographical Area Occupied**

One of the first steps in the critical habitat designation process is to define the geographical area occupied by the species at the time of listing. The CHRT relied on data from tagging and tracking studies, genetic analyses, field observations, records of fisheries take and incidental take (*e.g.*, in water diversion activities), and opportunistic sightings to provide information on the current range and distribution of green sturgeon and of the Southern DPS. The range of green sturgeon extends from the Bering Sea, Alaska, to Ensenada, Mexico. Within this range, Southern DPS fish are confirmed to occur from Graves Harbor, Alaska, to Monterey Bay, California (Lindley *et al.* 2008; pers. comm. with Steve Lindley, NMFS, and Mary Moser, NMFS, February 24–25, 2008), based on telemetry data and genetic analyses. Green sturgeon have been observed northwest of Graves Harbor, AK, and south of Monterey Bay, CA, but have not been identified as belonging to either the Northern or Southern DPS. The CHRT concluded that there are no barriers or habitat conditions preventing Southern DPS fish detected in Monterey Bay, CA, or off Graves Harbor, AK, from moving further south or further north, and that the green sturgeon observed in these areas could belong to either the Northern DPS or the Southern DPS. Based on this reasoning, the geographical area occupied by the Southern DPS was defined as the entire range occupied by green sturgeon (*i.e.*, from the Bering Sea, AK, to Ensenada, Mexico), encompassing all areas where the presence of Southern DPS fish has been confirmed, as well as areas where the presence of Southern DPS fish is likely (based on the presence of confirmed Northern DPS fish or green sturgeon of unknown DPS).

Areas outside of the United States cannot be designated as critical habitat (50 CFR 424.12(h)). Thus, the occupied geographical area under consideration for this designation is limited to areas from the Bering Sea, AK, to the California/Mexico border, excluding Canadian waters. For freshwater rivers, the CHRT concluded that green sturgeon of each DPS are likely to occur throughout their natal river systems, but, within non-natal river systems, are likely to be limited to the estuaries and

would not occur upstream of the head of the tide. For the purposes of our evaluation of critical habitat, we defined all green sturgeon observed upstream of the head of the tide in freshwater rivers south of the Eel River (*i.e.*, the Sacramento River and its tributaries) as belonging to the Southern DPS, and all green sturgeon observed upstream of the head of the tide in freshwater rivers north of and including the Eel River as belonging to the Northern DPS. Thus, for freshwater rivers north of and including the Eel River, the areas upstream of the head of the tide were not considered part of the geographical area occupied by the Southern DPS.

The CHRT then identified “specific areas” within the geographical area occupied. To be eligible for designation as critical habitat under the ESA, each specific area must contain at least one PCE that may require special management considerations or protection. For each specific occupied area, the CHRT noted whether the presence of Southern DPS green sturgeon is confirmed or likely (based on the presence of Northern DPS fish or green sturgeon of unknown DPS) and verified that each area contained one or more PCE(s) that may require special management considerations or protection. The following paragraphs provide a brief description of the presence and distribution of Southern DPS green sturgeon within each area and summarize the CHRT’s methods for delineating the specific areas.

#### **Freshwater Rivers, Bypasses, and the Delta**

Green sturgeon occupy several freshwater river systems from the Sacramento River, CA, north to British Columbia, Canada (Moyle 2002). As described in the previous section, Southern DPS green sturgeon occur throughout their natal river systems (*i.e.*, the Sacramento River, lower Feather River, and lower Yuba River), but are believed to be restricted to the estuaries in non-natal river systems (*i.e.*, north of and including the Eel River). The CHRT defined the specific areas in the Sacramento, Feather, and Yuba rivers in California to include riverine habitat from the river mouth upstream to and including the furthest known site of historic and/or current sighting or capture of green sturgeon, as long as the site is still accessible. The specific areas were extended upstream to a geographically identifiable point. The riverine specific areas include areas that offer at least periodic passage of Southern DPS fish to upstream sites and include sufficient habitat necessary for each riverine life stage (*e.g.*, spawning,



egg incubation, larval rearing, juvenile feeding, passage throughout the river, and/or passage into and out of estuarine or marine habitat).

The CHRT delineated specific areas where Southern DPS green sturgeon occur, including: the Sacramento River, the Yolo and Sutter bypasses, the lower Feather River, and the lower Yuba River. The CHRT also delineated a specific area in the Sacramento-San Joaquin Delta. The mainstem Sacramento River is the only area where spawning by Southern DPS green sturgeon has been confirmed and where all life stages of the Southern DPS are supported. Beginning in March and through early summer, adult green sturgeon migrate as far upstream as the Keswick Dam (RKM 486) to spawn (Brown 2007; Heublein *et al.* 2008; Poytress *et al.* 2009). Spawning has been confirmed by the collection of larvae and juveniles at the RBDD and the Glenn-Colusa Irrigation District (GCID) (CDFG 2002; Brown 2007) and by the collection of green sturgeon eggs upstream and downstream of the RBDD (Brown 2007; Poytress *et al.* 2009). The Sacramento River provides important spawning, holding, and migratory habitat for adults and important rearing, feeding, and migratory habitat for larvae and juveniles. The Yolo and Sutter bypasses adjacent to the lower Sacramento River also serve as important migratory corridors for Southern DPS adults, subadults, and juveniles on their upstream or downstream migration and provide a high macroinvertebrate forage base that may support green sturgeon feeding. Southern DPS adults occupy the lower Feather River up to Fish Barrier Dam (RKM 109) and the lower Yuba River up to Daguerre Dam (RKM 19). Based on observations of Southern DPS adults occurring right up to the dams and of spawning behavior by adults on the Feather River, spawning may have occurred historically in the lower Feather River and, to a lesser extent, in the lower Yuba River. However, no green sturgeon eggs, larvae, or juveniles have ever been collected within these rivers. Further downstream, the Delta provides important rearing, feeding, and migratory habitat for juveniles, which occur throughout the Delta in all months of the year. Subadults and adults also occur throughout the Delta to feed, grow, and prepare for their outmigration to the ocean. The final biological report (NMFS 2009a) provides more detailed information on each specific area, including a description of the PCEs present, special management considerations or

protection that may be needed, and the presence and distribution of Southern DPS green sturgeon. The final biological report is available upon request (*see ADDRESSES*), via our Web site at <http://swr.nmfs.noaa.gov>, or via the Federal eRulemaking Web site at <http://www.regulations.gov>. For additional discussion of the special management considerations or protection that may be needed for the PCEs, please *see* also the description of “Special management considerations or protection” below.

#### Bays and Estuaries

Southern DPS green sturgeon occupy coastal bays and estuaries from Monterey Bay, CA, to Puget Sound, WA. In the Central Valley, CA, juvenile, subadult, and adult life stages occur throughout the Suisun, San Pablo, and San Francisco bays. These bays support the rearing, feeding, and growth of juveniles prior to their first entry into marine waters. The bays also serve as important feeding, rearing, and migratory habitat for subadult and adult Southern DPS green sturgeon.

Outside of their natal system, subadult and adult Southern DPS fish occupy coastal bays and estuaries in California, Oregon, and Washington, including estuarine waters at the mouths of non-natal rivers. Subadult and adult Southern DPS green sturgeon have been confirmed to occupy the following coastal bays and estuaries: Monterey Bay and Humboldt Bay in California; Coos Bay, Winchester Bay, and Yaquina Bay in Oregon; the lower Columbia River estuary; and Willapa Bay, Grays Harbor, and Puget Sound in Washington (Chadwick 1959; Miller 1972; Lindley *et al.* 2008; Pinnix 2008; pers. comm. with Steve Lindley, NMFS, and Mary Moser, NMFS, February 24–25, 2008; pers. comm. with Dan Erickson, ODFW, September 3, 2008). The presence of Southern DPS green sturgeon is likely (based on limited records of confirmed Northern DPS fish or green sturgeon of unknown DPS), but not confirmed within the following coastal bays and estuaries: Elkhorn Slough, Tomales Bay, Noyo Harbor, Eel River estuary, and Klamath/Trinity River estuary in California; and the Rogue River estuary, Siuslaw River estuary, Alsea River estuary, Tillamook Bay, and Nehalem Bay in Oregon (Emmett *et al.* 1991; Moyle *et al.* 1992; Adams *et al.* 2002; Erickson *et al.* 2002; Yoklavich *et al.* 2002; Farr and Kern 2005; ODFW 2009a, b).

Subadult and adult green sturgeon are believed to occupy coastal bays and estuaries outside of their natal waters for feeding and optimization of growth (Moser and Lindley 2007; Lindley *et al.*

2008). Occupied coastal bays and estuaries north of San Francisco Bay, CA, contain overwintering habitats for subadults and adults, whereas coastal bays and estuaries south of San Francisco Bay, CA, are believed to contain overwintering habitats (Lindley *et al.* 2008). The largest concentrations of green sturgeon, including Southern DPS fish, occur within the lower Columbia River estuary, Willapa Bay, and Grays Harbor (Emmett *et al.* 1991; Adams *et al.* 2002; WDFW and ODFW 2002; Israel and May 2006; Moser and Lindley 2007; Lindley *et al.* 2008). Large numbers of green sturgeon also occur within Winchester Bay, Tillamook Bay, Coos Bay, Yaquina Bay, and Humboldt Bay (Moyle *et al.* 1992; Rien *et al.* 2000; Farr *et al.* 2001; Adams *et al.* 2002; Farr and Rien 2002, 2003; Farr and Kern 2004, 2005; Israel and May 2006; Lindley *et al.* 2008; Pinnix 2008; ODFW 2009a, b). Smaller numbers of green sturgeon occur in Tomales Bay in California (Moyle *et al.* 1992); the Siuslaw River estuary and Alsea River estuary in Oregon (ODFW 2009a, b); the lower Columbia River from RKM 74 to the Bonneville Dam (WDFW 2008); and Puget Sound in Washington (pers. comm. with Mary Moser, NMFS, March 11, 2008). Based on limited available data, green sturgeon presence is believed to be rare in Elkhorn Slough and Noyo Harbor in California (Emmett *et al.* 1991; Moyle *et al.* 1992; Yoklavich *et al.* 2002). Green sturgeon are present in the estuaries of the Eel River, Klamath/Trinity rivers, and Rogue River, but are believed to most likely belong to the Northern DPS. This is based on the fact that the Klamath/Trinity and Rogue rivers are spawning rivers for the Northern DPS and that the Northern DPS is defined to be inclusive of green sturgeon originating in coastal watersheds north of and including the Eel River. To date, no tagged Southern DPS subadults or adults have been detected in the estuaries of the three rivers, although Southern DPS fish have been observed in coastal marine waters just outside the mouth of the Klamath River (pers. comm. with Steve Lindley, NMFS, March 5, 2008).

The CHRT included all coastal bays and estuaries for which there was evidence to confirm the presence of green sturgeon, noting where there were confirmed Southern DPS fish, confirmed Northern DPS fish, or confirmed green sturgeon of unknown DPS. As stated in the previous section, based on our definitions for the Northern DPS and Southern DPS, any green sturgeon observed upstream of the head of the tide in freshwater rivers

north of and including the Eel River were assigned to the Northern DPS. Thus, areas upstream of the head of the tide on these rivers were not included as part of the occupied specific areas for the Southern DPS. Each specific area was defined to extend from the mouth of the bay or estuary upstream to the head of the tide. The boundary at the mouth of each bay or estuary was defined by the COLREGS demarcation line. COLREGS demarcation lines delineate “those waters upon which mariners shall comply with the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) and those waters upon which mariners shall comply with the Inland Navigation Rules” (33 CFR 80.01). Waters inside of the 72 COLREGS lines are Inland Rules waters and waters outside of the 72 COLREGS lines are COLREGS waters. The final biological report (NMFS 2009a) provides additional information for each specific area. For a copy of the report, see **ADDRESSES**, our Web site at <http://swr.nmfs.noaa.gov>, or the Federal eRulemaking Web site at <http://www.regulations.gov>. For additional discussion of the special management considerations or protection that may be needed for the PCEs, see the description of “Special management considerations or protection” below.

### Coastal Marine Waters

Subadult and adult green sturgeon spend most of their lives in coastal marine and estuarine waters. The best available data indicate coastal marine waters are important for seasonal migrations from southern California to Alaska to reach distant foraging and aggregation areas. Green sturgeon occur primarily within the 110 m (60 fm) depth bathymetry (Erickson and Hightower 2007). Green sturgeon tagged in the Rogue River and tracked in marine waters typically occupied the water column at 40–70 m depth, but made rapid vertical ascents to or near the surface, for reasons yet unknown (Erickson and Hightower 2007). Green sturgeon use of waters shallower than 110 m (60 fm) depth was confirmed by coastal Oregon and Washington bottom-trawl fisheries records indicating that most reported locations of green sturgeon occurred inside of the 110 m depth contour from 1993–2000, despite the fact that most of the fishing effort occurred in water deeper than 110 m (Erickson and Hightower 2007).

Based on tagging studies of both Southern and Northern DPS fish, green sturgeon spend a large part of their time in coastal marine waters migrating between coastal bays and estuaries, including sustained long-distance

migrations of up to 100 km per day (pers. comm. with Steve Lindley, NMFS, and Mary Moser, NMFS, cited in BRT 2005). These seasonal long-distance migrations are most likely driven by food resources. Some tagged individuals were observed swimming at slower speeds and spending several days within certain areas, suggesting that the individuals were feeding (pers. comm. with Steve Lindley, NMFS, and Mary Moser, NMFS, February 24–25, 2008).

Within the geographical area occupied (from the California/Mexico border to the Bering Sea, Alaska), the CHRT divided the coastal marine waters into 12 specific areas between those estuaries or bays that had been confirmed to be occupied by the Southern DPS. The presence of green sturgeon and Southern DPS fish within each area was based on data from tagging and tracking studies, records of fisheries captures, and NOAA Observer Program records. Tagged Southern DPS subadults and adults have been detected in coastal marine waters from Monterey Bay, CA, to Graves Harbor, AK, including the Strait of Juan de Fuca (Lindley *et al.* 2008). Green sturgeon bycatch data from NOAA’s West Coast Groundfish Observer Program (WCGOP) support the telemetry results, showing green sturgeon occur from Monterey Bay, CA, to Cape Flattery, WA, with the greatest catch per unit effort in coastal waters from Monterey Bay to Humboldt Bay, CA (pers. comm. with Jon Cusick, NMFS, August 7, 2008). Because green sturgeon were only observed in the bottom trawl fishery, there were no data on green sturgeon bycatch off southeast Alaska, where bottom trawl fishing is prohibited. Green sturgeon have, however, been captured in bottom trawl fisheries along the coast off British Columbia. Although critical habitat cannot be designated within Canadian waters, it is important to note that several tagged Southern DPS green sturgeon have been detected off Brooks Peninsula on the northern tip of Vancouver Island, BC (Lindley *et al.* 2008). Patterns of telemetry data suggest that Southern DPS fish use oversummering grounds in coastal bays and estuaries along northern California, Oregon, and Washington and overwintering grounds off central California and between Vancouver Island, BC, and southeast Alaska (Lindley *et al.* 2008).

Based on the tagging data and the information described above regarding green sturgeon use of coastal bays and estuaries in California, Oregon, and Washington, the CHRT identified the coastal marine waters from Monterey

Bay, CA, to Vancouver Island, BC, as the primary migratory/connectivity corridor for subadult and adult Southern DPS green sturgeon to migrate to and from oversummering habitats and overwintering habitats. Coastal marine waters off southeast Alaska were not considered part of the primary migratory/connectivity corridor for green sturgeon, but were recognized as an important area at the northern extent of the overwintering range, based on the detection of two tagged Southern DPS fish off Graves Harbor, AK, (pers. comm. with Steve Lindley, NMFS, September 12, 2007) and green sturgeon bycatch data along the northern coast of British Columbia (Lindley *et al.* 2008). For marine waters off northwest Alaska, data on green sturgeon occurrence include the capture of two green sturgeon of unknown DPS in bottom trawl groundfish fisheries off Kodiak Island, AK, and in the Bering Sea off Unimak Island, AK, in 2006 (pers. comm. with Duane Stevenson, NMFS, September 8, 2006). For the area south of Monterey Bay, a few green sturgeon of unknown DPS have been captured off Huntington Beach and Newport (Roedel 1941), Point Vicente (Norris 1957), Santa Barbara, and San Pedro (pers. comm. with Rand Rasmussen, NMFS, July 18, 2006). More detailed information on the specific areas within coastal marine waters can be found in the final biological report (NMFS 2009a), available at our Web site at <http://swr.nmfs.noaa.gov>, at the Federal eRulemaking Web site at <http://www.regulations.gov>, or upon request (see **ADDRESSES**). For additional discussion of the special management considerations or protection that may be needed for the PCEs, please see the description of “Special management considerations or protection” below.

### Special Management Considerations or Protection

Joint NMFS and USFWS regulations at 50 CFR 424.02(j) define “special management considerations or protection” to mean “any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.” Based on discussions with the CHRT and consideration of the draft economic report, a number of activities were identified that may threaten the PCEs such that special management considerations or protection may be required. Major categories of habitat-related activities include: (1) Dams; (2) water diversions; (3) dredging and disposal of dredged material; (4) in-water construction or alterations, including channel



modifications/diking, sand and gravel mining, gravel augmentation, road building and maintenance, forestry, grazing, agriculture, urbanization, and other activities; (5) NPDES permit activities and activities generating non-point source pollution; (6) power plants; (7) commercial shipping; (8) aquaculture; (9) desalination plants; (10) proposed alternative energy projects; (11) liquefied natural gas (LNG) projects; (12) bottom trawling; and (13) habitat restoration. These activities may have an effect on one or more PCE(s) via their alteration of one or more of the following: stream hydrology, water level and flow, water temperature, dissolved oxygen, erosion and sediment input/transport, physical habitat structure, vegetation, soils, nutrients and chemicals, fish passage, and stream/estuarine/marine benthic biota and prey resources. The CHRT identified the activities occurring within each specific area that may necessitate special management considerations or protection for the PCEs and these are described briefly in the following paragraphs. These activities are documented more fully in the final biological report and final economic analysis report.

Table 1 lists the specific areas and the river miles or area (square miles) covered, the PCEs present, and the activities that may affect the PCEs for each specific area and necessitate the need for special management considerations or protection. Several activities may affect the PCEs within the freshwater rivers, bypasses, and the Sacramento-San Joaquin Delta (the Delta). Within the rivers, dams and diversions pose threats to habitat features essential for the Southern DPS by obstructing migration, altering water

flows and temperature, and modifying substrate composition within the rivers. Pollution from agricultural runoff and water returns, as well as from other point and non-point sources, adversely affects water quality within the rivers, bypasses and the Delta. Water management practices in the bypasses may pose a threat to Southern DPS fish residing within or migrating through the bypasses. For example, low water levels may obstruct passage through the bypasses, resulting in stranded fish. Within the Delta, activities such as dredging, pile driving, water diversion, and the discharge of pollutants from point and non-point sources can adversely affect water quality and prey resources, as well as alter the composition and distribution of bottom substrates within the Delta.

Several activities were also identified that may threaten the PCEs in coastal bays and estuaries and may necessitate the need for special management considerations or protection (Table 1). The application of pesticides may adversely affect prey resources and water quality within the bays and estuaries. For example, in Willapa Bay and Grays Harbor, the use of carbaryl in association with aquaculture operations reduces the abundance and availability of burrowing ghost shrimp, an important prey species for green sturgeon (Moser and Lindley 2007; Dumbauld *et al.* 2008). In the San Francisco, San Pablo, and Suisun bays, several pesticides have been detected at levels exceeding national benchmarks for the protection of aquatic life (Domagalski *et al.* 2000). These pesticides pose a water quality issue and may affect the abundance and health of prey items as well as the growth and reproductive health of

Southern DPS green sturgeon through bioaccumulation. Other activities of concern include those that may disturb bottom substrates, adversely affect prey resources, or degrade water quality through re-suspension of contaminated sediments.

Several activities were identified that may affect the PCEs within coastal marine areas such that the PCEs would require special management consideration or protection (Table 1). The fact that green sturgeon were only captured in the bottom trawl fishery (pers. comm. with Jon Cusick, NMFS, August 7, 2008) provides evidence that green sturgeon are associated with the benthos and thus exposed to activities that disturb the bottom. Of particular concern are activities that affect prey resources. Prey resources likely include species similar to those fed on by green sturgeon in bays and estuaries (*e.g.*, burrowing ghost shrimp, mud shrimp, crangonid shrimp, amphipods, isopods, Dungeness crab), and can be affected by: commercial shipping and activities generating point source pollution (subject to NPDES requirements) and non-point source pollution that can discharge contaminants and result in bioaccumulation of contaminants in green sturgeon; disposal of dredged materials that can bury prey resources; and bottom trawl fisheries that can disturb the bottom (but may result in beneficial or adverse effects on prey resources for green sturgeon). In addition, petroleum spills from commercial shipping activities and proposed alternative energy hydrokinetic projects may affect water quality or hinder the migration of green sturgeon along the coast and may necessitate special management of the PCEs.

TABLE 1—SUMMARY OF OCCUPIED SPECIFIC AREAS WITHIN FRESHWATER RIVERS, THE BYPASSES, THE SACRAMENTO-SAN JOAQUIN DELTA, COASTAL BAYS AND ESTUARIES, AND COASTAL MARINE AREAS (WITHIN 60 FM DEPTH)

[The river kilometers or surface area covered, the PCEs present, and activities that may affect the PCEs and necessitate the need for special management considerations or protection within each area are listed. PCEs: Wd = depth, Fd = food, FI = water flow, P = passage, S = substrates, Sq = sediment quality, Wq = water quality. Activities: AG = agriculture, AQ = aquaculture, BOT = bottom trawl fishing, CON = in-water construction or alterations, DAM = dams, DESAL = desalination plants, DIV = water diversions, DR = dredging and deposition of dredged material, EP = alternative energy hydrokinetic projects, LNG = LNG projects, POLL = point and non-point source pollution, PP = power plants, REST = restoration, SHIP = commercial shipping]

Specific area	River km	PCEs present	Activities
<b>Freshwater Rivers</b>			
Upper Sacramento River, CA .....	95	Wd, Fd, FI, P, S, Sq, Wq .....	CON, DAM, DIV, POLL, REST
Lower Sacramento River, CA .....	294	Wd, Fd, FI, P, S, Sq, Wq .....	AG, CON, DAM, DIV, DR, POLL, REST
Lower Feather River, CA .....	109	Wd, FI, P, Wq .....	AG, CON, DAM, DIV, POLL, REST
Lower Yuba River, CA .....	18	Wd, FI, P, Wq .....	AG, CON, DAM, DIV, POLL, REST
Sacramento-San Joaquin Delta, CA .....	784	Wd, Fd, FI, P, S, Sq, Wq .....	CON, DAM, DIV, DR, POLL, PP, REST, SHIP

TABLE 1—SUMMARY OF OCCUPIED SPECIFIC AREAS WITHIN FRESHWATER RIVERS, THE BYPASSES, THE SACRAMENTO-SAN JOAQUIN DELTA, COASTAL BAYS AND ESTUARIES, AND COASTAL MARINE AREAS (WITHIN 60 FM DEPTH)—(Continued)

[The river kilometers or surface area covered, the PCEs present, and activities that may affect the PCEs and necessitate the need for special management considerations or protection within each area are listed. PCEs: Wd = depth, Fd = food, FI = water flow, P = passage, S = substrates, Sq = sediment quality, Wq = water quality. Activities: AG = agriculture, AQ = aquaculture, BOT = bottom trawl fishing, CON = in-water construction or alterations, DAM = dams, DESAL = desalination plants, DIV = water diversions, DR = dredging and deposition of dredged material, EP = alternative energy hydrokinetic projects, LNG = LNG projects, POLL = point and non-point source pollution, PP = power plants, REST = restoration, SHIP = commercial shipping]

Specific area	Area (sq km)	PCEs present	Activities
<b>Bypasses and the Delta</b>			
Yolo Bypass, CA .....	289	Fd, P, Sq, Wq .....	AG, DAM, DIV, POLL, REST
Sutter Bypass, CA .....	61	Fd, P, Sq, Wq .....	AG, CON, DAM, DIV, POLL, REST
<b>Coastal Bays and Estuaries</b>			
Elkhorn Slough, CA .....	3	Fd, Sq, P, Wq .....	CON, DR, POLL, PP
Suisun Bay, CA .....	131	Wd, Fd, FI, P, Sq, Wq .....	CON, DR, POLL, PP, REST, SHIP
San Pablo Bay, CA .....	329	Wd, Fd, P, Sq, Wq .....	CON, DR, POLL, PP, REST, SHIP
San Francisco Bay, CA .....	700	Wd, Fd, P, Sq, Wq .....	CON, DR, EP, POLL, PP, REST, SHIP
Tomales Bay, CA .....	30	Fd, P, Sq, Wq .....	AG, AQ, CON, DIV, POLL, REST
Noyo Harbor, CA .....	0.1	Fd, P, Sq, Wq .....	CON, DR, POLL
Eel R. estuary, CA .....	22	Fd, P, Sq, Wq .....	CON, POLL
Humboldt Bay, CA .....	68	Fd, P, Sq, Wq .....	AG, AQ, CON, DR, POLL, SHIP
Klamath/Trinity R. estuary, CA .....	6	Fd, P, Sq, Wq .....	CON, POLL
Rogue R. estuary, OR .....	1	Fd, P, Sq, Wq .....	CON, POLL
Coos Bay, OR .....	48	Fd, P, Sq, Wq .....	CON, DR, LNG, POLL, SHIP
Winchester Bay, OR .....	22	Fd, P, Sq, Wq .....	CON, POLL
Siuslaw R. estuary, OR .....	1	Fd, P, Sq, Wq .....	CON, POLL
Alesea R. estuary, OR .....	2	Fd, P, Sq, Wq .....	CON, DIV, POLL
Yaquina Bay, OR .....	12	Fd, P, Sq, Wq .....	CON, DR, POLL
Tillamook Bay, OR .....	37	Fd, P, Sq, Wq .....	CON, DR, POLL
Nehalem Bay, OR .....	8	Fd, P, Sq, Wq .....	CON, DR, POLL
Lower Columbia river estuary (RKM 0 to 74).	414	Fd, P, Sq, Wq .....	CON, DAM, DR, LNG, POLL, SHIP
Lower Columbia River (RKM 74 to Bonneville Dam).	207	Fd, P, Sq, Wq .....	CON, DAM, DR, POLL, SHIP
Willapa Bay, WA .....	347	Fd, P, Sq, Wq .....	AQ, CON, DR, EP, POLL
Grays Harbor, WA .....	245	Fd, P, Sq, Wq .....	AQ, CON, DR, POLL, SHIP
Puget Sound, WA .....	2,636	Fd, P, Sq, Wq .....	AQ, CON, DR, EP, POLL, SHIP
<b>Coastal Marine Waters Within 60 fm Depth</b>			
CA/Mexico border to Monterey Bay, CA ...	6,534	Fd, P, Wq .....	AQ, BOT, CON, DESAL, DR, EP, LNG, POLL, PP
Monterey Bay, CA, to San Francisco Bay, CA.	3,868	Fd, P, Wq .....	BOT, CON, DESAL, DR, EP, LNG, POLL, PP
San Francisco Bay, CA, to Humboldt Bay, CA.	5,385	Fd, P, Wq .....	BOT, DR, EP, LNG, POLL, PP
Humboldt Bay, CA, to Coos Bay, OR .....	4,865	Fd, P, Wq .....	BOT, DR, EP, LNG, POLL, PP
Coos Bay, OR, to Winchester Bay, OR ....	463	Fd, P, Wq .....	BOT, DR, EP, LNG
Winchester Bay, OR, to Columbia R. estuary.	6,789	Fd, P, Wq .....	BOT, DR, EP, LNG, POLL
Columbia R. estuary to Willapa Bay, WA ..	1,167	Fd, P, Wq .....	BOT, DR, EP, LNG
Willapa Bay, WA, to Grays Harbor, WA ....	1,087	Fd, P, Wq .....	BOT, DR, EP, LNG
Grays Harbor, WA, to WA/Canada border	4,924	Fd, P, Wq .....	BOT, DR, EP, LNG, POLL
Strait of Juan de Fuca, WA .....	1,352	Fd, P, Wq .....	BOT, DR, EP, LNG, POLL
Canada/AK border to Yakutat Bay, AK .....	53,577	Fd, P, Wq .....	DR, EP, LNG, POLL, SHIP
Coastal Alaskan waters northwest of Yakutat Bay, AK, including the Bering Sea to the Bering Strait.	974,505	Fd, P, Wq .....	BOT, DR, EP, LNG, POLL, SHIP

### Unoccupied Areas

Section 3(5)(A)(ii) of the ESA authorizes the designation of “specific areas outside the geographical area occupied at the time [the species] is listed” if these areas are essential for the conservation of the species. Regulations

at 50 CFR 424.12(e) emphasize that the agency “shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.”

The CHRT considered that a critical habitat designation limited to presently occupied areas may not be sufficient for conservation, because such a designation would not address one of the major threats to the population identified by the Status Review Team—

the concentration of spawning into one spawning river (*i.e.*, the Sacramento River), and, as a consequence, the risk of extirpation due to a catastrophic event.

In the proposed rule, we described seven unoccupied areas identified by the CHRT in the Central Valley, California that may provide additional spawning habitat for the Southern DPS of green sturgeon. These seven areas include areas behind dams that are currently inaccessible to green sturgeon and areas below dams that are not currently occupied by green sturgeon. The areas include: (1) Reaches upstream of Oroville Dam on the Feather River; (2) reaches upstream of Daguerre Dam on the Yuba River; (3) areas on the Pit River upstream of Keswick and Shasta dams; (4) areas on the McCloud River upstream of Keswick and Shasta dams; (5) areas on the upper Sacramento River upstream of Keswick and Shasta dams; (6) reaches on the American River; and (7) reaches on the San Joaquin River. We did not propose to designate any of these unoccupied areas, however, because we lacked sufficient data to determine whether any of these areas actually are essential for conservation of the Southern DPS. Instead, we solicited additional information from the public to inform the CHRT's evaluation of these areas, particularly regarding: (1) The historical use of the currently unoccupied areas by green sturgeon; and (2) the likelihood that habitat conditions within these unoccupied areas will be restored to levels that would support green sturgeon presence and spawning (*e.g.*, restoration of fish passage and sufficient water flows and water temperatures).

As described above in the Responses to Comments section, several comments were received supporting or opposing the designation of unoccupied areas, but no substantive information was provided to support designation of these areas. The CHRT maintained its determination that these seven unoccupied areas *may be essential*, but there is insufficient data at this time to determine whether any of these areas actually *are essential* to the conservation of the Southern DPS. This final rule does not designate any unoccupied areas as critical habitat for the Southern DPS. NMFS encourages additional study of green sturgeon use of these areas and actions that would protect, conserve, and/or enhance habitat conditions for the Southern DPS (*e.g.*, habitat restoration, removal of dams, and establishment of fish passage) within these areas. Additional information would inform our consideration of these areas for future

revisions to the critical habitat designation as well as future recovery planning for the Southern DPS.

#### Military Lands

Under the Sikes Act of 1997 (Sikes Act) (16 U.S.C. 670a), "each military installation that includes land and water suitable for the conservation and management of natural resources" is required to develop and implement an integrated natural resources management plan (INRMP). An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found there. Each INRMP includes: An assessment of the ecological needs on the military installation, including the need to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. Each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management, fish and wildlife habitat enhancement or modification, wetland protection, enhancement, and restoration where necessary to support fish and wildlife and enforcement of applicable natural resource laws.

The ESA was amended by the National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108-136) to address the designation of military lands as critical habitat. ESA section 4(a)(3)(B)(i) states: "The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation."

During the development of the proposed rule, we contacted the DOD and requested information on all INRMPs for DOD facilities that overlap with the specific areas considered for designation as critical habitat and that might provide benefits to green sturgeon. The INRMPs for one facility in California (Camp San Luis Obispo) and for nine facilities in Puget Sound, WA, were provided to us. Of these, the following six facilities with INRMPs were determined to overlap with the specific areas under consideration for critical habitat designation (all located in Puget Sound, WA): (1) Bremerton Naval Hospital; (2) Naval Air Station, Everett; (3) Naval Magazine Indian

Island; (4) Naval Fuel Depot, Manchester; (5) Naval Undersea Warfare Center, Keyport; and (6) Naval Air Station, Whidbey Island. We reviewed the INRMPs for measures that would benefit green sturgeon. The INRMPs for four of the facilities (Bremerton Naval Hospital, NAS Everett, Naval Fuel Depot (Manchester), and Naval Magazine (Indian Island)) contain measures for listed salmon and bull trout that provide benefits for green sturgeon. The INRMPs for the two remaining facilities (NAS Whidbey Island and NUWC Keyport) do not contain specific requirements for listed salmon or bull trout, but also include measures that benefit fish species, including green sturgeon. Examples of the types of benefits include measures to control erosion, protect riparian zones and wetlands, minimize stormwater and construction impacts, and reduce contaminants. Based on these benefits provided for green sturgeon under the INRMPs, we determined that the areas within these six DOD facilities in Puget Sound, WA, were not eligible for designation as critical habitat.

During the public comment period, the DOD provided the INRMPs for two additional facilities that may overlap with the areas considered for designation as critical habitat: (1) Mare Island U.S. Army Reserve Center in Mare Strait, San Pablo Bay, CA; and (2) Military Ocean Terminal Concord (MOTCO), located in Suisun Bay, CA. Upon review of the INRMPs for each facility and correspondence with DOD contacts, we determined that: (1) The INRMP for the Mare Island U.S. Army Reserve Center did not provide adequate protection for the Southern DPS of green sturgeon; and (2) the MOTCO facilities do not overlap with the specific area considered for designation as critical habitat in Suisun Bay. Thus, neither facility was considered ineligible for designation under section 4(a)(3)(B)(i) of the ESA (however, *see* "Exclusions based on impacts on national security" below).

#### Application of ESA Section 4(b)(2)

Section 4(b)(2) of the ESA requires the Secretary to consider the economic, national security, and any other relevant impacts of designating any particular area as critical habitat. Any particular area may be excluded from critical habitat if the Secretary determines that the benefits of excluding the area outweigh the benefits of designating the area. The Secretary may not exclude a particular area from designation if exclusion will result in the extinction of the species. Because the authority to exclude is discretionary, exclusion is



not required for any areas. In this final designation, the Secretary has applied his statutory discretion to exclude 14 occupied specific areas, 5 DOD areas, and Indian lands from the critical habitat designation where the benefits of exclusion outweigh the benefits of designation.

The first step in conducting the ESA section 4(b)(2) analysis is to identify the “particular areas” to be analyzed. Where we considered economic impacts and weighed the economic benefits of exclusion against the conservation benefits of designation, we used the same biologically-based “specific areas” we identified in the previous sections pursuant to section 3(5)(A) of the ESA (e.g., the upper Sacramento River, the lower Sacramento River, the Delta, etc.). Delineating the “particular areas” as the same units as the “specific areas” allowed us to most effectively consider the conservation value of the different areas when balancing conservation benefits of designation against economic benefits of exclusion. Delineating particular areas based on impacts on national security or other relevant impacts (e.g., impacts on Indian lands) was based on land ownership or control (e.g., land controlled by the DOD within which national security impacts may exist, or Indian lands). No other relevant impacts were identified during the public comment period.

The next step in the ESA section 4(b)(2) analysis involves identification of the impacts of designation (i.e., the benefits of designation and the benefits of exclusion). We then weigh the benefits of designation against the benefits of exclusion to identify areas where the benefits of exclusion outweigh the benefits of designation. These steps and the resulting list of areas excluded from designation are described in detail in the sections below.

### Impacts of Designation

The primary impact of a critical habitat designation stems from the requirement under section 7(a)(2) of the ESA that Federal agencies insure their actions are not likely to result in the destruction or adverse modification of critical habitat. Determining this impact is complicated by the fact that section 7(a)(2) contains the overlapping requirement that Federal agencies must also ensure their actions are not likely to jeopardize the species’ continued existence. One incremental impact of designation is the extent to which Federal agencies modify their actions to insure their actions are not likely to adversely modify the critical habitat of the species, beyond any modifications

they would make because of the listing and the jeopardy requirement. When a modification would be required due to impacts to both the species and critical habitat, the impact of the designation may be co-extensive with the ESA listing of the species. Additional impacts of designation include State and local protections that may be triggered as a result of the designation and the benefits from educating the public about the importance of each area for species conservation. The benefits of designation were evaluated by considering the conservation value of each occupied specific area to the Southern DPS. In the “Benefits of Designation” section below, we discuss how the conservation values of the specific areas were assessed.

In determining the impacts of designation, we focused on the incremental change in Federal agency actions as a result of the critical habitat designation and the adverse modification prohibition, beyond the changes predicted to occur as a result of listing and the jeopardy provision. In recent critical habitat designations for salmon and steelhead and for Southern Resident killer whales, the “co-extensive” impact of designation was considered in accordance with a Tenth Circuit Court decision (*New Mexico Cattle Growers Association v. U.S. Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001)) (*NMCA*). The “co-extensive” impact of designation considers the predicted change in the Federal agency action resulting from the critical habitat designation and the adverse modification prohibition (whereby the action’s effect on the PCEs and the value of the habitat is analyzed), even if the same change would result from application of the listing and the jeopardy provision (whereby the action’s effect on the species itself and individual members of the species is analyzed). Shortly after the *NMCA* decision, however, the Court of Appeals for the Fifth Circuit (*Sierra Club v. U.S. Fish and Wildlife Service*, 243 F.3d 434 (5th Cir. 2001)) (*Sierra Club*) and the Court of Appeals for the Ninth Circuit (*Gifford Pinchot Task Force v. FWS*, 378 F.3d 1059 (9th Cir. 2004)) (*Gifford Pinchot*) invalidated our regulatory definition of “adverse modification” of critical habitat. Following that decision, a District Court in Washington, DC issued a decision involving the USFWS’s critical habitat designation for the piping plover (*Cape Hatteras Access Preservation Alliance v. Norton*, 344 F. Supp. 2d 1080 (D.D.C. 2004)) (*Cape Hatteras*). In that decision, the Court reasoned that the impact of a regulation

should be based on a comparison of the world with and without the action, and that the effects of listing and the jeopardy provision should not be considered as part of the impacts of a designation in the ESA 4(b)(2) analysis for a critical habitat designation.

Consistent with the *Cape Hatteras* decision, we estimated and analyzed the incremental impacts of designation, beyond the impacts that would result from the listing and jeopardy provision. Uncertainties exist with regard to future management actions associated with green sturgeon critical habitat, because of the short consultation history for green sturgeon and overlap with protections provided under the listing. Due to these uncertainties, it was difficult to exclude potential impacts that may already occur under the baseline (i.e., protections already afforded green sturgeon under its listing or under other Federal, State, and local regulations, such as protections for other listed species). Thus, the analysis included some impacts that would have occurred under the baseline regardless of the critical habitat rule. As such, the impacts are more correctly characterized as green sturgeon conservation impacts as opposed to exclusively incremental impacts of the critical habitat designation. That is, the impacts analyzed are those associated with the conservation of green sturgeon critical habitat, some of which may overlap with impacts resulting from the baseline protections. Our methods for estimating the impacts of designation for economic impacts, impacts on national security, and impacts on Indian lands are summarized in the sections below titled “Determining the Benefits of Excluding Particular Areas.”

Because section 4(b)(2) requires a balancing of competing considerations, we must uniformly consider impacts and benefits. We recognize that excluding an area from designation will not likely avoid all of the impacts because the jeopardy provision under section 7 still applies. Similarly, much of the section 7 benefit would still apply as well.

A final economic analysis report (Indecon 2009) describes in more detail the types of activities that may be affected by the designation, the potential range of changes we might seek in those actions, and the estimated economic impacts that might result from such changes. A final biological report (NMFS 2009a) describes in detail the CHRT’s evaluation of the conservation value of each specific area and reports the final conservation value ratings. The final ESA section 4(b)(2) report (NMFS 2009c) describes the analysis of all

impacts and the weighing of the benefits of designation against the benefits of exclusion for each area. All of these reports are available on the NMFS Southwest Region Web site at <http://swr.nmfs.noaa.gov/>, on the Federal E-Rulemaking Web site at <http://www.regulations.gov>, or upon request (see ADDRESSES).

### Benefits of Designation

The primary benefit of designation is the protection afforded under section 7 of the ESA, requiring all Federal agencies to insure their actions are not likely to destroy or adversely modify designated critical habitat. This is in addition to the requirement that all Federal agencies ensure their actions are not likely to jeopardize the continued existence of the species. In addition, the designation may provide education and outreach benefits by informing the public about areas and features important to species conservation. By delineating areas of high conservation value, the designation may help focus and contribute to conservation efforts for green sturgeon and their habitats.

These benefits are not directly comparable to the costs of designation for purposes of conducting the ESA section 4(b)(2) analysis described below. Ideally, the benefits should be monetized. With sufficient information, it may be possible to monetize the benefits of a critical habitat designation by first quantifying the benefits expected from an ESA section 7 consultation and translating that into dollars. We are not aware, however, of any available data that would support such an analysis for green sturgeon (*e.g.*, estimates of the monetary value associated with conserving the PCEs within areas designated as critical habitat, or with education and outreach benefits). As an alternative approach, we used the CHRT's conservation value ratings to represent the qualitative conservation benefits of designation for each of the particular areas identified as critical habitat for the Southern DPS (see the section titled Methods for Assessment of Specific Areas). These conservation value ratings represent the estimated incremental benefit of designating critical habitat for the species. In evaluating the conservation value of each specific area, the CHRT focused on the habitat features and functions provided by each area and the importance of protecting the habitat for the overall conservation of the species. The final biological report (NMFS 2009a) sets forth detailed information on the qualitative conservation benefits of the specific areas proposed for

designation, which is summarized briefly in the following paragraphs.

### Methods for Assessment of Specific Areas

After identifying the PCEs, the geographical area occupied, and the specific areas, the CHRT scored and rated the relative conservation value of each occupied specific area. The conservation value ratings provided an assessment of the relative importance of each specific area to the conservation of the Southern DPS. Areas rated as "High" were deemed to have a high likelihood of promoting the conservation of the Southern DPS. Areas rated as "Medium" or "Low" were deemed to have a moderate or low likelihood of promoting the conservation of the Southern DPS, respectively. The CHRT considered several factors in assigning the conservation value ratings, including the PCEs present, the condition of the PCEs, the life stages and habitat functions supported, and the historical, present, and potential future use of the area by green sturgeon. These factors were scored by the CHRT and summed to generate a total score for each specific area, which was considered in the CHRT's evaluation and assignment of the final conservation value ratings.

The CHRT also considered the importance of connectivity among habitats in order for green sturgeon to access upstream spawning sites in the Sacramento River and overwintering and overwintering habitats in coastal bays and estuaries. In addition to providing high-value habitat, the San Francisco, San Pablo, and Suisun bays and the Delta contain high-value connectivity corridors for green sturgeon migration to and from upstream spawning grounds in the Sacramento River. Specific areas in coastal marine waters may provide low to medium value habitat for green sturgeon based on the PCEs present, but contain high-value connectivity corridors for green sturgeon migrating out of the San Francisco Bay system to bays and estuaries in California, Oregon, Washington, and Canada. The CHRT recognized that even within an area of Low to Medium conservation value, the presence of a connectivity corridor that provides passage to high value areas would warrant increasing the overall conservation value of the area to a High. To account for this, a separate conservation value rating was assigned to areas containing a connectivity corridor, equal to the rating of the highest-rated area for which it served as a connectivity corridor.

Members of the CHRT were then asked to re-examine the conservation value ratings for the specific areas where the presence of Southern DPS green sturgeon is likely (based on the presence of Northern DPS fish or green sturgeon of unknown origin), but not confirmed. These areas include the coastal marine waters within 60 fm depth from the California/Mexico border to Monterey Bay, CA, and from Yakutat Bay, AK, to the Bering Strait (including the Bering Sea), as well as the following coastal bays and estuaries: Elkhorn Slough, Tomales Bay, Noyo Harbor, the Eel River estuary, and the Klamath/Trinity River estuary in California; and the Rogue River estuary, Siuslaw River estuary, Alsea River estuary, Tillamook Bay, and Nehalem Bay in Oregon. Although these areas are considered occupied for the reasons provided above, the CHRT recognized that a lack of documented evidence for Southern DPS presence (perhaps because of the lack of monitoring or sampling effort within these areas) is indicative of a high degree of uncertainty as to the extent to which Southern DPS fish use these areas. In most of these areas, there are also few observations of green sturgeon both historically and presently. The CHRT scored all of these areas, except for Tomales Bay, Tillamook Bay, and Nehalem Bay, much lower than other areas, reflecting the CHRT's assessment that these areas contribute relatively little to the conservation of the species. For the bays and estuaries, this was based on the limited area and depth to support green sturgeon migration and feeding, as well as the low use by green sturgeon. Tomales Bay was given a higher score and rated as "Medium," because it is a large, deep embayment providing good habitat for feeding by green sturgeon and is likely the first major bay to be encountered by subadults making their first migration into marine waters. Tillamook Bay and Nehalem Bay were both rated as "Medium" based on relatively high green sturgeon catch data for these areas (ODFW 2009a, b) and information indicating good habitat conditions for green sturgeon. Green sturgeon are more commonly observed in the Eel River estuary, Klamath/Trinity River estuary, and Rogue River estuary, but are presumed to primarily belong to the Northern DPS. Again, there is great uncertainty as to the extent of use of these estuaries by Southern DPS fish. The coastal marine waters south of Monterey Bay, CA, and northwest of Yakutat Bay, AK, are outside of the connectivity corridor identified by the



CHRT and also lack confirmed Southern DPS presence. Although the CHRT did not include the area in southeast Alaska up to Yakutat Bay, AK, as part of the primary migratory corridor, this area was rated as “Medium” because it represents the northern extent of the area containing important overwintering grounds for Southern DPS green sturgeon (Lindley *et al.* 2008). Based on this information, the CHRT agreed that the conservation value ratings should be reduced by one rating for these specific areas where the presence of the Southern DPS is likely, but not confirmed. This necessitated the creation of a fourth conservation value rating (“Ultra-low”). Those specific areas that initially received a “Low” rating were assigned a final conservation value rating of “Ultra-low,” and those that initially received a “Medium” rating were assigned a final conservation value rating of “Low.” None of the specific areas where the presence of Southern DPS fish was likely but not confirmed had received a rating of “High.” Yaquina Bay, OR, was one of the areas rated as “Ultra-Low” in the proposed rule, but additional information was provided confirming the presence of Southern DPS green sturgeon in Yaquina Bay (pers. comm. with Dan Erickson, ODFW, September 3, 2008), and the conservation value rating for this area remained a “Low”.

The final conservation ratings and the justifications for each specific area are summarized in the final biological report (NMFS 2009a; available via our Web site at <http://swr.nmfs.noaa.gov>, via the Federal eRulemaking Web site at <http://www.regulations.gov>, or upon request—see ADDRESSES). The CHRT recognized that even within a rating category, variation exists. For example, freshwater riverine areas rated as “High” may be of greater conservation value to the species than coastal marine areas with the same rating. This variation was captured in the comments provided by the CHRT members for each specific area. The final biological report describes in detail the evaluation process used by the CHRT to assess the specific areas, as well as the biological information supporting the CHRT’s assessment.

#### **Determining the Benefits of Excluding Particular Areas: Economic Impacts**

To determine the benefits of excluding particular areas from designation, we first considered the Federal activities that may be subject to an ESA section 7 consultation and the range of potential changes that may be required for each of these activities under the adverse modification

provision, regardless of whether those changes may also be required under the jeopardy provision. These consultation and project modification costs represent the economic benefits of excluding each particular area (that is, the economic costs that would be avoided if an area were excluded from the designation).

The CHRT identified and examined the types of Federal activities that occur within each of the specific areas and that may affect Southern DPS green sturgeon and the critical habitat (also see the section on “Special Management Considerations or Protection”). Because the Southern DPS was recently listed under the ESA in 2006, we lack an extensive consultation history. Thus, the CHRT relied on NMFS’ experience in conducting ESA section 7 consultations and their best professional judgment to identify the types of Federal activities that might trigger a section 7 consultation. The best available information was used to predict the number of these types of activities within the areas considered for designation as critical habitat. However, we recognize that some of these activities, in particular alternative energy hydrokinetic projects, are relatively new and anticipated to increase in number in the future. Additional information was received regarding proposed LNG and alternative energy hydrokinetic projects within the specific areas considered for designation as critical habitat and was included in the final economic analysis report. In the face of remaining uncertainties, however, a conservative approach was taken in the economic analysis by assuming that all of the proposed projects would be completed. Thus, the number of activities and their estimated costs are likely overestimated, because we do not expect all of the proposed projects to be completed.

Next, the range of modifications we might seek in these activities to avoid destroying or adversely modifying critical habitat of the Southern DPS was considered. Because of the limited consultation history, we relied on information from consultations conducted for salmon and steelhead, comments received during green sturgeon public scoping workshops conducted for the development of protective regulations, and information from green sturgeon and section 7 biologists to determine the types of activities and potential range of changes. We recognize that differences exist between the biology of Southern DPS green sturgeon and listed salmonids, but that there is also overlap in the types of habitat they use, their life history strategies and their behavior. As

discussed in the final economic analysis report (Indecon 2009), the occupied geographical range and the specific areas considered for designation as critical habitat for the Southern DPS largely overlaps with the distribution and designated critical habitat of listed salmonids. Every consultation of the approximately 49 completed formal consultations addressing impacts on green sturgeon in California, Oregon, and Washington through May 2009 also address impacts to one or more listed salmon or steelhead species. In several consultations, the recommended conservation measures to address effects on green sturgeon and listed salmonids were the same or similar. It is important to note, however, that differences do exist between green sturgeon and salmonids that may require different conservation measures. For example, juvenile green sturgeon occupy the Delta and the San Francisco, San Pablo, and Suisun bays in California throughout all months of the year, for as long as one to three years before they disperse into marine waters. In contrast, the presence of juvenile salmon or steelhead in the Delta and bays is limited to certain months of the year. In addition, the feeding behavior and spawning requirements of green sturgeon subadults and adults may differ from that of listed salmonids. For example, subadult and adult green sturgeon make extensive use of summer feeding habitats in coastal estuaries in California, Oregon, and Washington. During their spawning migrations, adult green sturgeon likely have different water flow, temperature, and passage requirements compared to listed salmonids. We recognized these differences, but, given the limited amount of direct information regarding the types of modifications we might seek to avoid adverse modification of Southern DPS critical habitat, we also recognized that the information available for analog species (*i.e.*, listed salmonids) was the best information available to guide our decision-making. As demonstrated by our recent consultation history, the conservation measures implemented for green sturgeon in the early stages of its listing history are likely to be the same or similar to those implemented for listed salmonids. Additional information on differences in the habitat needs, life history strategies, and behavior of these species may allow us to refine our analysis.

A number of uncertainties exist in this stage of the analysis. First, we recognize there is uncertainty regarding the potential effects of activities on

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green sturgeon and the potential conservation measures that may be required, particularly for relatively new activities like LNG projects and alternative energy hydrokinetic projects. Second, as is the case for all of the categories of activities identified, the project-specific nature of ESA section 7 consultations creates another level of uncertainty that likely results in over- or under-estimation of the economic impacts. Finally, we attempted to focus on the incremental benefits of the critical habitat designation beyond the benefits already afforded to the Southern DPS under its listing and under other Federal, State, and local regulations. To do this, we tried to provide information on whether each impact is more closely associated with adverse modification or with jeopardy. It is difficult, however, to isolate conservation efforts resulting solely from critical habitat. Thus, as described above, the estimated economic impacts are more correctly characterized as green sturgeon conservation impacts rather than exclusively incremental impacts of the designation. In other words, the impacts analyzed are those associated with the conservation of green sturgeon critical habitat, some of which may overlap with impacts resulting from the baseline protections.

We were able to monetize estimates of the economic impacts resulting from a critical habitat designation; however, because of the limited consultation history for green sturgeon and uncertainty about specific management actions likely to be required under a consultation, there was a great degree of uncertainty in the cost estimates for some specific areas. Several factors were considered in developing the estimated economic impacts, including the level of economic activity within each area, the level of baseline protection afforded to green sturgeon by existing regulations for each economic activity within each area, and the estimated economic impact (in dollars) associated with each activity type. The baseline included the protections afforded to green sturgeon by the listing and jeopardy provision, as well as protections provided for salmon and steelhead and their critical habitat including existing laws, regulations, and initiatives. Estimates of the economic costs were based on project modifications that might be required during consultation to avoid the destruction or adverse modification of critical habitat (*see* final economic analysis report for additional details). To focus on the incremental impacts of the critical habitat designation, the economic cost estimates were

multiplied by a probability score (assigned for each specific area and economic activity type), representing the probability that green sturgeon critical habitat is a primary driver for the conservation effort. The final economic analysis report (Indecon 2009) provides detailed information on the economic impacts of designating particular areas as critical habitat, as well as consultation costs anticipated as a result of this proposed designation.

#### Exclusions Based on Economic Impacts

A final ESA section 4(b)(2) report (NMFS 2009c) describes in detail our approach to weighing the benefit of designation against the economic benefit of exclusion. The results of our analysis contained in this report are summarized below.

The benefits associated with species conservation are not directly comparable to the economic benefit that would result if an area were excluded from designation. We had sufficient information to monetize the economic benefits of excluding an area, but were not able to monetize the conservation benefits of designating an area. Thus, for each area we compared the qualitative final conservation value against the monetary economic impact estimate to determine if the cost estimate exceeded a threshold dollar amount. To make this comparison, we selected dollar thresholds for each conservation value rating above which the potential economic impact associated with a specific area appeared to outweigh the potential conservation benefits of designating that area. We determined these dollar thresholds by first examining the range in economic impacts across all specific areas within a conservation value rating category and then determining where the breakpoint occurred between relatively low economic impacts and relative high economic impacts. We then selected a dollar value within the range of that breakpoint as the threshold at which the economic impacts may outweigh the benefits of designation for the area.

Using this method, we developed and applied four decision rules to identify areas eligible for exclusion: (1) All areas with a conservation value rating of "High" were not eligible for exclusion, because we determined that the estimated economic benefits of exclusion for these areas would not outweigh the conservation benefits of designation, based on the threatened status of the Southern DPS of green sturgeon and the likelihood that exclusion of areas with a High conservation value would significantly impede conservation of the species; (2)

areas with a conservation value rating of "Medium" were potentially eligible for exclusion if the estimated economic impact exceeded \$100,000; (3) areas with a conservation value rating of "Low" were potentially eligible for exclusion if the estimated economic impact exceeded \$10,000; and (4) areas with a conservation value rating of "Ultra-low" were potentially eligible for exclusion if the estimated economic impact exceeded \$0 (*see* final ESA section 4(b)(2) Report for additional details). These dollar thresholds do not represent an objective judgment that Medium-value areas are worth no more than \$100,000, Low-value areas are worth no more than \$10,000, or Ultra-Low value areas are worth \$0. The ESA emphasizes that the decision to exclude is discretionary. Thus, the economic impact level at which the economic benefits of exclusion outweigh the conservation benefits of designation is a matter of discretion and depends on the policy context. For critical habitat, the ESA provides NMFS the discretion to consider exclusions where the benefits of exclusion outweigh the benefits of designation, as long as exclusion does not result in extinction of the species. In this policy context, we selected dollar thresholds representing the levels at which the economic impact associated with a specific area may outweigh the conservation benefits of designating that area. These dollar thresholds and decision rules provided a relatively simple process to identify, in a limited amount of time, specific areas warranting consideration for exclusion.

Based on this analysis, we identified 18 occupied areas as eligible for exclusion, including Medium, Low, and Ultra-Low conservation value areas. The Medium conservation value areas eligible for exclusion included: the Yolo Bypass, lower Feather River, and lower Yuba River in California; Coos Bay in Oregon; Puget Sound in Washington; and coastal marine waters within 60 fm depth from the U.S.-Alaska/Canada border to Yakutat Bay, AK. The Low conservation value areas eligible for exclusion included: Tomales Bay in California; Tillamook Bay in Oregon; and the lower Columbia River (from RKM 74 to the Bonneville Dam at RKM 146). The Ultra-Low conservation value areas eligible for exclusion included: Elkhorn Slough, Noyo Harbor, Eel River estuary, and Klamath/Trinity River estuary in California; the Rogue River estuary, Siuslaw River estuary, and Alsea River estuary in Oregon; and coastal marine waters within 60 fm depth from the CA-Mexico border to Monterey Bay, CA, and northwest

Yakutat Bay, AK, to the Bering Strait (including the Bering Sea). All of these areas were eligible for exclusion in the proposed rule, except for the Yolo Bypass, lower Yuba River, and the lower Columbia River.

We then presented these 18 areas to the CHRT for their review. To further characterize the conservation benefit of designation for each area, we asked the CHRT to determine whether excluding any of the areas eligible for exclusion would significantly impede conservation of the Southern DPS. The CHRT considered this question in the context of all of the areas eligible for exclusion, as well as the information they had developed in determining the conservation value ratings. If the CHRT determined that exclusion of an area would significantly impede conservation of the Southern DPS, the conservation benefits of designation were increased one level in the weighing process.

The CHRT determined, and we concur, for the reasons described by the CHRT, that exclusion of the following 12 specific areas eligible for exclusion would not significantly impede conservation or result in extinction of the species: Elkhorn Slough, Tomales Bay, Noyo Harbor, Eel River estuary, and Klamath/Trinity River estuary in California; the Rogue River estuary, Siuslaw River estuary, Alsea River estuary, and Tillamook Bay in Oregon; the lower Columbia River (from RKM 74 to the Bonneville Dam); and coastal marine waters within 60 fm depth from the U.S.-California/Mexico border to Monterey Bay, CA, and northwest of Yakutat Bay, AK, to the Bering Strait (including the Bering Sea). The CHRT based their determination on the fact that each of these 12 specific areas was assigned a Low or Ultra-low final conservation value and Southern DPS green sturgeon have not been documented to use these areas extensively. The CHRT recognized that the apparent low use by Southern DPS green sturgeon of these bays and estuaries listed above may be because: (1) Most are small systems compared to other bays and estuaries that are used extensively and consequently received higher conservation ratings; and (2) Southern DPS fish do not appear to use Northern DPS spawning systems extensively. In addition, few green sturgeon (of unknown DPS) have been observed in the coastal marine waters within 60 fm depth from the U.S.-California/Mexico border to Monterey Bay, CA, and northwest of Yakutat Bay, AK, to the Bering Strait (including the Bering Sea). For these reasons, the CHRT concluded that excluding the

bays, estuaries, and coastal marine areas mentioned above from the designation would not significantly impede conservation of the Southern DPS nor result in extinction of the species. Thus, these 12 areas are excluded from the critical habitat designation for the Southern DPS. We recognize that the lack of documented evidence for Southern DPS presence in these areas may be because these areas are not adequately monitored for green sturgeon. We encourage directed surveys to be conducted in these areas to gather more information on green sturgeon presence and use. For example, the lower Columbia River (from RKM 74 to Bonneville Dam) may have been a historically important area for green sturgeon prior to the hydrographical changes that have occurred in the river and has the potential for being an important area in certain water years. Monitoring of green sturgeon upstream of RKM 74 would provide valuable information for future consideration of this area.

The CHRT re-evaluated the six areas of Medium conservation value that were eligible for exclusion (Yolo Bypass, lower Yuba River, lower Feather River, Coos Bay, Puget Sound, and coastal marine waters within 60 fm depth from the U.S.-Alaska/Canada border to Yakutat Bay, AK) to determine whether excluding these areas would significantly impede conservation of the Southern DPS.

The CHRT maintained their determination that exclusion of Puget Sound would not significantly impede conservation of the Southern DPS or result in extinction of the species. Observations of green sturgeon in Puget Sound are much less common compared to the other estuaries in Washington. Although two confirmed Southern DPS fish were detected there in 2006, the extent to which Southern DPS green sturgeon use Puget Sound remains uncertain. Puget Sound has a long history of commercial and recreational fishing and fishery-independent monitoring of other species that use habitats similar to those of green sturgeon, but very few green sturgeon have been observed there. In addition, Puget Sound does not appear to be part of the coastal migratory corridor that Southern DPS fish use to reach overwintering grounds north of Vancouver Island (pers. comm. with Steve Lindley, NMFS, and Mary Moser, NMFS, February 24–25, 2008), thus corroborating the assertion that Southern DPS do not use Puget Sound extensively. The economic cost of designating this area was well above the \$100,000 threshold because of the large

number of activities affecting sediment and water quality (*i.e.*, dredging, in-water construction, and point and non-point sources of pollution) that might require special management if critical habitat were to be designated. Thus, this final rule excludes Puget Sound from the critical habitat designation for the Southern DPS, because the benefits of designation are outweighed by the economic benefits of exclusion. The exclusion of this area will not result in the extinction of the species.

The CHRT was unable to conclude that exclusion of the coastal marine waters within 60 fm depth from the Alaska/Canada border to Yakutat Bay, AK, would significantly impede conservation. The proposed rule had sought public comments regarding: (1) The presence of green sturgeon in coastal waters off southeast Alaska; (2) the spatial distribution of the PCEs in southeast Alaska; (3) activities occurring in the area that may affect the PCEs; (4) the types of changes that might be proposed for these activities to avoid impacts to the PCEs; and (5) estimated costs associated with making these changes. However, few comments were received regarding this area. In the proposed rule, some CHRT members noted that exclusion of this area from the designation might impede conservation of the Southern DPS, because this area is at the northern extent of the overwintering range and may provide important overwintering habitat for the species. The CHRT cited the detection of two tagged Southern DPS green sturgeon at the array in Graves Harbor, AK, despite the short monitoring period for this array (data are available only from 2005 to 2006) and the fact that the system is not positioned or programmed specifically for detecting green sturgeon. However, given that this is a relatively low number of Southern DPS detections compared to other areas and the level of uncertainty concerning activities occurring in southeast Alaska that may affect critical habitat (*i.e.*, proposed alternative energy projects and commercial shipping activities, both of which are associated with a high degree of uncertainty), the CHRT agreed that it is uncertain whether exclusion of this area would significantly impede conservation of the Southern DPS. Based on the CHRT's conclusion, we determined that the economic benefits of exclusion outweigh the conservation benefits of designation for this area. Thus, this area is excluded from the critical habitat designation.

The CHRT unanimously agreed that exclusion of the lower Feather River or lower Yuba River would significantly

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impede conservation of the Southern DPS. The CHRT identified the lower Feather River as an important area for the conservation of the Southern DPS, because it has been consistently occupied by the species and most likely contains spawning habitat for the Southern DPS, potentially providing a spawning river for the Southern DPS in addition to the Sacramento River. The CHRT also considered the lower Yuba River an important area for green sturgeon that may contain spawning habitats. The CHRT had assigned both the lower Feather River and the lower Yuba River a Medium conservation value, but noted that future improvements to habitat conditions (e.g., improved passage, restoration of water flow) would raise the conservation value to a High. Thus, the CHRT agreed that conservation of the species could not be achieved without the inclusion of the lower Feather River and lower Yuba River in the critical habitat designation, based on the importance of the lower Feather River and lower Yuba River as potential spawning rivers for the Southern DPS, their proximity to the Sacramento River, and the potential increased value of these two areas given certain characteristics of the habitat, the PCEs, and future habitat improvements. Based on the CHRT's conclusion, we increased the final conservation value for these two areas from Medium to High. In addition, the CHRT noted uncertainties in the economic impact estimates for these two areas. The economic cost estimates for these two areas had increased substantially from the draft economic analysis (lower Yuba River: from \$53,000 to \$600,000–\$610,000; lower Feather River: from \$770,000 to \$2 million), making the economic costs well above the dollar threshold of \$100,000. However, this increase is primarily attributed to two revisions to the economic analysis. First, economic costs associated with agricultural pesticide application increased substantially. The draft economic analysis had estimated the costs for applying a 60 ft buffer to agricultural pesticide application projects. Based on public comments received, the buffer was revised to a 1,000 ft buffer (consistent with recommendations in recent consultations for listed salmonids), resulting in large increases in economic costs. However, green sturgeon co-occur with listed salmonids species in all waterways where this 1,000 ft buffer would be applied. Thus, the 1,000 ft buffer would be applied for listed salmonids regardless of whether green sturgeon critical habitat exists in

the area or not. Based on this reasoning, the incremental economic impacts estimated for agricultural pesticide application due to green sturgeon critical habitat is more likely closer to zero, rather than the \$1.5 million estimated for the lower Feather River and the \$228,000 estimated for the lower Yuba River. Second, for the lower Yuba River, the economic cost estimate for installing fish passage facilities at Daguerre Point Dam increased from \$21,000 to \$351,000. This was based on a public comment estimating that current passage plans at the dam for salmonids will cost \$17.5 million to implement. The revised economic cost estimate of \$351,000 for providing green sturgeon passage at Daguerre Point Dam was calculated by attributing 20 percent of the expected costs for salmonid passage plans to green sturgeon critical habitat (annualized over 20 years). It is uncertain whether this may be an overestimate or underestimate of costs. Thus, based on the importance of the lower Feather River and lower Yuba River to the conservation of the Southern DPS and the uncertainty with regard to the estimated economic costs, we determined that the benefits of excluding the lower Feather River and lower Yuba River do not outweigh the benefits of designating these particular areas and they should not be excluded based on economic impacts. The lower Feather River and lower Yuba River are included in the final designation.

The CHRT also agreed that exclusion of the Yolo Bypass would significantly impede conservation of the Southern DPS. The Yolo Bypass was assigned a Medium conservation value because it provides a migratory corridor to and from spawning habitats in the Sacramento River during high flow years. The area may be particularly important for juvenile Southern DPS green sturgeon that can use this shallow, productive, and protected off-channel area for rearing and feeding. The Yolo Bypass currently contains good habitat for supporting the Southern DPS, and the potential for the quality of this habitat to improve is likely if efforts to improve passage, reduce stranding risks, and improve water quality are made. Based on this information, the CHRT concluded that exclusion of this area would significantly impede conservation of the Southern DPS, and the final conservation value for the Yolo Bypass was increased from Medium to High. In addition, the CHRT noted that the economic impact estimate may be greatly overestimated for this area. The estimated economic impacts for the Yolo Bypass increased from the

proposed rule to final rule stage, due to a large increase in the costs to address agricultural pesticide application. Increasing the buffer zone from 60 ft to 1000 ft resulted in an increase in the economic impacts for this area from \$29,000 to \$449,000, making this area eligible for exclusion. However, similar to the lower Yuba River and lower Feather River, green sturgeon co-occur with listed salmonids in this area and the 1000 ft buffer zone for agricultural pesticide application would likely be applied with or without the existence of green sturgeon critical habitat in the area. Thus, the incremental impact of green sturgeon critical habitat is more likely to be closer to zero rather than \$449,000. Based on the importance of the Yolo Bypass to the Southern DPS and the likelihood that the economic impacts are overestimated, we determined that the benefits of excluding the Yolo Bypass particular area do not outweigh the benefits of designating the area and it therefore should not be excluded. Thus, the Yolo Bypass is included in the final critical habitat designation.

Finally, the CHRT reconfirmed its determination that exclusion of Coos Bay would significantly impede the conservation of the species. The CHRT identified Coos Bay as an important area for the Southern DPS because it is the largest and deepest estuary along the Oregon coast presently occupied by green sturgeon (including confirmed Southern DPS green sturgeon), has a large mixing zone, provides a protected area for green sturgeon aggregation and feeding, and is an important "stepping-stone" estuary between San Francisco Bay and the lower Columbia River estuary. Based on the CHRT's conclusion, the final conservation value for Coos Bay was increased from Medium to High. In addition, there is a great degree of uncertainty regarding the economic costs associated with a designation in this area. We had identified Coos Bay as potentially eligible for exclusion because the estimated economic impacts (ranging from \$73,000 to \$16 million) exceeded the threshold value over which an area was considered eligible for exclusion (\$100,000 for areas with a Medium conservation value; this decision rule was applied prior to increasing the conservation value from Medium to High). The wide range in estimated costs was primarily due to the uncertainty regarding economic costs associated with a proposed LNG project within Coos Bay. This uncertainty was driven largely by the limited understanding of how LNG projects

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would affect the PCEs and uncertainty regarding how LNG activities might be altered to avoid adverse modification of green sturgeon critical habitat. The low cost estimate of \$73,000 assumes that this rule would not require any additional measures for LNG projects or that any additional measures would result in minimal costs (*i.e.*, the economic costs to LNG projects is \$0). The high cost estimate of \$16 million is based on the potential requirement to relocate the LNG project due to green sturgeon critical habitat in the area. However, NMFS has never required relocation as a result of an ESA section 7 consultation on an LNG facility, and it is unlikely that proposed modifications to the project in Coos Bay would include relocation. Because we consider both the low cost estimate and the high cost estimate to be highly unlikely, as stated above, we believe the economic impact to LNG projects would likely be greater than \$0, but much lower than \$16 million, but do not have sufficient information at this time to estimate those costs. Therefore, we concluded that the economic impacts associated with Coos Bay are likely to be greater than \$73,000 but much lower than \$16 million. Based on the importance of Coos Bay to the conservation of the Southern DPS and the uncertainty regarding the estimated economic impacts, we determine that the benefits of excluding Coos Bay do not outweigh the benefits of designating this particular area and it therefore should not be excluded. Thus, Coos Bay is included in the final critical habitat designation.

In summary, this final rule will exclude the following 14 specific areas from the critical habitat designation for Southern DPS green sturgeon: Elkhorn Slough, Tomales Bay, Noyo Harbor, the

Eel River estuary, and the Klamath/Trinity River estuary in California; the Rogue River estuary, Siuslaw River estuary, Alsea River estuary, and Tillamook Bay in Oregon; the lower Columbia River (from RKM 74 to Bonneville Dam); Puget Sound in Washington; and coastal marine waters within 60 fm depth from the U.S.-California/Mexico border to Monterey Bay, CA, from the U.S.-Alaska/Canada border to Yakutat Bay, AK, and from Yakutat Bay northwest to the Bering Strait (including the Bering Sea). Based on the best scientific and commercial data available, we have determined that the exclusion of these 14 areas from the designation would not result in the extinction of the species.

#### Determining the Benefits of Excluding Particular Areas: Impacts on National Security

At the time of the proposed rule, we had not yet received any information from the DOD regarding impacts on national security within the specific areas considered for designation as critical habitat. During the public comment period and the development of the final rule, the DOD identified several areas that may warrant exclusion based on national security impacts and corresponded with us to evaluate these areas (Table 2). As in the analysis of economic impacts, we weighed the benefits of exclusion (*i.e.*, the impacts on national security that would be avoided) with the conservation benefits of designation.

The primary benefit of exclusion is that the DOD agency would not be required to consult with NMFS under section 7 of the ESA regarding DOD actions that may affect critical habitat, and thus potential delays or costs associated with conservation measures for critical habitat would be avoided. To

assess the benefits of exclusion, we evaluated the intensity of use of the particular area by the DOD, the likelihood that DOD actions in the particular area would affect critical habitat and trigger an ESA section 7 consultation, and the potential conservation measures that may be required and that may result in delays or costs that affect national security. We also considered the level of protection provided to critical habitat by existing DOD safeguards, such as regulations to control public access and use of the area and other means by which the DOD may influence other Federal actions in the particular area.

The primary benefit of designation is the protection afforded green sturgeon under the ESA section 7 critical habitat provision. To evaluate the benefit of designation for each particular area, we considered the final conservation value of the specific area within which the particular area was contained, the best available information on green sturgeon presence in and use of the particular area, the size of the particular area compared to the specific area and the total critical habitat area, and the likelihood that other Federal actions occur in the area that may affect critical habitat and trigger a consultation.

Unlike in the economic analysis, neither the benefits of exclusion for impacts on national security nor the benefits of designation could be quantified. Instead, we used the best available information to evaluate and assign each of the factors considered under the benefits of exclusion and the benefits of designation with a High or Low rating and compared these qualitative ratings. A particular area was eligible for exclusion if the benefits of exclusion outweighed the benefits of designation.

TABLE 2—SUMMARY OF ASSESSMENT OF PARTICULAR AREAS REQUESTED FOR EXCLUSION BY THE DOD BASED ON IMPACTS ON NATIONAL SECURITY. LISTED FOR EACH PARTICULAR AREA IS: THE SPECIFIC AREA THAT THE PARTICULAR AREA OCCURS IN AND ITS CONSERVATION VALUE; THE SIZE OF THE SPECIFIC AREA; THE SIZE OF THE PARTICULAR AREA; AND WHETHER EXCLUSION BASED ON NATIONAL SECURITY IMPACTS IS WARRANTED

DOD sites & agency	Overlapping specific area & conservation value	Specific area size (km <sup>2</sup> )	DOD site overlap (km <sup>2</sup> )	Exclude?
(1) Mare Island US Army Reserve (Army) .....	San Pablo Bay, CA (High) .....	331.0	0.05	Yes.
(2) Camp Rilea (Army) .....	Coastal marine area from Winchester Bay, OR, to Columbia R, estuary (High).	6,796.9	20.3	No.
(3) Admiralty Inlet Naval Restricted Area (Navy).	Strait of Juan de Fuca, WA (High) .....	1,348.6	134.7	Yes.
(4) Strait of Juan de Fuca & Whidbey Island Naval Restricted Area (Navy).	Strait of Juan de Fuca, WA (High) .....	1,348.6	4.9	Yes.
(5) Strait of Juan de Fuca Naval Air-to-Surface Weapon Range Restricted Area (Navy).	Strait of Juan de Fuca, WA (High) .....	1,348.6	16.8	Yes.
(6) Navy 3 Operating Area (Navy) .....	Strait of Juan de Fuca, WA (High) .....	1,348.6	162.5	Yes.
(7) Surf zone portion of Quinalt Underwater Tracking Range (QUTR).	Coastal marine area from Grays Harbor, WA, to U.S.-WA/Canada border (High).	4,923.5	N/A	No.

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The DOD also identified the following three particular areas for exclusion based on impacts on national security, but these areas were not included in the ESA section 4(b)(2) analysis. First, the Army requested the exclusion of the Military Ocean Terminal Concord (MOTCO) facilities in Suisun Bay, CA. The MOTCO facilities are covered by an existing INRMP. This area was not analyzed because it was determined that the MOTCO facilities do not overlap with the specific area considered for designation as critical habitat in Suisun Bay. Second, the Navy requested the exclusion of the Navy 7/Admiralty Bay Naval Restricted Area 6701 in Puget Sound, WA. This area was not analyzed because it overlaps with the specific area in Puget Sound, WA, which will be excluded in the final designation. Finally, the Navy requested the exclusion of one of the proposed surf zone sites of the Pacific Northwest Operating Area Quinault Underwater Tracking Range (in the coastal marine area from Grays Harbor, WA, to the U.S.-WA/Canada border). This area was not analyzed, however, because the Navy has not yet made a final selection on the surf zone site location and the particular area has yet to be defined.

#### Exclusions Based on Impacts on National Security

The final ESA section 4(b)(2) report (NMFS 2009c) provides a detailed description of our analysis of the impacts on national security and our approach to weighing the benefits of designation against the benefits of exclusion. The results of our analysis are summarized in Table 2 and in the following paragraphs.

(1) *Mare Island U.S. Army Reserve (USAR) Center in San Pablo Bay, CA:* The area of overlap between the USAR facilities and the specific area in San Pablo Bay consists of the area between two piers and is very small (0.02 mi<sup>2</sup> or 0.02% of the San Pablo Bay specific area). The main activity of concern is the in-bay disposal of the dredged sediments from dredging activities between the piers. We determined that the INRMP does not provide adequate protection for the Southern DPS because it does not address concerns regarding in-bay disposal of dredged material. However, we determined that the benefits of excluding this area outweigh the benefits of designating it for two reasons. First, restrictions on dredging operations between the piers pose a national security risk (*i.e.*, build-up of sediment such that vessels cannot move in and out of the piers). The dredging activities are not a major concern to green sturgeon because the dredged area

is small, the frequency of dredging is low (about once every 3 years), and the Army is already using the recommended dredge type. Second, we are primarily concerned about the use of in-bay disposal sites, which are located outside of the USAR area and would not be affected by this exclusion. We determine that the benefits of excluding the Mare Island USAR facilities outweigh the benefits of designation and that exclusion of this area would not significantly impede conservation for the previously described reasons (small area, infrequent dredging, and current use of recommended dredge type), and that exclusion of this area would not result in extinction of the species. Therefore, the area is excluded from the critical habitat designation.

(2) *Coastal marine waters adjacent to Camp Rilea, OR:* The Army requested the exclusion of coastal marine waters adjacent to Camp Rilea (Clatsop County, OR), delineated as an area one-half mile north to one-half mile south of Camp Rilea, to a distance of two miles offshore of Camp Rilea. The primary activities of concern identified by the Army that might affect critical habitat are amphibious landings operations and the rare occurrence of stray bullets entering the water within this particular area. We determined that neither amphibious landings nor a stray bullet entering the water would be likely to affect the critical habitat features identified for coastal marine areas (*i.e.*, prey resources, water quality, migratory corridors). Thus, based on the information provided by the Army, we determined there is a low likelihood that the Army's activities within the area would affect critical habitat and trigger an ESA section 7 consultation and, consequently, the benefit of exclusion for this area is low. In contrast, the benefits of designation are likely high for this area because it occurs within a High conservation value specific area just south of the lower Columbia River estuary and our consultation history indicates that there are other Federal activities occurring in this area that may affect critical habitat and trigger a consultation under section 7 of the ESA. For these reasons, we determined that the benefits of exclusion do not outweigh the benefits of designation for this area and that the area will be included in the critical habitat designation.

(3) *Three naval restricted areas and one operating area located in the Strait of Juan de Fuca, WA:* The Navy requested the exclusion of 3 naval restricted areas and one operating area (Navy 3 OPAREA) in the eastern portion of the Strait of Juan de Fuca. We

corresponded with the Navy extensively throughout the analysis of national security impacts, to better define the impacts on national security and the Navy's control of the particular areas requested for exclusion.

We determined that the benefits of designation for these areas is low. Although the Strait of Juan de Fuca received a High conservation value, this was based on the existence of a connectivity corridor within this area. From observations of tagged green sturgeon, it appears that the eastern portion of the Strait of Juan de Fuca is used at a lower frequency than the western portion of the Strait. In addition, the areas are small compared to the critical habitat areas being designated, our consultation history indicates that there are currently no other Federal activities occurring within these particular areas that may affect critical habitat, and the Navy's limits on public access in restricted areas and presence in operating areas (which are likely to deter certain activities from the area) provide some protection for green sturgeon and its habitat in the areas. Based on the information provided by the Navy, we also determined that the benefits to national security of excluding these areas is low, because the Navy's current activities within the areas have a low likelihood of affecting critical habitat and triggering a section 7 consultation. However, we recognize that the range of activities that may be carried out in these areas are often critical to national security and that a critical habitat designation in these areas could delay or halt these activities in the future. Therefore, we determined that the benefits of exclusion outweigh the benefits of designation for the three naval restricted areas and the Navy 3 Operation Area within the Strait of Juan de Fuca. We also determined that exclusion of these areas would not significantly impede conservation or result in extinction of the species. Thus, the 4 areas requested for exclusion by the Navy in the Strait of Juan de Fuca are excluded from the final designation.

#### Determining the Benefits of Excluding Particular Areas: Impacts on Indian Lands

The only other relevant impacts identified for the ESA section 4(b)(2) analysis were impacts on Indian lands. In the proposed rule, we solicited comments regarding lands owned by the following Federally-recognized Tribes (73 FR 18553, April 4, 2008) that may be in close proximity to areas considered for designation as critical habitat for Southern DPS green sturgeon: the Hoh, Jamestown

S'Klallam, Lower Elwha, Makah, Quileute, Quinault, and Shoalwater Bay Tribes in Washington; the Confederated Tribes of Coos Lower Umpqua and Siuslaw Indians and the Coquille Tribe in Oregon; and the Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, Wiyot Tribe, and Yurok Tribe in California. We later also identified lands owned by the Trinidad Rancheria that may overlap with the critical habitat areas in California. We corresponded with these Tribes during the public comment period and development of the final rule to confirm where their lands occur and may overlap with the areas considered for designation as critical habitat and to understand the Tribal activities and concerns within those areas. We then analyzed and determined whether the benefits of exclusion outweigh the benefits of designation for these identified Indian lands under ESA section 4(b)(2). Because we were unable to quantify the benefits, we instead compared qualitative ratings of the benefits of exclusion and benefits of designation.

The primary benefit of designation is the protection provided under section 7 of the ESA, requiring every Federal agency to ensure that any action it authorizes, funds, or carries out is not likely to result in the destruction or adverse modification of the designated critical habitat. To assess the benefit of designation, we considered the final conservation value of the specific area within which the overlap with Indian lands occur (*i.e.*, the greater the conservation value of an area, the greater the benefit of protection under section 7 of the ESA), the Federal actions likely to occur within the area that may affect critical habitat, and the size of the area of overlap. The conservation values of the specific areas included High and Medium (none of the areas had Low or Ultra-Low conservation value). Federal actions occurring in the areas that may trigger a section 7 consultation include transportation projects, alternative energy hydrokinetic projects, in-water construction or alterations, NPDES activities, and dredging. However, the area of overlap between Indian lands and the areas considered for designation as critical habitat is very small and we

anticipate there would be very few Federal actions undergoing a section 7 consultation in these areas. Thus, we determine that the benefit of designation for these Indian lands is relatively low.

To determine the benefits of exclusion, we evaluated the Tribal activities conducted within the areas and the Federal government's policies regarding Indian lands and relationships with the Tribes. Indian lands are those defined in the Secretarial Order "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (June 5, 1997), including: (1) Lands held in trust by the United States for the benefit of any Indian Tribe; (2) land held in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation; (3) fee lands, either within or outside the reservation boundaries, owned by the Tribal government; and (4) fee lands within the reservation boundaries owned by individual Indians. Activities within Indian lands include many activities that may affect critical habitat, including fisheries activities, in-water construction or alterations, energy projects, and habitat restoration. The benefits of exclusion would include avoiding the need to consult with NMFS under section 7 of the ESA for activities that may affect critical habitat, as well as the benefits identified in recent critical habitat designations for Pacific salmon and steelhead (70 FR 52630; September 2, 2005), specifically: (1) The furtherance of established national policies, our Federal trust obligations and our deference to the Tribes in management of natural resources on their lands; (2) the maintenance of effective long-term working relationships to promote species conservation on an ecosystem-wide basis; (3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species on an ecosystem-wide basis; and (4) continued respect for Tribal sovereignty over management of natural resources on Indian lands through established Tribal natural resource programs. Thus, we determine that the benefit of exclusion for Indian lands is relatively high.

### Exclusions Based on Impacts on Indian Lands

The final ESA section 4(b)(2) analysis report provides a detailed description of our approach and analysis of impacts on Indian lands. Based on the analysis of the benefits of designation and exclusion described above and in the report, we determined that the benefits of excluding the identified Indian lands outweigh the benefits of designating those lands. Exclusion of Indian lands benefits the Federal government's policy of promoting respect for Tribal sovereignty and self-governance. In addition, critical habitat on Indian lands represents such a small proportion of total critical habitat. Because the percentage of critical habitat on Indian lands is minimal, we determined that exclusion would not significantly impede conservation or result in extinction of the Southern DPS. Table 3 lists the Tribes whose lands are excluded from the critical habitat designation and the estimated area of overlap that is excluded.

We also received comments from Tribes in Washington requesting the exclusion of usual and accustomed fishing areas from the critical habitat designation. The Tribes were primarily concerned about the potential impact of the critical habitat designation on Tribal fisheries within usual and accustomed fishing areas located in coastal estuaries and coastal marine waters. Based on the information provided by the Tribes, we would expect the critical habitat designation to have minimal effects on Tribal fisheries. Tribal fisheries may cause take of Southern DPS green sturgeon and thus are more likely to be affected by take prohibitions as established in the proposed ESA 4(d) Rule for green sturgeon (74 FR 23822; May 21, 2009) than by the critical habitat designation. In addition, and as described below, usual and accustomed fishing areas are not necessarily coextensive with areas defined as "Indian lands" in various Federal policies, orders, and memoranda. Thus, we conclude that exclusion of usual and accustomed fishing areas outside those identified as Indian lands is not warranted, because the benefits of exclusion do not outweigh the benefits of designation for these areas.

TABLE 3—SUMMARY OF THE TRIBES WITH LANDS OVERLAPPING WITH THE CRITICAL HABITAT DESIGNATION, THE SPECIFIC AREA WHERE THE OVERLAP OCCURS AND ITS ASSOCIATED CONSERVATION VALUE RATING, AND THE ESTIMATED AREA OF OVERLAP BETWEEN INDIAN LANDS AND THE SPECIFIC AREA

Tribe**	Specific area & conservation value	Estimated km of excluded shoreline
Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, CA.	Sacramento River, CA (High) .....	0.2
Cher-Ae Heights Trinidad Rancheria .....	Coastal marine area from Humboldt Bay, CA, to Coos Bay, OR (High)	0.6
Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw, OR.	(a) Coos Bay, OR (Medium) and .....	1.1 (total),
	(b) coastal marine area from Humboldt Bay, CA, to Coos Bay, OR (High).	(a) 0.3,
		(b) 0.8
Coquille Indian Tribe .....	Coos Bay, OR (Medium) .....	2.6
Hoh Tribe .....	Coastal marine area from Grays Harbor, WA, to Cape Flattery (High)	2.6
Jamestown S'Klallam Tribe .....	Strait of Juan de Fuca, WA (High) .....	<0.1
Lower Elwha Tribe .....	Strait of Juan de Fuca, WA (High) .....	1.8
Makah Tribe .....	(a) Strait of Juan de Fuca, WA (High) and (b) coastal marine area from Grays Harbor, WA, to Cape Flattery (High).	40.4 (total),
		(a) 19.2,
		(b) 21.2
Quileute Tribe .....	Coastal marine area from Grays Harbor, WA, to Cape Flattery (specifically, Quillayute River) (High).	3.9
Quinault Tribe .....	Coastal marine area from Grays Harbor, WA, to Cape Flattery (High)	40.6
Shoalwater Bay Tribe .....	Willapa Bay, WA (High) .....	3.1
Wiyot Tribe .....	Humboldt Bay, CA (Medium) .....	1.8
Yurok Tribe .....	Coastal marine area from Humboldt Bay, CA, to Coos Bay, OR (High)	1.4

\*\* We also corresponded with the Lummi Tribe and Swinomish Tribe in Washington, but determined that their Indian lands do not overlap with the specific areas considered for designation as critical habitat.

### Critical Habitat Designation

This final rule will designate approximately 515 km (320 mi) of riverine habitat and 2,323 km<sup>2</sup> (897 mi<sup>2</sup>) of estuarine habitat in California, Oregon, and Washington, and 29,581 km<sup>2</sup> (11,421 mi<sup>2</sup>) of coastal marine habitat off California, Oregon, and Washington within the geographical area presently occupied by the Southern DPS of green sturgeon. We are also designating approximately 784 km (487 mi) of habitat in the Sacramento-San Joaquin Delta, and 350 km<sup>2</sup> (135 mi<sup>2</sup>) of habitat within the Yolo and Sutter bypasses, adjacent to the Sacramento River, California. These critical habitat areas contain physical or biological features essential to the conservation of the species that may require special management considerations or protection. This final rule will exclude from the designation: (1) 14 specific areas based on economic impacts; (2) the Mare Island USAR Center in San Pablo Bay, three naval restricted areas in the Strait of Juan de Fuca, and one Navy operating area in the Strait of Juan de Fuca based on impacts on national security; and (3) Indian lands owned by 12 Federal-recognized Tribes that overlap with the critical habitat designation, based on impacts on Indian lands. We conclude that the exclusion of these areas will not result in the extinction of the Southern DPS. Although we have identified 7 presently unoccupied areas that may, at a later

time, be determined as essential to conservation, we are not designating any unoccupied areas at this time, because we do not have sufficient information showing that any of the unoccupied areas are essential to the conservation of the species.

### Lateral Extent of Critical Habitat

For freshwater riverine habitats, we described the lateral extent of critical habitat units as the width of the stream channel defined by the ordinary high-water line, as defined by the U.S. Army Corps of Engineers (ACOE) in 33 CFR 329.11. The ordinary high-water line on non-tidal rivers is defined as “the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR 329.11(a)(1)). In areas for which the ordinary high-water line has not been defined pursuant to 33 CFR 329.11, we defined the width of the stream channel by its bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain (Rosgen 1996) and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series (Leopold *et al.* 1992). For bays and estuarine areas, we defined the lateral

extent by the mean higher high water (MHHW) line. For coastal marine habitats, the lateral extent to the west is defined by the 60 fm depth bathymetry contour relative to the line of MLLW and shoreward to the area that is inundated by MLLW, or to the COLREGS demarcation lines delineating the boundary between estuarine and marine habitats. The textual descriptions of critical habitat in 50 CFR 226.215 (under “Critical habitat for the Southern Distinct Population Segment of North American Green Sturgeon (*Acipenser medirostris*)”) are the definitive source for determining the critical habitat boundaries. The overview maps provided in 50 CFR 226.215 (under “Critical habitat for the Southern Distinct Population Segment of North American Green Sturgeon (*Acipenser medirostris*)”) are provided for general guidance purposes only and not as a definitive source for determining critical habitat boundaries.

As discussed in previous critical habitat designations, the quality of aquatic and estuarine habitats within stream channels and bays and estuaries is intrinsically related to the adjacent riparian zones and floodplain, to surrounding wetlands and uplands, and to non-fish-bearing streams above occupied stream reaches. Human activities that occur outside of designated streams, bays, or estuaries can destroy or adversely modify the essential physical and biological features within these areas. In addition,



human activities occurring within and adjacent to reaches upstream or downstream of designated stream reaches or estuaries can also destroy or adversely modify the essential physical and biological features of these areas. Similarly, human activities that occur outside of designated coastal marine areas inundated by extreme high tide can destroy or adversely modify the essential physical and biological features of these areas. This designation will help to ensure that Federal agencies are aware of these important habitat linkages.

### Effects of Critical Habitat Designation

#### ESA Section 7 Consultation

Section 7(a)(2) of the ESA requires Federal agencies, including NMFS, to insure that any action authorized, funded, or carried out by the agency (agency action) does not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify designated critical habitat.

When a species is listed or critical habitat is designated, Federal agencies must consult with NMFS on any agency actions to be conducted in an area where the species is present and that may affect the species or its critical habitat. During the consultation, NMFS evaluates the agency action to determine whether the action may adversely affect listed species or critical habitat and issues its findings in a biological opinion. If NMFS concludes in the biological opinion that the agency action would likely result in the destruction or adverse modification of critical habitat, NMFS would also recommend any reasonable and prudent alternatives to the action. Reasonable and prudent alternatives are defined in 50 CFR 402.02 as alternative actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that would avoid the destruction or adverse modification of critical habitat.

Regulations at 50 CFR 402.16 require Federal agencies that have retained discretionary involvement or control over an action, or where such discretionary involvement or control is authorized by law, to reinitiate consultation on previously reviewed actions in instances where: (1) Critical habitat is subsequently designated; or (2) new information or changes to the action may result in effects to critical

habitat not previously considered in the biological opinion. Consequently, some Federal agencies may request reinitiation of consultation or conference with NMFS on actions for which formal consultation has been completed, if those actions may affect designated critical habitat.

Activities subject to the ESA section 7 consultation process include activities on Federal lands and activities on private or State lands requiring a permit from a Federal agency (e.g., a section 10(a)(1)(B) permit from NMFS) or some other Federal action, including funding (e.g., Federal Highway Administration (FHA) or Federal Emergency Management Agency (FEMA) funding). ESA section 7 consultation would not be required for Federal actions that do not affect listed species or critical habitat and for actions on non-Federal and private lands that are not Federally funded, authorized, or carried out.

#### Activities Likely To Be Affected

ESA section 4(b)(8) requires in any final regulation to designate critical habitat an evaluation and brief description of those activities (whether public or private) that may adversely modify such habitat or that may be affected by such designation. A wide variety of activities may affect critical habitat for the Southern DPS and may be subject to the ESA section 7 consultation process when carried out, funded, or authorized by a Federal agency. These include water and land management actions of Federal agencies (e.g., U.S. Forest Service (USFS), Bureau of Land Management (BLM), ACOE, USBR, Natural Resource Conservation Service (NRCS), National Park Service (NPS), Bureau of Indian Affairs (BIA), the FERC, and the Nuclear Regulatory Commission (NRC)) and related or similar Federally-regulated projects and activities on Federal lands, including hydropower sites and proposed alternative energy hydrokinetic projects licensed by the FERC; nuclear power sites licensed by the NRC; dams built or operated by the ACOE or USBR; timber sales and other vegetation management activities conducted by the USFS, BLM and BIA; irrigation diversions authorized by the USFS and BLM; and road building and maintenance activities authorized by the USFS, BLM, NPS, and BIA. Other actions of concern include dredge and fill, mining, diking, and bank stabilization activities authorized or conducted by the COE, habitat modifications authorized by the FEMA, and approval of water quality standards and pesticide labeling and use restrictions administered by the

Environmental Protection Agency (EPA).

Private entities may also be affected by this final critical habitat designation if a Federal permit is required, Federal funding is received, or the entity is involved in or receives benefits from a Federal project. For example, private entities may have special use permits to convey water or build access roads across Federal land; they may require Federal permits to construct irrigation withdrawal facilities, or build or repair docks; they may obtain water from Federally funded and operated irrigation projects; or they may apply pesticides that are only available with Federal agency approval. These activities will need to be evaluated with respect to their potential to destroy or adversely modify critical habitat.

Changes to the actions to minimize or avoid destruction or adverse modification of designated critical habitat may result in changes to some activities, such as the operations of dams and dredging activities. Transportation and utilities sectors may need to modify the placement of culverts, bridges, and utility conveyances (e.g., water, sewer, and power lines) to avoid barriers to fish migration. Developments (e.g., marinas, residential, or industrial facilities) occurring in or near streams, estuaries, or marine waters designated as critical habitat that require Federal authorization or funding may need to be altered or built in a manner to ensure that critical habitat is not destroyed or adversely modified as a result of the construction or subsequent operation of the facility.

Questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat should be directed to NMFS (*see ADDRESSES and FOR FURTHER INFORMATION CONTACT*).

#### Peer Review

On July 1, 1994, a joint USFWS/NMFS policy for peer review was issued stating that the Services would solicit independent peer review to ensure the best biological and commercial data is used in the development of rulemaking actions and draft recovery plans under the ESA (59 FR 34270). On December 16, 2004, the Office of Management and Budget (OMB) issued its Final Information Quality Bulletin for Peer Review (Bulletin). The Bulletin was published in the **Federal Register** on January 14, 2005 (70 FR 2664), and went into effect on June 16, 2005. The primary purpose of the Bulletin is to improve the quality and credibility of scientific information disseminated by

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the Federal government by requiring peer review of “influential scientific information” and highly influential scientific information” prior to public dissemination. Influential scientific information is defined as “information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions.” The Bulletin provides agencies broad discretion in determining the appropriate process and level of peer review. Stricter standards were established for the peer review of “highly influential scientific assessments”, defined as information whose “dissemination could have a potential impact of more than \$500 million in any one year on either the public or private sector or that the dissemination is novel, controversial, or precedent-setting, or has significant interagency interest.” The draft biological report and draft economic analysis report supporting this final rule to designate critical habitat for the Southern DPS of green sturgeon are considered influential scientific information and subject to peer review. These two reports were each distributed to three independent peer reviewers for review. The final biological report and final economic analysis report incorporate the comments and additional information provided by the peer reviewers. The peer reviewer comments were compiled into a peer review report, which is available on the Southwest Region Web site at <http://swr.nmfs.noaa.gov>, on the Federal eRulemaking Web site at <http://www.regulations.gov>, or upon request (see ADDRESSES).

#### Required Determinations

##### *Regulatory Planning and Review (E.O. 12866)*

This final rule has been determined to be significant for purposes of E.O. 12866. A final economic analysis report and ESA section 4(b)(2) report have been prepared to support the exclusion process under section 4(b)(2) of the ESA and our consideration of alternatives to this rulemaking as required under E.O. 12866. The final economic analysis report and final ESA section 4(b)(2) report are available on the Southwest Region Web site at <http://swr.nmfs.noaa.gov>, on the Federal eRulemaking Web site at <http://www.regulations.gov>, or upon request (see ADDRESSES).

##### *Regulatory Flexibility Act (5 U.S.C. 601 et seq.)*

Under the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency publishes a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis describing the effects of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). We have prepared a final regulatory flexibility analysis (FRFA), which is part of the final economic analysis report. This document is available upon request (see ADDRESSES), via our Web site at <http://swr.nmfs.noaa.gov>, or via the Federal eRulemaking Web site at <http://www.regulations.gov>. The results of the FRFA are summarized below.

At the present time, little information exists regarding the cost structure and operational procedures and strategies in the sectors that may be directly affected by the potential critical habitat designation. In addition, given the short consultation history for green sturgeon, there is significant uncertainty regarding the activities that may trigger an ESA section 7 consultation or how those activities may be modified as a result of consultation. With these limitations in mind, we considered which of the potential economic impacts we analyzed might affect small entities. These estimates should not be considered exact estimates of the impacts of potential critical habitat to individual businesses.

The impacts to small businesses were assessed for the following eight activities: dredging, in-water construction or alterations, NPDES activities and other activities resulting in non-point pollution, agriculture, dam operations, water diversion operations, bottom trawl fisheries, and power plant operations. The impacts on small entities were not assessed for LNG projects, desalination plants, tidal and wave energy projects, and restoration projects because there is great uncertainty regarding impacts to these activities, the activities are unlikely to be conducted by small entities, or the impacts to small businesses are expected to be minor.

Small entities were defined by the Small Business Administration size standards for each activity type. The majority (>70 percent) of entities affected within each specific area would be considered a small entity. A total of 10,398 small businesses involved in the

activities listed above would most likely be affected by the final critical habitat designation. The estimated economic impacts on small entities vary depending on the activity type and location. The largest total estimated annualized impacts borne by small entities were for bottom trawl fisheries and the operation of dams and water diversions.

In accordance with the requirements of the RFA (as amended by SBREFA, 1996) this analysis considered various alternatives to the critical habitat designation for the green sturgeon. The alternative of not designating critical habitat for the green sturgeon was considered and rejected because such an approach does not meet the legal requirements of the ESA and would not provide for the conservation of the Southern DPS. The alternative of designating all potential critical habitat areas (*i.e.*, no areas excluded) was also considered and rejected because NMFS has the discretionary authority to exclude areas under the ESA and, for several areas, the economic benefits of exclusion outweighed the benefits of inclusion. The total annualized impacts borne by small entities under this alternative were \$60.1 million to \$210 million (discounted at 7 percent) or \$60 million to \$210 million (discounted at 3 percent).

An alternative to designating critical habitat within all 41 units is the designation of critical habitat within a subset of these units. This approach would help to reduce the number of small entities potentially affected. Under section 4(b)(2) of the ESA, NMFS must consider the economic impacts, impacts to national security, and other relevant impacts of designating any particular area as critical habitat. NMFS has the discretion to exclude an area from designation as critical habitat if the benefits of exclusion (*i.e.*, the impacts that would be avoided if an area were excluded from the designation) outweigh the benefits of designation (*i.e.*, the conservation benefits to the Southern DPS if an area were designated), as long as exclusion of the area will not result in extinction of the species. Exclusion under section 4(b)(2) of the ESA of one or more of the 41 units considered for designation would reduce the potential effects on small entities. The extent to which the economic impact to small entities would be reduced depends on how many, and which, units would be excluded. The determination of which units and how many to exclude depends on NMFS' ESA 4(b)(2) analysis, which is conducted for each unit and described in detail in the final ESA



section 4(b)(2) analysis report (NMFS 2009c). The total estimated annualized impacts borne by small entities under this alternative were \$17.9 million to \$24.5 million (discounted at 7 percent) or \$17.9 million to \$24.4 million (discounted at 3 percent). It is estimated that the exclusions in this final rule will result in a reduction in total annualized impacts on small entities of between \$42.2 million to \$185.5 million (for estimates discounted at 7 percent) or between \$42.1 million to \$185.6 million (for estimates discounted at 3 percent). NMFS selected this alternative because it results in a critical habitat designation that provides for the conservation of the Southern DPS, reduces impacts on small entities, and meets the requirements under the ESA and our joint NMFS–USFWS regulations for designating critical habitat.

#### *E.O. 13211*

On May 18, 2001, the President issued an Executive Order on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking an action expected to lead to the promulgation of a final rule or regulation that is a significant regulatory action under E.O. 12866 and is likely to have a significant adverse effect on the supply, distribution, or use of energy. An energy impacts analysis was prepared under E.O. 13211 and is available as part of the final economic analysis report. The results of the analysis are summarized here.

Activities associated with the supply, distribution, or use of energy that may be affected by this final critical habitat designation include the operation of hydropower dams, alternative energy hydrokinetic projects, and LNG projects. Energy impacts would result from requested project modifications under an ESA section 7 consultation. The most relevant impacts include potential changes in natural gas and electricity production and changes in the cost of energy production.

In the final economic analysis, the effects of the critical habitat designation on 189 dams located within the critical habitat areas are evaluated. Of these 189 dams, 11 dams have hydropower capacity. Potential project modifications may be required to address impacts of the hydropower dams on flow regimes. These project modifications may include changes in water flow through the turbines or seasonal changes to flow through turbines. These changes may result in reductions in electricity production and increases in energy costs. However, the changes required

and their effects on energy production and costs would vary depending on the characteristics of the dam and the hydrology of the river system. Because the areas overlap with existing critical habitat designations for salmon species, and because the guidelines we have in place for dam modifications focus on listed salmonids, we will likely recommend modifications to dams that are similar to those we recommend for salmonids until additional information on green sturgeon indicates otherwise. Thus, the additional effects of the critical habitat designation for green sturgeon would likely be minimal. In addition, modifications required for the protection of critical habitat would likely be similar to those required under the jeopardy standard.

The final economic analysis evaluated the effects of the critical habitat designation on a number of proposed alternative energy hydrokinetic projects (*e.g.*, tidal and wave energy projects). Future management and required project modifications for green sturgeon critical habitat related to these projects are uncertain and could vary widely in scope from project to project. Because these proposed projects are still in the preliminary stages, the potential impact of possible green sturgeon conservation efforts on energy production and the associated cost of that energy for each project are unclear. In the most extreme case (*i.e.*, the critical habitat designation results in all projects not being constructed), the reductions in electricity production would be significant (an estimated 2,000 megawatts). However, we do not anticipate that conservation efforts to address green sturgeon critical habitat will result in all project construction from being halted. It is more likely that any additional cost of green sturgeon conservation efforts would be passed on to the consumer in the form of slightly higher energy prices. More information is needed, however, to more precisely estimate the potential energy impacts resulting from the application of conservation measures to alternative energy projects. It is important to note, however, that many other environmental concerns have been raised and must be addressed in the development and construction of alternative energy projects, including concerns for other marine fish species (McIsaac 2008, Letter from the Pacific Fishery Management Council to Randall Luthi, Minerals Management Service). It is likely that management measures to minimize or avoid habitat impacts for other species will be required for alternative energy projects. Based on the

best available information, the project modifications we would require to protect green sturgeon critical habitat would likely be similar to those applied for the protection of other marine species.

The final economic analysis also analyzed the potential effects of the critical habitat designation on proposed LNG projects. Because no LNG projects currently exist in the critical habitat areas, the potential impact of LNG facilities on green sturgeon critical habitat and the potential project modifications that may be required to mitigate those impacts remain uncertain. There are several proposed LNG projects in the critical habitat areas, with a combined natural gas production capacity of 7,800 million cubic feet per day. In the most extreme case, green sturgeon critical habitat would require that these proposed LNG projects be relocated to areas outside of the critical habitat areas. However, it is more likely that other less costly project modifications will be necessary, such as changes to dredging operations associated with the project, restoration of riparian habitat, or other changes depending on the specifics of the project. These project modifications may result in higher natural gas costs for consumers. Additional information is needed to address uncertainties regarding the potential impacts of the critical habitat designation on LNG projects and on energy production and costs associated with those projects. In cases where listed salmon and steelhead species or critical habitat designated for these species occurs within the areas where proposed LNG projects are located (*e.g.*, in the Lower Columbia River), the best available information indicates that measures implemented for the protection of these species would be similar to those required to protect critical habitat for green sturgeon.

Based on this energy impacts analysis, we recognize that many uncertainties exist and more information is needed to adequately estimate the potential impacts of the critical habitat designation on energy production and costs. Using the best available information, we have determined that the designation of critical habitat for Southern DPS green sturgeon may result in impacts on the supply, distribution, or use of energy, but that these impacts would not be significant because many of the impacts would already exist due to protections for other listed species.

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*Unfunded Mandates Reform Act*  
(2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act, NMFS makes the following findings:

(A) This final rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, Tribal governments, or the private sector and includes both “Federal intergovernmental mandates” and “Federal private sector mandates.” These terms are defined in 2 U.S.C. 658(5)–(7). “Federal intergovernmental mandate” includes a regulation that “would impose an enforceable duty upon State, local, or Tribal governments” with two exceptions. It excludes “a condition of Federal assistance.” It also excludes “a duty arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and Tribal governments under entitlement authority,” if the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal government’s responsibility to provide funding” and the State, local, or Tribal governments “lack authority” to adjust accordingly. (At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement.) “Federal private sector mandate” includes a regulation that “would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program.” The designation of critical habitat does not impose an enforceable duty on non-Federal government entities or private parties. The only regulatory effect of a critical habitat designation is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under ESA section 7. Non-Federal entities who receive funding, assistance, or permits from Federal agencies, or otherwise require approval or authorization from a Federal agency for an action may be indirectly affected by the designation of critical habitat. Furthermore, to the extent that non-Federal entities are

indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above to State governments.

(b) Due to the prohibition against take of the Southern DPS both within and outside of the designated areas, we do not anticipate that this final rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required.

*Takings*

Under E.O. 12630, Federal agencies must consider the effects of their actions on constitutionally protected private property rights and avoid unnecessary takings of property. A taking of property includes actions that result in physical invasion or occupancy of private property, and regulations imposed on private property that substantially affect its value or use. In accordance with E.O. 12630, this final rule does not have significant takings implications. A takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. This final rule would not increase or decrease the current restrictions on private property concerning take of Southern DPS fish, nor do we expect the final critical habitat designation to impose substantial additional burdens on land use or substantially affect property values. Additionally, the final critical habitat designation does not preclude the development of Habitat Conservation Plans and issuance of incidental take permits for non-Federal actions. Owners of areas included within the proposed critical habitat designation would continue to have the opportunity to use their property in ways consistent with the survival of listed Southern DPS.

*Federalism*

In accordance with E.O. 13132, we determined that this final rule does not have significant Federalism effects and that a Federalism assessment is not required. In keeping with Department of Commerce policies, we request information from, and will coordinate development of this final critical habitat designation with, appropriate State resource agencies in California, Oregon, Washington, and Alaska. The final designation may have some benefit to State and local resource agencies in that the areas essential to the conservation of the species are more clearly defined,

and the PCEs of the habitat necessary for the survival of the Southern DPS of green sturgeon are specifically identified. While this designation does not alter where and what Federally sponsored activities may occur, it may assist local governments in long-range planning (rather than waiting for case-by-case ESA section 7 consultations to occur).

*Civil Justice Reform*

In accordance with E.O. 12988, we have determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the E.O. We are designating critical habitat in accordance with the provisions of the ESA. This final rule uses standard property descriptions and identifies the PCEs within the designated areas to assist the public in understanding the habitat needs of the Southern DPS of green sturgeon.

*Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)*

This final rule does not contain new or revised information collections that require approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act. This final rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

*National Environmental Policy Act of 1969 (NEPA)*

NMFS has determined that an environmental analysis as provided for under the NEPA of 1969 for critical habitat designations made pursuant to the ESA is not required. *See Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct 698 (1996).

*Government-to-Government Relationship With Tribes*

The longstanding and distinctive relationship between the Federal and Tribal governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate Tribal governments from the other entities that deal with, or are affected by, the Federal government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes and the application of fiduciary standards of due care with respect to Indian lands, Tribal trust

resources, and the exercise of Tribal rights. Pursuant to these authorities lands have been retained by Indian Tribes or have been set aside for Tribal use. These lands are managed by Indian Tribes in accordance with Tribal goals and objectives within the framework of applicable treaties and laws. E.O. 13175, Consultation and Coordination with Indian Tribal Governments, outlines the responsibilities of the Federal government in matters affecting Tribal interests.

There is a broad array of activities on Indian lands that may trigger ESA section 7 consultations. As described in the section above titled "Exclusions Based on Impacts on Indian Lands," we have corresponded with potential affected Tribes and this final rule will exclude from the designation any Indian lands of the following Federally recognized Tribes (73 FR 18553, April 4, 2008) that overlap with the critical habitat designation for Southern DPS green sturgeon: the Hoh, Jamestown S'Klallam, Lower Elwha, Makah, Quileute, Quinault, and Shoalwater Bay Tribes in Washington; the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians and the Coquille Tribe in Oregon; and the Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, Cher-Ae Heights Trinidad Rancheria, Wiyot Tribe, and Yurok Tribe in California.

#### References Cited

A complete list of all references cited herein is available upon request (*see ADDRESSES* section) or via our Web site at <http://swr.nmfs.noaa.gov>.

#### List of Subjects in 50 CFR Part 226

Endangered and threatened species.

Dated: October 1, 2009.

**John Oliver,**

*Deputy Assistant Administrator for Operations, National Marine Fisheries Service.*

■ For the reasons set out in the preamble, this final rule amends part 226, title 50 of the Code of Federal Regulations as set forth below:

#### PART 226—DESIGNATED CRITICAL HABITAT

■ 1. The authority citation of part 226 continues to read as follows:

**Authority:** 16 U.S.C. 1533.

■ 2. Add § 226.219, to read as follows:

**§ 226.219 Critical habitat for the Southern Distinct Population Segment of North American Green Sturgeon (*Acipenser medirostris*).**

Critical habitat is designated for the Southern Distinct Population Segment

of North American green sturgeon (Southern DPS) as described in this section. The textual descriptions of critical habitat in this section are the definitive source for determining the critical habitat boundaries. The overview maps are provided for general guidance purposes only and not as a definitive source for determining critical habitat boundaries.

(a) *Critical habitat boundaries.* Critical habitat in freshwater riverine areas includes the stream channels and a lateral extent as defined by the ordinary high-water line (33 CFR 329.11). In areas for which the ordinary high-water line has not been defined pursuant to 33 CFR 329.11, the lateral extent will be defined by the bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series. Critical habitat in bays and estuaries includes tidally influenced areas as defined by the elevation of mean higher high water. The boundary between coastal marine areas and bays and estuaries are delineated by the COLREGS lines (33 CFR 80). Critical habitat in coastal marine areas is defined by the zone between the 60 fathom (fm) depth bathymetry line and the line on shore reached by mean lower low water (MLLW), or to the COLREGS lines.

(1) *Coastal marine areas:* All U.S. coastal marine waters out to the 60 fm depth bathymetry line (relative to MLLW) from Monterey Bay, California (36°38'12" N./121°56'13" W.) north and east to include waters in the Strait of Juan de Fuca, Washington. The Strait of Juan de Fuca includes all U.S. marine waters: in Clallam County east of a line connecting Cape Flattery (48°23'10" N./124°43'32" W.), Tatoosh Island (48°23'30" N./124°44'12" W.), and Bonilla Point, British Columbia (48°35'30" N./124°43'00" W.); in Jefferson and Island counties north and west of a line connecting Point Wilson (48°08'38" N./122°45'07" W.) and Partridge Point (48°13'29" N./122°46'11" W.); and in San Juan and Skagit counties south of lines connecting the U.S.-Canada border (48°27'27" N./123°09'46" W.) and Pile Point (48°28'56" N./123°05'33" W.), Cattle Point (48°27'1" N./122°57'39" W.) and Davis Point (48°27'21" N./122°56'03" W.), and Fidalgo Head (48°29'34" N./122°42'07" W.) and Lopez Island (48°28'43" N./122°49'08" W.).

(2) *Freshwater riverine habitats:* Critical habitat is designated to include

the following freshwater riverine areas in California:

(i) Sacramento River, California. From the Sacramento I-Street Bridge (40°9'10" N./122°12'9" W.) upstream to Keswick Dam (40°36'39" N./122°26'46" W.), including the waters encompassed by the Yolo Bypass and the Sutter Bypass areas and the lower American River from the confluence with the mainstem Sacramento River upstream to 38°35'47" N./121°28'36" W. (State Route 160 bridge over the American River).

(ii) Lower Feather River, California. From the confluence with the mainstem Sacramento River upstream to Fish Barrier Dam (39°31'13" N./121°32'51" W.).

(iii) Lower Yuba River, California. From the confluence with the mainstem Feather River upstream to Daguerre Dam (39°12'32" N./121°35'53" W.).

(3) *Sacramento-San Joaquin Delta, California:* Critical habitat is designated to include the Sacramento-San Joaquin Delta including all waterways up to the elevation of mean higher high water within the area defined in California Water Code Section 12220, except for the following excluded areas: Clifton Court and California Aqueduct Intake Channel (all reaches upstream from the Clifton Court Radial Gates at 37°49'47" N./121°33'25" W.); Delta-Mendota Canal (upstream from 37°48'58" N./121°33'30" W.); Fivemile Slough (all reaches upstream from its confluence with Fourteenmile Slough at 38°00'50" N./121°22'09" W.); Indian Slough and Werner Cuts (all reaches between the entrance to Discovery Bay at 37°55'8" N./121°35'12" W. and the junction of Werner Cut and Rock Slough at 37°58'14" N./121°35'41" W.); Italian Slough (all reaches upstream from 37°51'39" N./121°34'53" W.); Rock Slough (all reaches upstream from the junction with the Old River at 37°58'22" N./121°34'40" W.); Sand Mound Slough (all reaches upstream from 37°58'37" N./121°37'19" W.); Sacramento Deep Water Ship Channel (upstream from the confluence with Cache Slough at 38°14'13" N./121°40'23" W.); Sevenmile Slough (all reaches between Threemile Slough at 38°06'55" N./121°40'55" W. and Jackson Slough at 38°06'59" N./121°37'44" W.); Snodgrass Slough (all reaches upstream from Lambert Road at 38°18'33" N./121°30'46" W.); Tom Paine Slough (all reaches upstream from its confluence with Middle River at 37°47'25" N./121°25'08" W.); Trapper Slough (all reaches upstream from 37°53'36" N./121°29'15" W.); Unnamed oxbow loop (upstream from the confluence with the San Joaquin River at 37°43'9" N./121°16'36" W.); Unnamed oxbow loop (upstream from the

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confluence with the San Joaquin River at 37°46'9" N./121°18'6" W.).

(4) *Coastal bays and estuaries*: Critical habitat is designated to include the following coastal bays and estuaries in California, Oregon, and Washington:

(i) *San Francisco Bay, San Pablo Bay, and Suisun Bay in California*. All tidally influenced areas of San Francisco Bay, San Pablo Bay, and Suisun Bay up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Adobe Creek (38°12'42" N./122°36'6" W.); Alameda Creek (37°36'47" N./122°4'18" W.); Arroyo Corte Madera del Presidio (37°53'43" N./122°31'48" W.); Black John Slough (38°8'12" N./122°33'42" W.); Black John Slough (38°7'59" N./122°32'54" W.); Carneros Creek (38°13'52" N./122°18'49" W.); Colma Creek (37°39'6" N./122°25'9" W.); Coyote Creek (37°52'45" N./122°31'31" W.); Coyote Creek (37°27'17" N./121°55'36" W.); Coyote Creek, unnamed waterway (37°27'56" N./121°55'40" W.); Coyote Creek, unnamed waterway (37°26'23" N./121°57'29" W.); Coyote Creek, unnamed waterway (37°27'15" N./121°56'12" W.); Coyote Hills Slough (37°34'26" N./122°3'36" W.); Deverton Creek (38°13'38" N./121°53'47" W.); Gallinas Creek (38°0'50" N./122°32'24" W.); Gallinas Creek, South Fork (38°0'4" N./122°32'9" W.); Green Valley Creek (38°12'49" N./122°7'51" W.); Hastings Slough (38°1'30" N./122°3'35" W.); Huichica Creek, unnamed tributary (38°12'36" N./122°21'35" W.); Mt Eden Creek (37°37'6" N./122°7'23" W.); Mud Slough, unnamed waterway (37°29'48" N./121°57'14" W.); Mud Slough, unnamed waterway (37°28'43" N./121°57'3" W.); Newark Slough (37°31'36" N./122°3'24" W.); Newark Slough, unnamed waterway (37°31'51" N./122°4'7" W.); Novato Creek (38°5'50" N./122°33'52" W.); Petaluma River (38°14'53" N./122°38'17" W.); Petaluma River, unnamed tributary (38°12'58" N./122°34'23" W.); Railroad Slough (38°13'30" N./122°26'28" W.); Richardson Bay, unnamed tributary (37°54'2" N./122°31'36" W.); San Antonio Creek, unnamed tributary (38°9'45" N./122°34'1" W.); San Clemente Creek (37°55'12" N./122°30'25" W.); San Francisco Bay shoreline (37°40'44" N./122°10'18" W.); San Francisco Bay shoreline (37°27'10" N./122°7'40" W.); San Pablo Bay shoreline (38°2'44" N./122°15'44" W.); San Pablo Creek (37°58'6" N./122°22'42" W.); San Rafael Creek (37°58'5" N./122°31'35" W.); Seal Slough (37°34'9" N./122°17'30" W.); Suisun Marsh (38°2'28" N./121°57'55" W.); Suisun Marsh (38°2'50" N./121°58'39" W.); Suisun Marsh (38°2'42" N./121°56'16" W.);

Suisun Marsh (38°2'30" N./121°55'18" W.); Suisun Marsh, Grizzly Bay shoreline (38°5'53" N./122°0'35" W.); Suisun Marsh, Grizzly Bay shoreline (38°6'49" N./121°58'54" W.); Suisun Marsh, Grizzly Bay shoreline (38°8'19" N./121°59'31" W.); Suisun Marsh, Grizzly Bay shoreline (38°8'6" N./121°59'33" W.); Tolay Creek (38°9'42" N./122°26'49" W.); Tolay Creek (38°9'6" N./122°26'49" W.); Walnut Creek (38°0'16" N./122°3'41" W.); Wildcat Creek (37°57'26" N./122°22'45" W.).

(ii) *Humboldt Bay, California*. All tidally influenced areas of Humboldt Bay up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Elk River (40°43'45" N./124°11'15" W.); Elk River (40°45'9" N./124°10'57" W.); Elk River (40°45'7" N./124°10'58" W.); Eureka Slough (40°48'14" N./124°7'15" W.); Eureka Slough (40°48'18" N./124°8'29" W.); Eureka Slough (40°48'14" N./124°8'22" W.); Eureka Slough (40°48'9" N./124°8'14" W.); Freshwater Creek (40°46'43" N./124°4'48" W.); Freshwater Slough (40°47'18" N./124°6'54" W.); Freshwater Slough (40°47'10" N./124°6'15" W.); Freshwater Slough (40°48'3" N./124°6'53" W.); Gannon Slough (40°50'48" N./124°4'54" W.); Gannon Slough (40°50'37" N./124°4'53" W.); Jacoby Creek (40°50'22" N./124°4'16" W.); Jacoby Creek (40°50'25" N./124°4'56" W.); Liscom Slough (40°52'35" N./124°8'14" W.); Mad River Slough (40°53'14" N./124°8'9" W.); Mad River Slough (40°53'59" N./124°8'1" W.); Mad River Slough (40°54'1" N./124°8'9" W.); McDaniel Slough (40°51'54" N./124°8'52" W.); McDaniel Slough (40°51'39" N./124°6'2" W.); Rocky Gulch/Washington Gulch (40°49'52" N./124°4'58" W.); Salmon Creek (40°41'12" N./124°13'10" W.); Unnamed tributary (40°42'36" N./124°15'45" W.); White Slough (40°41'56" N./124°12'18" W.).

(iii) *Coos Bay, Oregon*. All tidally influenced areas of Coos Bay up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Boone Creek (43°16'31" N./124°9'26" W.); Catching Creek (43°16'31" N./124°9'11" W.); Coalbank Slough (43°21'10" N./124°13'17" W.); Coos River, South Fork (43°22'32" N./123°59'34" W.); Cox Canyon Creek (43°16'13" N./124°18'52" W.); Daniels Creek (43°21'10" N./124°5'29" W.); Davis Creek (43°17'29" N./124°14'30" W.); Day Creek (43°18'59" N./124°18'24" W.); Delmar Creek (43°15'24" N./124°13'52" W.); Deton Creek (43°24'15" N./124°3'53" W.); Elliot Creek (43°17'45" N./124°17'45" W.); Goat Creek (43°15'42" N./124°12'58" W.); Haynes

Inlet (43°27'56" N./124°11'22" W.); Hayward Creek (43°19'7" N./124°19'59" W.); Joe Ney Slough (43°20'12" N./124°17'39" W.); John B Creek (43°16'59" N./124°18'27" W.); Kentuck Slough (43°25'19" N./124°11'19" W.); Larson Slough (43°27'43" N./124°11'38" W.); Lillian Creek (43°21'41" N./124°8'41" W.); Mart Davis Creek (43°22'58" N./124°5'38" W.); Matson Creek (43°18'27" N./124°8'16" W.); Millicoma River, East Fork (43°25'50" N./124°1'2" W.); Millicoma River, West Fork (43°25'48" N./124°2'50" W.); Noble Creek (43°15'16" N./124°12'54" W.); North Slough (43°29'26" N./124°13'14" W.); Pony Creek (43°24'6" N./124°13'55" W.); Seelander Creek (43°17'15" N./124°8'41" W.); Shinglehouse Slough (43°19'4" N./124°13'14" W.); Stock Slough (43°19'58" N./124°8'22" W.); Talbot Creek (43°17'1" N./124°17'49" W.); Theodore Johnson Creek (43°16'16" N./124°19'22" W.); Unnamed Creek (43°17'24" N./124°17'56" W.); Unnamed Creek (43°18'27" N./124°7'55" W.); Unnamed Creek (43°21'12" N./124°9'17" W.); Vogel Creek (43°22'10" N./124°8'49" W.); Wasson Creek (43°16'3" N./124°19'23" W.); Willanch Slough (43°24'5" N./124°11'27" W.); Wilson Creek (43°16'51" N./124°9'2" W.); Winchester Creek (43°15'49" N./124°19'10" W.).

(iv) *Winchester Bay, Oregon*. All tidally influenced areas of Winchester Bay up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Brainard Creek (43°44'46" N./124°1'39" W.); Butler Creek (43°42'50" N./124°3'0" W.); Eslick Creek (43°47'46" N./123°58'40" W.); Frantz Creek (43°44'50" N./124°5'25" W.); Hudson Slough (43°44'56" N./124°4'43" W.); Joyce Creek (43°45'32" N./124°1'49" W.); Noel Creek (43°46'21" N./124°0'6" W.); Oar Creek (43°40'26" N./124°3'41" W.); Otter Creek (43°43'28" N./124°0'4" W.); Providence Creek (43°43'13" N./124°7'44" W.); Scholfield Creek (43°40'36" N./124°5'38" W.); Silver Creek (43°40'37" N./124°9'21" W.); Smith River (43°47'48" N./123°53'3" W.); Smith River, North Fork (43°48'17" N./123°55'59" W.); Umpqua River (43°40'3" N./123°48'32" W.); Unnamed Creek (43°40'6" N./124°10'44" W.); Unnamed Creek (43°40'14" N./124°9'26" W.); Winchester Creek (43°40'20" N./124°8'49" W.).

(v) *Yaquina Bay, Oregon*. All tidally influenced areas of Yaquina Bay up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Babcock Creek (44°35'33" N./123°55'42" W.); Big Elk Creek (44°35'23" N./123°50'43" W.); Boone Slough

(44°35'5" N./123°57'50" W.); Depot Creek (44°38'30" N./123°56'54" W.); Flesher Slough (44°34'0" N./123°58'53" W.); Johnson Slough (44°34'60" N./123°59'10" W.); King Slough (44°35'35" N./124°1'55" W.); McCaffery Slough (44°33'56" N./124°1'10" W.); Mill Creek (44°35'7" N./123°53'57" W.); Montgomery Creek (44°35'8" N./123°56'18" W.); Nute Slough (44°35'19" N./123°57'30" W.); Olalla Creek (44°36'48" N./123°55'30" W.); Parker Slough (44°35'21" N./124°0'50" W.); Poole Slough (44°33'27" N./123°58'46" W.); Yaquina River (44°39'4" N./123°51'26" W.).

(vi) *Nehalem Bay, Oregon*. All tidally influenced areas of Yaquina Bay up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Alder Creek (45°42'52" N./123°54'12" W.); Anderson Creek (45°44'25" N./123°52'26" W.); Coal Creek (45°44'49" N./123°51'57" W.); Foley Creek (45°41'48" N./123°50'53" W.); Gallagher Slough (45°42'4" N./123°52'50" W.); Messhouse Creek (45°40'0" N./123°55'32" W.); Nehalem River (45°41'48" N./123°49'31" W.); Nehalem River, North Fork (45°47'11" N./123°49'19" W.); Unnamed Creek (45°44'35" N./123°51'53" W.); Unnamed Creek (45°44'53" N./123°51'12" W.); Unnamed Creek (45°45'6" N./123°50'56" W.); Unnamed Creek (45°44'11" N./123°51'40" W.); Unnamed Creek (45°44'7" N./123°51'40" W.); Unnamed Creek (45°43'44" N./123°52'35" W.).

(vii) *Lower Columbia River estuary, Washington and Oregon*. All tidally influenced areas of the lower Columbia River estuary from the mouth upstream to river kilometer 74, up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Bear Creek (46°10'0" N./123°40'6" W.); Big Creek (46°10'33" N./123°35'30" W.); Blind Slough/Gnat Creek (46°10'47" N./123°31'45" W.); Chinook River (46°18'14" N./123°58'1" W.); Deep Creek (46°19'3" N./123°42'23" W.); Driscoll Slough (46°8'35" N./123°23'44" W.); Ferris Creek (46°10'5" N./123°39'8" W.); Grays River (46°21'34" N./123°35'5" W.); Hunt Creek (46°11'46" N./123°26'30" W.); Jim Crow Creek (46°16'19" N./123°33'26" W.); John Day River (46°9'13" N./123°43'16" W.); John Day River (46°9'10" N./123°43'27" W.); Klaskanine River (46°5'33" N./123°44'52" W.); Lewis and Clark River (46°5'52" N./123°51'4" W.); Marys Creek (46°10'12" N./123°40'17" W.); Seal Slough (46°19'20" N./123°40'15" W.); Sisson Creek (46°18'25" N./123°43'46" W.); Skamokawa Creek (46°19'11" N./123°27'20" W.); Skipanon River

(46°9'31" N./123°55'34" W.); Wallacut River (46°19'28" N./123°59'11" W.); Wallooskee River (46°7'7" N./123°46'25" W.); Westport Slough/Clatskanie River (46°8'4" N./123°13'31" W.); Youngs River (46°4'11" N./123°47'9" W.).

(viii) *Willapa Bay, Washington*. All tidally influenced areas of Willapa Bay up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Bear River (46°20'5" N./123°56'8" W.); Bone River (46°39'29" N./123°54'2" W.); Cedar River (46°45'37" N./124°0'3" W.); Naselle River (46°22'32" N./123°49'19" W.); Middle Nemah River (46°28'42" N./123°51'13" W.); North Nemah River (46°30'56" N./123°52'27" W.); South Nemah River (46°28'37" N./123°53'15" W.); Niawiakum River (46°36'39" N./123°53'34" W.); North River (46°48'51" N./123°50'54" W.); Palix River, Middle Fork (46°35'46" N./123°52'29" W.); Palix River, North Fork (46°36'10" N./123°52'26" W.); Palix River, South Fork (46°34'30" N./123°53'42" W.); Stuart Slough (46°41'9" N./123°52'16" W.); Willapa River (46°38'50" N./123°38'50" W.).

(ix) *Grays Harbor, Washington*. All tidally influenced areas of Grays Harbor up to the elevation of mean higher high water, including, but not limited to, areas upstream to the head of tide endpoint in: Andrews Creek (46°49'23" N./124°1'23" W.); Beaver Creek (46°54'20" N./123°58'53" W.); Campbell Creek (46°56'9" N./123°53'12" W.); Campbell Slough (47°2'45" N./124°3'40" W.); Chapin Creek (46°56'18" N./123°52'30" W.); Charley Creek (46°56'55" N./123°49'53" W.); Chehalis River (46°58'16" N./123°35'38" W.); Chenois Creek (47°2'36" N./124°0'54" W.); Elk River (46°50'8" N./123°59'8" W.); Gillis Slough (47°2'34" N./124°2'29" W.); Grass Creek (47°1'41" N./124°0'40" W.); Hoquiam River (47°3'3" N./123°55'34" W.); Hoquiam River, East Fork (47°3'7" N./123°51'25" W.); Humptulips River (47°5'42" N./124°3'34" W.); Indian Creek (46°55'55" N./123°53'47" W.); Jessie Slough (47°3'23" N./124°3'0" W.); Johns River (46°52'28" N./123°57'2" W.); Newskah Creek (46°56'26" N./123°50'58" W.); O'Leary Creek (46°54'51" N./123°57'24" W.); Stafford Creek (46°55'51" N./123°54'28" W.); Wishkah River (47°2'39" N./123°47'20" W.); Wynoochee River (46°58'19" N./123°36'57" W.).

(b) *Primary constituent elements*. The primary constituent elements essential for the conservation of the Southern DPS of green sturgeon are:

(1) *For freshwater riverine systems:*

(i) *Food resources*. Abundant prey items for larval, juvenile, subadult, and adult life stages.

(ii) *Substrate type or size (i.e., structural features of substrates)*. Substrates suitable for egg deposition and development (e.g., bedrock sills and shelves, cobble and gravel, or hard clean sand, with interstices or irregular surfaces to "collect" eggs and provide protection from predators, and free of excessive silt and debris that could smother eggs during incubation), larval development (e.g., substrates with interstices or voids providing refuge from predators and from high flow conditions), and subadults and adults (e.g., substrates for holding and spawning).

(iii) *Water flow*. A flow regime (i.e., the magnitude, frequency, duration, seasonality, and rate-of-change of fresh water discharge over time) necessary for normal behavior, growth, and survival of all life stages.

(iv) *Water quality*. Water quality, including temperature, salinity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages.

(v) *Migratory corridor*. A migratory pathway necessary for the safe and timely passage of Southern DPS fish within riverine habitats and between riverine and estuarine habitats (e.g., an unobstructed river or dammed river that still allows for safe and timely passage).

(vi) *Depth*. Deep (≥5 m) holding pools for both upstream and downstream holding of adult or subadult fish, with adequate water quality and flow to maintain the physiological needs of the holding adult or subadult fish.

(vii) *Sediment quality*. Sediment quality (i.e., chemical characteristics) necessary for normal behavior, growth, and viability of all life stages.

(2) *For estuarine habitats:*

(i) *Food resources*. Abundant prey items within estuarine habitats and substrates for juvenile, subadult, and adult life stages.

(ii) *Water flow*. Within bays and estuaries adjacent to the Sacramento River (i.e., the Sacramento-San Joaquin Delta and the Suisun, San Pablo, and San Francisco bays), sufficient flow into the bay and estuary to allow adults to successfully orient to the incoming flow and migrate upstream to spawning grounds.

(iii) *Water quality*. Water quality, including temperature, salinity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages.

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(iv) *Migratory corridor*. A migratory pathway necessary for the safe and timely passage of Southern DPS fish within estuarine habitats and between estuarine and riverine or marine habitats.

(v) *Depth*. A diversity of depths necessary for shelter, foraging, and migration of juvenile, subadult, and adult life stages.

(vi) *Sediment quality*. Sediment quality (*i.e.*, chemical characteristics) necessary for normal behavior, growth, and viability of all life stages.

(3) *For nearshore coastal marine areas*:

(i) *Migratory corridor*. A migratory pathway necessary for the safe and timely passage of Southern DPS fish within marine and between estuarine and marine habitats.

(ii) *Water quality*. Nearshore marine waters with adequate dissolved oxygen levels and acceptably low levels of contaminants (*e.g.*, pesticides, organochlorines, elevated levels of heavy metals) that may disrupt the

normal behavior, growth, and viability of subadult and adult green sturgeon.

(iii) *Food resources*. Abundant prey items for subadults and adults, which may include benthic invertebrates and fishes.

(c) *Sites owned or controlled by the Department of Defense*. Critical habitat does not include the following areas owned or controlled by the Department of Defense, or designated for its use, in the States of California, Oregon, and Washington:

(1) Mare Island U.S. Army Reserve Center, San Pablo Bay, CA;

(2) Strait of Juan de Fuca naval air-to-surface weapon range, restricted area, WA;

(3) Strait of Juan de Fuca and Whidbey Island naval restricted area, WA;

(4) Admiralty Inlet naval restricted area, Strait of Juan de Fuca, WA; and

(5) Navy 3 operating area, Strait of Juan de Fuca, WA.

(d) *Indian lands*. Critical habitat does not include any Indian lands of the

following Federally-recognized Tribes in the States of California, Oregon, and Washington:

(1) Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, California;

(2) Cher-Ae Heights Trinidad Rancheria, California;

(3) Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw, Oregon;

(4) Coquille Indian Tribe, Oregon;

(5) Hoh Tribe, Washington;

(6) Jamestown S'Klallam Tribe, Washington;

(7) Lower Elwha Tribe, Washington;

(8) Makah Tribe, Washington;

(9) Quileute Tribe, Washington;

(10) Quinalt Tribe, Washington;

(11) Shoalwater Bay Tribe,

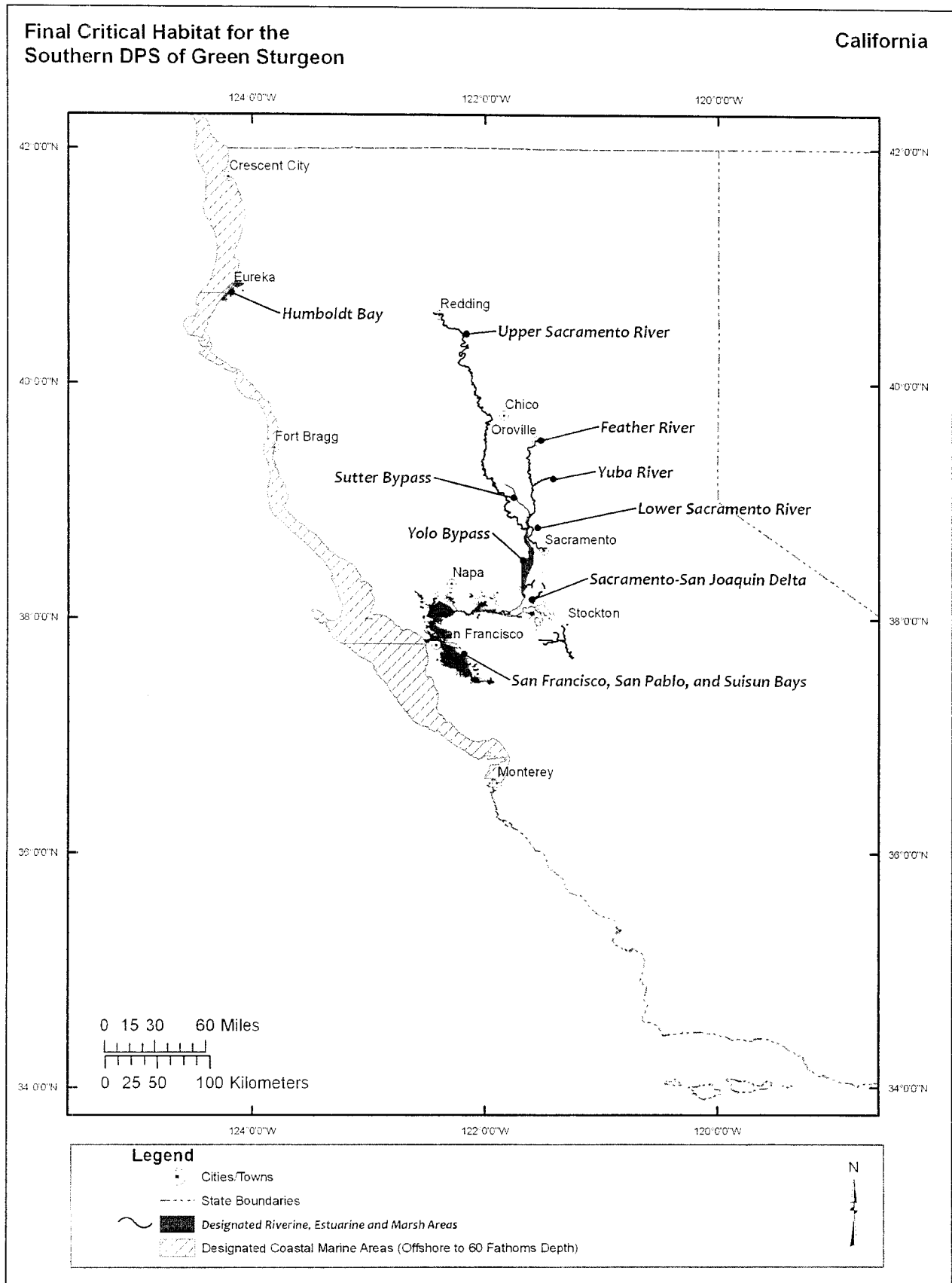
Washington;

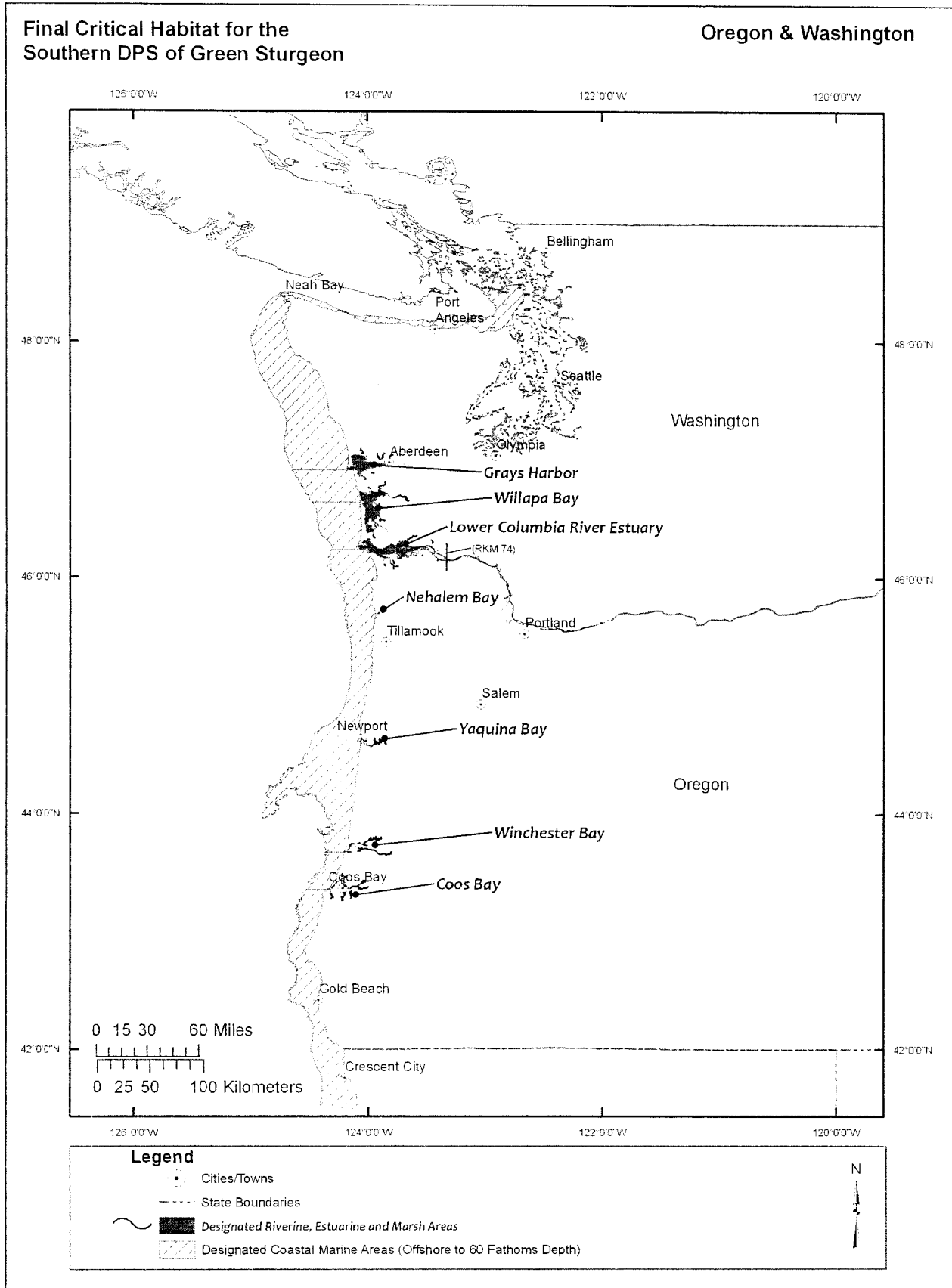
(12) Wiyot Tribe, California; and

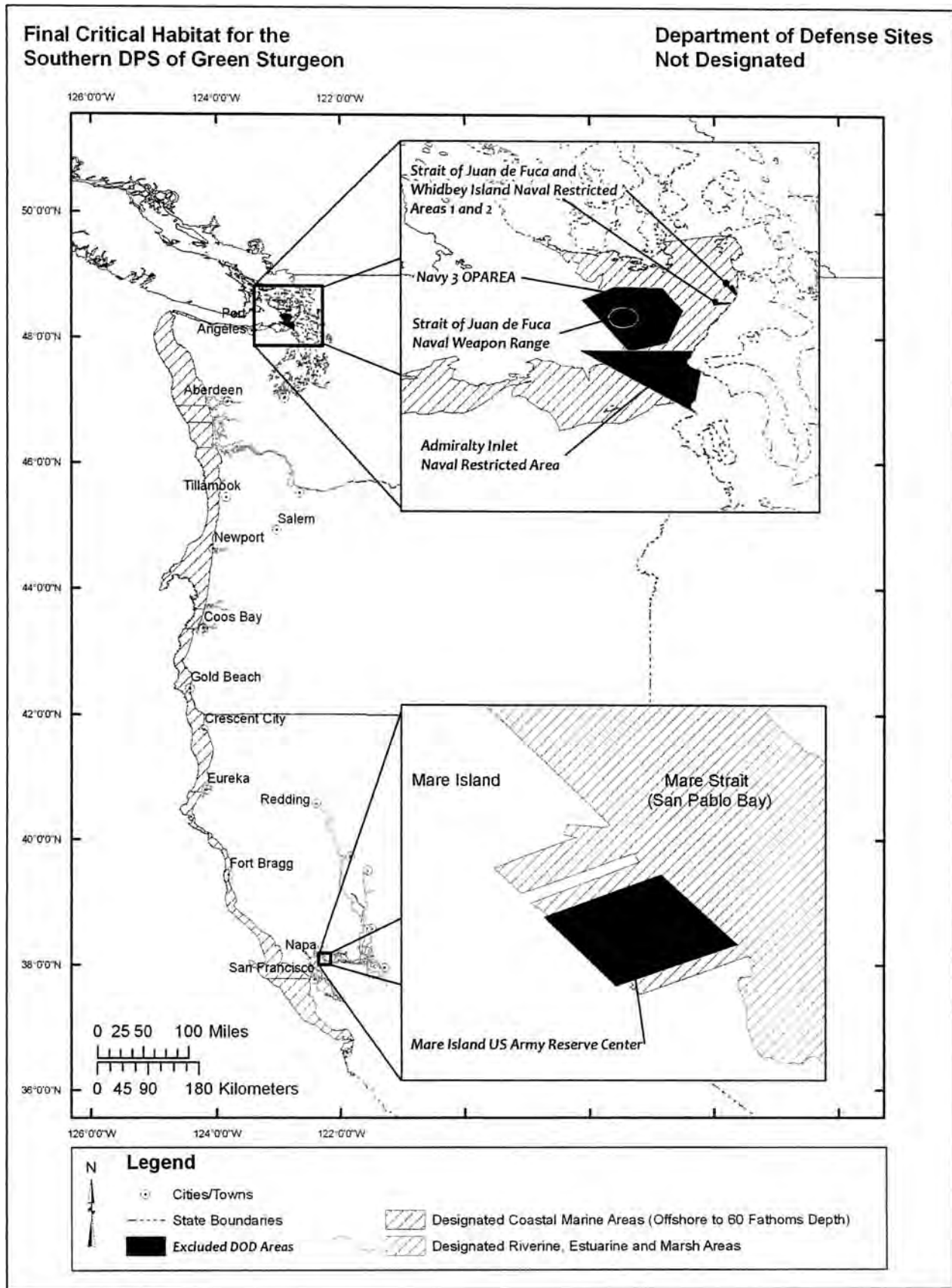
(13) Yurok Tribe, California.

(e) Overview maps of final critical habitat for the Southern DPS of green sturgeon follow:

**BILLING CODE 3510-22-P**









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Federal Register / Vol. 77, No. 232 / Monday, December 3, 2012 / Notices

Dated: November 26, 2012.

Kevin K. Washburn,

Assistant Secretary—Indian Affairs.

[FR Doc. 2012-29044 Filed 11-30-12; 8:45 am]

BILLING CODE 4310-4N-P

**DEPARTMENT OF THE INTERIOR****Bureau of Indian Affairs****Land Acquisitions; Enterprise Rancheria of Maidu Indians of California**

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice of Final Agency Determination.

**SUMMARY:** The Assistant Secretary—Indian Affairs made a final agency determination to acquire approximately 40 acres of land in trust for gaming purposes for the Enterprise Rancheria of Maidu Indians of California on November 21, 2012.

**FOR FURTHER INFORMATION CONTACT:**

Paula L. Hart, Director, Office of Indian Gaming, Bureau of Indian Affairs, MS-3657 MIB, 1849 C Street NW., Washington, DC 20240; Telephone (202) 219-4066.

**SUPPLEMENTARY INFORMATION:** This notice is published in the exercise of authority delegated by the Secretary of the Interior to the Assistant Secretary—Indian Affairs by 209 Departmental Manual 8.1 and is published to comply with the requirements of 25 CFR Section 151.12(b) that notice be given to the public of the Secretary's decision to acquire land in trust at least 30 days prior to signatory acceptance of the land into trust. On November 21, 2012, the Assistant Secretary—Indian Affairs decided to accept approximately 40 acres of land into trust for the Enterprise Rancheria of Maidu Indians of California under the authority of the Indian Reorganization Act of 1934, 25 U.S.C. 465. The 40 acres are located approximately 4 miles southeast of the community of Olivehurst, near the intersection of Forty Mile Road and State Route 65 in Yuba County, California, described as:

A portion of the East half of Section 22, Township 14 North, Range 4 East, M.D.B.&M., described as follows:

Commence at the North quarter corner of said Section 22 and being marked by 2 brass monument stamped LS3341 in a monument well as shown on Record of Survey No. 2000-15 filed in Book 72 of Maps, Page 34, County Records; thence South 0°28'11" East along the line dividing said Section 22 into East and West halves 2650.73 feet to a brass monument stamped LS3341 in a monument well as shown on said Record of Survey No.

2000-15 and marking the center of said Section 22; thence North 89°31'24" East 65.00 feet to a point on the East right-of-way line of Forty Mile Road; thence North 0°28'11" West along said East right-of-way line of Forty Mile Road 45.53 feet to a ½ inch rebar with LS3751 marking the point of beginning thence from said point of beginning continue along said East right-of-way line of Forty Mile Road the following courses and distances: North 0°28'11" West 1133.70 feet; thence North 5°14'27" East 50.25 feet; thence North 0°28'31" West 750.00 to a ½ inch rebar with LS3751; thence leaving said East right-of-way line of Forty Mile Road run North 88°00'51" East 1860.00 feet to a ½ inch with LS3751; thence South 0°28'11" East 1932.66 feet to a ½ inch rebar with LS3751; thence South 87°59'10" West 1865.03 feet to the point of beginning.

Said land is also shown as Parcel "C" on Certificate of Lot Line Adjustment 2002-07 recorded June 26, 2002, Instrument No. 2002-08119.

Official Records.

ANP: 014-280-095

Dated: November 21, 2012.

Kevin K. Washburn,

Assistant Secretary—Indian Affairs.

[FR Doc. 2012-29043 Filed 11-30-12; 8:45 am]

BILLING CODE 4310-4N-P

**DEPARTMENT OF THE INTERIOR****National Park Service**

[NPS-NE-SARA-11235; 4901-726]

**Minor Boundary Revision of Saratoga National Historical Park**

AGENCY: National Park Service, Interior.

ACTION: Notification of boundary revision.

**SUMMARY:** Notice is hereby given that, pursuant to 16 U.S.C. 460l-9(c)(1)(ii), the boundary of Saratoga National Historical Park is modified to include approximately 21.06 acres of adjacent unimproved land identified as Tract 01-157 (18.89 acres) and Tract 01-158 (2.17 acres). The tracts, owned respectively by Open Space Conservancy, Inc., and the State of New York, will be donated to the United States. The boundary revision is depicted on Map No. 374/112,692 and dated February 2012. The map is available for inspection at the following locations: National Park Service, Northeast Land Resources Program Center, New England Office, 115 John Street, Fifth Floor, Lowell, Massachusetts 01852, and National Park Service, Department of the Interior, Washington, DC 20240.

**FOR FURTHER INFORMATION CONTACT:**

Superintendent, Saratoga National Historical Park, 648 Route 32, Stillwater, New York 12170, telephone (518) 664-9821.

**DATES:** The effective date of this boundary revision is December 3, 2012.

**SUPPLEMENTARY INFORMATION:** 16 U.S.C. 460l-9(c)(1)(ii) provides that, after notifying the House Committee on Natural Resources and the Senate Committee on Energy and Resources, the Secretary of the Interior is authorized to make minor boundary revisions to areas of the National Park System. The Committees have been so notified. This boundary revision will contribute to, and is necessary for, the proper preservation, protection and interpretation of Saratoga National Historical Park.

Dated: September 14, 2012.

Dennis R. Reidenbach,

Regional Director, Northeast Region.

[FR Doc. 2012-29099 Filed 11-30-12; 8:45 am]

BILLING CODE 4310-WV-P

**DEPARTMENT OF THE INTERIOR****Bureau of Ocean Energy Management**

[Docket No. BOEM-2012-0095]

**Atlantic Wind Lease Sale 2 (ATLW2) Commercial Leasing for Wind Power on the Outer Continental Shelf Offshore Rhode Island and Massachusetts—Proposed Sale Notice**

AGENCY: Bureau of Ocean Energy Management (BOEM), Interior.

ACTION: Proposed Sale Notice for commercial leasing for wind power on the Outer Continental Shelf offshore Rhode Island and Massachusetts.

**SUMMARY:** This document is the Proposed Sale Notice (PSN) for the sale of commercial wind energy leases on the Outer Continental Shelf (OCS) offshore Rhode Island and Massachusetts, pursuant to BOEM's regulations at 30 CFR 585.216. BOEM proposes to offer for sale, using a multi-factor auction format, two leases that together encompass the Rhode Island and Massachusetts Wind Energy Area (WEA) that was identified on February 24, 2012 (see "Areas Offered for Leasing" below for a description of the WEA and lease areas). In this PSN, you will find information pertaining to the areas available for leasing, proposed lease provisions and conditions, auction details, the lease form, criteria for evaluating competing bids, award procedures, appeal procedures, and lease execution. BOEM invites comments during a 60-day comment period following this notice. The issuance of the proposed leases resulting from this announcement would not constitute an approval of

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Permit number	Applicant	Receipt of application Federal Register notice	Permit issuance date
<b>Marine Mammals</b>			
039386 .....	U.S. Fish and Wildlife Service, Marine Mammals Management.	77 FR 44264; July 27, 2012 .....	December 12, 2012.
186914 .....	Monterey Bay Aquarium .....	77 FR 46514; August 3, 2012 .....	December 21, 2012.

**Availability of Documents**

Documents and other information submitted with these applications are available for review, subject to the requirements of the Privacy Act and Freedom of Information Act, by any party who submits a written request for a copy of such documents to: Division of Management Authority, U.S. Fish and Wildlife Service, 4401 North Fairfax Drive, Room 212, Arlington, VA 22203; fax (703) 358-2280.

**Brenda Tapia,**

*Program Analyst/Data Administrator, Branch of Permits, Division of Management Authority.*

[FR Doc. 2012-31487 Filed 12-31-12; 8:45 am]

BILLING CODE 4310-55-P

**DEPARTMENT OF THE INTERIOR****Bureau of Indian Affairs****Land Acquisitions; Enterprise Rancheria of Maidu Indians of California**

**AGENCY:** Bureau of Indian Affairs, Interior.

**ACTION:** Notice of Final Agency Determination; Correction.

**SUMMARY:** This document contains a correction to the land description contained in the notice regarding the final agency determination to acquire approximately 40 acres of land into trust for gaming purposes for the Enterprise Rancheria of Maidu Indians of California, which published on Monday, December 3, 2012, 77 FR 71612.

**FOR FURTHER INFORMATION CONTACT:** Paula L. Hart, Director, Office of Indian Gaming, Bureau of Indian Affairs, MS-3657 MIB, 1849 C Street NW., Washington, DC 20240; Telephone (202) 219-4066.

**SUPPLEMENTARY INFORMATION:** As published, the land description in the December 3, 2012, notice contains an error. On page 71612 of the December 3, 2012, *Federal Register*, in the first column, beginning on line 56 and continuing through to the second column, line 26, correct to read as follows:

A portion of the East half of Section 22, Township 14 North, Range 4 East, M.D.B.&M., described as follows:

Commence at the quarter section corner common to said Section 22 and Section 15, Township 14 North, Range 4 East, M.D.B.&M., and being marked by a brass monument stamped LS3341 in a monument well as shown on Record of Survey No. 2000-15 filed in Book 72 of Maps, Page 34, Yuba County Records; thence South 00°28'11" East along the line dividing said Section 22 in to East and West halves 2650.73 feet to a brass monument stamped LS3341 in a monument well as shown on said Record of Survey No. 2000-15 and marking the center of said Section 22; thence North 89°31'24" East 65.00 feet to a point on the East right-of-way line of Forty Mile Road; thence North 00°28'11" West along said East right-of-way line of Forty Mile Road 45.53 feet to the point of beginning; thence from said point of beginning continue along said East right-of-way line of Forty Mile Road the following courses and distances: North 00°28'11" West 1133.70 feet, thence North 05°14'27" East 50.25 feet; thence North 00°28'11" West 136.91 feet; thence leaving said East right-of-way line of Forty Mile Road North 87°00'10" East 1315.48 feet; thence South 00°28'11" East 1320.48 feet; thence South 87°59'10" West 1320.48 feet to the point of beginning.

The above-described parcel is referred to as Yuba County Assessor's Parcel Number 014-280-095 (portion) containing approximately 40.00 acres, more or less.

Dated: December 26, 2012.

**Lawrence S. Roberts,**

*Acting Assistant Secretary—Indian Affairs.*

[FR Doc. 2012-31523 Filed 12-31-12; 8:45 am]

BILLING CODE 4310-4N-P

**DEPARTMENT OF THE INTERIOR****National Park Service**

[NPS-NEO-GATE-11468; PPNEGATEB0, PPMVSCS1Z.Y00000]

**Notice of January 23 and 24, 2013 Meeting for Fort Hancock 21st Century Advisory Committee**

**AGENCY:** National Park Service, Interior.

**ACTION:** Meeting notice.

**SUMMARY:** This notice sets forth the date of the first meeting of the Fort Hancock 21st Century Advisory Committee.

**DATES:** The public meeting of the Fort Hancock 21st Century Advisory Committee will be held on January 23 and 24, 2013, at 8:30 a.m. (EASTERN).

**ADDRESSES:** The Committee members will meet at Monmouth University, 400 Cedar Avenue, West Long Branch, NJ 07764. Please check [www.forthancock21stcentury.org](http://www.forthancock21stcentury.org) for exact building and room number.

**Agenda:** Committee meeting will consist of the following:

1. Welcome and introductions
2. Administrative briefings, including legal and ethics requirements
3. Discussion of the Committee's charter, goals and procedures
4. The effect of Hurricane Sandy and its implications for the Committee
5. Identifying key issues to be addressed by the Committee
6. Future Committee activities, meeting schedule, work plan
7. Public comment and
8. Adjournment

The final agenda will be posted on [www.forthancock21stcentury.org](http://www.forthancock21stcentury.org) prior to each meeting.

**FOR FURTHER INFORMATION CONTACT:**

Further information concerning the meeting may be obtained from Robert Vohden, Office of Business Services, Gateway National Recreation Area, 210 New York Avenue, Staten Island, NY 10305, at (718) 354-4710 or email: [admin@forthancock21stcentury.org](mailto:admin@forthancock21stcentury.org), or visit the Advisory Committee Web site at [www.forthancock21stcentury.org](http://www.forthancock21stcentury.org).

**SUPPLEMENTARY INFORMATION:** Under section 10(a)(2) of the Federal Advisory Committee Act (5 U.S.C. App.). The

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9th Circuit Case Number(s) 17-15245

NOTE: To secure your input, you should print the filled-in form to PDF (File > Print > PDF Printer/Creator).

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CERTIFICATE OF SERVICE

When All Case Participants are Registered for the Appellate CM/ECF System

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on (date) May 22, 2017.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

Signature (use "s/" format) s/ Rebecca Schmadeke

\*\*\*\*\*

CERTIFICATE OF SERVICE

When Not All Case Participants are Registered for the Appellate CM/ECF System

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on (date) [ ] .

Participants in the case who are registered CM/ECF users will be served by the appellate CM/ECF system.

I further certify that some of the participants in the case are not registered CM/ECF users. I have mailed the foregoing document by First-Class Mail, postage prepaid, or have dispatched it to a third party commercial carrier for delivery within 3 calendar days to the following non-CM/ECF participants:

[Empty box for listing non-CM/ECF participants]

Signature (use "s/" format)

[Empty box for signature]