Comments on the United States Environmental Protection Agency's Proposed Rule
Revision of Certain Water Quality Criteria Applicable to the State of Washington
Docket ID No. EPA-HQ-OW-2015-0174
December 28, 2015

Please accept these comments regarding the Environmental Protection Agency's (EPA) proposed Revision of Certain Water Quality Criteria Applicable to the State of Washington, Docket ID No. EPA-HQ-OW-2015-0174, published at 80 Fed. Reg. 55063 (Sept. 14, 2015).[1] These comments reflect the views of the undersigned authors, law professors who teach and write in the area of federal Indian law. The authors submit these comments as individuals, not on behalf of their institutions. Although these comments raise concerns about the proposed rule's impacts on American Indian tribes, they do not purport to represent the perspective of any tribe; those perspectives must be obtained directly from each tribe. Indeed, the authors wish to underscore the importance of consultation with the individual tribal nations affected, within the context of a government-to-government relationship.

I. Introduction

Water quality standards (WQS) for Washington[2] impact the rights, resources, and health and well-being of numerous tribes in the region. In fact, when the waters that support fish are allowed to be contaminated, tribes' interests are profoundly affected and tribal people disproportionately among the most exposed. This context is significant, because it constrains rulemaking in important ways. Among other things, the adequacy of WQS for Washington must be considered in view of legal protections for tribes' fishing rights, including treaties and other instruments.

Under the Clean Water Act (CWA), water quality standards are health-based standards. The touchstone for agencies' efforts is human health. Fish are the primary route of human exposure to PCBs, mercury, dioxins, and a host of toxic chemicals that are harmful to human health. Health-based water quality standards are set to ensure that humans can safely consume fish, without also being exposed to contaminants in harmful amounts. Pursuant to EPA guidance, agencies enlist quantitative risk assessment methods to set standards for both threshold and non-threshold contaminants. For threshold contaminants, standards are set so that contaminants don't exceed levels that are safe for humans. For non-threshold contaminants, including carcinogens, exposure to any non-zero amount has the potential to cause cancer; standards are set so that contaminants don't exceed a risk level determined to be

[1] U.S. Environmental Protection Agency, Revision of Certain Water Quality Criteria Applicable to the State of Washington, 80 Fed. Reg. 55063 (Sept. 14, 2015).

[2] In using this term throughout these comments, we mean to exclude waters within Indian Country, and support EPA's similar understanding when it clarifies that "[t]his proposed rule would apply to waters under the state of Washington's jurisdiction, and not to waters within Indian Country, unless otherwise specified in federal law. Some waters located within Indian Country already have CWA-effective human health criteria, while others do not. Several tribes are working with EPA to either revise their existing CWA-effective WQS, or obtain treatment in a similar manner as a state (TAS) status in order to adopt their own WQS in the near future." 80 Fed. Reg. at 55067.

"acceptable." In either case, agencies then work with a risk assessment equation to "solve" for the concentration of each chemical that will be permitted in the waters that support fish. Agency risk assessors consider the toxicity of each contaminant together with human characteristics and practices that expose people to the contaminant in their environment: how much fish will people eat, over how long a period, at what bodyweight?

The fish consumption rate (FCR) is a key variable in this equation. The FCR currently assumed by the state of Washington is 6.5 grams/day – just one fish meal per month. This estimate of fish intake is drawn from a survey of the general population in the United States conducted in 1973-74. Thus the data on which Washington's current human health criteria are based are over *forty years old* – they were gathered back when the rivers were on fire; lakes and bays were treated as sewers; and tribal harvest was still under open attack. Importantly, this 6.5 grams/day rate functions as a *de facto* ceiling on safe consumption for so long as it serves as the premise for state WQS. Because Washington's waters are only required to be clean enough to support this rate of fish intake, anyone who eats or would eat more fish than this is left to do so at his or her peril.

A FCR of 6.5 grams/day grossly underestimates what people in the fishing tribes in fact consume today, let alone what tribal members would consume were consumption not "suppressed" (a term discussed further below). Recognizing this significant inadequacy, the tribes in the Pacific Northwest took the lead in efforts to document tribal people's fish intake rates.[3] Beginning in 1994 with a groundbreaking survey by the Columbia River Inter-Tribal Fish Commission (CRITFC), data were published quantifying contemporary fish intake by people in the four CRITFC member tribes.[4] In 1996, the Squaxin Island Tribe and the Tulalip Tribes published a similar survey of their members' fish consumption practices. Other tribes and groups soon followed suit. These surveys documented contemporary consumption rates several orders of magnitude greater than the 6.5 grams/day currently assumed by Washington, particularly for those at the upper percentiles of the tribal populations.

It has now been over twenty-one years since the CRITFC study was published and the state of Washington has had quantified evidence of tribes' higher fish consumption rates. *A generation of Indian people has been born and come of age during this time.* They have grown up seeing signs along the waterways warning against consuming fish, encountering notices at tribal fisheries departments of toxic shellfish, and clicking on websites containing instructions for trimming the fat and discarding the skin so as to avoid the lipophilic toxics harbored there.[5] With ample local data in hand, Washington has nonetheless declined to revise its WQS throughout this time.

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[3] *See, infra*, Part IV.A.1.

[4] CRITFC's four member tribes are the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation, and the Confederated Tribes and Bands of the Yakama Nation.

[5] *See, e.g.,* Washington Dept. of Health, *Fish Consumption Advisories*, http://www.doh.wa.gov/CommunityandEnvironment/Food/Fish/Advisories.

Yet the CWA envisions frequent updates to state water quality standards, directing states at least every three years to review and, as appropriate, revise their water quality standards.[6] Importantly, the CWA sets forth the touchstone for state efforts to this end: "[s]uch standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter."[7] Among those purposes, the CWA sets forth a national goal of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water."[8] The EPA has interpreted this goal of "fishable" uses to "include, at a minimum, designated uses providing for the protection of aquatic communities and human health related to consumption of fish and shellfish."[9] The CWA gives EPA broad authority to oversee state efforts to this end, among other things, directing EPA promptly to issue WQS itself "in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of this chapter."[10] Indeed, Congress' impatience with the slow pace of states' work to control toxic contamination is well documented during the debate surrounding the 1987 amendments to the CWA; the resulting provisions for regular revisions to state WQS reflect this concern.[11] Flouting Congress' directive, Washington has simply refused to update its WQS.

Washington's recalcitrance is deeply troubling in view of the impact on the fishing tribes. Fish and all of the lifeways associated with the fish are essential to tribal health and well-being, today as in the past.[12] This fact has also been recognized by U.S. courts, which have observed that, at treaty times, "fish was the great staple of [Indians'] diet and livelihood,"[13] and thus fishing rights "were not much less necessary

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[6] Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. § 1313(c)(1) (2012). As recognized, *supra* note 2, the CWA authorizes both states and tribes to administer WQS for waters under their respective jurisdictions. However, because these comments address a state's (Washington's) failure to update its WQS and EPA's proposal to issue human health criteria for that state, they will refer throughout to the duties of "states" under the CWA.

[7] 33 U.S.C. § 1313(c)(2).

[8] 33 U.S.C. § 1251(a)(2).

[9] 80 Fed. Reg. at 55064; 40 C.F.R. § 131.2, § 131.4 (unless a state or tribe demonstrates that this use is not attainable, by means of a "use attainability analysis" pursuant to 40 C.F.R. § 131.10(j)).

[10] 33 U.S.C. § 1313(c)(4).

[11] Congress' distaste for delay on the part of the states was made known during debate surrounding the 1987 amendments. *See, e.g.,* U.S. Environmental Protection Agency, Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance; Final Rule, 57 Fed. Reg. 60,848, 60.849 (Dec. 22, 1992) [hereinafter EPA, National Toxics Rule] ("The critical importance of controlling toxic pollutants has been recognized by Congress and is reflected, in part, by the addition of section 303(c)(2)(B) to the Act. Congressional impatience with the pace of State toxics control programs is well documented in the legislative history of the 1987 amendments.").

[12] The Swinomish Tribe, for example, explains: "We are the People of the Salmon and our way of life is sustained by our connection to the water and to the lands where we have fished, gathered and hunted since time immemorial." Swinomish Indian Tribal Community, "We are …," http://www.swinomish-nsn.gov/. As *Tsi'li'xw* Bill James, Lummi Nation Hereditary Chief, explains, "seafood is the lifeline of our people. Everything under the water, our people ate during different times of the year." LUMMI NATION SEAFOOD CONSUMPTION STUDY, LUMMI NATURAL RESOURCES DEPARTMENT, LUMMI NATION SEAFOOD CONSUMPTION STUDY 1 (2012) [hereinafter LUMMI NATION SEAFOOD CONSUMPTION STUDY]. *See also*, David Close, Northwest Indian Fisheries Commission News Release (Apr. 27, 2010) (speaking at the Coast Salish Gathering, David Close (Cayuse) explains "we made a promise – the food would take care of us and we would take care of the food").

[13] Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658, 665 n.6 (1979) (citations and internal quotation marks omitted).

to the existence of the Indians than the atmosphere they breathed."[14] Fish are vital to tribal people for the nutrients they provide, of course, but fish consumption is also imbued with social meaning. Every facet of managing, harvesting, distributing, and honoring the fish is woven into the fabric of tribal life. These practices and the knowledge they beget form a central part of the inheritance of each succeeding generation. Fish are important for each individual tribal member, and for the tribe as a whole – necessary for health and well-being broadly understood to include not only physiological, but also cultural and spiritual dimensions.[15]

EPA is thus to be commended for exercising its authority under the CWA to redress the long delay in ensuring that WQS for Washington are protective of tribal fish consumers and to advance, rather than undermine, tribes' legally protected rights to take fish – fish that are fit for human consumption. We also support EPA's efforts, both at Region X and Headquarters, to work with the affected tribes and to propose a rule that is in fact informed by consultation with and input from the tribes. We urge the EPA to continue to consider tribal comments and input as it finalizes the rule as expeditiously as possible.

Part II of these comments discusses tribes' unique rights to harvest and consume fish – rights that are protected by treaties and other sources of law.[16] Part III evaluates the various aspects of EPA's proposed rule in light of this legal landscape. Part IV then offers comments on the particular inputs to EPA's derivation of human health criteria for Washington.

II. The Tribes' Unique Political and Legal Status and Rights to Fish

Tribes comprise distinct *peoples* with inherent rights. Tribes' status as self-governing, sovereign entities pre-dated contact with European settlers. This status, nonetheless, was affirmed by the nascent United States. Among other things, the U.S. viewed the Indian tribes as sovereigns, capable of entering into treaties.[17] Today, tribes are recognized to have a unique political and legal status – a status that sets them apart from every other population or group that might warrant particular consideration in decisions about environmental standards.[18] Tribes' rights and interests, moreover, are protected by a constellation of laws and commitments that are unique among groups affected by federal, state, and other decisions. These include protections secured by treaties, laws, and executive orders that speak to the rights of tribes and their members.

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[14] United States v. Winans, 198 U.S. 371, 381 (1905).

[15] *See, e.g.,* Jamie Donatuto et al., *Poisoning the Body to Nourish the Soul: Prioritizing Health Risks and Impacts in a Native American Community.* 13 HEALTH, RISK, AND SOCIETY 103 (2011).

[16] The discussion in Part II and elsewhere draws from Catherine A. O'Neill, *Fishable Waters*, 1 AMERICAN INDIAN L. J. 181 (2013), http://www.law.seattleu.edu/Documents/ailj/Spring%202013/O'Neill-Fishable%20Waters.pdf. [hereinafter O'Neill, *Fishable Waters*].

[17] Worcester v. Georgia, 31 U.S. (6 Pet.) 515 (1832).

[18] *See, e.g.,* United States v. Mazurie, 419 U.S. 544, 557 (1977) (rejecting lower court's characterization of tribe as mere association of U.S. citizens and finding, instead, that "Indian tribes are unique aggregations possessing attributes of sovereignty over both their members and their territory …"); *see also* Williams v. Lee, 358 U.S. 217 (1959); Morton v. Mancari 417 U.S. 535 (1974).

The starting place for an analysis of tribal fishing rights is a recognition that, prior to European contact, fishing, hunting, and gathering were vital to the lives of Indian people. Indians' aboriginal title to this land included the right to engage in these practices.[19] When tribes entered into treaties and agreements ceding lands to the United States, they often nonetheless reserved a suite of important rights, including their aboriginal fishing rights.

The Treaty of Point Elliott provides that "[t]he right of taking fish at usual and accustomed grounds and stations is further secured to said Indians in common with all citizens of the Territory...."[20] Although the precise language of the fishing clause varies somewhat in the different treaties with the tribes of the Pacific Northwest, U.S. courts have interpreted these provisions similarly to secure to the tribes a permanent, enforceable right to take fish throughout their fishing areas for ceremonial, subsistence and commercial purposes.[21] For its part, upon entering into treaties and agreements with the various tribes, the U.S. bound itself and its successors to protect the tribes' right to take fish in perpetuity. The treaties, moreover, have the status under the Constitution of "supreme law of the land."[22]

Importantly, all of the rights not expressly relinquished by the tribes were retained. This is a crucial tenet of federal Indian law.[23] As affirmed by the U.S. Supreme Court, the treaties represent "not a grant of rights to the Indians, but a grant of rights *from* them – a reservation of those not granted."[24] Treaty-reserved fishing rights are akin to pre-existing servitudes that burden and "run with" off-reservation lands.[25] The Court has held, for example, that implicit within the treaties' specific reservation of the right to "take fish" are rights of access, including over state or privately owned land.[26] "This principle ensures that reserved treaty rights are not rendered a nullity by shifting patterns of property ownership and development."[27]

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[19] FELIX COHEN, HANDBOOK OF FEDERAL INDIAN LAW 1154-56 (2012 ed.).

[20] Treaty with the Duwamish, Jan. 22, 1855, U.S.-Duwamish, art. V, 12 Stat. 927 (1859).

[21] *See, e.g.,* Confederated Tribes of the Umatilla Indian Reservation v. Alexander, 440 F. Supp. 553 (D. Or. 1977) (finding that a proposed dam on Catherine Creek would infringe rights guaranteed to the Umatilla tribe by the Treaty with the Walla Walla and stating "[f]urther, while the 1855 treaty spoke only of 'stations,', it is clear that the government and the Indians intended that all Northwest tribes should reserve the same fishing rights. 'It is designed to make the same provision for all the tribes and for each Indian of every tribe. The people of one tribe are as much the people of the Great Father as the people of another tribe; the red men are as much his children as the white men.'" (quoting Governor Stevens)).

[22] *Worcester*, 31 U.S. (6 Pet.) at 519 (1832) ("The constitution [declares] treaties already made, as well as those to be made, the supreme law of the land . . .").

[23] COHEN, *supra* note 19, at 1156-57.

[24] United States v. Winans*,* 198 U.S. 371, 381 (1905) (emphasis added).

[25] *Id.* (stating "[t]hey imposed a servitude upon every piece of land as though described therein").

[26] *Id.* (observing that "[n]o other conclusion would give effect to the treaty").

[27] COHEN, *supra* note 19, at 1174; *accord* Grand Traverse Bay of Ottawa & Chippewa Indians v. Dir., Michigan Dept. of Natural Resources, 141 F.3d 635, 641 (6th Cir. 1998) (finding that tribe's reserved fishing rights in Lake Michigan entitled the tribe to mooring access at two municipally owned marinas, given the necessity of using large boats for safety reasons and the fact that the marinas occupied the only harbors within reasonable distance of the reserved fishing locations).

Additionally, under federal Indian law, unique canons guide courts' construction of the treaty language.[28] According to the canons, treaties should be construed liberally in favor of Indian tribes; they should be construed as the Indians would have understood them; and any ambiguities should be resolved in the tribes' favor.[29]

The historical record, from both sides, is very clear on the point that protections for the Pacific Northwest tribes' pre-existing fishing rights were crucial to obtaining tribes' assent to the treaties. U.S. courts have recognized this understanding on the part of the treaty negotiators:

> It is perfectly clear … that the Indians were vitally interested in protecting their right to take fish at usual and accustomed places, whether on or off the reservations, and that they were invited by the white negotiators to rely and did in fact rely heavily on the good faith of the United States to protect that right.[30]

Accordingly, for more than a century, the courts have regularly interpreted the fishing right to encompass not only the right to harvest but also the subsidiary rights necessary to render it of continued relevance for tribal fishers. Among the facets of the treaty guarantees affirmed by the courts are the points that: (1) "The treaty clauses regarding off-reservation fishing . . . secured to the Indians rights, privileges and immunities distinct from those of other citizens."[31] (2) The rights secured to tribes by treaty are permanent, such that "[t]he passage of time and the changed conditions affecting the water courses and the fishery resources in the case area have not eroded and cannot erode the right secured by the treaties . . ."[32] (3) "[N]either the treaty Indians nor the state . . . may permit the subject matter of these treaties [i.e. the fisheries] to be destroyed."[33] (4) The treaty fishing rights encompass the right to fish in all areas traditionally available to the tribes, and "[agencies] ... do not have the ability to qualify or limit the Tribes' geographical treaty fishing right (or to allow this to occur ...) by eliminating a portion of an Indian fishing ground …," except as necessary to conserve a species.[34] (5) The treaty fishing rights encompass all available species of fish found in the treating tribes' fishing areas, "[b]ecause the 'right of taking fish' must be read as a reservation of the Indians' pre-existing rights, and because the

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[28] COHEN, *supra* note 19, at 113-19, 1156. ("The canons have quasi-constitutional status; they provide an interpretive methodology for protecting fundamental constitutive, structural values against all but explicit congressional derogation."); *id.* at 118-19.

[29] *See, e.g.,* Minnesota v. Mille Lacs Band of Chippewa Indians, 526 U.S. 172, 194, 196, 200 (1999).

[30] Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658, 667 (1979) (holding that the treaty fishing clause guarantees to the tribes not merely access to usual and accustomed fishing sites and an "equal opportunity" for Indians, along with non-Indians, to try to catch fish, but instead secures to the tribes a right to harvest a share of each run of anadromous fish that passes through tribal fishing areas).

[31] United States v. Washington, 384 F. Supp. 312, 401 (W.D. Wash. 1974).

[32] *Id.*

[33] United States v. Washington*,* 520 F.2d 676, 685 (9th Cir. 1975).

[34] *See, e.g.,* Muckleshoot v. Hall*,* 698 F. Supp. 1504, 1513-14 (W.D. Wash. 1988) (enjoining construction of a marina in Elliott Bay that would have eliminated a portion of the tribes' usual and accustomed fishing areas); *see also* United States v. Oregon*,* 718 F.2d 299, 305 (9th Cir. 1983) (holding that "the court must accord primacy to the geographical aspect of the treaty rights").

right to take *any* species, without limit, pre-existed the Stevens Treaties."[35] These features of tribes' rights are important in part because they continue to inform tribes' aspirations for and entitlements to a future in which their exercise of their rights is robust, and tribal members' consumption and use of the resources on which they have historically depended is restored.

The U.S. courts' most recent affirmation of the treaty guarantees is of a piece with these previous cases. In what is known colloquially as the "Culverts" case,[36] the court addressed a threat to the tribes' treaty rights posed by environmental degradation. The Culverts case is an outgrowth of *United States v. Washington*, in which Judge Boldt divided the questions before the court into two "phases." In Phase II, the district court considered "whether the right of taking fish incorporates the right to have treaty fish protected from environmental degradation." [37] The court in 1980 held that "implicitly incorporated in the treaties' fishing clause is the right to have the fishery habitat protected from man-made despoliation….The most fundamental prerequisite to exercising the right to fish is the existence of fish to be taken."[38] On appeal, the district court's opinion was vacated on jurisprudential grounds.[39] The Ninth Circuit found its "general admonition" inappropriate as a matter of "judicial discretion" and stated that the duties under the treaties in this respect "will depend for their definition and articulation upon concrete facts which underlie a dispute in a particular case."[40] So, in the Culverts subproceeding, filed in 2001, the tribes brought to the court's attention such a set of concrete facts. Specifically, the tribes cited evidence that the state of Washington had improperly maintained culverts around the state, with the result that miles of salmon habitat were blocked, contributing to a decline in salmon numbers and thus an erosion of tribes' ability to exercise their treaty-guaranteed right to take fish. Thus, the district court in the Culverts case considered the question "whether the Tribes' treaty-based right of taking fish imposes upon the State a duty to refrain from diminishing fish runs by constructing or maintaining culverts that block fish passage."[41]

In 2007, the district court ruled in favor of the tribes' request for a declaratory judgment to this effect on cross-motions for summary judgment. In finding that the state indeed had the duty urged by the tribes, Judge Martinez considered carefully the intent of the parties to the treaties, in accordance with

[35] United States v. Washington, 873 F. Supp. 1422, 1430 (W.D. Wash. 1994) (emphasis in original).
[36] Culverts Order, 2007 WL 2437166 (W.D. Wash.); Culverts Decision, No. 9213RSM, Subproceeding 01-1, slip op. (W.D. Wash. 2013).
[37] United States v. Washington, 506 F. Supp. 187, 190 (W.D. Wash. 1980) (Phase II) *vacated by* United States v. Washington, 759 F.2d 1353 (9th Cir. 1985).
[38] United States v. Washington, 506 F. Supp. at 203.
[39] The procedural history of Phase II is discussed at greater length by Judge Martinez in the Culverts Order. *See* Culverts Order, 2007 WL 2437166, at *4-*5. Notably, although the State had argued that the Ninth Circuit's vacatur ought to be understood broadly, as a rejection of the tribes' position, the court disagreed. "The [appellate] court's order did not contain broad and conclusive language necessary to reject the idea of a treaty-based duty in theory as well as in practice. … [its] ruling, then, cannot be read as rejecting the concept of a treaty-based duty to avoid specific actions which impair salmon runs. The court did not find fault with the district court's analysis on treaty-based obligations, but rather vacated the declaratory judgment as too broad, and lacking a factual basis at that time. The court's language, however, clearly presumes some obligation on the part of the State …" *Id*.
[40] United States v. Washington, 759 F.2d at 1357.
[41] Culverts Order, 2007 WL 2437166, at *3.

"well-established principles of treaty construction," citing U.S. Supreme Court precedent for the instruction that "the treaty must therefore be construed, not according to the technical meaning of its words to learned lawyers, but in the sense in which they would naturally be understood by the Indians."[42] Judge Martinez began his analysis by quoting the Court's earlier work in the *U.S. v. Washington* line of decisions, but highlighted language underscoring that among the points of "taking" fish was, ultimately and obviously, eating fish.

> Governor Stevens and his associates were well aware of the "sense" in which the Indians were likely to view assurances regarding their fishing rights. During the negotiations, the vital importance of the fish to the Indians was repeatedly emphasized by both sides, and *the Governor's promises that the treaties would protect that source of food and commerce were crucial in obtaining the Indians' assent.* It is absolutely clear, as Governor Stevens himself said, that neither he nor the Indians intended that the latter "should be excluded from their ancient fisheries," and it is accordingly inconceivable that either party deliberately agreed to authorize future settlers to crowd the Indians out of any meaningful use of their accustomed places to fish.[43]

Notably, Judge Martinez added the emphasis indicated to the Court's language he quoted.

Judge Martinez then quoted at length from expert testimony that focused explicitly on the role of the fish as food, forever – "for subsistence and for trade" – noting "[t]he significance of [the] right [to take fish] to the Tribes, its function as an incentive for the Indians to sign the treaties, and the Tribes' reliance on the unchanging nature of that right."[44] He recited from the declaration of historian Richard White:

> Stevens and the other negotiators anticipated that Indians would continue to fish the inexhaustible stocks in the future, just as they had in the past. Stevens specifically assured the Indians that they would have access to their normal food supplies now and in the future. At the Point Elliot Treaty, Stevens began by speaking of subsistence. "[A]s for food, you yourselves now, as in time past, can take care of yourselves." The question, however, was not whether they could now feed themselves, but rather whether in the future after the huge cessions that the treaties proposed the Indians would still be able to feed themselves. Stevens assured them that he intended that the treaty guarantee them that they could. *"I want that you shall not have simply food and drink now but that you may have them forever."*[45]

Judge Martinez noted the parties' likely understandings, given the reliability of the anadromous fishery resource in particular, the "abundance" of the fisheries in general, and their presumed "future

[42] *Id*. at *6 (quoting State of Washington v. Washington State Commercial Passenger Fishing Vessel Association).
[43] *Id*. at *7 (quoting State of Washington v. Washington State Commercial Passenger Fishing Vessel Association, internal citation omitted, emphasis added by Judge Martinez).
[44] *Id*. at *7-*8.
[45] *Id*. at *9 (quoting Declaration of historian Richard White, emphasis added by Judge Martinez).

'inexhaustability.'"[46] These understandings, and Stevens' promises to the end that this would "forever" be the case, were what persuaded the tribes to sign the treaties. As Judge Martinez observed, "[i]t was not deemed necessary to write any protection for the resource into the treaty because nothing in any of the parties' experience gave them reason to believe that would be necessary." He quoted historian Joseph Taylor:

> During 1854-55, white settlement had not yet damaged Puget Sound fisheries. During those years, Indians continued to harvest fish for subsistence and trade as they had in the past. Given the slow pace of white settlement and its limited and localized environmental impact, Indians had no reason to believe during the period of treaty negotiations that white settlers would interfere, either directly through their own harvest or indirectly through their environmental impacts, with Indian fisheries in the future. During treaty negotiations, Indians, like whites, assumed their cherished fisheries would remain robust forever.[47]

Thus, Judge Martinez concluded:

> [T]he representatives of the Tribes were personally assured during the negotiations that they could safely give up vast quantities of land and yet be certain that their right to take fish was secure. These assurances would only be meaningful if they carried the implied promise that neither the negotiators nor their successors would take actions that would significantly degrade the resource.[48]

Indeed, Judge Martinez observed, environmental degradation would not have been anticipated by the Indians not only because white settlement had not yet occasioned much by way of adverse environmental impacts, but also because the Indians regulated their own activities in order to prevent environmental harm and ensure the health of the fishery resource.[49] Thus, according to Judge Martinez, "[s]uch resource-degrading activities as the building of stream-blocking culverts could not have been anticipated by the Tribes, who themselves had cultural practices that mitigated negative impacts of their fishing on the salmon stocks."[50]

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[46] *Id*.
[47] *Id*. (quoting Declaration of historian Joseph E. Taylor, III).
[48] *Id.* at *10. .
[49] *Accord, e.g.,* RONALD L. TROSPER, RESILIENCE, RECIPROCITY AND ECOLOGICAL ECONOMICS: NORTHWEST COAST SUSTAINABILITY (2009); D. Bruce Johnsen, *Salmon, Science, and Reciprocity on the Northwest Coast*, 14 ECOLOGY AND SOCIETY 43 (2009). In the earliest times, when the balance of power still favored Native people, settlers too in some cases had to observe indigenous rules for consumption and resource management. As Joseph Taylor recounts in the context of the Columbia River Basin, "Clatsop and Chinooks delivered canoe loads of fish …but aboriginal rules still shaped the exchange. During ceremonial periods Indians continued to restrict consumption …Non-Indians grudgingly obeyed as long as Indians could force compliance, but repeated epidemics undermined aboriginal control." JOSEPH E. TAYLOR, III, MAKING SALMON: AN ENVIRONMENTAL HISTORY OF THE NORTHWEST FISHERIES CRISIS 60 (1999).
[50] Culverts Order, 2007 WL 2437166, at *10 (citing Declaration of Robert Thomas Boyd).

The significance of the Culverts order is widely recognized. While the state, in the wake of the Ninth Circuit's vacatur of the Phase II decision, may have harbored questions about the vibrancy of its treaty-based duty to avoid actions that impair the health of the salmon, the existence of this duty was explicitly confirmed by the Culverts order. This duty, as the court stated, exists "in theory as well as in practice." Although the parties attempted to settle upon a schedule for the state to fix its stream-blocking culverts in view of this duty, they were unsuccessful and a bench trial on the remedies was held in 2010. On March 29, 2013, Judge Martinez granted the tribes' request for a permanent injunction, and denied the state's request for reconsideration of the court's 2007 Culverts order.[51] Judge Martinez incorporated his earlier ruling in its entirety, reiterating that "[t]he Treaties were negotiated and signed by the parties on the understanding and expectation that the salmon runs were inexhaustible and that salmon would remain abundant forever."[52]

The tribes brought their claim to the court in the context of a discrete set of facts and Judge Martinez decided the question in this particularized context, carefully avoiding a broad, acontextual pronouncement.[53] Yet the court's rulings and reasoning in the Culverts case are instructive. Arguably, the Culverts decision can fairly be read to confirm the point that, as successors to the negotiators, federal and state governments[54] may be held to account for the actions they take, or permit others to take, that significantly degrade the treaty resource – given an appropriately concrete factual context. Given the court's concern with the *function* of the treaty resource, moreover – its role in securing food and a livelihood for the tribes – it is logical that governments may be held to account for actions that compromise the treaty resource whether by depletion or by contamination.

It should be noted that the tribes' fishing rights encompass geographical areas throughout the Pacific Northwest. In Washington, for example, tribes' adjudicated usual and accustomed or "U & A" areas have been determined to consist in virtually the entirety of the waters within the state's exterior

[51] Culverts Decision, No. 9213RSM, Subproceeding 01-1, slip op. at 32 (W.D. Wash. 2013).
[52] *Id.*
[53] Culverts Order, 2007 WL 2437166, at*10. Thus, Judge Martinez assured the State of Washington that "[t]his is not a broad 'environmental servitude' or the imposition of an affirmative duty to take all possible steps to protect fish runs as the State protests, but rather a narrow directive to refrain from impeding runs in one specific manner." *Id*. Similarly, in the Culverts Decision, Judge Martinez stated that "[t]he State's duty to maintain, repair or replace culverts which block passage of anadromous fish does not arise from a broad environmental servitude against which the Ninth Circuit Court of Appeals cautioned. Instead, it is a narrow and specific treaty-based duty that attaches when the State elects to block rather than bridge a salmon-bearing stream with a roadbed. The roadbed crossing must be fitted with a culvert that allows not only water to flow, but which insures the free passage of salmon of all ages and life stages both upstream and down. That passage is best facilitated by a stream simulation culvert rather than the less-effective hydraulic design or no-slope culvert." Culverts Decision, slip op. at 35. Note, too, that the state of Washington has since appealed Judge Martinez' decision to the Ninth Circuit, where it remains at present; the parties have submitted briefs, and oral argument has been heard, but the court has not yet rendered an opinion.
[54] *See, supra* note 22 and accompanying text (discussing the treaties' status under the U.S. Constitution as "supreme law of the land").

boundaries.[55] As a consequence, environmental standards applicable in this area – whether set by federal, tribal, or state governments – can affect tribes' rights and interests.

Although the discussion above is focused on tribal fishing rights secured by treaties and the Constitution, it bears noting that tribal fishing rights affected by Washington's WQS may enjoy legal protections under executive order, statute, or other sources of law.

Additionally, when the rights and resources of tribes and their members are affected by state and federal agencies' decisions, there is a particular constellation of laws and commitments that comes into play. This constellation is unique to tribes – it would not be relevant were only other groups' interests affected, but it must be considered given that tribes' rights are at stake. Although it is beyond the scope of these comments to discuss these laws and commitments, it is worth noting them here. In addition to the treaties and agreements between the U.S. and the Pacific Northwest tribes discussed above, numerous legal commitments recognize the unique duties owed to tribes and their members. Chief among these is the federal trust responsibility, under which doctrine the federal government is held to the heightened standards of a trustee in its decisions affecting tribal resources and rights. Although courts' recent interpretations of this trust responsibility in the context of agencies' environmental decisions have tended toward a narrow rather than robust understanding, the EPA at least has indicated its appreciation of a duty that flows from tribes' unique legal status under the Constitution, treaties, laws, executive orders, and court decisions and from the historical relationship between the federal government and tribal nations.[56] Relatedly, the federal government has committed to work with tribes on a government-to-government basis, in furtherance of tribal self-determination, pledging, among other things, to consult with tribal governments in a meaningful and timely fashion.[57]

Other obligations and commitments that are particular to tribes and their members stem from U.S. commitments under international law to protect the rights of indigenous peoples, including rights to

[55] This is not to suggest that tribes' rights are limited to the state's exterior boundaries; rather, it is to say that insofar as the state asserts environmental regulatory authority over "the waters of Washington," these waters are burdened by tribes' pre-existing rights. For state recognition of this point, *see, e.g.,* Washington State Governor's Office of Indian Affairs, "Map of Reservations and Ceded Lands," http://www.goia.wa.gov/tribal_gov/documents/Tribal_Cedres.pdf; *see also,* Washington State Department of Transportation, Model Comprehensive Tribal Consultation Process for National Environmental Policy Act, Appendix B (July 2008), http://www.wsdot.wa.gov/environment/tribal (summarizing adjudicated "usual and accustomed" areas for western Washington tribes).

[56] *See* Memorandum from Lisa P. Jackson, Administrator, U.S. Environmental Protection Agency, to All EPA Employers (Jul. 22, 2009), http://www.epa.gov/tp/pdf/reaffirmation-memo-epa-indian-policy-7-22-09.pdf (reaffirming EPA's 1984 Indian policy and explicitly acknowledging its trust responsibility to the tribes); U.S. Environmental Protection Agency, Policy for the Administration of Environmental Programs on Indian Reservations (Nov. 8, 1984), http://www.epa.gov/tp/pdf/indian-policy-84.pdf; *see generally*, COHEN, *supra* note 19, at 430-32. For a more expansive understanding of the federal government's trust responsibility regarding the ecosystems that support salmon, *see* NORTHWEST INDIAN FISH COMMISSION, TREATY RIGHTS AT RISK (2011).

[57] *See* Executive Order 13,175, Consultation and Coordination with Indian Tribal Governments, 65 Fed. Reg. 67,249 (Nov. 6, 2000); *see infra*, Part III.D.

traditional resources and to hunt, fish, and gather.[58] Additionally, if water quality standards for Washington permit tribes to be disproportionately impacted, they may run afoul of federal commitments to environmental justice. Disproportionate impacts can include impacts that are not only different in degree, but also different in kind – such as those implicated when tribes' rights, resources, and the multiple facets of the lifeways associated with harvesting and consuming fish are affected. EPA has indicated that it will take seriously its obligations to ensure environmental justice in discharging its various duties. Executive Order 12,898 commits agencies of the federal government to further environmental justice and specifically mentions to need to protect "subsistence consumption of fish and wildlife;"[59] Executive Order 13,175 also bears on federal agencies' environmental justice obligations to tribes.[60] Moreover, EPA has recently emphasized its particular commitment to ensuring environmental justice for tribes, their members, and indigenous people. EPA's July 2014 *Policy on Environmental Justice for Working with Tribes and Indigenous Peoples* commits in this context to addressing disproportionate risks to human health and the environment.[61]

III. WQS for Washington Must Be Evaluated in View of the Above Legal Constraints

Water quality standards for Washington must be evaluated in view of the legal constraints elaborated above, in Part II.

A. EPA Correctly Recognizes that WQS for Washington Must Comport with the Above Legal Constraints

As EPA correctly recognizes, the legal constraints elaborated above have implications both for EPA's necessity determination (Proposed Rule, Part III) and for EPA's proposed human health criteria for Washington (Proposed Rule, Part IV). Ultimately, neither Washington's recalcitrance in updating its WQS nor the human health criteria proposed by EPA for Washington may serve to undermine the rights secured to the tribes by treaties and other legal commitments.

In concluding that Washington's existing human health criteria are not protective of the applicable designated uses, which include fishing and shellfish harvesting, EPA correctly states that:

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[58] UNITED STATES MISSION TO THE UNITED NATIONS, ANNOUNCEMENT OF U.S SUPPORT FOR THE UNITED NATIONS DECLARATION ON THE RIGHTS OF INDIGENOUS PEOPLES 6, 8 (2011), http://usun.state.gov/documents/organization/153239.pdf (acknowledging that the Declaration calls upon the U.S. to acknowledge the "interests of indigenous peoples in traditional lands, territories, and natural resources," and recognizing "that many indigenous peoples depend upon a healthy environment for subsistence fishing, hunting and gathering" and that various Declaration provisions address the consequent need for environmental protections); United Nations Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, U.N. Doc. A/RES/61/295 (Sept. 13, 2007) [hereinafter UNDRIP].

[59] Executive Order 12,898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Feb. 11, 1994) (singling out the issue of "subsistence consumption of fish and wildlife" in section 4-4, the only subject matter issue receiving specific mention in the Executive Order).

[60] Executive Order 13,175, *supra* note 57.

[61] U.S. Environmental Protection Agency, Policy on Environmental Justice for Working with Tribes and Indigenous Peoples 1 (July 24, 2014), http://www.epa.gov/oecaerth/environmentaljustice/resources/policy/indigenous/ej-indigenous-policy.pdf.

> In determining whether WQS comply with the CWA and EPA's regulations, when setting criteria to support the most sensitive use in Washington, it is necessary to consider other applicable laws, including federal treaties. In Washington, many tribes hold reserved rights to take fish for subsistence, ceremonial, religious, and commercial purposes, including treaty reserved rights to fish at all usual and accustomed fishing grounds and stations in waters under state jurisdiction, which cover the majority of waters in the state. Such rights include not only a right to take those fish, but necessarily include an attendant right to not be exposed to unacceptable health risks by consuming those fish.[62]

EPA's rationale here echoes exactly that of the courts, which have long recognized that the tribes' continued ability to consume fish or to earn a livelihood by selling fish to others for their consumption was an essential point of the treaty guarantees.[63] As the U.S. Supreme Court observed in *Washington v. Washington State Commercial Passenger Fishing Vessel Association*, "the Indians were vitally interested in protecting their right to take fish at usual and accustomed places whether on or off the reservations, and they were invited by the white negotiators to rely and did in fact rely on the good faith of the United States to protect that right."[64] In a passage from that case underscored by Judge Martinez in the recent Culverts order, the Court found that "Governor [Stevens'] promises that the treaties would protect that source of food and commerce were crucial in obtaining the Indians' assent."[65] Thus, as courts have emphasized, important among the myriad facets of tribes' reserved fishing rights is the role of fish as food for human consumption.[66] Put another way: the tribes' right to take fish does not refer to catch-and-release practices.

Similarly, in deriving human health criteria for Washington, EPA correctly states that:

> A majority of waters under Washington's jurisdiction are covered by reserved rights, including tribal treaty-reserved rights. Many areas where reserved rights are exercised cannot be directly protected or regulated by the tribal governments and, therefore, the responsibility falls to the state and federal governments to ensure their protection. In order to effectuate and harmonize these reserved rights, including treaty rights, with the CWA, EPA determined that such rights appropriately must be considered when

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[62] 80 Fed. Reg. at 55066 (citation omitted).

[63] *See* discussion *supra* notes 28-35 and accompanying text.

[64] Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658, 667 (1979).

[65] Culverts Order, 2007 WL 2437166, at at *7 (quoting State of Washington v. Washington State Commercial Passenger Fishing Vessel Association, internal citation omitted, quoted text italicized by Judge Martinez)

[66] *Accord* Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. Wisconsin, 653 F. Supp. 1420, 1426 (W.D. Wis. 1987)(By dint of the 1837 and 1842 treatie, the Chippewa were "guaranteed the right to make a moderate living off the land and from the waters in and abutting the ceded territory and throughout that territory by engaging in hunting, fishing, and gathering as they had in the past and by consuming the fruits of that hunting, fishing, and gathering or by trading the fruits of that activity for goods they could use and consume in realizing that moderate living").

> determining which criteria are necessary to adequately protect Washington's fish and shellfish harvesting designated uses.[67]

EPA's understanding, moreover, has received recent support from the Office of the Solicitor in the Department of Interior, which considered the relationship between tribal fishing rights and WQS in Maine and confirmed to EPA that tribal fishing rights "should be taken into account when evaluating the adequacy of [a state's] WQS."[68] Although the Solicitor's analysis involved the particular legal sources of Maine tribes' fishing rights, it drew on broadly applicable tenets of federal Indian law, including principles articulated by the courts in cases interpreting tribal fishing rights in Washington. As the Solicitor stated:

> In summary, fundamental, long-standing tenets of federal Indian law support the interpretation of tribal fishing rights to include the right to sufficient water quality to effectuate the fishing right. Case law supports the view that water quality cannot be impaired to the point that fish have trouble reproducing without violating a tribal fishing right; similarly water quality cannot be diminished to the point that consuming fish threatens human health without violating a tribal fishing right. A tribal right to fish depends on a subsidiary right to fish populations safe for human consumption. If third parties are free to directly and significantly pollute the waters and contaminate available fish, thereby making them inedible or edible only in small quantities, the right to fish is rendered meaningless. To satisfy a tribal fishing right to continue culturally important fishing practices, fish cannot be too contaminated for consumption at sustenance levels.[69]

EPA's recognition that the adequacy of WQS under the CWA must be considered in light of the need "to effectuate" tribes' legally protected fishing rights, and that criteria designed to protect Washington's fish and shellfish designated harvesting uses must be "harmonize[d]" with "these reserved rights, including treaty rights," corrects a frequent misunderstanding among some states and commentators about the import of tribes' legally protected rights. Specifically, the states of Washington and Idaho have cited EPA guidance under the CWA as authority for a host of determinations that, together, would support WQS that would permit the waters to be contaminated to the point that the fish are "inedible or edible only in small quantities," thereby rendering meaningless the tribes' rights to fish.[70]

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[67] 80 Fed. Reg. at 55067 (citations and internal cross-references omitted).

[68] Letter from Hilary C. Tompkins, Office of the Solicitor, U.S. Department of the Interior, to Avi S. Garbow, Office of General Counsel, U.S. Environmental Protection Agency (Jan. 30, 2015).

[69] *Id.*

[70] *See, e.g.*, Washington Dept. of Ecology, Washington State Water Quality Standards: Human Health Criteria and Implementation Tools, Overview of Key Decisions in Rule Amendment (Jan., 2015), https://fortress.wa.gov/ecy/publications/SummaryPages/1410058.html (citing "EPA guidance" throughout as source of authority for its choice of variables for deriving its proposed human health criteria, which would have enlisted a FCR of 175 grams/day, a cancer risk level of 10^{-5}, a bodyweight of 80 kg, and a RSC of 1). Note that Washington has since withdrawn the proposed rule for which this document provided support. *See, also, e.g.* Idaho Dept. of Environmental Quality, Final Proposal, Water Quality Standards, Docket No. 58-0102-1201 (Dec. 8,

Yet EPA has acknowledged that its guidance must be considered as subsidiary to any applicable sources of law.[71] This would include tribes' legally protected fishing rights. States and others cannot simply assume that EPA's general guidance for water quality standard-setting has accounted for tribes' fishing rights, including rights secured by treaty and other legal agreements. Nor could EPA, in guidance, purport to authorize itself or states to take actions in contravention of the tribes' treaties and other agreements with the United States.[72] Additionally, EPA's *Ambient Water Quality Criteria Methodology* must be interpreted in light of data and developments since it was published, in 2000. Among other things, EPA's guidance pre-dated the U.S. district court's further explication of the scope of tribes' treaty-secured rights to fish in the Culverts litigation in 2007 and 2013, outlined above. As a consequence, statements in the guidance must also be understood as a product of their time.

EPA's proposed rule appropriately acknowledges the need "to effectuate reserved fishing rights, including the rights that federal treaties afford to tribes in Washington" and explicitly states that "the EPA's 2000 Human Health Methodology did not consider how CWA decisions should account for applicable reserved fishing rights, including treaty-reserved rights."[73]

2015), http://www.deq.idaho.gov/media/60177653/58-0102-1201-final-proposal-1215.pdf (stating that "EPA guidance allows states to choose from a risk range of 10^{-4} to 10^{-6} for the incremental increase in cancer risk used in human health criteria calculations" in support of replacing Idaho's previous 10^{-6} value with a proposed 10^{-5} value; this risk level would be coupled with a FCR of 66.5 grams/day and a bodyweight of 80 kg). Moreover, whereas EPA Region X, in comments on IDEQ's proposal, reminded IDEQ of the need to effectuate tribes' fishing rights, IDEQ, in its reponse to public comments, disagreed. *Compare* Letter from Angela Chung, Manager, Water Quality Standards Unit, EPA Region X, to Don Essig, Idaho Dept. of Environmental Quality, att. at 6 (Nov. 6, 2015), http://www.deq.idaho.gov/media/60177521/58-0102-1201-epa-region-10-comment-1115.pdf [hereinafter EPA Region X, Comments on IDEQ Proposal] ("In Idaho, certain tribes hold reserved rights to take fish for subsistence purposes, including treaty-reserved rights to fish at all usual and accustomed fishing grounds and stations and in the unoccupied lands of the United States, which in combination appear to cover the majority of waters under state jurisdiction … Such rights appropriately must be considered when determining which criteria are necessary to adequately protect Idaho's waters used for consumption of fish") *with* Idaho Dept. of Environmental Quality, Public Comment Summary 20 (Dec. 7, 2015), http://www.deq.idaho.gov/media/60177654/58-0102-1201-public-comment-summary-1215.pdf ("[T]he underlying premise of EPA's argument that the treaties preserve a right to take and consume fish at a subsistence rate unsuppressed by fish availability or concerns about the safety of available fish is not supported by the treaty language itself or by relevant case law").

[71] U.S. Environmental Protection Agency, Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health 1-2 (2000)[hereinafter EPA, AWQC Guidance], http://water.epa.gov/scitech/swguidance/standards/upload/2005_05_06_criteria_humanhealth_method_complete.pdf. (making a disclaimer at the outset of its guidance to this effect: "This Methodology does not substitute for the CWA or EPA's regulations; nor is it a regulation itself. Thus, the 2000 Human Health Methodology cannot impose legally-binding requirements on EPA, States, Tribes or the regulated community, and may not apply to a particular situation based upon the circumstances.")

[72] O'Neill, *Fishable Waters*, *supra* note 16, at 255-260.

[73] 80 Fed. Reg. at 55068.

B. EPA Correctly Understands Tribes to be the Relevant Target General Population

EPA understands tribes "exercising their reserved fishing rights in Washington" to be "the target general population" to be protected by Washington's WQS. As EPA correctly states:

> Protecting Washington's fish and shellfish harvesting designated uses, which include consumption of such fish and shellfish, necessitates protecting the population exercising those uses. Where a population exercising such uses has a legal right to do so, the criteria protecting such uses must be consistent with such right. Thus, EPA proposes to consider the tribal population exercising their reserved fishing rights in Washington as the target general population for the purposes of deriving protective criteria that allow the tribes to harvest and consume fish consistent with their reserved rights.[74]

EPA's disapproval of Maine's proposed WQS corroborates the understanding that WQS affecting tribal fishing rights must "treat the tribal population exercising the sustenance fishing use as the target general population, not as a high-consuming subpopulation of the State," and must therefore use fish consumption data that appropriately reflect tribal consumers' fishing practices.[75]

C. EPA Appropriately Recognizes the Issue of Suppression

EPA appropriately recognizes the issue of suppression and recommends that human health criteria be derived by "selecting a FCR that reflects consumption that is not suppressed by fish availability or concerns about the safety of available fish."[76] Importantly, EPA correctly observes that "[w]hile EPA encourages doing so in general, where tribal treaty or other reserved fishing rights apply, selecting a FCR

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[74] 80 Fed. Reg. at 55067.

[75] Letter from H. Curtis Spalding, Regional Administration, U.S. Envtl. Protection Agency, Region 1, to Patricia W. Aho, Commissioner, Me. Dep't of Envtl. Protection (Feb. 2, 2015); *Analysis Supporting EPA's February 2, 2015 Decision to Approve, Disapprove, and Make No Decision on, Various Maine Water Quality Standards, Including Those Applied to Waters of Indian Lands in Maine*, U.S. ENVTL. PROTECTION AGENCY, http://www.ecy.wa.gov/programs/wq/ruledev/wac173201A/comments/0060g.pdf [hereinafter EPA, Region 1, Maine Disapproval Letter](stating that "the data used to determine the fish consumption rate for tribal sustenance consumers must reasonably represent tribal consumers taking fish from tribal waters and fishing practices unsuppressed by concerns about the safety of the fish available to them to consume. . . . EPA concludes that the best available data that represent the unsuppressed sustenance fishing practices of tribal members fishing in tribal waters are contained in the Wabanaki Lifeways study, which looked at the historic sustenance practices of the Tribes in Maine"). Although a complete analysis of the similarities and differences in the legal bases for tribes' fishing rights affected by Maine's WQS and those affected by Washington's WQS is beyond the scope of these comments, the comparison is sufficiently apt to support an analogy between the unsuppressed consumption rates and fishing practices guaranteed to the Maine tribes through various statutory and other legal recognitions and the unsuppressed consumption rates and fishing practices guaranteed to the Washington tribes through various treaties and other legal recognitions. The issue of suppression is taken up in Part III.C of these comments.

[76] 80 Fed. Reg. at 55065 (citing U.S. Environmental Protection Agency, Human Health Ambient Water Quality Criteria and Fish Consumption Rates Frequently Asked Questions (Jan. 18, 2013), http://water.epa.gov/scitech/swguidance/standards/criteria/health/methodology/upload/hhfaqs.pdf).

that reflects unsuppressed fish consumption could be necessary in order to satisfy such rights."[77] Additionally, as EPA notes, "[d]eriving criteria using an unsuppressed FCR furthers the restoration goals of the CWA, and ensures protection of human health as pollutant levels decrease, fish habitats are restored, and fish availability increases."[78]

Contemporary fish consumption rates may reflect fish consumption at or close to its nadir – a point vividly illustrated by the Nez Perce Tribe's presentation on suppression during a recent Idaho Department of Environmental Quality (IDEQ) public meeting.[79] A FCR selected from the 90th or even the 99th percentile of contemporary tribal consumption surveys will likely be considerably lower than historical fish intake levels – and considerably lower than fish intake consonant with a more robust fish resource and full exercise of tribal fishing rights.

1. Historical Fish Consumption Practices and Rates

The tribes of the Pacific Northwest are fishing peoples. Historically, fish were vital to tribal life – a central feature of the seasonal rounds by which food was procured for ceremonial, subsistence, and commercial purposes. This fact is self-evident to tribal people. As noted above,it has also been recognized by U.S. courts, which have observed that, at treaty times, "fish was the great staple of [Indians'] diet and livelihood,"[80] and thus fishing rights "were not much less necessary to the existence of the Indians than the atmosphere they breathed."[81]

There are ample data documenting the role of fish as a dietary mainstay for Indian people prior to European contact and at the time of the treaties. There were differences, of course, in the species relied upon and the quantities consumed, from group to group and from year to year. Nonetheless, there is no doubt that fish comprised a staple source of calories, protein, and other nutrients for tribal people throughout the Pacific Northwest. These data, moreover, drawn from multiple lines of scientific evidence, have supported quantified estimates of historical consumption rates. For example, Professor Deward Walker has estimated pre-dam fish consumption rates for the Columbia River tribes (Umatilla, Yakama, and Nez Perce), based on a review of the ethnohistorical and scientific literature. Walker has quantified total fish consumption for these peoples at 1000 grams/day.[82] Earlier estimates, for example, by Gordon Hewes, produced figures of similar magnitude. Hewes estimated salmon consumption rates for the Cayuse at 365 pounds/year (453.6 grams/day) and for the Umatilla and Walla Walla at 500

[77] 80 Fed. Reg. at 55066.
[78] 80 Fed. Reg. at 55065-66.
[79] Nez Perce Tribe, The Nez Perce Tribe and its Fisheries: "Our Fate and the Fate of the Fish are Linked," Powerpoint Presentation (Oct. 10, 2014), http://www.deq.idaho.gov/media/1118105/58-0102-1201-nez-perce-tribe-fisheries-presentation-100214.pdf.
[80] Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658, 665 n.6 (1979) (citations and internal quotation marks omitted).
[81] United States v. Winans, 198 U.S. 371, 381 (1905).
[82] A. SCHOLTZ, ET AL., COMPILATION OF INFORMATION ON SALMON AND STEELHEAD TOTAL RUN SIZE, CATCH, AND HYDROPOWER-RELATED LOSSES IN THE UPPER COLUMBIA RIVER BASIN, ABOVE GRAND COULEE DAM, Fisheries Technical Report No. 2, Upper Columbia United Tribes Fisheries Center, Eastern Washington University (1985).

pounds/year (621.4 grams/day).[83] Hewes' estimates for the Puget Sound tribes were similar. For example, he estimated salmon consumption rates for the Lummi and Nooksack tribes at 600 pounds/year (745.6 grams/day), for the Clallam at 365 pounds/year (453.6 grams/day) and for the Puyallup, Nisqually, and various other tribes at 350 pounds/year (435 grams/day).[84] These and other data have been enlisted in peer-reviewed methodologies for quantitative exposure estimates for various Pacific Northwest tribes. For example, Barbara Harper, et al. concluded that "[h]istorically, the Spokane Tribe consumed roughly 1,000 to 1,500 grams of salmon and other fish per day."[85]

The substantial degree to which fish were relied upon by the tribes at treaty time was emphasized in evidence before the court in *U.S. v. Washington.* Among the findings of fact in that case, Judge Boldt cited the following figure: "Salmon, however, both fresh and cured, was a staple in the food supply of these Indians. It was annually consumed by these Indians in the neighborhood of 500 pounds per capita [i.e., 621.4 grams/day]."[86] Note that the figure cited by Judge Boldt records consumption of salmon only; total fish consumption would have been even greater.[87]

2. "Suppression" Identified as an Issue by NEJAC

In contrast to estimates of historical fish consumption rates, recent surveys of tribal populations produce estimates of contemporary fish consumption rates. It is important to recognize that these snapshots of contemporary practices are likely distorted due to suppression.

Beginning in 2000, the National Environmental Justice Advisory Council (NEJAC) responded to EPA's request that it document and recommend ways to address the disproportionate impacts of contaminated and depleted fish, wildlife and aquatic resources.[88] Tribal representatives in particular emphasized that degraded ecosystems adversely impacted important tribal resources and undermined

[83] Gordon W. Hewes, *Indian Fisheries Productivity in Pre-Contact Times in the Pacific Salmon Area*, 7 NORTHWEST ANTHROPOLOGICAL RESEARCH NOTES 133, 136 (1973).
[84] *Id.*
[85] Harper, et al., *The Spokane Tribe's Multipathway Subsistence Exposure Scenario and Screening Level RME*, 22 Risk Analysis 513, 518 (2002)[hereinafter, Harper, et al., *Spokane Tribe's Exposure Scenario*]. Harper, et al. improved upon the earlier estimates, among other things by accounting for the greater caloric requirements of an active, subsistence way of life. Thus, for example, while Hewes' estimates assumed a 2000 kcal/day energy requirement, Harper, et al. used a 2500 kcal/day figure, "based on a moderately active outdoor lifestyle and renowned athletic prowess" of Spokane tribal members. *Id.* at 517. For updated studies supporting similar heritage rate figures, *see* Barbara L. Harper & Deward E. Walker, Jr., *Comparison of Contemporary and Heritage Fish Consumption Rates in the Columbia River Basin*, 43 HUM. ECOLOGY 225 (2015); Barbara L. Harper & Deward E. Walker, Jr., *Columbia Basin Heritage Fish Consumption Rates*, 43 HUM. ECOLOGY 237 (2015).
[86] United States v. Washington, 384 F. Supp. 312, 380 (W.D. Wash. 1974) (discussing Yakama consumption).
[87] In a related vein, we note with approval that EPA's proposed rule, at footnote 18, cites many of the sources included in this and the preceding paragraph of these comments; however, we urge attention to whether the data in each case refer to intake of salmon only or to total fish intake. EPA's characterization in footnote 18 of the figure cited by Judge Boldt in *U.S. v. Washington*, for example, may suggest that it refers to total fish intake ("a heritage FCR of 621 g/day") rather than salmon intake only. 80 Fed. Reg. at 55066, n.18.
[88] NATIONAL ENVIRONMENTAL JUSTICE ADVISORY COUNCIL, FISH CONSUMPTION AND ENVIRONMENTAL JUSTICE 1 (2002) [hereinafter NEJAC FISH CONSUMPTION REPORT].

tribal members' consumption and use of those resources. They pointed out that surveys of tribal members' contemporary fish intake would reflect consumption rates and patterns that had been greatly altered from historical practices – practices to which tribes had rights, secured in many instances by treaties and other legal protections. The NEJAC recognized, too, that surveys of other groups' contemporary fish intake would also to some extent reflect consumption rates that had been diminished in the face of contamination and depletion– particularly given the recent proliferation of fish consumption advisories nationwide. The NEJAC report, issued in 2002, thus brought attention to the issue of "suppression effects" – enlisting a term coined by one of its members, Professor Patrick West, to describe the impact of fish consumption advisories on rates purporting to reflect fish intake in Michigan.[89]

> A 'suppression effect' occurs when a fish consumption rate (FCR) for a given population, group, or tribe reflects a current level of consumption that is artificially diminished from an appropriate baseline level of consumption for that population, group, or tribe. The more robust baseline level of consumption is suppressed, inasmuch as it does not get captured by the FCR.[90]

Importantly, the NEJAC report highlighted the potential feedback loop set in motion when contemporary survey data, biased downward due to suppression, were used to set environmental standards.

> [W]hen environmental agencies set or approve water quality standards that rely on a picture of exposure that takes people to be eating smaller quantities of fish, agencies will permit relatively greater quantities of pollutants to remain in or be discharged to the waters and sediments. That is to say, agencies will set less protective standards. The downward spiral thus begins, as these aquatic environments and the fish they support will be permitted to become increasingly contaminated, and some individuals in turn might be expected to respond by reducing their fish consumption even further. Or some individuals in turn might find that there are fewer fish to be caught (and those that remain to be increasingly contaminated) or there are fewer places open for shellfish harvesting. In either case, studies would reflect even lower FCRs, and agencies would then set new standards assuming that little or no human exposure to contaminants occurs via fish consumption, and permit even greater quantities of pollutants in aquatic ecosystems.[91]

Rather, it was urged, environmentally just standards would require the use of an "appropriate baseline" for the relevant affected group.[92] In the case of the Yakama and other fishing tribes in the Pacific

[89] *Id.* at 43 (observing that "suppression effects" were recognized and named in an early survey of Michigan sport anglers and served as a basis for adjusting the observed FCR upward).
[90] *Id.* at 43-45.
[91] *Id.* at 49.
[92] *Id.* at 44.

Northwest, for example, the NEJAC report quoted workgroup member Moses Squeochs, then-Environmental Program Director for the Yakama Nation, who pointed to the more robust level of fish consumption supported by the environment as of 1855, the date of the treaty between the bands of the Yakama and the U.S.[93]

3. Suppression Broadly Recognized

The NEJAC's observation that surveys depicting contemporary practices will provide a snapshot distorted by suppression was soon echoed in the legal, science, and risk policy literature.[94] Researchers elaborated that suppression in this context may be a consequence of several factors, and that the forces of suppression may have affected different groups in different ways. For the fishing tribes in the Pacific Northwest, these pressures have operated since at least the 1800s and include depletion and contamination of the fish or other resources; denied or diminished access to fishing and harvesting places; years of prosecution and gear confiscation by public officials; and intimidation by private individuals.[95] For example, as researchers have documented:

> Tribal people are still harassed while participating in the harvest of traditional foods via verbal, physical, and legal threats by private citizens and public law enforcement authorities, and their gear is still being vandalized, stolen, or seized.[96]

And while earlier public policies seeking to thwart tribal fishing have been disavowed, the legacy of this era remains. Some fishing families have never recovered from having their fishermen imprisoned and their gear confiscated, leaving them to look to other employment to make ends meet – a necessity that

[93] *Id.* at 44 & n.116.

[94] *See, e.g.*, Catherine A. O'Neill, *Risk Avoidance, Cultural Discrimination, and Environmental Justice for Indigenous Peoples*, 30 Ecology. L. Q. 1, 50-51 (2003)[hereinafter O'Neill, *Risk Avoidance, Cultural Discrimination*]; Jamie Donatuto & Barbara L. Harper, *Issues in Evaluating Fish Consumption Rates for Native American Tribes*, 28 RISK ANALYSIS 1497, 1500 (2008). The term continues to gain recognition, and understanding of its implications continues to grow. *See, e.g.*, FRASER SHILLING ET AL., CALIFORNIA TRIBES FISH-USE: FINAL REPORT (July 2014) (documenting FCRs at the 95th percentile between 30 grams/day (Chumash) and 240 grams/day (Pit River) but adding the caveat that "[t]he rate of fish use (frequency and consumption rate) was suppressed for many tribes, compared to traditional rates.")

[95] Tribal leaders have long observed the myriad causes of suppression operating to diminish tribal fishing and fish consumption. These are usefully summarized in Donatuto & Harper, *supra* note 94 at 1500-01; *see also* WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW IN INDIAN COUNTRY 25 (2005) ("In the latter half of the nineteenth century, the fishing grounds were quickly enclosed. . . . In hundreds of confrontations, the Indians met owners who hadn't heard of the fishing 'servitude,' or who didn't believe in it; who knew for sure that access was not here but over there; who would let the gates down, but only for a small and reasonable fee; who would insist the fishery was a private one; . . . the Indians would be introduced to fences and road closures and padlocks and abutments and signs and guard dogs and firearms that were among the pleasures of all fee-simple property owners. . . . Litigation would begin in 1884, and in a fundamental sense, it would never end. Treaty fishing lawsuits continue today into the 21st century.").

[96] Donatuto & Harper, *supra* note 94 at 1501.

has reverberated throughout the tribes, affecting others who would have depended on these families for fish.[97]

For other groups, these forces have shaped behavior more recently, as contamination became evident in the late 1960s and fish consumption advisories became more prevalent beginning in the 1970s and 1980s. For example, consumption surveys of women of childbearing age may reflect a current level of consumption that is diminished from levels that women in this group *would* consume, but for the existence of fish consumption advisories due to mercury contamination.[98]

Of course, not everyone is able to change his or her fish consumption practices in order to avoid contact with contaminants or to compensate for restricted resource uses.[99] Yet, recent studies have shown that even some tribal people for whom fish are traditionally important have reduced their fish intake in the face of a contaminated fish resource and consequent fish consumption advisories.[100] Moreover, such advisories can have spillover effects, as their reach often extends to family members and others beyond the "target" audience. For example, fish consumption advisories for methylmercury are aimed at children and women of childbearing age, given methylmercury's impact on neurodevelopment; however, studies have found that men and older women have reduced their fish intake in response to these advisories as well.[101]

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[97] *See, e.g.,* Salmon Defense, *Back to the River* (DVD, 2014)(providing personal accounts of tribal fishers, leaders, and others involved in the struggle for tribal treaty rights from the pre-Boldt era to the present).

[98] *See, e.g.*, Emily Oken et al., *Decline in Fish Consumption Among Pregnant Women After a National Mercury Advisory*, 102 OBSTETRICS & GYNECOLOGY 346 (2003) (finding that pregnant women with access to obstetric care decreased their fish consumption in response to publication of federal advisory warning of mercury contamination in certain species of fish); *but cf.* Jay P. Shimshack, et al., *Mercury Advisories: Information, Education, and Fish Consumption*, 53 J. ENVTL. ECON. & MGMT. 158, 177 (2007) (finding that, among "educated" families with young or nursing children, purchase of canned fish decreased by 50% in response to consumption advisories due to mercury, but finding no change in fish consumption among "less educated" families).

[99] *See* O'Neill, *Risk Avoidance, Cultural Discrimination, supra* note 94; Catherine A. O'Neill, *No Mud Pies: Risk Avoidance as Risk Regulation*, 31 VT. L. REV. 273 (2007).

[100] Elizabeth Hoover, *Cultural and Health Implications of Fish Advisories in a Native American Community*, 2 ECOLOGICAL PROCESSES 1 (2013) (finding that 75% of respondents in Akwesasne community reported decreasing or ceasing entirely their fish intake in the face of contamination and fish consumption advisories); *see also* Donatuto & Harper, *supra* note 94 at 1501 (finding that "[k]nowledge of contamination in areas traditionally harvested—learned through anecdotal, first-hand or visual data, and fish advisories—have influenced some native people to eat less subsistence seafood," but noting that "[d]espite these obstacles, many tribal people continue to rely on subsistence foods with seafood being a primary source, although they may not always mirror levels of historic consumption. Furthermore, some tribal people continue to harvest and eat fish and shellfish in areas where fish advisories have been issued. In many cases, people continue to eat fish they know are contaminated because upholding the traditional ways is paramount to cultural survival").

[101] Hoover, *supra* note 100 (finding that men were among those limiting their intake, despite the fact that the advisories were aimed at women); Shimshack, et al., *supra* note 98 (finding that entire families were impacted by consumption advisories due to mercury, given that those in "educated" families with young or nursing children decreased their purchase of canned fish decreased by 50%, despite the target audience being children and women of childbearing age).

Increasingly, federal, tribal, and state environmental agencies have acknowledged the issues posed by suppression. In 2013, EPA updated earlier guidance to recommend that suppression be accounted for when agencies set water quality standards – a position recognized in EPA's proposed rule.[102] The Spokane Tribe has adopted – and EPA has approved – water quality standards founded on unsuppressed, "heritage" rates.[103] EPA has also supported research into methods documenting heritage exposure scenarios for Wabanaki traditional lifeways.[104] Importantly, EPA has cited suppression among the reasons for disapproving water quality standards adopted by the state of Maine and applicable to "Indian lands,"[105] and for weighing in against the Idaho Department of Environmental Quality's proposed use of an average value from contemporary surveys of the Nez Perce tribe for water quality standards in Idaho.[106]

4. Past and Future

As noted above, fish and all of the lifeways associated with the fish are essential to tribal health and well-being, today as in the past. Fish consumption is thus an embedded practice. Fish are vital to tribal people for the nutrients they provide, of course, but fish consumption is also imbued with social meaning. Every facet of managing, harvesting, distributing, and honoring the fish is woven into the fabric of tribal life. These practices and the knowledge they beget form a central part of the inheritance of each succeeding generation. For this reason, the salmon have been described as a "cultural keystone species" for the Indian peoples of the Pacific Northwest.[107] Fish are important for each individual tribal member, and for the tribe as a whole – necessary for health and well-being broadly understood to include not only physiological, but also cultural and spiritual dimensions.[108] As depicted in artwork by

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[102] U.S. Environmental Protection Agency, Human Health Ambient Water Quality Criteria and Fish Consumption Rates Frequently Asked Questions (Jan. 18, 2013), http://water.epa.gov/scitech/swguidance/standards/criteria/health/methodology/upload/hhfaqs.pdf.

[103] Spokane Tribe of Indians Res. 2010-173, *Surface Water Quality Standards*, at 13 (Feb. 25, 2010) ("aquatic organism consumption rate" of 865 g/day); Letter from Daniel D. Opalski, Director, Office of Water and Watersheds, U.S. Environmental Protection Agency, Region X, to Rudy Peone, Chairman, Spokane Tribe of Indians (Dec. 19, 2013).

[104] Barbara Harper & Darren Ranco, *Wabanaki Traditional Cultural Lifeways Exposure Scenario*, U.S. ENVTL. PROTECTION AGENCY (July 9, 2009), http://www.epa.gov/region1/govt/tribes/pdfs/DITCA.pdf (prepared for EPA by the authors, in collaboration with the five federally recognized tribal nations in what is now Maine).

[105] EPA, Region 1, Maine Disapproval Letter, *supra* note 75.

[106] EPA Region X, Comments on IDEQ Proposal, *supra* note 70.

[107] Ann Garibaldi & Nancy Turner, *Cultural Keystone Species: Implications for Ecological Conservation and Restoration* 9 ECOLOGY AND SOCIETY 1 (2004); *accord* Donatuto & Harper, *supra* note 94, at 1500 (explaining that, for the tribes of the Pacific Northwest, "fish represent a cultural keystone species—species that have significant meaning and identity in tribal values and practices and as such are used in family and place names, educational stories, and ceremonies. Impacts to cultural keystone species degrade overall cultural morale. Therefore, degradation of traditional foods, for example, via contamination, directly impacts the physical health of those consuming the food and is regarded, equally, as an attack on beliefs and values through the 'acknowledged relationship of the people with the land, air, water, and all forms of life found within the natural system.'") (quoting SUQUAMISH TRIBE, FISH CONSUMPTION SURVEY OF THE SUQUAMISH INDIAN TRIBE OF THE PORT MADISON INDIAN RESERVATION, PUGET SOUND REGION (2000)).

[108] *See, e.g.,* Donatuto et al., *supra* note 94.

Swinomish carver and painter Kevin Paul that graced a recent study, fish are "food for the body, food for the soul."[109]

For the tribes, the past informs the future. Historical, original, or "heritage" rates have ongoing relevance for the fishing tribes. This is so given that the treaty guarantees are in perpetuity, given that the tribes in fact seek to resume fish consumption practices and rates consonant with the treaty guarantees, and given that the tribes envision a future in which ecosystems that support the fish are restored. Indeed, whereas the "appropriate baseline level of consumption" referred to by the NEJAC may be subject to debate for other groups, there is a clear touchstone for the fishing tribes: only tribes have legally protected rights to a certain historical, original, or heritage baseline level of consumption. Thus, for example, the Umatilla Tribe looked to "original consumption rates along the Columbia River and its major tributaries" in developing a fish consumption rate for environmental regulatory purposes "because that is the rate that the Treaty of 1855 is designed to protect and which is upheld by case law. It also reflects tribal fish restoration goals and healthy lifestyle goals."[110] Relatedly, recent surveys of Swinomish tribal members showed that they sought to reinvigorate more robust fish consumption practices and to increase their fish intake.[111]

In sum, we support the EPA's recognition of the need to address suppression, and emphasize that EPA's recognition accords with the recommendation to this end by the NEJAC. We support in particular EPA's acknowledgement that it "where tribal treaty or other reserved fishing rights apply" it will be "necessary" to account for suppression, including by selecting a FCR that reflects unsuppressed fish consumption. We also support EPA's understanding of supporession's myriad causes, including depletion and contamination of the fish resource. Finally, we agree with EPA's recognition that using an unsuppressed FCR to derive WQS "furthers the restoration goals of the CWA, and ensures protection of human health as pollutant levels decrease, fish habitats are restored, and fish availability increases" and note that the CWA sets forth as its goal nothing less than "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters"[112] – a goal shared by the fishing tribes, as illustrated above.

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[109] *See* Donatuto & Harper, *supra* note 94, at fig 1., "Swinomish Seafood Spiral"); magnet with artwork and text distributed by Swinomish Indian Tribal Community (on file with Catherine O'Neill).

[110] STUART G. HARRIS & BARBARA L. HARPER, CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION, EXPOSURE SCENARIO FOR CTUIR TRADITIONAL SUBSISTENCE LIFEWAYS app. 3 (2004).

[111] JAMIE DONATUTO, WHEN SEAFOOD FEEDS THE SPIRIT YET POISONS THE BODY: DEVELOPING HEALTH INDICATORS FOR RISK ASSESSMENT IN A NATIVE AMERICAN FISHING COMMUNITY, 85-89 (Ph.D. dissertation, University of British Columbia 2008) (summarizing survey of Swinomish Indian Tribal Community members, finding multiple causes of suppressed consumption, and finding that 73% of respondents stated that they would like to eat more fish than they do now). *Accord* Donatuto & Harper, *supra* note 94, at 150 (using the term "heritage" rates and describing the relevance of past consumption practices for future consumption practices for the fishing tribes).

[112] 33 U.S.C. § 1251(a).

D. EPA is Correct to Recognize the Importance of Consultation with Affected Tribes

Given the impact that WQS for the state of Washington will have on tribes' rights and resources and on the health and well-being of tribal members, EPA is correct in recognizing the importance and necessity of consulting with affected tribes. The United States has affirmed that its unique relationship with American Indian tribal governments requires, among other things, consultation with tribes on a government-to government basis in order to ensure that tribes are able to provide meaningful and timely input into regulatory policies with tribal implications.[113] This commitment has been enshrined in executive order[114] and reaffirmed, most recently, by President Obama, who reminded federal agencies that they "are charged with engaging in regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications."[115] Additionally, the United Nations Declaration on the Rights of Indigenous Peoples affirms various facets of indigenous peoples' rights to consultation.[116]

EPA states that its derivation of the water quality criteria for Washington was informed by consultation with and input from the tribes:

> After consideration of the full range of available local fish consumption data and after consultation with Washington tribes and Columbia River Basin tribes in Oregon and Idaho, EPA determined that a FCR of 175 g/day very likely does not reflect unsuppressed consumption rates of tribes within the state. EPA considered this fact as well as tribal input in selecting a cancer risk level of 10^{-6} to account for this uncertainty and ensure that EPA's proposed criteria protect Washington's fishing uses, including the tribes' reserved fishing rights.[117]

We commend EPA's efforts, both at Region X and Headquarters, to work with the affected tribes and to propose a rule that is in fact informed by consultation with and input from the tribes. We note with support that EPA considered the various inputs to the proposed human health criteria for Washington in light of its obligation to effectuate tribes' fishing rights and its commitment to consultation on a

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[113] *See, generally,* Colette Routel & Jeffrey Holth, *Toward Genuine Tribal Consultation in the 21st Century*, 46 U. MICH. J. L. REFORM 417 (2013).

[114] Executive Order No. 13175, *supra* note 57.

[115] President Barack Obama, Memorandum for the Heads of Executive Departments and Agencies, 74 Fed. Reg. 57,881 (Nov. 5, 2009) .

[116] UNDRIP, *supra* note 58 at art 19 ("States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.

[117] 80 Fed. Reg. at 55068 (internal cross-reference omitted") and art. 32 ("Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources…. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.") *See supra* note 58 and accompanying text (discussing the United States' recent announcement of support for UNDRIP).

government-to-government basis. We appreciate EPA's acknowledgement that the FCR selected, for example, "very likely does not reflect unsuppressed consumption rates of tribes within the state," but support EPA's consideration of the tribes' input in arriving at the proposed 175 grams/day FCR as well as EPA's insistence that this FCR be evaluated together with the other variables used to derive the human health criteria – such that, when considered as a whole, the proposed rule advances, rather than undermines, the protection of tribes' rights and resources, and the health and well-being of tribal members.

We note that, as a result, the Northwest Indian Fisheries Commission (NWIFC), in comments prepared at the behest of its twenty member tribes, "strongly supports" finalizing the proposed rule "without further delay."[118] We echo this recommendation, and urge that EPA continue to consider carefully input from individual tribes and inter-tribal consortia as it completes this rulemaking.

IV. EPA's Derivation of Human Health Criteria for Washington is Sound and Supportable

EPA's derivation of human health criteria for Washington is sound and supportable in view of the best available science and the relevant law. We urge that EPA move expeditiously to finalize the proposed criteria. As elaborated below, there is ample scientific support for EPA's selection of the various inputs used to derive the human health criteria. We acknowledge that, for some inputs, there is support for selecting values that are even more protective than those enlisted by EPA; however, we believe that, taken as a whole, the proposed human health criteria significantly advance the protection of tribes' rights, resources, and health and well-being.

A. Fish Consumption Rate

EPA's proposed human health criteria enlist a FCR of 175 grams/day. As EPA recognizes:

> [T]his FCR accounts for local data (consistent with EPA's methodology), reflects input received during consultation with tribes, and appropriately addresses protection of Oregon's downstream WQS, per EPA's regulations at 40 CFR 131.10(b).[119]

We support EPA's use of the 175 grams/day value for the FCR, and its recognition of the need to target protection at the 95th percentile of the tribal population (rather than aiming to protect only some lesser portion of the tribal population). We also support EPA's recognition of the need to protect downstream states' and tribes' WQS.

[118] Northwest Indian Fish Commission, Comments on the United States Environmental Protection Agency's Proposed Rule: Revision of Certain Water Quality Criteria Applicable to the State of Washington,Docket ID No. EPA-HQ-OW-2015-0174 (Dec. 28, 2015).
[119] 80 Fed. Reg. at 55067.

1. Surveys of Contemporary Fish Intake in Tribal Populations

As EPA observes, the 175 grams/day figure "approximates the 95th percentile consumption rate of surveyed tribal members from the CRITFC study."[120] Surveys of fish consumption in tribal populations (including the CRITFC survey) are properly viewed alongside other surveys used to document contemporary fish consumption in other populations and relied upon by government agencies in the environmental regulatory context. These studies of tribal fish consumption have been conducted under governmental or inter-governmental auspices, and subjected to internal and external peer review. These studies have consistently been found to be technically defensible by federal and state governments.[121]

In fact, to the extent that contemporary surveys of tribal populations have erred on the side of following conventions developed for general population surveys, they may underestimate even contemporary tribal consumption rates.[122] Thus, for example, the study of the Squaxin Island Tribe and the Tulalip Tribes and the study of the CRITFC member tribes both hewed to the statistical convention that "outliers" – in this case, representing high-end fish consumption rates – are treated as likely the result of error (for example, in recording a respondent's fish consumption rate) rather than a true value. As such, it is a frequent practice for such outlier data points to be omitted from the dataset that then forms the basis of population values (e.g., the mean, or the 90th percentile) or to be "recoded" to coincide with a number closer to the bulk of the population, such as a number equal to three standard deviations from the mean.[123] But, as has been recognized, some tribal members – particularly those from traditional and

[120] *Id.*

[121] As part of the rulemaking process for updating Oregon's water quality standards, a cadre of independent experts, the Human Health Focus Group (HHFG), was convened to assess the scientific defensibility and applicability of the available fish consumption studies, including the tribal studies then available, namely, the CRITFC, Squaxin Island/Tulalip Tribes, and the Suquamish surveys. *See* Human Health Focus Group, *Oregon Fish and Shellfish Consumption Rate Project*, Or. Dep't of Envtl. Quality, http://www.deq.state.or.us/wq/standards/humanhealthrule.htm#fish; OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY, HUMAN HEALTH FOCUS GROUP REPORT, OREGON FISH CONSUMPTION RATE PROJECT (June, 2008) [hereinafter ODEQ, HHFG REPORT]. After an extensive, year-long review, the HHFG found each of these studies to be scientifically defensible, deeming them both "reliable" and "relevant." ODEQ, HHFG REPORT at 7, 39-40. In rulemaking processes supporting water quality standards for Washington and Idaho, these same surveys' scientific defensibility has been reviewed and re-reviewed: incredibly, Idaho's review of the Tulalip and Squaxin Island study was the *sixth* it had undergone as part of federal or state agency processes. Idaho, too, concluded that these surveys warranted high marks for quality and scientific defensibility. *See Quality of Survey Criteria Rating Matrix*, Idaho Dep't of Envtl. Quality (Nov. 26, 2012), http://www.deq.idaho.gov/media/924655-58-0102-1201-quality-of-survey-criteria-rating-matrix.pdf (assessing the quality and scientific defensibility of 19 fish consumption surveys from around the Pacific Northwest and finding that six of these, including the three tribal studies judged scientifically defensible by Oregon's HHFG and the more recent Lummi Nation study, warranted "a score of 10 or better.")

[122] *See, e.g.*, Donatuto & Harper, *supra* note 94.

[123] *But cf.* U.S. ENVIRONMENTAL PROTECTION AGENCY, GUIDELINES FOR EXPOSURE ASSESSMENT 65 (1992), http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=15263 (stating, in contrast to this frequent practice, that "[o]utliers should not be eliminated from data analysis procedures unless it can be shown that an error has

fishing families – in fact consume very large quantities of fish, even in contemporary times. Tribal researchers at Umatilla, for example, identified a subset of interviewees (35 of 75) who are "traditional fishers" and who confirmed eating fish "two to three times a day in various forms."[124] The average consumption rate for this group was found to be 540 grams/day. Notably, the relatively high fish consumption rates indicated by this subset of tribal members reflect *actual* contemporary consumption, not – as assumed for so-called outliers – error. When outliers are treated automatically as errors, according to statistical convention, the effect is to depress the various percentile values and, importantly, to fail to reflect the consumption practices of those tribal members whose practices today are most consonant with practices guaranteed to the tribes by treaty and to which tribes, in an exercise of cultural self-determination, seek to return. A host of other conventions, detailed by tribal researchers, similarly operate so that, together, these surveys likely underestimate even contemporary tribal fish consumption rates.[125]

Additionally, depending on the time period that is covered by a survey, the recorded rates may undercount contemporary intake if the period is one of relatively low harvest. This has been shown to be the case, for example, for the years in the early 1990s canvassed by the CRITFC survey, during which the tribal harvest was significantly reduced from more recent years, coinciding with severe reductions in fish availability in the Columbia River Basin, for example, an 80% reduction for summer Chinook and a 94% reduction for fall Chinook.[126] With this concern in mind, the Lummi Nation opted in its recent survey to document consumption practices and rates for the year 1985, a period in contemporary time in which the harvest was more robust than at present, although still suppressed relative to the time of the treaties.[127]

While contemporary rates are not representative of treaty-guaranteed practices, surveys of contemporary tribal consumption document rates of fish intake that are nonetheless markedly greater than for the general population. According to the national survey on which the EPA bases its current default recommendations, the 50th percentile rate is 5.0 grams/day; the 90th percentile rate is 22.0 grams/day; and the 99th percentile rate is 61.1 grams/day.[128] As Table 1 shows, contemporary tribal intake is greater at every point of comparison.[129]

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occurred in the sample collection or analysis phases of the study. Very often outliers provide much information to the study evaluators.").

[124] Stuart G. Harris & Barbara L. Harper, *A Native American Exposure Scenario*, 17 RISK ANALYSIS 789 (1997).

[125] *See, e.g.,* Donatuto & Harper, *supra* note 94.

[126] Letter from Babtist Paul Lumley, Executive Director, CRITFC, to Ted Sturdevant, Director, Washington State Department of Ecology 3 (Mar. 19, 2012) (pointing to "the fact that more than 61% of the survey respondents reported that their fish consumption was suppressed by poor fish harvests during the early 1990's" and observing that "[f]ish counts at Lower Granite Dam, reported by the US Army Corps of Engineers (USACE) confirm that spring and summer Chinook availability in the Columbia Basin at the time of the CRITFC survey (1991-1992) was close to 80% lower … and fall Chinook was 94% lower than [in 2002]. Fish availability is similar today compared to 2002 and continues to improve for fall Chinook").

[127] LUMMI NATION SEAFOOD CONSUMPTION STUDY, *supra* note 12 at 1.

[128] U.S. ENVIRONMENTAL PROTECTION AGENCY, ESTIMATED FISH CONSUMPTION RATES FOR THE U.S. POPULATION AND SELECTED SUBPOPULATIONS (NHANES 2003-10), FINAL REPORT , Tbl. 9a (April, 2014), http://www.epa.gov/sites/production/files/2015-01/documents/fish-consumption-rates-2014.pdf. Note that

Table 1

Surveyed Population	Fish Consumption at Descriptive Percentiles (grams/day)					
	Mean	50th	90th	95th	99th	Maximum
CRITFC Tribes	63	40	113	176	389	972
Squaxin Island Tribe	73	43	193	247	--	--
Tulalip Tribe	72	45	186	244	312	--
Suquamish Tribe	214	132	489	796	--	1453
Lummi Nation	383	314	800	918	--	--

2. All Fish

EPA's proposed human health criteria appropriately enlist an FCR that does not exclude anadromous species, such as salmon, from comprising the rate. This is an appropriate decision in view of the best available science and the relevant law. As EPA explains:

> Although EPA's national default FCR only includes consumption of fish from inland and nearshore waters, 175 g/day in this case includes anadromous fish, which is appropriate given that anadromous species reside in Washington's nearshore waters, especially Puget Sound, and accumulate pollutants discharged to these waters. A FCR of 175 g/day, therefore, accounts for local fish consumption data.[130]

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these figures do not represent total fish intake, but rather "usual" intake of "freshwater" and "estuarine" species only, for adults aged 21 and over, according to the 2003-2010 NHANES data. *Id.*

[129] Table 1 reflects the summary statistics reported by four recent surveys of contemporary tribal fish consumption. *See*, COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION, A FISH CONSUMPTION SURVEY OF THE UMATILLA, NEZ PERCE, YAKAMA, AND WARM SPRINGS TRIBES OF THE COLUMBIA RIVER BASIN (1994) [hereinafter CRITFC, FISH CONSUMPTION SURVEY]; TOY, ET AL, A FISH CONSUMPTION SURVEY OF THE TULALIP AND SQUAXIN ISLAND TRIBES OF THE PUGET SOUND REGION (1996) [hereinafter Tulalip and Squaxin Island Fish Consumption Survey]; SUQUAMISH TRIBE, FISH CONSUMPTION SURVEY OF THE SUQUAMISH TRIBE OF THE PORT MADISON INDIAN RESERVATIONS, PUGET SOUND REGION (2000) [hereinafter Suquamish Tribe, Fish Consumption Survey]; and LUMMI NATION SEAFOOD CONSUMPTION STUDY, *supra* note 12. These statistics in some cases represent conversions from data originally expressed in grams of fish intake/kilogram of bodyweight/day; such conversions necessarily involve a number of judgments and assumptions. As such, this Table enlists the statistics as they have been reported in a number of recent governmental publications, namely, by the Lummi Nation, the Oregon Department of Environmental Quality, and the Washington State Department of Ecology. LUMMI NATION SEAFOOD CONSUMPTION STUDY *supra* note 12, at 57; ODEQ, HHFG REPORT, *supra* note 121, at 28; and WASHINGTON DEPARTMENT OF ECOLOGY, FISH CONSUMPTION RATES TECHNICAL SUPPORT DOCUMENT 6 (Sept. 2011), https://fortress.wa.gov/ecy/publications/summarypages/1109050.html. The exceptions are the maximum values, which were not reported in these publications, but the Suquamish value is available at SUQUAMISH TRIBE, FISH CONSUMPTION SURVEY, at 11, 25, 71 (Catherine O'Neill's calculations, based on maximum individual rate, in g/kg/day; mean bodyweights for men and women, and percentage of male and female respondents); the CRTIFC value is available at CRTIFC, FISH CONSUMPTION SURVEY, at 29.

[130] 80 Fed. Reg. at 55067-78 (citation omitted).

With respect to the science, data show that salmon are contaminated at levels that pose a threat to human health and several fish consumption advisories for Washington waters include salmon among the species for which intake should be curtailed or avoided altogether. However, given salmon's anadromous habit, and given that a portion of many salmon life histories is spent outside of the waters over which Washington asserts regulatory jurisdiction, (i.e., in the Pacific ocean beyond the three-mile coastal zone), it has been argued that salmon ought to be excluded from the tally of fish intake, because their contaminant body burden comes from "elsewhere." However, as elaborated below, the data for Puget Sound reveal a south-north gradient such that South Sound salmon, which must run a greater gauntlet of contaminated environments in their outward and homeward migrations than their Georgia Strait and Pacific coastal counterparts, have significantly greater concentrations of bioaccumulative toxicants in their tissue. Other data from around the region show the presence of contaminants in the salmon at various life stages, including in outmigrating juveniles still in freshwater environments.[131] Moreover, there is considerable variability, even within species, in salmon's behavior. Chinook salmon originating in the rivers of the Puget Sound watershed, for example, typically migrate out to the Pacific and forage along the coastal continental shelf; however, a substantial portion of these salmon display "resident" behavior, remaining in the Puget Sound during the marine phase of their lives. Further, "the waters of Washington" include the Puget Sound, portions of the Straits of Juan de Fuca and the Columbia River, and Pacific coastal waters to a distance of three miles, and contaminants released or re-suspended at one location may be transported to another. It is likely, therefore, that some salmon get all of their contaminants from sources for which Washington has regulatory responsibility, and some salmon get only some of their contaminants from sources for which Washington has regulatory responsibility.

Recent studies by Sandra O'Neill and Jim West[132] and by Donna Cullon, et al.[133] have recognized that anthropogenic influences had contributed to contamination of the Puget Sound watershed and set out to determine the source of contaminants in Pacific salmon, as between their freshwater and saltwater environments. The O'Neill & West study looked at PCBs in Chinook salmon; the Cullon, et al., study looked at a host of persistent organic pollutants (POPs), including PCBs, dioxins and furans, and DDT. Both studies sampled out-migrating juveniles and returning adult salmon at several locations. The O'Neill & West study sampled five "in-river" (i.e., freshwater or estuarine) locations ranging from the Deschutes River in the south to the Nooksack River in the north, as well as two marine locations in the

[131] *See, e.g.,* Lyndal L. Johnson, et al, *Contaminant Exposure in Outmigrant Juvenile Salmon from Pacific Northwest Estuaries of the United States*, 124 ENVIRONMENTAL MONITORING & ASSESSMENT 124 (2007); Catherine A. Sloan, et al., *Polybrominated Diphenyl Ethers In Outmigrant Juvenile Chinook Salmon From The Lower Columbia River And Estuary And Puget Sound, WA*, 58 ARCHIVES OF ENVIRONMENTAL CONTAMINATION & TOXICOLOGY 403 (2010); Gladys K. Yanagida, et al., *Polycyclic Aromatic Hyrdocarbons and Risk to Threatened and Endangered Chinook Salmon in the Lower Columbia River Estuary*, 62 ARCHIVES OF ENVIRONMENTAL CONTAMINATION & TOXICOLOGY 282 (2012).

[132] Sandra M. O'Neill & James E. West, *Marine Distribution, Life History Traits, and the Accumulation of Polychlorinated Biphenyls in Chinook Salmon from Puget Sound, Washington*, 138 TRANSACTIONS OF THE AMERICAN FISHERIES SOCIETY 616 (2009).

[133] Donna L. Cullon, et al., *Persistent Organic Pollutants in Chinook Salmon (Oncorhynchus tshawytscha): Implications for Resident Killer Whales of British Columbia and Adjacent Waters*, 28 ENVIRONMENTAL TOXICOLOGY & CHEMISTRY 148 (2009).

south and central Puget Sound. The Cullon, et al., study sampled two in-river locations, the Deschutes and the Duwamish.

O'Neill & West found, first, that the average PCB concentration in returning adult Puget Sound Chinook was 3 to 5 times greater than average concentrations reported in adult Chinook at six other West Coast locations outside Puget Sound. O'Neill & West concluded that "the elevated PCB levels observed for Puget Sound Chinook salmon relative to coastal populations were probably associated with differences in PCB contamination in the environments they inhabit or with differences in diet." O'Neill & West also concluded that, although salmon uptake some PCBs from freshwater environments, the elevated concentrations of PCBs found in adult Chinook "were accumulated during residence in marine habitats rather than riverine habitats in the region." They reported that "adult Chinook salmon that had migrated as subyearlings from the Duwamish River, the most highly PCB-contaminated river draining into Puget Sound, accumulated the vast majority (>96%) of PCBs during their marine life history phase, whereas there was little PCB contribution from freshwater." Although Cullon, et al., sampled a small number of fish at fewer locations, their conclusions were similar.[134] Both O'Neill & West's discussion and their study design make clear that their findings respecting salmon's "marine life history phase" include the marine waters of Puget Sound, the Strait of Juan de Fuca, and other marine waters over which Washington asserts regulatory responsibility, in which returning adult salmon will have spent considerable time.

It should also be noted that, in many cases, the contaminants that are the subject of human health criteria are also contaminants of concern for the health of the salmon resource itself. Studies show that PCBs, PAHs, and other contaminants that are harmful to human health are also detrimental to the growth and reproductive success of the salmon.[135] One particularly troubling example has been documented by recent research into pre-spawn mortality among adult coho returning to urban streams, which the weight of the evidence suggests is attributable to toxic contaminants in urban stormwater runoff.[136] With adult mortality rates ranging from 60-100%, and inspection of the female carcasses showing 90% egg retention, the long-term impact on salmon reproduction is of grave concern. To take

[134] *Id.* at 154 ("By comparing body burdens of POPs in returning adult Chinook to out-migrating smolts and juveniles, we estimate that 97 to 99% of the body burden of PCBs, PCDDs, PCDFs, DDT, and HCH in all stocks originated during their time at sea … Our estimation that the majority of POPs in Chinook salmon can be ascribed to their growth stage in coastal and marine waters is consistent with other studies. A study of Chinook from Washington ascribed 99% of PCBs in returning Duwamish River adults to the waters of Puget Sound and the Pacific Ocean.").

[135] See, e.g., Lyndal L. Johnson, et al., *The Effects of Polycyclic Aromatic Hydrocarbons in Fish in Puget Sound, Washington*, in The Toxicology of Fishes 877 (R.T. DiGiulio & D.E. Hinton, eds., 2008)(concluding "that even short-term exposures to PAHs may be associated with reduced growth and altered immune function in anadromous fish species that utilize contaminated estuaries in Puget Sound"); Eugene Foster, et al., *Toxic Conaminants in the Urban Aquatic Environment*, in Wild Salmonids in the Urbanizing Pacific Northwest 123 (J. Allen Yeakley, et al., eds., 2014)(discussing exposures and adverse impacts of PCBs, PAHs, dioxins and furans, heavy metals, PBDEs, chlorinated and other pesticides, and other toxic chemicals)

[136] See, e.g., Nathanial L. Scholz, et al., *Recurrent Die-Offs of Adult Coho Salmon Returning to Spawn in Puget Sound Lowland Urban Streams*, 6 PLoS One e28013 1, 7 (2011)(observing that "spawner mortality syndrome appears to be specific to coho in urban drainages. We observed no symptoms and less than 1% pre-spawn mortality among wild coho returning to spawn in the non-urban reference stream").

another example, juvenile Chinook salmon from the South Puget Sound have been shown to harbor PCBs in concentrations from 2,500 to 10,000 ng/g lipid, well above the 2,400 ng/g lipid threshold for adverse effects such as depressed growth.[137] Although EPA's proposed WQS address adverse impacts to human health, the fact that many of the chemicals that are responsible for contamination of this fish resource also contribute to depletion of the fish resource is relevant to the bigger picture of tribes' legally protected fishing rights.

With respect to the law, the treaties reserved a means for ensuring tribes' survival and well-being in a changing world; they presumed resilience, not stasis. To this end, courts have held that tribal members are not restricted in their harvest to a particular mix of species, whether a mix taken in the past or in contemporary times. Rather, the right to take fish secured by the treaties is a right "without any species limitation."[138] As the court in the "Rafeedie" decision (a subproceeding of *U.S. v. Washington*) explained, "[at treaty] time,... the Tribes had the absolute right to harvest any species they desired, consistent with their aboriginal title.... The fact that some species were not taken before treaty time - either because they were inaccessible or the Indians chose not to take them - does not mean that their *right* to take such fish was limited."[139] Subsequent courts have continued to reject attempts to cabin tribes' fishing rights by excluding certain species argued not to have been harvested historically.[140] Tribes' rights cannot be thus pinned down: these rights encompass all species of fish. So, while a survey of contemporary tribal fish consumption practices may document a particular proportion of species consumed (e.g., out of a hypothetical 100 g/day of locally-harvested fish, 60 g/day salmon and 40 g/day other finfish and shellfish), tribal members are not in any sense bound to consume this mix of species in the future. Rather, to use the terminology of EPA Region X, tribal members are free to undertake "resource switching."[141] Yet industry has called for eliminating salmon from the FCR, in amounts calculated from contemporary consumption patterns.[142] This approach is at odds with tribes' rights to determine the mix of species that will comprise their dietary intake from their "usual and accustomed" areas in the future. Put another way, tribes' rights should be protected to the full extent of their total fish intake, at heritage rates.

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[137] James E. West, "Persistent Bioaccumulative and Toxic Contaminants in South Puget Sound's Pelagic Food Web," Presentation at the Fourth Annual South Sound Science Symposium, Squaxin Island (Oct. 30 2012) (citing James P. Meador, et al., *Use of Tissue and Sediment-Based Threshold Concentrations of Polychlorinated Biphenyls (PCBs) to Protect Juvenile Salmonids Listed Under the US Endangered Species Act*, 12 AQUATIC CONSERVATION: MARINE AND FRESHWATER ECOSYSTEMS 493 (2002) for source of threshold level of 2,400 ng/g lipid).

[138] United States v. Washington, 873 F. Supp. 1422, 1430 (W.D. Wash. 1994).

[139] *Id*. (emphasis in original).

[140] *See, e.g.,* Midwater Trawlers Co-operative v. Department of Commerce, 282 F.3d 710 (9th Cir. 2002) (rejecting challenge to allocation of Pacific whiting fish to coastal tribes on grounds that they had not fished for whiting at the time of the treaties, stating "the term "fish" as used in the Stevens Treaties encompassed all species of fish, without exclusion and without requiring specific proof").

[141] U.S. ENVIRONMENTAL PROTECTION AGENCY REGION X, FRAMEWORK FOR SELECTING AND USING TRIBAL FISH AND SHELLFISH CONSUMPTION RATES FOR RISK-BASED DECISION MAKING AT CERCLA AND RCRA CLEANUP SITES FOR PUGET SOUND AND THE STRAIT OF GEORGIA 9 (Aug., 2007).

[142] *See, e.g.*, The Boeing Company, *Comments on Proposed Rule Making – Surface Water Quality Standars for the State of Washington*, 8-9 and Attachment 1 "Exclusion of Salmon Consumption from Fish Consumption Rate." (Mar. 23, 2015), http://www.ecy.wa.gov/programs/wq/ruledev/wac173201A/comments/0038b.pdf.

EPA's determination that it is not justified in excluding anadromous species from its calculation of the FCR is supportable on scientific and legal grounds. EPA ought not alter this determination in the final rule.

B. Cancer Risk Level

EPA's proposed human health criteria enlist a cancer risk level of 10^{-6}. As EPA explains:

> Based on Washington's longstanding use of a cancer risk level of 10^{-6}, along with EPA's consideration of tribal reserved rights, EPA guidance, and downstream protection, EPA proposes to derive human health criteria for carcinogens in Washington using a 10^{-6} cancer risk level.[143]

We support EPA's use of 10^{-6} for the cancer risk level, and agree with the rationale cited by EPA in support of its choice.

1. "Acceptable" Risk

Washington has long embraced the judgment that its WQS ensure that those affected are subjected to an excess cancer risk level "less than or equal to" 10^{-6}. Indeed, Washington has been emphatic in this embrace, expressing concern for aggregate risks and real-world impacts, should EPA have opted for a less protective cancer risk level when it issued the National Toxics Rule (NTR), through which it promulgated human health criteria for Washington back in 1992. As EPA recounts:

> To derive final human health criteria for each state in the NTR, EPA selected a cancer risk level based on each state's policy or practice regarding what risk level should be used when regulating carcinogens in surface waters. In its official comments on EPA's proposed NTR, Washington asked EPA to promulgate human health criteria using a cancer risk level of 10^{-6}, stating, ''The State of Washington supports adoption of a risk level of one in one million for carcinogens. If EPA decides to promulgate a risk level below one in one million, the rule should specifically address the issue of multiple contaminants so as to better control overall site risks.'' (57 FR 60848, December 22, 1992). Accordingly, in the NTR, EPA used a cancer risk level of 10^{-6} (one in one million) to derive human health criteria for Washington. Subsequently, Washington adopted and EPA approved a provision in the state's WQS that reads: ''Risk-based criteria for carcinogenic substances shall be selected such that the upper-bound excess cancer risk is less than or equal to one in a million'' (WAC 173–201A–240(6)). This provision has been in effect in Washington's WQS since 1993.[144]

[143] 80 Fed. Reg. at 55068.
[144] *Id.*

As a general matter, a risk's acceptability can turn on a host of factors respecting the nature of the risk (including, e.g., its familiarity, controllability, etc.); whether the risk is sought out or undertaken voluntarily; what is at stake/the seriousness of the harm (including, e.g., death, irreversible neurological impairment, cancer); whether the risk is equitably distributed (including, e.g., whether those who bear the risk also benefit from the risk-producing activity); whether subpopulations of particular concern will bear the risk (including, e.g., children); and whether the risk attends the exercise of practices that are important or to which people have rights.[145]

Yet, public debate about risk is often couched in the abstract, in terms of "statistical lives," i.e., nameless, faceless probabilities. As Professor Douglas MacLean observes, "[r]isk analysts have tended to focus only on the magnitude of the risk, however distributed. … If exactly one person will die each year, the 1(10^{-6}) magnitude indicates our ignorance in advance about who it will be."[146] This theoretical ignorance allows the discussion about risk to proceed on the premise that everyone is equally likely to be among the unfortunate.

This requisite – that everyone is equally likely to have to bear the risk – is thought to be satisfied in one of two ways. First, everyone can be expected to experience roughly the same level of risk if their circumstances of exposure are roughly the same – that is, the physical, geographical, and other parameters that determine each individual's exposure don't vary that much from person to person. Alternatively, everyone can be thought to experience roughly the same *chance* of experiencing a relatively high or relatively low level of cancer risk if we don't know, in advance, on whom the greater risk will fall – it is a greater chance being taken by all of us, like a lottery.[147] But, as elaborated below, neither of these conditions holds true when we are talking about fish consumption.

As to the first, individuals' circumstances of exposure are emphatically *not* "roughly the same" where the exposure pathway involves fish consumption. In fact, fish intake is highly variable, with differences in people's contemporary intake spanning as many as three orders of magnitude. Some people eat no fish at all; others eat 1453 grams/day.[148] The 90th percentile intake rate for the general population is the source of the EPA's national default of 22 grams/day.[149] By contrast, the 90th percentile intake rate documented by recent surveys of the Suquamish and Lummi is 489 grams/day and 800 grams/day,

[145] See, e.g., Molly J. Walker Wilson, *Cultural Understandings of Risk and the Tyranny of the Experts*, 90 OREGON L. REV. 113 (2011); see generally, VALUES AT RISK (Douglas MacLean, ed., 1986).
[146] Douglas MacLean, *Social Values and the Distribution of Risk*, in VALUES AT RISK 75, 78-79 (Douglas MacLean, ed., 1986).
[147] See discussions in Catherine A. O'Neill, *Variable Justice: Environmental Standards, Contaminated Fish, and "Acceptable" Risk to Native Peoples*, 19 Stan. Envtl. L. J. 3, 73-75 (2000); and O'Neill, *Fishable Waters*, *supra* note 16, at 255-260.
[148] *See* O'Neill, *Fishable Waters*, *supra* note 16, at Table 1 (The 1453 grams/day figure is the value for intake by the maximum consumer surveyed in the Suquamish tribal study).
[149] *See, supra* note 128 and accompanying text.

respectively.[150] Note that these are contemporary, suppressed fish consumption rates (FCRs); if unsuppressed historical or "heritage" rates were considered the variability would be even more marked.

As to the second, we cannot pretend that everyone's chances of being subjected to a greater level of risk are roughly the same. In the Pacific Northwest, we know *who* it is that depends on fish, *who* it is that is the most exposed. We know, then, *who* will be left to bear the risk if the level deemed "acceptable" for a state such as Washington is permitted to shift to a less protective level: it will be tribal people. This is problematic as an ethical matter, and it changes the terms of the policy debate. We cannot pretend to be debating the appropriate risk level in the abstract, i.e., in terms of statistical lives.

Previously, the state of Washington had deemed "acceptable" a risk level of 10^{-6}. This is the risk level that Washington found tolerable *when it assumed that everyone was more or less equally likely to be on the receiving end of the risk of cancer* – when it employed the national general population default rate for fish intake in its calculations. Now, however, studies are available that demonstrate both that fish intake is highly variable and that tribal people are among the very highest consumers. Any shift away from Washington's longstanding embrace of a 10^{-6} risk level would have an undeniable implication: namely, that Washington believes it to be "okay" for risk-producers to transfer the costs of their processes to identifiable people – tribal people – in the form of increased cancer risk.

Additionally, EPA has indicated that, in determining the adequacy of states' WQS, it will consider the *actual* risk that results to those affected when all of a state's selected parameters are considered, and has stated that its scrutiny will increase as a state's target risk level becomes less protective or less conservative, e.g., if it moves from 10^{-6} to 10^{-5}.[151] EPA has emphasized that it will require "substantial support in the record," including an analysis of how the state's selected inputs to its risk assessment equation, when taken together, reasonably estimate the risk actually posed.[152] This concern for the risks actually faced by those exposed counsels attention to estimates of cumulative impacts experienced by tribal members consuming at contemporary rates. Studies of cancer risks from the multiple chemicals present in the Columbia River Basin suggest reason for disquiet.[153] When one considers particular species or sites, the risk levels are sobering. For example, at a site between the John Day and McNary dams, a person consuming fish at contemporary levels documented in the

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[150] O'Neill, *Fishable Waters*, *supra* note 16, at Table 1.

[151] EPA, National Toxics Rule, *supra* note 6, 57 Fed. Reg. at 60848-01 ("In submitting criteria for the protection of human health, States were not limited to a 1 in 1 million risk level (10^{-6})… If a State selects a criterion that represents an upper bound risk level less protective than 1 in 100,000 (i.e., 10^{-5}), however, the State needed to have substantial support in the record for this level…. [Among other things,] the record must include an analysis showing that the risk level selected, when combined with other risk assessment variables, is a balanced and reasonable estimate of actual risk posed, based on the best and most representative information available. The importance of the estimated actual risk increases as the degree of conservatism in the selected risk level diminishes. EPA carefully evaluated all assumptions used by a State if the State chose to alter any one of the standard EPA assumption values.").

[152] *Id.*

[153] EPA and CRITFC, Columbia River Basin Contaminant Survey, app. N, 2-3 and fig. 6-26. (2002), http://yosemite.epa.gov/r10/oea.nsf/0/C3A9164ED269353788256C09005D36B7?OpenDocument. This estimate of risk is for whole body samples and assumes a 70-year exposure duration.

CRITFC survey (389 grams/day) has an excess cancer risk between 1 in 100 and 1 in 1000 for all four species surveyed (i.e., steelhead, fall Chinook, largescale sucker, and white sturgeon). This concern also counsels attention to the actual risks that would be experienced by those consuming at historical or "heritage" rates, as tribal members have a right and an intention to do. Ultimately, this concern lends further support to EPA's rational for selecting a 10^{-6} level in proposing human health criteria for Washington.

2. Consideration of Tribes' Legally Protected Rights

Moreover, as EPA correctly recognizes, it is simply not free to choose a cancer risk level for Washington that, together with the other relevant inputs to the human health criteria, has the effect of impairing tribes' legally protected fishing rights. Courts have repeatedly recognized that if the waters are permitted to be significantly degraded, tribes' legally protected fishing rights can be eviscerated as surely as if tribal members had been hauled from their boats or barricaded from their fishing places.

As EPA acknowledges:

> In order to effectuate reserved fishing rights, including the rights that federal treaties afford to tribes in Washington, EPA proposes to derive criteria that will protect the tribe's reserved fishing rights in Washington, treating the tribal population exercising those rights as the target general population. EPA's selection of a 10^{-6} cancer risk level for the tribal target general population is consistent with EPA's 2000 Human Health Methodology, which states that when promulgating water quality criteria for states and tribes, EPA intends to use the 10^{-6} level, which reflects an appropriate risk for the general population. EPA's 2000 Human Health Methodology did not consider how CWA decisions should account for applicable reserved fishing rights, including treaty-reserved rights. [B]ecause a FCR of 175 g/day very likely does not reflect unsuppressed consumption, using a cancer risk level of 10^{-6} ensures protection of tribal members' unsuppressed consumption. Independently, the treaties themselves could require higher levels of protection. The treaties themselves could be interpreted to require a certain level of risk; *e.g.,* a *de minimis* level of risk that would most reasonably approximate conditions at the time the treaties were signed and the fishing rights were reserved. … In this case, EPA considers 10^{-6} to be sufficiently protective, and the tribes have supported this during consultation.[154]

EPA's rationale correctly recognizes that the tribes' treaty-protected rights presumed fish that are fit for human consumption – not fish that harbor unhealthful levels of carcinogenic and other contaminants. As elaborated at greater length in Part II, above, Judge Martinez' analysis in the Culverts case of the tribes' reservation of their right to take fish emphasized the role of the fish as food, forever – "for subsistence and for trade" – noting "[t]he significance of [the] right [to take fish] to the Tribes, its

[154] 80 Fed. Reg. at 55068 (citations and internal cross-references omitted).

function as an incentive for the Indians to sign the treaties, and the Tribes' reliance on the unchanging nature of that right."[155] Judge Martinez found that the parties' understandings of the reliability and abundance of fish resource, together with Stevens' promises to the end that this would "forever" be the case, were what persuaded the tribes to sign the treaties. As Judge Martinez observed, "[i]t was not deemed necessary to write any protection for the resource into the treaty because nothing in any of the parties' experience gave them reason to believe that would be necessary." He then quoted historian Joseph Taylor:

> During 1854-55, white settlement had not yet damaged Puget Sound fisheries. During those years, Indians continued to harvest fish for subsistence and trade as they had in the past. Given the slow pace of white settlement and its limited and localized environmental impact, Indians had no reason to believe during the period of treaty negotiations that white settlers would interfere, either directly through their own harvest or indirectly through their environmental impacts, with Indian fisheries in the future. During treaty negotiations, Indians, like whites, assumed their cherished fisheries would remain robust forever.[156]

Thus, Judge Martinez concluded:

> [T]he representatives of the Tribes were personally assured during the negotiations that they could safely give up vast quantities of land and yet be certain that their right to take fish was secure. These assurances would only be meaningful if they carried the implied promise that neither the negotiators nor their successors would take actions that would significantly degrade the resource.[157]

Thus, courts' interpretations of the treaties support EPA's recognition that the proper touchstone is the "level of risk that would most reasonably approximate conditions at the time the treaties were signed and the fishing rights were reserved." We support this recognition.[158]

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[155] Culverts Order, 2007 WL 2437166 at *7-*8.

[156] *Id*. (quoting Declaration of historian Joseph E. Taylor, III).

[157] *Id.* at *10. .

[158] We support this recognition with one caveat. EPA characterizes the "level of risk that would most reasonably approximate conditions at the time the treaties were signed and the fishing rights were reserved" as a "*de minimis*" level. If this characterization is meant to acknowledge that, at treaty time, the fish resource would have been virtually free of carcinogenic and other contaminants, it may be supportable. However, EPA then goes on to state that it equates "de mininis" in this context with a level of contaminants that results in 10^{-6} cancer risk, and to suggest, moreover, that this has "often" been EPA policy. 80 Fed. Reg. at 55068 ("In policy development regarding management of cancer risks, EPA often uses 10^{-6} as a *de minimis* risk level"). We do not agree that this statement is accurate. For water quality standards, for example, EPA historically took pains to point out that for non-threshold contaminants, such as carcinogens, only a zero-risk level would render the fish free from contaminants in amounts harmful to human health. A complete discussion of this issue, however, is beyond the scope of these comments.

As EPA further acknowledges, while "[i]ndependently, the treaties themselves could require higher levels of protection" than that afforded by the proposed human health criteria, a 10^{-6} is appropriate in this context because it has been supported by tribes in consultation.

C. Relative Source Contribution

EPA's proposed human health criteria enlist its recently updated chemical-specific values for relative source contributions (RSC) for noncarcinogens and nonlinear carcinogens, which range from 0.2 (20 percent) to 0.8 (80 percent), and use an RSC of 0.2 for the remaining pollutants for which national values were not updated. As EPA explains:

> EPA recommends using a RSC for non-carcinogens and nonlinear carcinogens to account for sources of exposure other than drinking water and consumption of inland and nearshore fish and shellfish.[159]

We support EPA's approach to the RSC, and agree with the rationale cited by EPA in support of its choice.

The RSC accounts for the fact that people are exposed to contaminants through other pathways in addition to consumption of fish. Because non-carcinogens and non-linear carcinogens are threshold contaminants (i.e., there is a threshold above which exposure is not safe), the RSC is intended to recognize that, were people to obtain the entirety of their contaminant "budget" from fish and/or surface water intake, exposures via other pathways (e.g., dietary intake of non-fish items; inhalation; dermal absorption) would lead to an exceedance of the relevant health-protective threshold.

The use of an RSC to account for an individual's total exposure to contaminants in the environment is particularly important for tribal populations, given that tribal people are disproportionately exposed to contaminants through multiple pathways, some of which are unique and unaccounted for in health and environmental agencies' conventional exposure assumptions.[160] A more protective RSC can help ensure that tribal people's practice of their traditional lifeways and exercise of their legally protected fishing, hunting, gathering and other rights aren't undermined by contamination.

D. Bodyweight

EPA's proposed human health criteria use a bodyweight of 80 kg. EPA cites its 2015 national ambient water quality criteria, which enlist an updated average adult bodyweight of 80 kg (176 pounds) in place of the bodyweight of 70 kg (154 pounds) previously assumed nationally and in Washington. EPA also suggests that this national figure is "consistent with" "local tribal data relevant to Washington."[161]

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[159] 80 Fed. Reg. at 55068.
[160] *See, generally*, NATIONAL TRIBAL TOXICS COUNCIL, UNDERSTANDING TRIBAL EXPOSURES TO TOXICS (June 2015).
[161] 80 Fed. Reg. at 55068-69.

We do not support EPA's choice to use a bodyweight of 80 kg, nor do we agree with EPA's rationale.

Because the bodyweight variable resides in the denominator of the relevant risk assessment equations, an increase in its value means a decrease in the protectiveness of the resulting WQS. EPA's proposed change to 80 kg would render Washington's WQS about 10-15% less protective than were it to retain a 70 kg value. Such a change would mean that the fish will be that much less safe to eat – or, to put a finer point on it: tribal people seeking to put a healthy, uncontaminated meal of fish on their table will be able to do so less often.

Tribes know well the connection between tribal members' health and their ability to obtain and consume traditional foods. For the fishing peoples throughout the Pacific Northwest, salmon and other fish and shellfish are at the center of a traditional diet. As documented by a recent study of one of the fishing tribes, "[t]he loss of traditional food sources is now recognized as being directly responsible for a host of diet-related illnesses among Native Americans, including diabetes, obesity, heart disease, tuberculosis, hypertension, kidney troubles, and strokes."[162] These illnesses are currently a matter of grave concern throughout Indian Country. American Indians and Alaska Natives now suffer extraordinary rates of diabetes – two to three times that of all other racial/ethnic populations combined.[163] Some 1,300 patients with diabetes require the services of the Yakama Indian Health Clinic; the incidence of diabetes in the Yakama Nation is 14.8% – double that in the state of Washington. The relatively higher bodyweights recorded in contemporary surveys of tribal people in the Pacific Northwest coincide with the depletion and contamination of the fish resource. This increase is also a direct legacy of the days in which tribal fishers were harassed and their fish frightened away by public officials; tribal nets were slashed; and tribal boats and gear were destroyed or confiscated. With tribal fishers in jail, there was no fish to put on their family's table. Without gear – and no fish to sell to buy new gear – some fishers were forced to turn to other work.[164] Together, these forces have worked to deprive tribal people of their salmon and other traditional foods and have fueled a public health crisis.

The solution is not to take one element of that crisis – increased bodyweight – as a "given," and therefore a basis for environmental agencies to permit more contaminants in fish. Rather, the solution is to see the bigger picture: human health-based standards ought not be set in a mannter that undermines human health. They shouldn't permit *greater* contamination of the very foods that are recommended as healthful ways to combat diabetes, obesity, and other diet-related conditions.[165] The historical context

[162] Kari Marie Norgaard, *The Effects of Altered Diet on the Health of the Karuk People* (2005), http://ejcw.org/documents/Kari%20Norgaard%20Karuk%20Altered%20Diet%20Nov2005.pdf.
[163] Centers for Disease Control and Prevention, MMWR, *Health Disparities Experienced by American Indians and Alaska Natives* (Aug. 1, 2003), http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5230a1.htm.
[164] *See, e.g.,* Salmon Defense, *supra* note 97 (providing personal accounts of tribal fishers, leaders, and others involved in the struggle for tribal treaty rights from the pre-Boldt era to the present).
[165] *See* Catherine A. O'Neill, "Washington State's Weakened Water Quality Standards Will Keep Fish Off the Table, Undermine Tribal Health," Center for Progressive Reform Blog (March 4, 2014), http://www.progressivereform.org/CPRBlog.cfm?idBlog=8D9DD724-B323-B46A-857B382825C93F62.

that is relevant where, as here, WQS affect tribes' rights, resources, and health and well-being, provides support for deriving criteria in a manner that departs from EPA's updated national assumptions.

The perversity of EPA's preferred approach is underscored by the fact that the National Indian Health Board[166] and the Centers for Disease Control and Prevention (CDC)[167] are hard at work in the opposite direction. They have devoted funds and devised programs that seek to enable, not thwart, tribal efforts to access and consume traditional foods as a means to decrease the incidence and impact of diabetes, obesity, and other conditions. For example, the CDC has partnered with seventeen tribes to launch traditional foods programs, which seek to encourage *increased* intake of these tribes' first foods in order to restore tribal health and well-being.

EPA should be mindful of the historical context and retain the 70 kg body weight as a value that is supportive of tribal members' future health, including tribes' ability to combat the scourge of diabetes and other diet-related illnesses in their communities.

E. Drinking Water Intake

EPA's proposed human health criteria use a drinking water intake (DWI) value of 2.4 liters/day. EPA cites its 2015 national ambient water quality criteria,[168] which enlist an updated DWI figure drawn from EPA's 2011 Exposure Factors Handbook. However, the 2011 Exposure Factors Handbook arguably supports updated values even greater than this.[169] Moreover, researchers have documented tribal drinking water intake needs at rates greater than the general U.S. population's needs, e.g., at 4 liters/day for a SpokaneTribal exposure scenario.[170]

F. Pollutants Covered

EPA's proposed human health criteria appropriately set more protective criteria for many of the most vexing contaminants in Washington waters. Two of these pollutants, methymercury and polychlorinated biphenyls (PCBs), are the reason for the majority of fish consumption advisories extant statewide. EPA's proposed approach with respect to these two pollutants is particularly welcome, given that Washington's 2015 proposed WQS – now withdrawn—would have made *no progress* in reducing levels of these harmful contaminants.

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[166] National Indian Health Board, Special Diabetes Program in Indian Country, http://www.nihb.org/sdpi/index.php.
[167] Centers for Disease Control and Prevention, Traditional Foods Project, http://www.cdc.gov/diabetes/projects/ndwp/traditional-foods.htm.
[168] 80 Fed. Reg. at 55069.
[169] U.S. Environmental Protection Agency, *Exposure Factors Handbook 2011 Edition (Final)*, http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252 at 3-3 (documenting 95th % per capita value for all ages at 2.7 liters/day and 95% consumers-only value for all ages at 2.8 liters/day).
[170] Harper, et al., *Spokane Tribe's Exposure Scenario*, *supra* note 85; *accord*, NATIONAL TRIBAL TOXICS COUNCIL, *supra* note 160, at 10 (providing tribal subsistence exposure factors, including drinking water intake at "4+ liters per day").

Conclusion

We thank EPA for its leadership in proposing human health criteria for Washington in the face of the state's undue delay in updating its WQS. We commend EPA's efforts to work with the affected tribes on a government-to-government basis in order to ensure that the resulting rule advances protection of tribes' rights, resources, and health and well-being.

Respectfully submitted,

Michael C. Blumm
Jeffrey Bain Faculty Scholar & Professor of Law
Lewis and Clark Law School

Barbara Cosens
Professor of Law
University of Idaho College of Law and Waters of the West Program

Allison M. Dussias
Professor of Law
New England Law|Boston

Angelique EagleWoman
(*Wambdi A. WasteWin*)
Professor of Law
Native American Law Program
University of Idaho College of Law

Eric Eberhard
Distiguished Indian Law Practioner in Residence
Seattle University School of Law

Matthew L.M. Fletcher
Professor of Law and Director of the Indigenous Law & Policy Center
Michigan State University College of Law

Robert Alan Hershey
Clinical Professor of Law and Director of Clinical Education
Indigenous Peoples Law & Policy Program
University of Arizona Rogers College of Law

Hillary M. Hoffmann
Professor of Law
Vermont Law School

Elizabeth Kronk Warner
Associate Dean of Academic Affairs
Professor of Law and Director, Tribal Law and Government Center
University of Kansas School of Law

Monte Mills
Assistant Professor
Co-Director, Margery Hunter Brown Indian Law Clinic
Alexander Blewett III School of Law, University of Montana

Catherine A. O'Neill
Professor of Law
Seattle University School of Law

Jessica Owley
Associate Professor
SUNY Buffalo Law School

Rachael Paschal Osborn
Adjunct Professor
Gonzaga University School of Law

Ezra Rosser
Professor of Law
American University Washington College of Law

Colette Routel
Professor of Law
Mitchell | Hamline School of Law

Alex Skibine
S.J. Quinney Professor of Law
University of Utah S.J.Quinney College of Law

Mary Christina Wood
Philip H. Knight Professor
Faculty Director, Environmental and Natural Resources Law Center
University of Oregon School of Law

Sandra Zellmer
Robert B. Daugherty Professor
Nebraska College of Law