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Comments of the Center for Indian Law & Policy on Washington's Fish Consumption Rate Technical Support Document

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SCHOOL OF
LAW

Center for Indian Law and Policy
Comments on Ecology's Fish Consumption Rates Technical Support Document Version 2.0

Please accept these comments on the Washington State Department of Ecology's *Draft Fish Consumption Rates Technical Support Document Version 2.0* (August 27, 2012)(FCR TSD 2.0), submitted on behalf of the Center for Indian Law & Policy, Seattle University School of Law. The Center for Indian Law & Policy was established in 2009. Under the Center are the classes, projects, programs and activities that focus on Indian law at Seattle University School of Law. The mission of the Center, beyond emphasizing learning opportunities for law school students, includes assisting Indian tribes and individuals to deal with the variety of unique laws that apply to them and making information about current legal issues available to Indian tribes and people. The Center does not represent any tribe in this process. Indeed, the Center wishes to underscore the importance of working directly with the individual tribes affected, within the context of a government-to-government relationship, as committed to under the terms of the *Centennial Accord between the Federally Recognized Indian Tribes in Washington State and the State of Washington*.[1] Rather, the Center offers these comments in the hope that they will be of value to Ecology as it considers its FCR TSD 2.0 and related rulemakings.[2]

I. Ecology Has Unnecessarily Delayed Protections for Human and Ecological Health

In the first place, Ecology should not be calling for a second round of comments on its Fish Consumption Rate Technical Support Document. As numerous tribes have pointed out, this additional layer of "process" is simply that: an additional layer, manufactured by Ecology.[3] The design and effect of this

[1] WASHINGTON GOVERNOR'S OFFICE OF INDIAN AFFAIRS, CENTENNIAL ACCORD BETWEEN THE FEDERALLY RECOGNIZED INDIAN TRIBES IN WASHINGTON STATE AND THE STATE OF WASHINGTON (1989), *available at* http://www.goia.wa.gov/Government-to-Government/Data/CentennialAccord.htm.

[2] The Center for Indian Law & Policy also submitted formal comments on Ecology's original Draft Fish Consumption Rates Technical Support Document (which is now known as "Version 1.0"). These comments are attached hereto as Appendix A and reiterated and incorporated in their entirety as part of the Center's comments on "Version 2.0" of this Fish Consumption Rates Technical Support Document.

[3] See, e.g., Letter from Merle Jefferson, Executive Director, Lummi Nation Natural Resources Department, to Ted Sturdevant, Director, Department of Ecology (October, 2012); Letter from David Lopeman, Chairman, Squaxin

additional round, of course, is to delay further the protections for human and environmental health that would flow from updating Ecology's current fish consumption rates. The science is – and has been – clear. There is no need to revisit, yet again, the technical defensibility of the various studies on which the recommendations in Ecology's original TSD, published in September of 2011 (FCR TSD 1.0), were based. Indeed, the technical defensibility of these studies had been established *prior to* Ecology's FCR TSD 1.0, because the state of Oregon and the U.S. Environmental Protection Agency (EPA) had considered and affirmed the quality and technical defensibility of the relevant fish consumption surveys.[4] Ecology's task should have been straightforward, given that the studies considered by Oregon and the EPA were studies of *Washington* fish consumers. And Ecology's FCR TSD 1.0, which was already the product of exceedingly careful research and countless hours of staff time, should have been more than sufficient to accomplish this task. Over a year has passed, and Ecology has now circulated "Version 2.0" of its TSD, adding 190 pages of paper but no actual protection for those who eat fish affected by contaminants in Washington waters.

This delay is unconscionable. While Ecology dithers, months and years go by in which people are advised to reduce their fish intake, to avoid harvesting shellfish, and to look "elsewhere" for their sources of food.[5] The fact that Washington is blanketed with fish consumption advisories is a hardship for all those who rely on local fish to put a meal on their family's dinner table – from anglers on our urban bays, to shellfish growers along our inland shores, to commercial fishers on our open waters. But these fish consumption advisories are a particular affront to tribal people. Tribes' rights are tied to *this place*. Tribes' past, present, and future is here. The health and well-being of tribes and their members is inextricably bound up with the fish and all of the lifeways that surround the fish. There is no "elsewhere" for the fishing tribes. So, for the state to delay its already long-overdue update to its fish consumption rate, while it has issued fish consumption advisories warning that the fish is too contaminated to eat, is to ignore the harms that this visits on tribes and their members. Indeed, a generation of tribal children has come of age while Ecology has possessed – but done nothing with – the data supporting an increased fish consumption rate and more protective environmental standards. The delay occasioned by Ecology's latest layer of additional process prolongs their burden yet again.

II. Ecology Retreats from Crucial Determinations Surrounding a Fish Consumption Rate

Ecology's FCR TSD 2.0 inappropriately retreats from the important determinations made in its original FCR TSD 1.0, namely the "technically defensible range" from which "appropriate default fish consumption rates" might be identified, i.e., 157 to 267 grams/day.[6] While the Center continues to

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[4] OREGON, DEPARTMENT OF ENVIRONMENTAL QUALITY, HUMAN HEALTH FOCUS GROUP REPORT: OREGON FISH AND SHELLFISH CONSUMPTION RATE PROJECT (June, 2008); U.S. ENVIRONMENTAL PROTECTION AGENCY, METHODOLOGY FOR DERIVING AMBIENT WATER QUALITY CRITERIA FOR THE PROTECTION OF HUMAN HEALTH (2000)(relying on tribal fish consumption studies then available, including CRTIFC and Tulalip/Squaxin Island studies as basis for default fish consumption rate for "subsistence" populations); U.S. ENVIRONMENTAL PROTECTION AGENCY, EXPOSURE FACTORS HANDBOOK: 2011 EDITION, 1-4 to 1-7, and Chapter 10 (2011)(reviewing CRITFC, Tulalip/Squaxin Island, Suquamish, and API-King County studies).

[5] Washington State Department of Health, *Fish Consumption Advisories*, available at http://www.doh.wa.gov/CommunityandEnvironment/Food/Fish/Advisories.aspx.

[6] WASHINGTON STATE DEPARTMENT OF ECOLOGY, DRAFT FISH CONSUMPTION RATES TECHNICAL SUPPORT DOCUMENT, 111 (September, 2011).

recognize the various deficiencies with the range selected (e.g., the low end of the range reflects the 80th percentile value from the studies canvassed whereas risk-based environmental standards are generally set to protect the most exposed or most vulnerable among us; the studies canvassed document contemporary consumption rates, which are distorted by suppression; etc.)[7], the Center nonetheless supports the fact that Ecology's original FCR TSD 1.0 effectively established a range below which a fish consumption rate would not be considered scientifically defensible for environmental standards in Washington.

The Center also supports the fact that the recommended range in Ecology's original FCR TSD 1.0 included all species of fish and did not exclude salmon, a determination that is both scientifically defensible and in accord with our sister state of Oregon. The Center is dismayed, however, to see that Ecology's FCR TSD 2.0, together with the associated *Technical Issue Paper: Salmon Life History and Contaminant Body Burdens*, (Salmon TIP),[8] fails to lend clarity to the discussion of salmon contaminant body burdens, despite comments from the Center and others on point. Specifically, the Center and other commenters had pointed out that Washington asserts jurisdiction over "waters of the State of Washington," which comprise considerable expanses of marine waters, including the Puget Sound, the Straits of Juan de Fuca, and the open ocean and bays along the Pacific coast (extending three miles seaward along the coast). The Center also urged care in discussing the results of the various studies cited by Ecology, given the potential for inconsistent usage of the terms "marine," "saltwater," and "estuarine" when referring to the environments or locations at issue. While the Salmon TIP mentions the first of these points, it fails to heed the second. For example, the Salmon TIP describes the O'Neill and West (2009) study as "one of the most important papers for understanding body burden accumulation of Chinook salmon,"[9] and states that "[w]hen comparing regions of body burden accumulation, the analysis of O'Neill and West(2009) indicated that, even in the most highly PCB-contaminated river draining into Puget Sound, the Duwamish River, the vast majority (>96 percent) of PCB accumulation occurred in the marine environment, with little freshwater contribution. They note that these findings are not surprising, given that Chinook salmon typically gain 99 percent of their total mass in marine habitats."[10] Ecology and industry commenters frequently misquote this finding as support for the claim that salmon uptake "the vast majority (>96 percent) of" their contaminants *at sea*

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[7] *See* Center for Indian Law & Policy, *Comments on Ecology's Fish Consumption Rates Technical Support Document, Version 1.0* (January, 2012), attached hereto as Appendix A. The most recent data continue to underscore the point that Ecology's recommended range, while an improvement over its current FCR, understates rather than overstates tribal consumption. The Lummi Nation surveyed tribal members about consumption practices in 1985 – a year in which the fish consumption was able to be more robust than at present, although still "not comparable to historic (heritage) levels" – and found average consumption among survey respondents to be 383 g/day, with consumption at the 90th percentile at 800 g/day. LUMMI NATION SEAFOOD CONSUMPTION STUDY 2, 14 (August 31, 2012). While this study was published after Ecology published its FCR TSD 2.0, and so could not have been considered by Ecology, its results support and augment the previous tribal studies before Ecology.

[8] WASHINGTON STATE DEPARTMENT OF ECOLOGY, TECHNICAL ISSUE PAPER: SALMON LIFE HISTORIES AND CONTAMINANT BODY BURDENS (July 20, 2012), available at https://fortress.wa.gov/ecy/publications/publications/1209058part1.pdf.

[9] *Id*. Appendix A, at 24.

[10] *Id*. Appendix A, at 26.

or *in the open ocean*[11] – that is, presumably outside of Washington's regulatory jurisdiction. But a reading of the O'Neill and West (2009) study itself shows the claim to be unsupported there.[12] Rather, O'Neill and West use the term "marine" to include the inland marine waters of Puget Sound. Similarly, they use the term "saltwater" to refer to "the Puget Sound and the Pacific Ocean."[13] Thus, the oft-cited finding from their 2009 study does not absolve Washington of its regulatory responsibilities – considerable portions of Washington's waters are "marine" waters, as this term is employed by O'Neill and West (2009).

While Ecology's original FCR TSD 1.0 effectively established a range below which a fish consumption rate would not be considered scientifically defensible for environmental standards in Washington, Ecology's FCR TSD 2.0, by contrast, simply punts this determination to some later date. The proffered reason for this deferral is that various considerations of "regulatory context" ought to inform Ecology's determination – that is, presumably, Ecology will want to consider how a particular fish consumption rate functions as part of sediment cleanup standards or as part of water quality standards. This reasoning, however, doesn't hold up. First, Ecology's original FCR TSD 1.0 provided a range, not a single value. Ecology remained free to select a default fish consumption rate during rulemakings that was attuned to any considerations of regulatory context from within this range. Second, although Ecology claims to have retreated from establishing an FCR range on the grounds that it is more appropriate to consider the relevant questions of science and policy by rule, Ecology's proposed Sediment Management Standards (SMS) reveal this claim to be a charade. Rather than set forth a default fish consumption rate by rule, Ecology punts once more – this time, leaving the crucial determination of the applicable FCR to be made anew at each site. By this move, Ecology further delays actual environmental protection, as experience shows that PLPs will engage in protracted fights the secure lenient cleanup standards at each site. Moreover, Ecology abdicates its responsibility to ensure a minimal level of protection across the state, to attend to aggregate risks from multiple sites (including multiple sites in a tribe's Usual & Accustomed (U&A) area), and to set up a transparent and efficient regulatory process.[14]

Relatedly, Ecology's FCR TSD 2.0 punts on other crucial policy determinations, including the appropriateness of employing a Fish Diet Fraction (FDF) and a "source contribution" or Site Use Factor (SUF). Each of these regulatory concepts has the potential to gut a more protective FCR, in effect reducing it to a fraction of its face value. This potential – and its deleterious impact on human and ecological health – is not made clear to public. Instead of elucidating these technical concepts, Ecology

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[11] See, e.g., NCASI, *Comments on Ecology's Fish Consumption Rates Technical Support Document 2.0* (October, 2012)(asserting that "the science clearly demonstrates that >95% of the contaminant body burden found in adult salmon is accumulated in the open ocean.") Note that NCASI also does not limit its claim to PCBs, but enlarges it to all contaminants.

[12] 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).

[13] *Id.* at 624.

[14] These and other points are elaborated in the Center for Indian Law & Policy's Comments on Ecology's Proposed Sediment Management Standards Rule, which is attached hereto as Appendix B and incorporated in their entirety as part of the Center's comments on "Version 2.0" of this Fish Consumption Rates Technical Support Document.

devotes just a few lines to each, essentially repeating their definitions.[15] Ecology then leaves it to the reader to figure out how these concepts would fit into the risk assessment equations it provides, and to discern their multiplicative effects (e.g., if Ecology were to apply an FDF of 0.5 and a SUF of 0.5, the effect would be to halve and then halve again the FCR). While declining to explain or engage these concepts and their implications in its FCR TSD 2.0, Ecology's SMS rulemaking embraces them.[16] The proposed SMS rule states that the FCR be selected by reference to a "reasonable maximum exposure," (RME) scenario, which it appropriately defines as "tribal consumption of fish and shellfish." However, the proposed SMS dictate that Ecology "shall consider" both a FDF and a SUF when selecting or approving site-specific exposure parameters. Precisely *how* Ecology ought to consider this information is left to a separate guidance document – the *Draft Sediment Cleanup Users Manual II* (SCUM) – on which Ecology is not accepting public comment.[17] The SCUM guidance presumes that the FDF and SUF are appropriate devices to be applied at sites around the state, and provides instructions for enlisting them to reduce the FCR. But the SCUM guidance does so in a vacuum, that is, as if cleanup determinations were not being made here in Washington – in a place that affects tribal rights to take fish and tribal resources in U&A areas. Thus, these controversial regulatory concepts are slipped in through the back door, with no actual consideration of the interplay of science, law, and policy that ought to govern their use.

As well, Ecology's FCR TSD 2.0 adds statistical analyses of fish consumption data for the general U.S. population – data that have little relevance to regulatory decisions in Washington. In fact, Ecology expressly acknowledges as much, citing scientific studies documenting that "people who live in coastal areas consume fish at higher rates than those living in other areas" and citing EPA guidance directing states to use "regional-specific data, when available." Yet Ecology includes analyses that appear to support any and all claims – including arguments for minimally protective environmental standards. The 90th percentile point estimates from Tables 17-19 are illustrative: those in the general U.S. population consume fish at rates of 248 g/day, 128 g/day, or 43.3 g/day. While these additional analyses may be "responsive" to the requests of industry stakeholders, they are not benign: by providing more data, but retreating from a decisive recommendation regarding the data, Ecology simply supplies ammunition for future volleys. Looking at the bigger picture, Ecology continues to facilitate a debate that largely misses the point. Rather than haggle over how much fish people in Nebraska *did eat* in 1974 or 1996 or 2006, shouldn't we ask how much fish people in Washington *would like to be able to eat* in a future in which our waters are uncontaminated and our fisheries restored to health?[18]

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[15] WASHINGTON STATE DEPARTMENT OF ECOLOGY, DRAFT FISH CONSUMPTION RATES TECHNICAL SUPPORT DOCUMENT, VERSION 2.0, 95 (August 27, 2012).

[16] This and other points are elaborated in the Center for Indian Law & Policy's Comments on Ecology's Proposed Sediment Management Standards Rule, which is attached hereto as Appendix B and incorporated in their entirety as part of the Center's comments on "Version 2.0" of this Fish Consumption Rates Technical Support Document.

[17] WASHINGTON STATE DEPARTMENT OF ECOLOGY, DRAFT SEDIMENT CLEANUP USERS MANUAL II: GUIDANCE FOR IMPLEMENTING SEDIMENT MANAGEMENT STANDARDS, CHAPTER 173-204 WAC (August, 2012). See also Washington State Department of Ecology, *SMS Rulemaking* (August 15, 2012), available at http://www.ecy.wa.gov/programs/tcp/regs/2011-SMS/2011-SMS-hp.html (stating that the draft guidance "is not part of the public comment process").

[18] The years indicated, of course, correspond with years during which the general U.S. population has been surveyed about its fish consumption practices (the data were gathered, respectively, in the years 1973-73; 1994-

III. Ecology Fails to Acknowledge the Relevance of Tribal Rights

Ecology's FCR TSD 2.0 fails to acknowledge the relevance of tribal rights, including tribes' rights to take fish. Tribes comprise distinct *peoples* with inherent rights. Tribes' status as self-governing sovereign entities pre-dated contact with European settlers. Today, tribes are recognized to have a unique political and legal status – one that sets them apart from every other "subpopulation" or group that might warrant particular consideration in a risk assessment or in decisions about environmental standards more broadly. Tribes' rights and interests, moreover, are protected by a constellation of laws and commitments that are unique among groups affected by Ecology's decisions. These include protections secured by treaties, laws, and executive orders that speak to the rights of tribes and their members.[19] While Ecology asserts that the TSD is not the place to resolve questions of law and policy, as Ecology recognizes, it is often not possible in environmental regulatory decisions to separate questions of "science" from those of "law and policy." In fact, Ecology's TSD raises and engages a host of questions at the intersection of science, law and policy – for example, its willingness to entertain application of a fish diet fraction in a geographic landscape that is comprised of adjudicated tribal U&A areas. There is no way that agency decision makers can evaluate the appropriateness – and legality – of a FDF unless they account for the existence of U&A areas. While Ecology's original TSD at least acknowledged the issue of tribal rights (albeit in a brief appendix), the FCR TSD 2.0 is silent on this essential feature of the legal and policy landscape here in Washington. Nor is this issue certain to be taken up later, during rulemaking, as the discussion of Ecology's proposed SMS and SCUM guidance, above, demonstrates.

Indeed, it is in the legal, rather than the scientific, realm that there have been developments that warranted attention by Ecology, given Oregon's and EPA's respective conclusions about the appropriateness and scientific defensibility of the relevant fish consumption surveys. While tribes' fishing rights are rooted in aboriginal practices that pre-date European contact, federal courts have recently reiterated and elaborated the contours of these rights from the perspective of the United States in a subproceeding of *U.S. v. Washington* known colloquially as the "culverts" case.[20] In this case, the court addressed a threat to the tribes' treaty rights posed by environmental degradation. 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-

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96; and 2003-06) for use in Ecology's current WQS and its FCR TSD 2.0. As noted by the Center in previous comments, various surveys of tribal consumption practices have considered the question about future consumption, with tribal members overwhelmingly responding that they would like to consume more fish in the future than they currently are able to do. Given tribes' rights to take fish, tribal members are also entitled to consume more fish in exercise of their rights.

[19] See, Center for Indian Law & Policy, *Comments on Ecology's Fish Consumption Rates Technical Support Document, Version 1.0,* attached hereto as Appendix A, elaborating the legal basis of these rights.

[20] Order on Cross-Motions for Summary Judgment, United States v. Washington, No. 9213RSM, slip op. (W.D. Wash. 2007)(Subproceeding 01-1, docket number 392).

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."[21]

The court ruled in favor of the tribes' request for a declaratory judgment to this effect. As the Center noted in its comments on the FCR TSD 1.0, 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. He quoted at length from expert testimony that focused explicitly on the role of the fish as food, forever – testimony that emphasized that among the points of "taking" fish was, ultimately and obviously, eating fish.

> Stevens specifically assured the Indians that they would have access to their normal food supplies now and in the future....
>
> [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.[22]

Although 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, thus avoiding a broad, acontextual pronouncement – the "culverts" decision sends an unmistakable signal.[23] As successors to the negotiators, federal and state governments may be held to account for the actions they take – or permit others to take – that significantly degrade the treaty resource. Given the court's concern with the *function* of the treaty resource, moreover – its role in securing food and livelihood for the tribes – governments may be held to account for actions that compromise the treaty resource whether by depletion or by contamination.

The tribes' treaty-protected rights encompass geographical areas and species that will be affected by environmental standards (e.g., cleanup standards, water quality standards) premised upon the analysis in the FCR TSD 2.0. As such, its failure even to mention the tribes' treaty-secured rights is legally untenable. Particularly glaring is the omission of any mention of the culverts decision and its discussion of treaty-guaranteed fish as a source of food in perpetuity, given the evident implications of the court's holding and rationale for Ecology's FCR TSD 2.0 and future regulatory decisions. The timing of the culverts decision is also worth noting, inasmuch as pre-culverts understandings of the contours of the treaty-guaranteed rights must be read in light of their vintage. For example, to the extent that the FCR TSD 2.0 references state policies and standards crafted prior to the August 2007 culverts decision, these may reflect a crabbed view of the state's treaty-based obligations that is no longer supportable.

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[21] Subproceeding 01-1, slip op. at 5.

[22] Subproceeding 01-1, slip op. at 11.

[23] Indeed, the court specifically repudiated the state of Washington's argument that the Ninth Circuit, in vacating the district court's opinion in Phase II, had rejected the existence of a treaty-based duty to avoid specific actions that impair the salmon fisheries by impairing their environment. Subproceeding 01-1, slip op. at 5-7.

So, while Ecology's TSDs rehash well-settled scientific ground, they fail to acknowledge important recent legal developments and their interplay with the relevant science and policy. These legal developments mean that various science-policy options, such as the fish diet fraction, should be off the table. Ecology declines to engage the legal landscape here in its FCR TSD 2.0, but it doesn't take it up elsewhere.

IV. Ecology Appropriately Corrects Flawed Assertions, Yet Debate Remains Clouded

Ecology is to be applauded for again affirming the soundness and technical defensibility of the relevant studies, particularly the tribal studies. As noted above, this undertaking is redundant. However, as evidenced by the public comments received by Ecology on the FCR TSD 1.0, industry and other commenters continue to question the technical defensibility of the tribal studies, in some instances going so far as to question the credibility of tribal respondents. For example, one commenter questioned the maximum values for the portion sizes indicated in the Suquamish survey:

> "For bivalves (i.e., crabs, mussels, oysters), the maximum reported portion sizes range from 1,349 g (2.5 pounds) for mussels to an incredible 2,720 g (6 pounds) for geoduck. I have a hard time envisioning anyone eating 6 pounds of geoduck clams in one meal....[t]hese extreme portion sizes certainly raise the question of whether the responses given by the individual(s) reporting such portion sizes are believable."[24]

Such comments are of a piece with a long and unfortunate history in which the work of tribal technical and scientific staff is doubted, while the work of other government and private scientists receives deference (even where the latter are the product of guesstimates or "best professional judgment") and in which the word of tribal members is deemed suspect whereas the word of non-tribal members is to be taken at face value.[25] Ecology, of course, is not the source of such ill-informed comments and, moreover, must accept those comments it receives. Ecology does, however, have a responsibility to correct flawed assertions and it is to be commended for doing so and setting the record straight. Indeed, Ecology should respond to broadsides against tribal science in the strongest of terms. One hopes that, in the future, such flawed assertions and insinuations will no longer mar our public debate, and the technical defensibility of tribal studies will not have to be proven and proven again.

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[24] Lawrence McCrone, *Comments to Ecology on FCR Technical Support Document 1.0* (January, 2012).

[25] *See, e.g.*, Catherine A. O'Neill, *Restoration Affecting Native Resources: The Place of Native Ecological Science*, 42 ARIZONA LAW REVIEW 343 (2000). This article chronicles examples in which tribal science is dismissed or subjected to greater scrutiny than non-tribal science, "even when the sources and methods may be similar." *Id*. at 353-56. Notably, these examples include the EPA's willingness to rely on the recollections of federal agency staff to fill in the gaps regarding fish consumption species data that had gotten lost in the process of arriving at its 6.5 g/day national default rate. Regarding these "unclassified" species, an internal EPA memorandum recounts that "Ms. Betty M. Hackley of National Marine Fisheries Service has worked with the survey data for years and she feels that most of the unclassified group consists of cod, pollock, and whiting (silver hake). Since all of these species would be considered marine, this whole group was considered marine." *Id*. at 354. Interestingly, the classification of these species as "marine" had the effect of decreasing the final default fish consumption rate (which excludes marine species).

In a related vein, Ecology could do more to clarify usage with respect to important science and policy concepts such as uncertainty and variability.[26] Although Ecology's FCR TSD 2.0 describes these concepts, it fails to correct misunderstandings or to elucidate their implications for Washingtonians. As a consequence, Ecology permits debate to be clouded by false claims and misusage of terms. Industry and other commentators, for example, are fond of characterizing the choice of a relatively protective FCR – say, the 90th percentile value from the tribal and API studies – as a *conservative* choice.[27] But the selection of a FCR is not a matter of choosing a more or less conservative response in the face of uncertainty. We don't lack certainty that actual people are consuming fish at this rate in the real world here in Washington. We know that they are. The FCR is an exposure parameter that here is characterized not by uncertainty, but by variability. The judgment that we make (at the intersection of science, law, and policy) is not how to respond given our lack of knowledge about the true value for the FCR, but how to respond given what we know to be the case about the true value for the FCR: it varies, with certain groups (tribes among them) consuming the greatest quantities of fish. A choice in the face of variability is a matter of deciding *whom* to protect. Because we know the identities of those groups that consume the most fish in Washington, the implications of our choice are clear. And, given the rights that belong to the fishing tribes here in Washington, our choice is also legally constrained. We cannot simply pretend to be opting for a "less conservative" choice in the face of uncertainty, the costs of which will fall on some identitiless, statistical people.

Conclusion

Ecology's original FCR TSD 1.0 was exceedingly well-researched and –documented. It set forth important determinations regarding a minimum range for technically defensible fish consumption rates for the state of Washington – a range that, appropriately, did not exclude salmon. Ecology's FCR TSD 2.0 defers this and other crucial determinations to some later date, while signaling that it will entertain numerous controversial devices for undermining a more protective fish consumption rate. Ecology's FCR TSD 2.0, moreover, fails to acknowledge the relevance of tribal fishing rights – rights that fundamentally alter the landscape for regulatory decisions affecting our aquatic environment in Washington.

The Center is distressed that Ecology has retreated from recommending a more appropriate fish consumption rate – one that, at long last, would make strides toward protecting tribal members and

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[26] *See generally*, NATIONAL RESEARCH COUNCIL, SCIENCE AND JUDGMENT IN RISK ASSESSMENT (1994)(differentiating between uncertainty and variability, and setting forth the implications of various regulatory responses to these features of exposure data); see also Catherine A. O'Neill, *Variable Justice: Environmental Standards, Contaminated Fish, and "Acceptable" Risk to Native Peoples*, 19 STANFORD ENVIRONMENTAL LAW JOURNAL 3, 34-36, 64-116 (2000)(discussing at length the implications of variability in the context of fish consumption practices).

[27] *See, e.g.*, National Council for Air and Stream Improvement, Inc., *Comments to Ecology on FCR Technical Support Document 1.0* (January, 2012)(positing the "multiple conservative assumptions" that comprise Ecology's estimates of exposure and giving, as an example, the default assumption that people consume fish over the entirety of a 70-year lifetime – an exposure parameter that is characterized primarily by variability, not uncertainty). This default value is intended to be a protective choice for a quantity that is known to vary; and we know that actual tribal members live here and fish here and consume their harvest for their entire lives.

other Washingtonians. The Center is also troubled that Ecology has unnecessarily permitted further delay by seeking yet more comments on its technical analyses. The Center hopes that Ecology will henceforth have the leadership and vision to uphold its responsibilities to protect Washington's people and resources and to honor its obligations to the fishing tribes.

Respectfully submitted,

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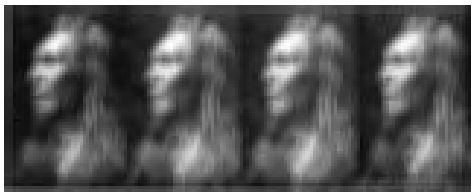
Comments of the Center for Indian Law and Policy

Please accept these comments on the Department of Ecology's draft *Fish Consumption Rates Technical Support Document: A Review of Data and Information About Fish Consumption in Washington* (September 2011)(hereinafter "draft TSD"), submitted on behalf of the Center for Indian Law and Policy, Seattle University School of Law. The Center for Indian Law and Policy was established in 2009. Under the Center are the classes, projects, programs and activities that focus on Indian law at Seattle University School of Law. The mission of the Center, beyond emphasizing learning opportunities for law school students, includes assisting Indian tribes and individuals to deal with the variety of unique laws that apply to them and making information about current legal issues available to Indian tribes and people. The Center does not represent any tribe in this process. Indeed, the Center wishes to underscore the importance of working directly with the individual tribes affected, within the context of a government-to-government relationship, as committed to under the terms of the *Centennial Accord between the Federally Recognized Indian Tribes in Washington State and the State of Washington*.[1] Rather, the Center offers these comments in the hope that they will be of value to Ecology as it refines its draft TSD.

I. 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 United States viewed the Indian tribes as

[1] WASHINGTON GOVERNOR'S OFFICE OF INDIAN AFFAIRS, CENTENNIAL ACCORD BETWEEN THE FEDERALLY RECOGNIZED INDIAN TRIBES IN WASHINGTON STATE AND THE STATE OF WASHINGTON (1989), *available at* http://www.goia.wa.gov/Government-to-Government/Data/CentennialAccord.htm.



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nations, capable of entering into treaties.[2] Today, tribes are recognized to have a unique political and legal status – a status that sets them apart from every other "subpopulation" or group that might warrant particular consideration in a risk assessment or in decisions about environmental standards more broadly.[3] Tribes' rights and interests, moreover, are protected by a constellation of laws and commitments that are unique among groups affected by Ecology's decisions. These include protections secured by treaties, laws, and executive orders that speak to the rights of tribes and their members.

The Treaty-Secured Fishing Rights

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.[4] 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.[5] For its part, upon entering into treaties and agreements with the various tribes of the Pacific Northwest, the United States bound itself and its successors to protect the tribes' right to take fish in perpetuity.[6] The Treaty of Point Elliott, for example, 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 ...."[7] Although the precise language of the fishing clauses varies somewhat in the different treaties, U.S. courts have interpreted these provisions to secure to the tribes a permanent, enforceable right to take fish throughout their fishing areas for ceremonial, subsistence and commercial purposes.[8] The treaties, moreover, have the status, under the Constitution, of "supreme law of the land."[9]

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

[3] *See, e.g.,* U.S. 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).

[4] FELIX COHEN, HANDBOOK OF FEDERAL INDIAN LAW 1120-24 (1982).

[5] Tribes' reserved fishing rights have been recognized, from the U.S. perspective, through various means, including treaties, agreements, and executive orders. *See, e.g.,* U.S. v. Anderson, 6 Indian L. Rep. F-129 (E.D. Wash. 1979). These comments recognize the aboriginal origin of tribes' fishing rights, and do not mean to exclude any of the various forms of recognition for these rights by use of the terms "rights," "fishing rights," and "treaty-secured" rights, unless the context suggests otherwise. Indeed, the rights themselves pre-exist the treaties or other agreements – these treaties and agreements "secure" or "guarantee" the pre-existing, aboriginal rights. Thus, these comments use the terms "treaty-secured" or "treaty-guaranteed" to emphasize this point.

[6] The term "fish," here and throughout, is understood to include all species of fish, including shellfish.

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

[8] *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)).

[9] Worcester v. Georgia, 31 U.S. (6 Pet.) 515 (1832)("The constitution [declares] treaties already made, as well as those to be made, the supreme law of the land . . .").

Importantly, all of the rights not expressly relinquished by the tribes were retained. This is a crucial tenet of federal Indian law. 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."[10] The historical record, from both sides, is very clear on the point that protections for the tribes' pre-existing fishing rights were crucial to obtaining tribes' assent to enter into the treaties.

> 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 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.[11]

Accordingly, for more than a century, the courts have regularly interpreted the fishing right to encompass the subsidiary rights necessary to render it of continued relevance for tribal fishers. Among the facets of the treaty guarantees affirmed by the courts relevant to Ecology's draft TSD 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."[12] (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 . . ."[13] (3) "[N]either the treaty Indians nor the state . . . may permit the subject matter of these treaties [i.e. the fisheries] to be destroyed."[14] (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.[15] (5) The treaty fishing rights encompass all available species of fish found in the treating tribes' fishing areas. As the court explained in a subproceeding of *United States v. Washington* addressing shellfish, "[b]ecause the 'right of taking fish' must be read as a reservation of the Indians' pre-existing rights, and because the right to take *any* species, without limit, pre-existed the Stevens Treaties, the Court must read the 'right of taking fish' without any species limitation."[16] These features of tribes' rights are important in part because they continue to inform tribes' aspirations for and entitlements to a future in which the exercise of their rights is robust, and tribal members' consumption and use of the resources on which they have historically depended is restored.

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[10] United States v. Winans, 198 U.S. 371, 381 (1905)(emphasis added).
[11] Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658, 676 (1979).
[12] U.S. v. Washington, 384 F. Supp. 312, 401 (W.D. Wash. 1974).
[13] *Id.*
[14] U.S. v. Washington, 520 F.2d 676, 685 (9th Cir. 1975).
[15] *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").
[16] 873 F. Supp. 1422,1430 (W.D. Wash. 1994)(emphasis in original).

The "Culverts" Case

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,[17] 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."[18] The court found 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."[19] On appeal, the district court's opinion was vacated on jurisprudential grounds. 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."[20] So, in the culverts case, 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."[21]

The court ruled in favor of the tribes' request for a declaratory judgment to this effect. In finding that the state indeed had the duty urged by the tribes, Judge Martinez again considered carefully the intent of the parties to the treaties. He quoted at length from expert testimony that focused explicitly on the role of the fish as food, forever – testimony that emphasized that among the points of "taking" fish was, ultimately and obviously, eating fish.

> Stevens specifically assured the Indians that they would have access to their normal food supplies now and in the future....
>
> [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.[22]

Although 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, thus avoiding a broad,

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[17] Order on Cross-Motions for Summary Judgment, United States v. Washington, No. 9213RSM, slip op. (W.D. Wash. 2007)(Subproceeding 01-1, docket number 392).
[18] 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).
[19] 506 F. Supp. at 203.
[20] 759 F.2d at 1357.
[21] Subproceeding 01-1, slip op. at 5.
[22] Subproceeding 01-1, slip op. at 11.

acontextual pronouncement – the "culverts" decision sends an unmistakable signal.[23] As successors to the negotiators, federal and state governments may be held to account for the actions they take – or permit others to take – that significantly degrade the treaty resource. Given the court's concern with the *function* of the treaty resource, moreover – its role in securing food and livelihood for the tribes – governments may be held to account for actions that compromise the treaty resource whether by depletion or by contamination.

The tribes' treaty-protected rights encompass geographical areas and species that will be affected by environmental standards (e.g., cleanup standards, water quality standards) premised upon the analysis in the draft TSD. As such, the draft TSD's abbreviated discussion of tribes' treaty-secured rights is legally untenable. Particularly glaring is the omission of any mention of the U.S. District Court's recent "culverts" decision and its discussion of treaty-guaranteed fish as a source of food in perpetuity, given the evident implications of the court's holding and rationale for Ecology's draft TSD and future regulatory decisions. The timing of the culverts decision is also worth noting, inasmuch as pre-culverts understandings of the contours of the treaty-guaranteed rights must be read in light of their vintage. For example, to the extent that the TSD references state policies and standards crafted prior to the August 2007 culverts decision, these may reflect a crabbed view of the state's treaty-based obligations that is no longer supportable.

Other Sources of Rights Unique to Tribes and Their Members

When the rights of tribes and their members are affected, as they are here, 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. In addition to the treaties and agreements between the U.S. and the Pacific Northwest tribes discussed above, numerous state and federal legal commitments recognize the unique duties owed to tribes and their members. Among these are federal civil rights laws that prohibit recipients of federal funds (including state environmental agencies such as Ecology) from administering their programs in a way that discriminates against American Indians;[24] U.S. commitments under international law to protect the rights of indigenous peoples, including rights to traditional resources and to hunt, fish, and gather; [25] federal and state commitments to work with tribes on a government-to-government basis, in furtherance of tribal self-determination;[26] and federal and state commitments to further environmental justice, including specific mention of the need to protect subsistence fishing.[27]

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[23] Indeed, the court specifically repudiated the state of Washington's argument that the Ninth Circuit, in vacating the district court's opinion in Phase II, had rejected the existence of a treaty-based duty to avoid specific actions that impair the salmon fisheries by impairing their environment. Subproceeding 01-1, slip op. at 5-7.

[24] Civil Rights Act of 1964 sec. 106, 42 U.S.C. sec. 2000d (1988); 40 C.F.R. sec. 7 (1999).

[25] 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) *available at* http://usun.state.gov/documents/organization/153239.pdf (recognizing 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).

[26] *See, e.g.*, CENTENNIAL ACCORD, *supra* note 1.

[27] *See, e.g.*, 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).

As governments, of course, the tribes manage and set environmental standards for the lands and waters over which they have authority. However, because tribes' rights, including treaty-secured rights, are impacted by environmental standards set by the state of Washington, Ecology must consider these rights when it issues standards and considers the technical and policy inputs to these standards.

II. Historical Fish Consumption Practices and Contemporary, "Suppressed" 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. 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,"[28] and thus fishing rights "were not much less necessary to the existence of the Indians than the atmosphere they breathed."[29]

Historical Fish Consumption Practices and Rates

There are ample data documenting the role of fish as a dietary mainstay for Indian people prior to 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 and social scientific evidence, have supported quantified estimates of historical consumption rates. For example, 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.[30] 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 pounds/year (621.4 grams/day).[31] 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).[32] 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."[33]

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[28] Fishing Vessel, 443 U.S. at 665 n.6 (citations and internal quotation marks omitted).
[29] United States v. Winans, 198 U.S. 371, 381 (1905).
[30] 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).
[31] Gordon W. Hewes, *Indian Fisheries Productivity in Pre-Contact Times in the Pacific Salmon Area*, 7 NORTHWEST ANTHROPOLOGICAL RESEARCH NOTES 133, 136 (1973).
[32] *Id.*
[33] Barbara L. Harper, et al., *The Spokane Tribe's Multipathway Subsistence Exposure Scenario and Screening Level RME*, 22 RISK ANALYSIS 513, 518 (2002). 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

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]."[34]

These historical, original, or "heritage" rates, moreover, have ongoing relevance for the fishing tribes, given that the treaty guarantees are in perpetuity and given that the tribes in fact seek to resume fish consumption practices and rates consonant with the treaty guarantees. 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 caselaw. It also reflects tribal fish restoration goals and healthy lifestyle goals."[35] In a similar vein, recent surveys of Swinomish tribal members showed that they sought to reinvigorate more robust fish consumption practices and to increase their fish intake.[36] The forward-looking nature of Ecology's regulatory decisions to which the FCR proposed in the draft TSD is relevant (e.g., determinations of future uses of contaminated sites, restoration of waters to unimpaired, "fishable" status), makes the matter of tribes' future aspirations vital.

Contemporary, "Suppressed" Fish Consumption Rates

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 will be distorted due to suppression.

> "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."[37]

Note that suppression effects may infect attempts to assess consumption practices for various subpopulations or for the general population as well. 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

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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.

[34] U.S. v. Washington, 384 F. Supp. at 380 (discussing Yakama consumption).

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

[36] 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).

[37] NATIONAL ENVIRONMENTAL JUSTICE ADVISORY COUNCIL, FISH CONSUMPTION AND ENVIRONMENTAL JUSTICE, 43-45 (2002)

advisories due to mercury contamination.[38] However, when tribes are affected, there are two important differences. First, the "appropriate baseline level of consumption" is clear for tribes, whereas it may be subject to debate for other groups. Only tribes have legally protected rights to a certain historical, original, or heritage baseline level of consumption. Second, the causes of suppression have exerted pressure on tribes for a longer period, and in more numerous ways, than on the general population. Whereas those in the general population may have begun to reduce their intake of fish in response to consumption advisories once these became more prevalent in the 1970s and thereafter, tribal members have been excluded from their fisheries, and harassed and imprisoned for exercising their fishing rights, from shortly after the ink on the treaties dried. Indeed, the forces of suppression, often perpetrated or permitted by federal and state governments, have included inundation of fishing places; depletion and contamination of the fishery resource; and years of prosecution, intimidation, and gear confiscation.

As a consequence, contemporary surveys of tribal populations produce fish consumption rates that are artificially low compared to the appropriate, treaty-guaranteed baseline. The bias introduced by suppression effects, together with tribes' treaty-secured right to catch and consume fish at more robust historical rates, means that it is inaccurate to refer to contemporary figures as "tribal fish consumption rates." Indeed, the snapshot of contemporary consumption practices provided by recent surveys arguably represents a nadir – a low point from which tribes are working to recover as environments are restored and traditional practices reinvigorated.

Rather, contemporary surveys of tribal populations are properly viewed alongside other surveys used to document fish consumption by the general population and relied upon by government agencies in the environmental regulatory context. These studies are generally conducted in accordance with the conventions of western science, and have been found to be technically defensible by federal and state governments. These studies of tribal populations have been conducted under governmental or inter-governmental auspices, and subjected to internal and external peer review. As such, these studies follow the practice of studies of the national population that have been relied upon by EPA to set its default fish consumption rate for the general population.[39] The particular studies cited by Ecology's draft TSD (surveys of the Tulalip and Squaxin Island tribes; the Suquamish tribe; and the Columbia River tribes) have explicitly been found technically defensible by the EPA and the state of Oregon and are relied upon by these governments for regulatory fish consumption rates; these studies have also implicitly been deemed technically defensible by other states and tribes that have adopted the EPA's default subsistence consumption rates.[40]

In fact, to the extent that contemporary surveys of tribal populations have erred on the side of following western scientific conventions, they tend to underestimate even contemporary tribal

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[38] Emily Oken, et al., *Decline in Fish Consumption Among Pregnant Women After a National Mercury Advisory*, 102 OBSTET GYNECOL 346 (2003)(finding that pregnant women with access to obstetric care decreased fish consumption in response to publication of federal advisory warning of mercury contamination in certain species of fish).

[39] *See* U.S. ENVIRONMENTAL PROTECTION AGENCY, METHODOLOGY FOR DERIVING AMBIENT WATER QUALITY CRITERIA FOR THE PROTECTION OF HUMAN HEALTH (2000).

[40] *Id.*; OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY, OREGON FISH AND SHELLFISH CONSUMPTION RATE PROJECT (2008)

consumption rates.[41] Thus, for example, the study of the Tulalip and Squaxin Island tribes and the study of the Columbia River tribes both hewed to the statistical convention that "outliers" – in this case, representing high-end fish consumption rates – are treated as likely the source of error (for example, in recording a respondent's fish consumption rate) rather than a true value. As such, it is common practice for such outlier data points to be omitted from the dataset that then forms the basis of population values (e.g., the mean, 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. But, as has been recognized, some tribal members – particularly those from traditional and 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."[42] The average consumption rate for this group was found to be 540 g/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 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 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.[43]

In sum, the draft TSD cites studies of tribal populations that reflect surveys of contemporary, suppressed fish consumption consistent with the methods and approaches used by EPA, Oregon and other governments for setting regulatory standards. These surveys, conducted in accordance with and technically defensible by western scientific standards likely underestimate even contemporary, suppressed tribal consumption rates. The resulting fish consumption rates, of course, are not equivalent to treaty-guaranteed practices and rates; indeed, they grossly understate the rates at which tribes are entitled to consume fish.

III. Salmon

Salmon are vital to the health of tribal people in the Pacific Northwest, just as tribal people are vital to the survival of the salmon: the two are inextricably linked. The significance of the salmon is difficult to overstate. They are what might be termed "cultural keystone species," at the center of physical, social, economic, spiritual, and political well-being for the tribes.[44] As one tribal member explains:

> *People need to understand that the salmon is part of who the Nez Perce people are. It is just like a hand is a part of your body....*

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[41] *See, e.g.*, Jamie Donatuto and Barbara L. Harper, *Issues in Evaluating Fish Consumption Rates for Native American Tribes*, 6 RISK ANALYSIS 1497 (2008).
[42] Stuart G. Harris and Barbara L. Harper, *A Native American Exposure Scenario*, 17 RISK ANALYSIS 789 (1997).
[43] See, e.g., Donatuto and Harper, *supra* note 41.
[44] COAST SALISH GATHERING, SUMMARY OF CSG CLIMATE CHANGE SUMMIT (2010).

--Del White (Nez Perce)[45]

Salmon Uptake Contaminants in Environments for which Washington has Regulatory Responsibility

Freshwater, estuarine, and marine environments are all necessary to the various salmon species and each of these environments is relevant to Ecology's regulatory responsibilities. The unique features of these various environments within Washington merit attention. Notably, the Puget Sound comprises a vast inland marine environment unlike any other in the continental United States. The Columbia River Basin and Estuary, too, is remarkable among river and estuarine systems. And, of course, the "waters of the State of Washington" also include portions of the marine environments of the Straits of Juan de Fuca and the open ocean and bays along the Pacific coast. Among other things, the unique and diverse characteristics of the environments affected by the draft TSD mean that care should be taken in considering descriptive terms such as "marine" encountered in both scientific and regulatory contexts. More generally, the uniqueness of these environments underscores the importance of Ecology's effort to consider locally relevant data, policies, and laws.

Salmon uptake contaminants in waters affected by Washington's environmental decisions. Different salmon species have different lifecycles. All species of salmon, however, live for some duration in Washington's freshwaters, estuaries, and inland and/or coastal marine waters. Some of these species dwell for considerable periods in these waters. Some chinook are resident here for their entire lives. And some species of salmon spend considerable time in the nearshore marine waters along Washington's coast.

Contaminants to the waters or sediments in these various environments may also move, that is, become dispersed, resuspended, or transported. Contaminants present in sediment reservoirs may be disturbed and redistributed through a host of mechanisms, including benthic species such as annelids, mollusks and crustaceans; storm events; and tidal influences. Models and empirical data demonstrate that sediment contaminants can be remobilized, resuspended to the water column, and then redeposited to distant areas. Additionally, given the unique geological and other features of the Puget Sound, contaminant resident times are extended relative to other estuaries, with greater opportunities for contaminant trapping and mixing as a consequence.

The result of these phenomena is that salmon come in contact with contaminants for which Washington has regulatory responsibility at various points in their lifecycle, if not throughout their entire lifecycle. These contaminants, studies have shown, bioaccumulate in salmon.[46] Ultimately, these contaminants – including mercury, PCBs, dioxins, and others – contribute to salmon body burdens that have adverse effects for the humans that consume salmon. Many of these contaminants also have adverse effects for the salmon themselves, as these toxins impair essential behaviors and threaten reproductive success.

Ecology's draft TSD correctly recognizes the diverse salmon lifecycles and survival strategies, as well as the occasions for contaminant dispersal, resuspension and transport, and appropriately

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[45] DAN LANDEEN & ALLEN PINKHAM, SALMON AND HIS PEOPLE: FISH & FISHING IN NEZ PERCE CULTURE 156 (1999).

[46] *See, e.g.*, U.S. ENVIRONMENTAL PROTECTION AGENCY, COLUMBIA RIVER BASIN FISH CONTAMINANT SURVEY (1996-98).

concludes that Ecology must reduce the resulting threats to the salmon and those (including humans) that depend on the salmon for food. The draft TSD's determination that salmon not be excluded from the default FCR reflects the most defensible interpretation of the data and consideration of the relevant scientific, policy, and legal context.

Indeed, Ecology's determination that salmon not be excluded rests on even more robust support than suggested by the draft TSD. Although the draft TSD correctly recognizes the complexities involved in connecting the source of environmental contaminants with their presence in salmon consumed by humans, it gives undue emphasis to dated and/or localized scientific data and to regulatory determinations based on this data.

The draft TSD relies heavily on a study of Puget Sound estuaries by Sandra O'Neill, et al. from 1998, quoting its observation that "chinook and coho salmon accumulate most of their PCB body burden in the marine waters of the Puget Sound and the ocean ..." and its further suggestion that the "contaminant body burden attributable to freshwater and estuarine environments was negligible compared with the residency time, growth patterns, and feeding habits of the salmon at sea." In doing so, the draft TSD may give the misimpression that all "marine waters of the Puget Sound" and at least some of the "marine waters of ocean" are irrelevant for Washington's default FCR – which is not the case given Ecology's responsibility for regulating the Puget Sound and substantial stretches of coastal marine waters. The draft TSD also neglects to cite more recent work by these same researchers published in 2009 that found PCB contamination in subadult and maturing chinook salmon collected from Puget Sound in concentrations "3–5 times higher than those measured in six other populations of Chinook salmon on the West Coast of North America," and that led these researchers to "hypothesize[] that residency in the contaminated Puget Sound environment was a major factor contributing to the higher and more variable PCB concentrations in these fish. This hypothesis was supported with an independent data set from a fishery assessment model, which estimated that 29% of subyearling Chinook salmon and 45% of yearling out-migrants from Puget Sound displayed resident behavior."[47] The draft TSD similarly could be strengthened by citing several more recent studies by other researchers buttressing the conclusion that outmigrant chinook uptake contaminants in the Lower Columbia River Basin and Estuary and in Puget Sound at levels of concern (for salmon survival and for human health). Thus, the TSD cites Johnson, et al.'s findings from 2007 respecting selected pesticides and persistent organic pollutants (POPs), but should also cite the recent work of Sloan, et al., from 2010 (PBDEs); and Yanagida, et al., from 2011 (PAHs).[48]

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[47] 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); *see also* James E. West, et al., *Spatial extent, magnitude, and patterns of persistent organochlorine pollutants in Pacific herring (Clupea pallasi) populations in the Puget Sound (USA) and Strait of Georgia (Canada)* 394 SCIENCE OF THE TOTAL ENVIRONMENT 369 (2008)(finding significantly higher concentrations of PCBs and DDT in herring – an important food source for salmon – from Puget Sound than in herring from the Strait of Georgia).

[48] 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 AND 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*, __ ARCHIVES OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY __ (2011) *available at* http://www.ncbi.nlm.nih.gov/pubmed/21894559.

In a related vein, although the draft TSD appropriately details the variation in salmon life cycles and behaviors, it prominently features earlier regulatory determinations premised upon the assumption that salmon migrate quickly through contaminated sites and feed heavily in the open ocean, where they obtain most of their chemical contaminants.[49] However, recent data have highlighted the importance of the nearshore marine environment, and have led scientists with the Pacific Estuary Research Society to debunk several "fallacies" about salmon behavior, including the notion that "[w]hen leaving natal streams, juvenile salmon enter Puget Sound, head north, and then out through the Strait of Juan de Fuca to the Pacific Ocean."[50] Rather, research "clearly reveals that salmon use the Puget Sound basin widely, and migrate back and forth within it, heavily."[51] In fact, "[m]any authors reported finding extensive juvenile salmon use along the estuarine and nearshore landscape, as well as strong evidence from coded-wire tag data of cross-Sound migration. Fish from north Puget Sound areas are found in central and south Puget Sound studies, and vice versa."[52]

In turn, the draft TSD gives undue emphasis to regulatory determinations and regulatory guidance that were based on earlier scientific understandings of salmon life cycles and contaminant uptake. The 2007 EPA Region X/Department of Ecology Human Health Risk Assessment for the *Lower Duwamish Waterway Remedial Investigation*, for example, supported its exclusion of salmon from the FCR in its exposure assessment by stating that "bioaccumulative chemical concentrations in adult salmon are believed to be largely attributable to uptake during their migrations far beyond the [Lower Duwamish Waterway]."[53] The 2007 EPA Region X *Framework for Selecting and Using Tribal Fish and Shellfish Consumption Rates for Risk-Based Decision Making at CERCLA and RCRA Cleanup Sites in Puget Sound and the Strait of Georgia* presents the option of excluding salmon from exposure assessments and notes that this option "has been based on the assumption that adult salmon spend most of their lives in the open ocean and take up bioaccumulative and persistent contaminants almost exclusively via the food chain in that environment" and also on the "presum[ption] that site-related chemicals are not transported to that relatively distant aquatic environment, where adult salmon might be exposed to them through the food chain."[54] The 2007 Region X *Framework* supports these assumptions by reference to the dated 1998 O'Neill, et al., study.

Regulatory Guidance and Precedent with Respect to Salmon

The most relevant regulatory precedent – that of the Oregon Department of Environmental Quality – included salmon in its FCR. This regulatory determination is not only the most recent, it is also the result of a comprehensive assessment by an independent panel of experts constituted

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[49] *See, e.g.*, Ecology draft TSD, at 17 (citing Lower Duwamish Waterway Remedial Investigation).
[50] PACIFIC ESTUARY RESEARCH SOCIETY, SALMON IN THE NEARSHORE: WHAT DO WE KNOW AND WHERE DO WE GO? 2 (2004).
[51] *Id.*
[52] *Id.* at 1.
[53] U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION X AND WASHINGTON DEPARTMENT OF ECOLOGY, LOWER DUWAMISH WATERWAY REMEDIAL INVESTIGATION, APP. B: BASELINE HUMAN HEALTH RISK ASSESSMENT 91 (2007).
[54] 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 IN PUGET SOUND AND THE STRAIT OF GEORGIA 10 (2007).

by ODEQ, i.e., the Human Health Focus Group. The ODEQ regulatory determination is relevant inasmuch as the fish consumption surveys on which the Human Health Focus Group based its conclusions are the same studies that inform Ecology's draft TSD – studies specifically focused on consumers and practices in Washington and on those affected by Washington's environmental standards. The ODEQ precedent, moreover, is the most clearly analogous to the regulatory context presented by Ecology's draft TSD, given that it applies broadly to freshwater, estuarine, and marine waters regulated by ODEQ – as is the case with the default FCR range proposed by Ecology. In fact, given that Oregon has no equivalent to the large inland marine environment of Washington's Puget Sound, Oregon's determination that salmon be included in its FCR is of even greater moment. If Oregon's comparatively small inland marine responsibilities supported the inclusion of salmon, then the more extensive inland marine environment for which Washington has regulatory responsibility makes an even stronger case for retaining salmon in the default FCR. And, both Washington and Oregon include their nearshore and coastal marine waters (to a distance extending three miles into the open ocean) in the waters for which they have regulatory responsibility.

Nor should EPA guidance be misconstrued as mandating that salmon be excluded.[55] Neither the 2007 EPA Region X *Framework* nor the 2000 EPA *Ambient Water Quality Criteria Methodology* supports this claim. First, as a preliminary matter, both of the documents are guidance documents; as such, they do not impose legally binding requirements. Second, the EPA Region X *Framework* does not require that salmon be excluded, even in the contexts for which it provides guidance (i.e., CERCLA and RCRA cleanups in Puget Sound); rather, it poses the question whether salmon should be included or excluded, and sets forth considerations for making this determination. And, as noted above, it poses this question based on assumptions about salmon residency and life cycles and about contaminant movement that may give undue emphasis to now-dated scientific understandings. Third, the EPA *AWQC Methodology*, which provides guidance to agencies setting water quality criteria under the federal Clean Water Act, sets forth a four-part hierarchy that directs states and tribes to prefer data representative of the local population and watersheds being addressed and to enlist national default FCRs only as a last resort.[56] The fact that EPA's national default values classify salmon as a "marine" species and exclude all marine species from the national default tally says nothing about whether state and tribal agencies should do so in considering their local circumstances. In fact, EPA's guidance *emphasizes precisely the opposite*, "strongly" urging these agencies to "protect highly exposed populations groups" affected by their decisions and to "use local or regional data over the default values." EPA's guidance thus directs Ecology to prefer local data and to account for local environmental conditions, including the fact that a significant portion of regulated waters in Washington are marine, and the fact that salmon spend time in and uptake contaminants in freshwater, estuarine, and marine environments. The EPA's recent approval of Oregon's standards, which, as noted above, rely on local data and decline to exclude salmon, underscores this point and suggests that an alternative interpretation of EPA's guidance is not correct.

Salmon and Tribal Members' Unique Consumption Practices

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[55] This assertion was voiced at the public workshop on Ecology's draft TSD, held at the University of Washington, School of Public Health, Seattle, WA (December 12, 2011).

[56] U.S. ENVIRONMENTAL PROTECTION AGENCY, AMBIENT WATER QUALITY CRITERIA METHODOLOGY, *supra* note 39.

Pacific Northwest tribal members often consume a different mix of fish species and parts, and use different preparation methods than the general population. This is the case for salmon, as studies have demonstrated. Suquamish tribal members, for example, report consuming salmon with the skin on 26% of the time, and salmon eggs 18% of the time.[57] The National Environmental Justice Advisory Council recognized that these different practices often do not get accounted for in environmental standard-setting, and recommended that agencies do a better job of accounting for the resulting increased exposures to contaminants in fish.[58] Yet scientific studies measuring contaminant burden frequently measure fish muscle tissue (i.e. skin-off fillet) only,[59] which likely understates exposures to lipophilic contaminants. As well, agencies often assume that humans will not be exposed to lipophilic contaminants that have been "depleted" to salmon eggs. The draft TSD discusses the fact that the lipid redistribution that occurs as salmon reach reproductive maturity and ascend to their spawning grounds leads to the concentration of lipophilic contaminants in salmon roe. But the TSD does not connect this fact to human health impacts. Indeed, gram for gram, salmon roe would be expected to be a highly concentrated source of lipophilic contaminants. Thus, retaining rather than excluding salmon in the default FCR (including all parts of the salmon consumed by tribal people) is the appropriate, health protective response.

Moreover, tribal members' consumption practices can only be understood in light of their cultural context. The tribes have reiterated this point in various public fora and documents (for example, the Suquamish fish consumption survey). The draft TSD also appropriately weighs the cultural significance of salmon to the tribes as it considers the totality of the circumstances relevant to its decision to include salmon consumption in its estimates of total fish consumption. Among other things, this particular solicitude for the cultural importance of salmon to the tribes is necessitated by Washington state's commitment in the Centennial Accord, which states that "[t]he parties share in their relationship particular respect for the values and culture represented by tribal governments."[60]

In sum, the salmon, including all parts consumed by tribal people, are contaminated. The most recent data show that salmon get some or all of these contaminants from waters and sources for which Washington has regulatory responsibility. If Ecology were to omit salmon from its calculation of the FCR, it would be ignoring this undeniable source of exposure to all those who consume salmon. The relevant regulatory precedent and guidance, correctly interpreted, does not support artificially excluding salmon. In fact, it suggests the opposite. Moreover, given the centrality of salmon to tribal life, it is unacceptable to exclude salmon from the tally of fish that will be protected and kept fit for human consumption under our environmental standards.

IV. Risk, "Reasonableness," and Rights

Although Ecology's draft TSD focuses on a default fish consumption rate, it raises, explicitly or implicitly, several policy assumptions and value judgments that affect *who* is protected by

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[57] THE SUQUAMISH TRIBE, FISH CONSUMPTION SURVEY OF THE SUQUAMISH INDIAN TRIBE OF THE PORT MADISON INDIAN RESERVATION 42 (2000).
[58] NEJAC, FISH CONSUMPTION REPORT, *supra* note 37.
[59] *See., e.g.*, O'Neill & West, *supra* note 47 (although a few measurements were taken of "whole body" samples, the bulk of the data on contaminant body burden were derived from "skin-off fillet" samples).
[60] CENTENNIAL ACCORD, *supra* note 1.

environmental standards. In the regulatory context, these protections are theoretically meant to apply to all. As environmental agencies have come to recognize, however, we are not "all" the same from a public health perspective. Agencies have recognized that, in order to protect public health, environmental standards would need to be set so as to protect even the most "vulnerable" members of the population (i.e., most exposed, most susceptible, or most sensitive due to the coincidence of lifestage and characteristics of particular contaminants, e.g., neurodevelopmental toxins such as mercury). In doing so, of course, those less vulnerable would *also* be protected. However, recognizing the multiplicative nature of quantitative exposure assessment, agencies sought to avoid setting standards that were protective of non-existent individuals – phantom composites of maximum assumptions for the various parameters in the exposure equation. EPA, for example, uses the concept of "reasonable maximum exposure" (RME) in its guidance under CERCLA to capture this focus on *actual* high-end exposures rather than phantom exposures beyond the high end of a distribution of all those exposed. A related device enlisted by environmental agencies targets regulatory standards at the 90th or 95th percentile of an exposure distribution for the relevant population. The result is to protect the bulk of the population – all but the most-exposed 10 or 5 percent.

The value judgments involved in such determinations and their implications for particular highly-exposed groups were often not made explicit, a point brought to the fore by the National Academy of Science's important review of risk assessment in the regulatory context.[61] Among other things, the plausibility of these value judgments may have stemmed from an early assumption – now recognized to be inaccurate – that the population to be protected was more or less homogenous for purposes of exposure assessment, i.e., that variability was small for the relevant parameters (e.g., FCR, exposure duration, etc.) in the exposure equation. Indeed, some discussions in this context assume that we are all equally likely to occupy the high end of an exposure distribution.[62] On this assumption, of course, the regulatory choice to target protection at, say, the 50th versus the 90th percentile of an exposure distribution is effectively abstracted – a decision about identitiless, statistical lives. But tribes and other highly-exposed groups have documented the fact that it is they who occupy the high end of such exposure distributions – thus, we now know the identities of those whose fish consumption practices place them among the maximally exposed. Too, the plausibility of these value judgments may have found support in the general public's lack of awareness of tribal fish consumption practices, particularly the relatively high fish consumption rates these produced. This disbelief was reflected, for example, in comments to earlier amendments to Washington's MTCA regulation: "*Who in the world* would expect their fish diet to come from the same contaminated source?"[63] In short, we are now aware that we are not debating probabilities; there are *actual* people who consume fish at (and who would consume above, but for the forces of suppression) the very highest rates, and we know who they are. A regulatory determination to set the FCR, say, at the 80th percentile of contemporary consumption surveys (as is the case for the lower end of the range proposed by the draft TSD) or some lower number, is thus a choice to deny protection to the actual people consuming at rates above this value, virtually all of whom will be tribal people or members of Asian/Pacific Islander or other higher-consuming groups.

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[61] NATIONAL RESEARCH COUNCIL, SCIENCE AND JUDGMENT IN RISK ASSESSMENT (1994).

[62] Catherine A. O'Neill, *Variable Justice: Environmental Standards, Contaminated Fish, and "Acceptable" Risk to Native Peoples*, 19 STANFORD ENVIRONMENTAL LAW JOURNAL 3, 74 (2000).

[63] WASHINGTON DEPARTMENT OF ECOLOGY, RESPONSIVENESS SUMMARY ON THE AMENDMENTS TO THE MODEL TOXIC CLEANUP CONTROL ACT CLEANUP REGULATION: CHAPTER 173-340 WAC, 218 (1991)(emphasis added).

Relatedly, it is not appropriate for Ecology to increase its default FCR but then redefine the level of risk it would find "acceptable," thereby tolerating an order or two of magnitude greater risk for those most exposed. This end-run around the more protective environmental standards that would result from an increased FCR has been suggested in public comments.[64] Such an argument might be entertained, again, if we thought everyone were equally likely to be exposed to this greater risk. But here in Washington we know that this is not the case. We know precisely who it is that consumes greater quantities of fish. In this case, an argument for redefining the acceptable level of risk becomes unconscionable.

Moreover, when these policy determinations are made in a context affecting tribes' treaty-secured rights, as is the case in Washington, the calculus must be different than were tribes' rights and resources unaffected. That is to say, agencies may be free to "balance" the public health and other relevant considerations when making a policy determination whether to accommodate the very high-end exposures of a group such as soil pica children.[65] Agencies in such cases ought to undertake this balancing in a manner that is scientifically and morally defensible. But where those affected are tribes and their members, agencies are also governed by the particular laws and policies that are unique to this group. Agencies' work here must also be legally defensible, viewed in light of the rights secured to tribes and their members by the Constitution, treaties, laws, and executive commitments to tribal self-determination and to environmental justice. Indeed, in the context of rights secured by treaty, as U.S. courts have held, agencies are not free to balance away these tribal rights.[66] As the court explained in *United States v. Michigan*, a case addressing treaty-secured fishing rights in the Great Lakes, tribes' rights are "distinct from the rights and privileges held by non-Indians and may not be qualified by any action of the state ... except as authorized by Congress."[67] Tribes' treaty-secured rights are guaranteed to all tribal members, not some. Notably, when environmental standards are keyed to lower percentile values, or when "acceptable" risk levels are manipulated to tolerate greater risks for the most highly exposed, it is the most traditional subset of the tribal population – those families whose practices are most consonant with the practices guaranteed by treaty – that are left unprotected. The consequences for tribes who have been working to reinvigorate such traditional practices are plain.

Conclusion

Tribes' rights, including treaty-secured rights, are impacted by environmental standards set by the state of Washington. Ecology must therefore consider these rights when it issues standards and considers the technical and policy inputs to these standards. As successors to the treaty negotiators, state governments such as Washington may be held to account for the actions they take – or permit others to take – that significantly degrade the treaty resource. This point has received emphasis by United States courts, particularly in the recent *Culverts* decision. Given

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[64] *See* Stoel Rives, Comments on Washington Department of Ecology's Water Quality Standards Triennial Review (Dec. 17, 2010) *available at* http://www.ecy.wa.gov/programs/wq/swqs/TriennialRevComm/Stoel_Rives_Loehr.pdf.

[65] This example was erroneously suggested as being analogous to agencies' determination in the tribal context, when treaty and other tribal rights are in issue, at the public workshop on Ecology's draft TSD, held at the University of Washington, School of Public Health, Seattle, WA (December 12, 2011).

[66] *See, e.g.*, Cappaert v. United States, 426 U.S. 128, 138-39 (1979); United States v. Michigan, 471 F. Supp. 192, 281 (W.D. Mich. 1979).

[67] United States v. Michigan, 471 F. Supp. at 281.

courts' concern with the *function* of the treaty resource, moreover – its role in securing food and livelihood for the tribes – the state may be held to account for actions that compromise the treaty resource whether by depletion or by contamination.

Contemporary surveys of tribal populations produce fish consumption rates that are artificially low compared to the appropriate, treaty-guaranteed baseline. The bias introduced by suppression effects, together with tribes' treaty-secured right to catch and consume fish at more robust historical rates, means that it is inaccurate to refer to contemporary figures as "tribal fish consumption rates." Historical, original, or "heritage" rates are also of ongoing relevance for the fishing tribes inasmuch as the tribes in fact seek to resume fish consumption practices and rates consonant with the treaty guarantees.

The fish consumption surveys cited by Ecology's draft TSD, conducted in accordance with and technically defensible by western scientific standards likely underestimate even contemporary, suppressed tribal consumption rates. The resulting fish consumption rates, of course, are not equivalent to treaty-guaranteed practices and rates; indeed, they grossly understate the rates at which tribes are entitled to consume fish.

Salmon are of utmost importance to the tribes. Salmon should not be artificially excluded from the estimates of total fish consumption for Washington's default FCR because to do so would undermine tribes' rights, including treaty-secured rights.

Salmon should be retained in the default FCR because the most recent science does not adequately support the exclusion of salmon. Ecology's draft TSD correctly recognizes the diverse salmon lifecycles and survival strategies, as well as the occasions for contaminant dispersal, resuspension and transport, and appropriately concludes that Ecology must reduce the resulting threats to the salmon and those (including humans) that depend on the salmon for food. The draft TSD's determination that salmon not be excluded from the default FCR reflects the most defensible interpretation of the data and consideration of the relevant scientific, policy, and legal context. Indeed, Ecology's determination that salmon not be excluded rests on even more robust support than suggested by the draft TSD.

Ecology's determination in its draft TSD to retain salmon in the default FCR is further strengthened by the fact that the most analogous recent regulatory precedent – that of Washington's sister state of Oregon – similarly retains salmon in its statewide fish consumption rate. EPA's approval of Oregon's standards lends further weight to the technical and legal appropriateness of including salmon in Washington's FCR.

Regarding the regulatory context for Ecology's consideration of the default FCR, we are now aware that we are not debating probabilities; there are *actual* people who consume fish at (and who would consume above, but for the forces of suppression) the very highest rates, and we know who they are. A regulatory determination to set the FCR, say, at the 80th percentile of contemporary consumption surveys (as is the case for the lower end of the range proposed by the draft TSD) or some lower number, is a choice to deny protection to the actual people consuming at rates above this value, virtually all of whom will be tribal people or members of Asian/Pacific Islander or other higher-consuming groups. Relatedly, if agencies manipulate "acceptable" risk levels so as to tolerate greater risks for the most highly exposed, protections for these groups will be short-circuited. Importantly, while agencies may be free to "balance" the public health and

other relevant considerations when making a policy determination whether to accommodate the very high-end exposures of a group such as soil pica children, agencies' work is different where tribes are among the most exposed: it is governed by a unique panoply of laws protecting tribes and their members. As a consequence, agencies cannot simply balance away these tribal rights.

For too long, polluting sources in Washington have gotten a free "pass" – at the expense of all Washingtonians who eat fish or who sell fish for a living. Ecology has a responsibility to protect these people and their livelihoods. Until Ecology adopts a new FCR and updates its environmental standards, it leaves people who eat Washington finfish and shellfish exposed to unacceptable levels of risk from PCBs, mercury, dioxins, and other toxic contaminants. Ecology must act to remedy this unacceptable situation, and uphold its obligations to tribal and non-tribal people alike.

Respectfully submitted,

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