



# Northwest Indian Fisheries Commission

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FAX # 753-8659

January 31, 2014

Maia Bellon, Director  
Washington Department of Ecology  
PO Box 47600  
Olympia, WA 98504-7600

RE: Follow-up from December Leadership Meeting on Water Quality Standards

Dear Director Bellon:

On behalf of the member tribes of the Northwest Indian Fisheries Commission, I would like to thank you and your staff for meeting with tribal leaders on December 12, 2013 to discuss the status of water quality standards in Washington State. The tribes recognize that this has been a very difficult issue for the state. However, the tribes remain steadfast in their request for revised standards that will protect the health of tribal people from exposure to toxic substances in Washington.

The purpose of this letter is to request an updated timeline for the completion of rule-making on the human health criteria (HHC), and to convey some initial comments on the preliminary options for the HHC. At the December meeting, tribes again asked for the timely completion of revised human health criteria in Washington State's standards that will utilize a new fish consumption rate, without lowering the protective level of other existing variables such as the cancer risk rate. As in previous meetings, tribes also asked for standards that are at least as protective as those approved in Oregon with a fish consumption rate of at least 175 grams per day and maintaining a cancer risk rate of  $10^{-6}$ . Many tribes also stated that the Oregon standards represent a substantial compromise, since tribal studies indicate higher levels of modern and historical consumption. The rule options put forth by the Department of Ecology in November, 2013 include several options that fail to achieve the protective levels of even the Oregon standards in the HHC. The NWIFC staff has prepared a consolidated set of preliminary comments on the options, based on input from NWIFC member tribes, and have attached these for your review and consideration as you move toward preparation of rule language. The tribes also plan to continue discussions with the Department of Ecology and others on proposed implementation options.

During the last two meetings of the Leadership Oversight Group with EPA and tribal leaders, you indicated verbally that a draft rule for the revised water quality standards will be completed this winter, and a final rule will be adopted in 2014. Given that the tribes have

experienced numerous delays during the course of this work, they have asked for greater clarity as to the precise timelines for rule development and promulgation, with dates instead of seasonal time frames. The tribes also requested in December that the Department of Ecology reaffirm previous commitments, by indicating a specific timeline that incorporates no further delay.

The tribes look forward to establishing revised human health criteria, so that we may better focus on the important work of toxic reduction in Washington through all available pathways. Once again, the NWIFC thanks you for meeting with tribal leaders in December, and we look forward to continuing to work with you.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Grayum". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael Grayum  
Executive Director

Enclosure: Response to Preliminary Options on the Human Health Criteria by NWIFC staff

Cc: Tribal Chairs and NWIFC Commissioners

Dennis McLerran, Regional Administrator; EPA Region 10

Dan Opalski, Director - Office of Water & Watersheds; EPA Region 10

Jim Woods, Senior Tribal Policy Advisor; EPA Region 10

JT Austin, Governor's Policy Advisor for Natural Resources

Phil Rigdon, Deputy Director; Department of Natural Resources; Yakama Nation

Columbia River Intertribal Fisheries Commission

**Response to Preliminary Options on the Human Health Criteria  
(as presented by the Washington Department of Ecology on November 6, 2013)**

**Compiled by: Northwest Indian Fisheries Commission staff  
January 31, 2014**

A. Introduction and Summary

Washington Department of Ecology (Ecology) outlined preliminary options for rule-making for state water quality standards at a public workshop on November 6, 2013. Recognizing that these are preliminary options, and are not yet embedded into state rule-making language, staff from the Northwest Indian Fisheries Commission (NWIFC) met with staff from member tribes in November and December of 2013 to obtain initial tribal input and develop a summary of responses. These do not constitute final comments on rules and may not be representative of the perspectives of individual tribes, but are submitted to the Department of Ecology as input prior to the development of rule language.

In general, tribes agree that Ecology must update state water quality standards to incorporate human health criteria at a protective level that is much higher than what currently exists. Tribes concur that Washington State has enough data to set a fish consumption rate at this time. The tribes also concur that Washington State must use fish consumption rates reflective of tribal consumption; however, the tribes disagree that the selection of “mean” consumption levels for tribes is an adequate standard of protection. Tribes have previously indicated that the fish consumption rate of 175 grams per day adopted by Oregon and approved by EPA, using a fish consumption level at the 90<sup>th</sup> to 95<sup>th</sup> percentile of Columbia River tribal studies, is a compromise from historical levels of consumption and is lower than documented consumption by Puget Sound tribes within the last 20 years. Tribes previously indicated that the Oregon standard of 175 gpd was low, but recognized that it would significantly reduce the potential for toxic chemicals to enter state water bodies through discharges, with the assumption that the state would not relax other parameters in the risk equation.

Unfortunately, the Department of Ecology is considering an option of using  $10^{-5}$  as the cancer risk level, and a relative source contribution of 1.0, both of which options are unacceptable to the tribes. The potential improvement in protective standards through a fish consumption rate at or above 175 gpd would be diminished by a higher risk of cancer or by failing to account for human exposure to toxins from other pathways.

The tribes support the preliminary determination by Ecology to include salmon in the fish consumption equation at 100%, i.e., using all species and all sources. The tribes continue

to evaluate the “challenging chemicals” highlighted by the Department of Ecology in their presentations, and how the state may address these through compliance tools. Comments on compliance tools, at Ecology’s present stage of development of options, will be forthcoming.

B. Use of Tribal Fish Consumption Levels as a Basis for Rate-Setting

Tribes agree that the Department of Ecology must use tribal fish consumption as a basis for reasonable maximum exposure and the FCR parameter in the human health criteria. At the November workshop this decision was characterized as a “big deal” and a policy choice, because it is substantially different from existing standards, which followed a national default rule set in the early 1990’s. Tribes do not believe that the Department of Ecology has any other supportable alternative than to use tribal FCR findings, since these are scientifically derived and regionally relevant. Additionally, the guidance of the National Environmental Justice Advisory Committee requires full consideration of the impact of environmental standards, and incorporation of protections, for culturally and racially distinct groups of people. Although some industrial and legislative representatives have called for a study of the fish consumption of the general population in Washington, such information would not be relevant given that Washington has appropriate and technically suitable data on tribal consumption, unless there is evidence that the general population fish consumption is higher.

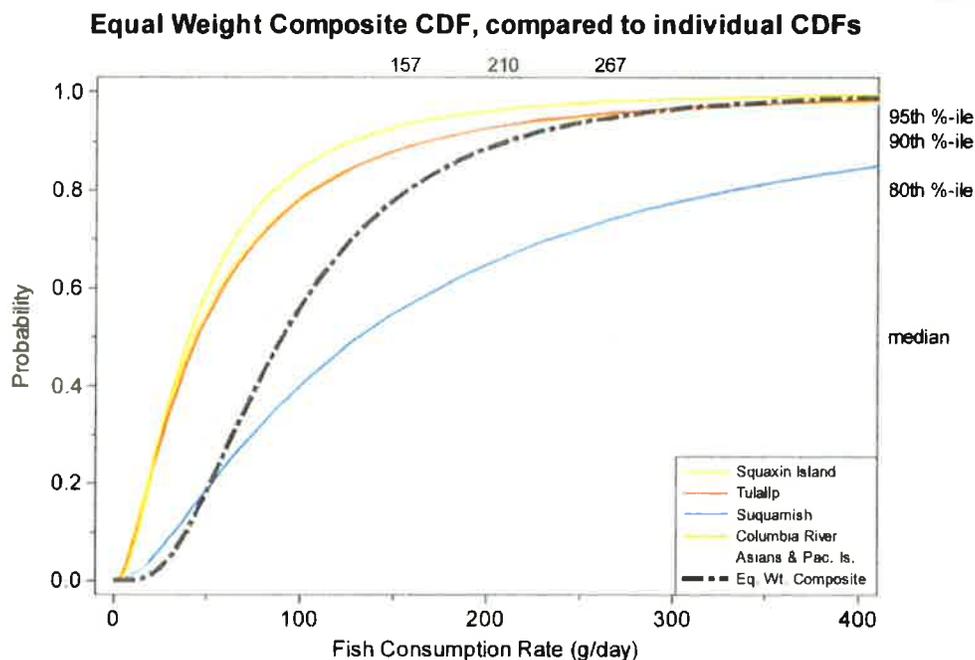
C. Fish Consumption Rate Options

The Department of Ecology presented three options for revising the FCR from the current level of 6.5 grams per day: 125, 175, and 225 grams per day. Tribes question the rationale for the selection of these options based on policy choices made by the Department of Ecology Water Quality Program. In some cases, the mean value is used, leaving a large portion of the tribal population unprotected from exposure to toxic chemicals in fish. Several tribes have commented previously that a fish consumption rate that is lower than the standard adopted by Oregon of 175 g/per day is unacceptable; tribes also note that this rate may not sufficiently protect tribes in light of suppression and other factors affecting consumption.

1. **The rationale for policy choices by the Water Quality Program in the selection of options are unclear and inadequate:** The Technical Support Document on Fish Consumption Rates, Verson 1.0 prepared by the Department of Ecology Toxics Cleanup Program and published in October 2011, used a composite analysis of regional studies of fish consumption by tribes and groups of Asian and Pacific Islander communities to recommend a FCR default range of 157-267 grams per day. (Figure 1) This was based on a logical and transparent analysis, selecting a range encompassing the 80<sup>th</sup>

to 95<sup>th</sup> percentiles of most regional studies. The University of Washington School of Public Health commented that the Technical Support Document V 1.0 “represent[ed] a robust, scientific-based assessment that is clear and transparent.” The Department of Ecology’s presentation on November 6, 2013 explained where the numbers came from that were used for the three proposed FCR options, but not why they were selected. Ecology will need to include a transparent rationale to express their reasoning for the selection of the final FCR option in rule language in the water quality standards, particularly if an option is selected that is less than the range recommended by the Department’s own Toxic Cleanup Program in the earlier Technical Support Document.

Figure 1: Composite analysis for Pacific Northwest fish dietary surveys for tribes and Asian and Pacific Islander Communities. (From WA Department of Ecology Technical support Document, version 1.0; October 2011). A FCR range of 157 to 267 grams per day was recommended, based on the composite 80<sup>th</sup> to 95<sup>th</sup> percentile.



- 2. Use of mean values for the Fish Consumption Rate is unacceptably low:** At the November 6, 2013 workshop, the Department of Ecology staff indicated that the Department is considering an option of 125 grams per day for the fish consumption rate, and that this value was based on the approximate average of averages from three

tribal dietary studies in Puget Sound.<sup>1</sup> Public health standards are not intended to protect only the average person; instead they are intended to set a level that reduces risk for a high percentage of the exposed population—especially where children and women of reproductive age are affected. For example, toxic cleanup programs utilize a reasonable maximum exposure at the 90<sup>th</sup> percentile. Ecology has made a preliminary determination that the standards should be based on the exposure of tribal populations, but it is unacceptable to tribes that the state would select a fish consumption rate at only an average level of tribal consumption. Tribes want to see the risk of ingesting toxics via fish consumption driven to zero or near zero. Oregon tribes advocated for an FCR at the 99<sup>th</sup> percentile of Columbia River studies in the Oregon water quality standards, but the state of Oregon ultimately decided to set a rate in the 90<sup>th</sup> - 95<sup>th</sup> percentile. The average of FCR values in Washington tribal studies at the 90<sup>th</sup> to 95<sup>th</sup> percentile would range from 254 to 385 grams per day, based on consumption surveys of Columbia River and Puget Sound tribes. For Puget Sound tribes only, the 90-95<sup>th</sup> percentile range would be 296 to 448 gpd.

- 3. Additional comment on the compromise FCR in Oregon standards.** In the public workshop on November 6<sup>th</sup>, the Department of Ecology expressed no indication that the state of Washington supports consistency with the FCR option at the Oregon standard, even though the FCR of 175 gpd was based largely on studies of Columbia River tribes located in Washington. Since the state of Washington sees little need for regulatory consistency between the states, earlier comments from tribes that the Oregon standard could be an acceptable compromise, depending on other aspects of rule-making, may no longer be relevant. Some Washington tribes have informed the NWIFC that they cannot support any option that is less than the 175 grams per day FCR adopted in Oregon, and are likely to advocate for a higher rate than Oregon's to protect their citizens given the higher levels of fish consumption here. The studies of tribal consumption used for the Oregon standards are now 20 years old and occurred at a time when fish consumption was more suppressed due to habitat loss, lack of access to fishing grounds, and contamination of fish species. Tribes will want to reserve the ability to consume fish at unsuppressed levels in the future. Tribes also note that historical levels of fish consumption have been documented to be much higher—in excess of 800 grams per day at treaty times. Some tribes are using historical levels to set tribal standards, and expect the state to follow suit for downstream dischargers.

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<sup>1</sup> See Table 33 from the Fish Consumption Rate Technical Support Document Version 2.0 for the referenced data. The average of the mean values for the Tulalip, Squaxin Island and Suquamish Tribes is 126.66 g/day.

**4. The “mean” option of 125 grams per day is inadequate to protect Puget Sound tribes.**

As noted above, tribes consider the option of 125 grams per day, to be inadequate as it is based on mean values for three Puget Sound tribal studies. The combined mean (the average of the average consumption for the three Puget Sound tribes) is even lower than the median consumption rate for one of the tribes—thus the FCR would not cover consumption exhibited by over half of the tribe. Moreover, some studies indicate that tribal children have a fish consumption rate nearly three times that of adults, relative to body weight.<sup>2</sup> An inadequate fish consumption rate puts the health of tribal children at particular risk.

**D. Cancer Risk Rate**

The Department of Ecology indicated that they are considering a cancer risk rate of one-per-million ( $10^{-6}$ ) or one-per-100,000 ( $10^{-5}$ ) in the human health criteria. The Department currently uses a standard of  $10^{-6}$  for the calculation of allowable limits for priority pollutants. The option of using  $10^{-5}$  in the HHC would therefore raise the risk of cancer by ten-fold for all Washington fish consumers and is unacceptable to tribes. Tribes will suffer disproportionately from an increase in the risk rate, and the option would largely negate any protective benefit that tribes and other high fish consumers would receive from a higher FCR, if adopted and implemented. Further, the  $10^{-5}$  option fails to consider risks to high consumers from persistent bioaccumulative toxics or exposure based on combinations of toxic chemicals (additive toxicity). Ecology has rejected a cancer risk rate of  $10^{-5}$  in the past and should continue to do so, whether or not other states choose lesser levels of protection. The Environmental Protection Agency has not stated that a  $10^{-5}$  risk level would be approvable given the circumstances in Washington, and the applicability of risk to tribes with treaty-reserved fishing rights.

- 1. Any increased risk of cancer is a harm.** The Clean Water Act and other health-based environmental standards that govern the sources or clean-up of pollution generally express goals to reduce the risk of exposure to harmful byproducts to zero. EPA has consistently used a level of 1 per million in national standards and criteria in an effort to drive pollutant sources close to the zero goal. Many tribal leaders view any risk of cancer through pollution as unacceptable; a ten-fold increase in existing rates is a major step in the wrong direction.

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<sup>2</sup> U.S. Environmental Protection Agency (EPA). (2013) Reanalysis of fish and shellfish consumption data for the Tulalip and Squaxin Island Tribes of the Puget Sound Region: Consumption Rates for Consumers Only. National Center for Environmental Assessment, Washington, DC; EPA/600/R-06/080F.

The mean fish consumption rate for Squaxin Island Tribe adults was 1.02 g/kg-day. The mean consumption rate for children less than 6 years of age was almost three times higher at 2.89 g/kg-day.

- 2. Tribes will suffer disproportionately from a ten-fold increase in the cancer risk level in Washington.** Arguments for a less protective risk level are based on a premise that everyone is equally likely to bear the higher risk of cancer. However, in Washington State the increase in risk will disproportionately affect tribes as the highest consumers and most exposed. The Department of Ecology has presented data indicating that tribes are the highest consumers of fish, and therefore is knowingly considering action that would shift a greater risk to tribal people, raising questions about ethics and environmental justice.

Furthermore, harvesting and consuming fish is a lifeway and a right for tribal people; it is not a choice or a voluntarily assumed risk. Business has characterized the risk of getting cancer from eating fish as just one of many health risks, like cigarette smoking or getting an x-ray. In recent presentations, the Department of Ecology offered statistics, purportedly as context for the risk discussion, that the average American male has a 1 in 2 risk of cancer in his lifetime (1 in 3 for females). This discussion fuels misunderstanding by minimizing the perception of harm directed toward tribal people, especially children, from contamination that they have not caused and cannot control.

- 3. The combination of a higher risk of cancer with a higher fish consumption rate negates much of the protective value of raising the FCR to a level that reflects tribal fish consumption.**

The Department of Ecology is considering an option of a FCR of 175 grams per day, or even less, in combination with an option to raise the cancer risk rate to  $10^{-5}$ . We note that 175 grams per day at a cancer risk rate of  $10^{-5}$  is functionally the equivalent of a FCR of 17.5 grams per day at a risk of  $10^{-6}$ , and that this rate has already been rejected by EPA in Oregon and Idaho. If the Department of Ecology adopts the option of a FCR at 125 grams per day and a risk rate of  $10^{-5}$ , the level of protection would only improve to a level of 12.5 grams per day at the existing risk rate.

In the November 6, 2013 workshop, the Department of Ecology offered a graph comparing the FCR and risk rate alternatives to a hypothetical chemical discharge at existing standards (Figure 2), purportedly to illustrate the drastic reduction in chemical concentrations that will be required of dischargers under any of the proposed options. Instead of illustrating the burden to dischargers from revised standards, the graph should be interpreted to show that existing pollutant concentrations need to be reduced. The existing standards are based on a grossly under-valued estimate of fish consumption and need to be raised to come to a realistic and protective level based on actual fish consumption and existing risk.

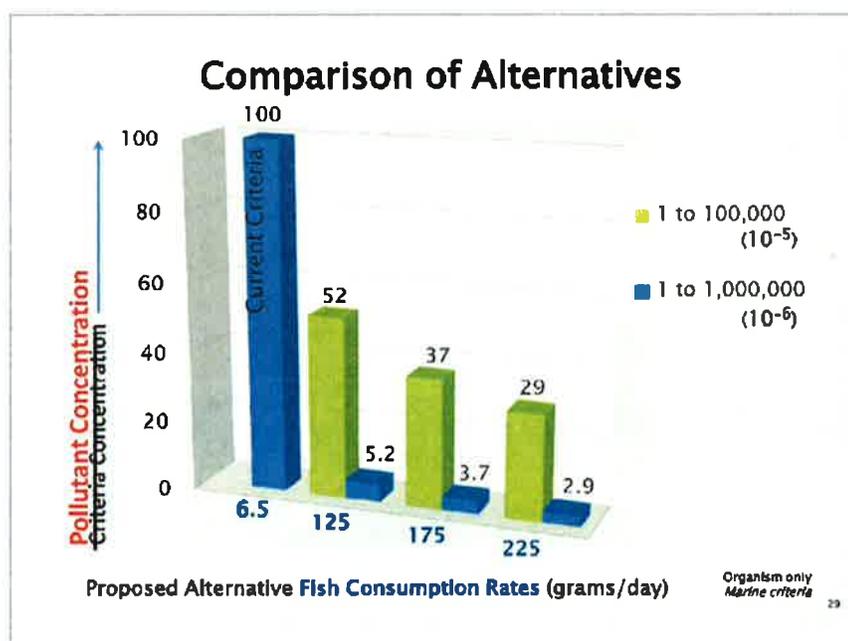


Figure 2: Comparison of FCR and risk rate alternatives to existing allowable pollutant concentration levels.

Tribes have already suffered harm from an inadequate fish consumption rate for years, and changing the risk rate to a less protective level in combination with a higher FCR will largely negate any value from potential remediation of the fish consumption criterion.

**4. Washington State should not reduce the level of protection for its people by making a comparison with the less stringent standards in other states, or assume that such reduction is approvable by EPA.**

The fact that some other states have chosen lesser protection does not answer the question whether Washington should decline to protect its people. Ecology has cited the fact that several other states have selected a less protective risk level, and used this as the basis for a preliminary option for a risk level at 1 in 100,000 (10<sup>-5</sup>). However, to say that other states have selected this risk level says nothing about why they have done so, or whether it is legally, technically, or ethically appropriate to follow suit. Washington has a disproportionately high level of shorelines, streams and lakes in comparison with many other states, and is renowned for abundant and varied fish and shellfish resources. These resources, and the people who consume them, coexist with industrial users who legally discharge pollutants into Washington water bodies--thus Washington's industrial environment also varies from many other states. As noted above, a less protective cancer risk rate will disproportionately and involuntarily harm tribes and other high consumers of fish. Additionally the state has a legal obligation

to honor the treaty reserved rights held by Washington tribes, and comply with the implementation of trust responsibilities overseen by the Federal Government. These circumstances add to the legal and ethical questions that are relevant to Washington's selection of human health criteria, in contrast with those of other states, and must be considered by EPA in the exercise of their Federal Government trust responsibilities.

EPA has not stated that an increased risk level is approvable for the circumstances present in Washington. EPA has stated that it would need to consider the rigor and representativeness of the process by which a state arrived at its risk level—particularly where the risk level selected was less protective than 1 per million. Additionally the EPA has expressed concern for actual risk to affected individuals, based on a comprehensive look at parameters and circumstances. EPA guidance with respect to “sub-populations” or to diverse and unrelated subsistence fishers, cannot be equated with the risk to treaty fishing tribes and their members in Washington. Further review of the process underway in Washington will show that tribes have consistently opposed a less protective fish consumption rate and higher risk of cancer for years. Tribal members live the circumstances that contribute to compounded risks since they eat large quantities of fish, harvested from usual and accustomed fishing areas affected by Washington standards, and they consume fish from their earliest childhood through old age.

5. **The Department of Ecology has previously gone on record in support of a risk level of  $10^{-6}$ , and should continue to support this level, particularly in light of the potential for Washington people to consume fish with bio-accumulative toxics and the potential for interaction of multiple contaminants.**

EPA promulgated a rule for 14 states, including Washington, in 1992 to establish numeric criteria for priority toxic pollutants necessary to bring states into compliance with provisions of the Clean Water Act. In the official comments on the proposed rule, the Washington Department of Ecology urged EPA to promulgate human health criteria at  $10^{-6}$ :

*“The State of Washington supports adoption of a risk level of one in one million for carcinogens. If EPA decides to promulgate a risk level below one in one million, the rule should specifically address the issue of multiple contaminants so as to better control overall site risks.”<sup>3</sup>*

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<sup>3</sup> 57 FR 60848 (Full description at *Federal Register*, Volume: 57, Issue: 246, Page: 60848 (Tuesday, December 22, 1992) Page 60868 contains comments by WA Department of Ecology.

The Department of Ecology should apply these comments to their own proposed rule options, specifically by rejecting the option of establishing a general risk rate of  $10^{-5}$ . Currently there are no provisions to address the issue of multiple contaminants in Washington's existing or new rules.

During the 1992 EPA rule-making, EPA also indicated that it was appropriate to adopt a more stringent risk level (one-per-million) for those carcinogens with substantially higher bio-concentration factors. Recognizing that carcinogens that bioaccumulate are of particular concern for exposure by fishermen, EPA further stated that a more protective risk level of  $10^{-6}$  would be appropriate for fish consumers. (ibid.)

The proposed reduction of the protective level of the cancer risk rate to  $10^{-5}$  is inconsistent with Ecology's previous positions expressed to EPA, fails to adequately address the cancer risk from bioaccumulative toxics, and fails to account for the interactions of multiple toxic chemicals. The  $10^{-5}$  option for a risk rate places tribes at a disproportionately higher level of risk, and negates the potential benefit of remediation to the standards that would have accrued through the adoption of a higher fish consumption rate. The option of a ten-fold increase in the risk of cancer for Washington citizens should be rejected.

E. Other Comments Related to the Proposed Options for Human Health Criteria

1. **The Tribes concur with Ecology's tentative decision to include salmon at 100% in the fish consumption rate.** This was an inevitable conclusion in the face of: the high levels of consumption of salmon by tribes and the general population in Washington; fish tissue sampling showing the presence of persistent bioaccumulative toxics in salmon in freshwater and estuarine water bodies at various life stages; and documentation that tribal consumers primarily eat salmon and other seafood that are derived from and harvested in local water bodies. Previous comments from industrial representatives on the Technical Support Document V1.0 relating to salmon attempted to discount salmon on the basis that the "oceanic" portion of their life cycle was outside of Washington's jurisdiction. However, some species of Puget Sound salmon remain resident within the marine waters of Puget Sound, and exhibit higher levels of PCBs than their counterparts in British Columbia or the Columbia River, indicating that substantial uptake of toxic chemicals occur in the estuarine portion of Washington's waters and are influenced by Washington regulatory standards. Tribal salmon harvest is comprised primarily of salmon that are natal to Washington rivers and streams, and the tribes concur with the preliminary conclusion to include all species of salmon and all geographic areas.

- 2. Tribes do not concur with Ecology's decision to disregard EPA direction to consider multiple pathways of exposure to toxic chemicals. Ecology's preliminary choice of 1.0 as the relative source contribution (RSC) provides an inadequate level of protection to fish consumers.** Fish consumption is only one of the pathways by which humans absorb toxic chemicals. The EPA has issued guidance calling for states to attribute 20-80% of exposure to toxic chemicals to water-borne sources, and the rest from other sources including air and other foods. The tribes reiterate previous comments relative to carcinogenic risk--that tribes are highly exposed to toxic chemicals in fish, and will suffer disproportionately from the body burden resulting from other chemical loads as part of a human body burden. Tribes have indicated that Ecology should follow EPA guidance on this issue.
  
- 3. The tribes recognize that pervasive chemicals are a substantial concern in Washington, and that dischargers will have difficulty meeting new standards right away for substances including PCBs, arsenic, and mercury.** Tribes are continuing to evaluate the options presented by Ecology for regulatory solutions to these chemicals of concern to facilitate the transition to new standards for dischargers. However, the tribes point out that variances, extended schedules, or other potential compliance tools must be limited, or Washington will not achieve long term goals for water quality—instead engaging in an endless and expensive cycle of pollution discharge, site and species contamination, issuance of health advisories, and site cleanup. Tribes are seeking to attain the highest water quality possible as soon as possible for the protection of tribal health. Tribes also point out that Ecology has stated that pervasive chemicals, such as PCBs, are a state-wide problem, and that some of the chemicals, such as mercury, come from air deposition. These assertions appear to contrast with Ecology's decision to use a relative source contribution of 1.0, since that option assumes 100% of toxic contaminants in the human health criteria come from consuming fish from impaired waters.

In conclusion, tribes concur with Ecology's preliminary decisions on the human health criteria to base fish consumption rates on tribal levels of consumption and to include salmon at 100%. Tribes strongly disagree with Ecology's proposal to increase the risk of cancer by ten-fold, and the use of average values in setting the fish consumption rate. Tribal populations depend on fish consumption for sustenance and livelihood and are disproportionately at risk from toxic chemicals in fish. The tribes retain treaty-reserved rights to harvest, and assume that these fish and shellfish will be healthy to eat throughout a tribal member's life span.

NWIFC and individual tribal staff will continue to work with Ecology staff to evaluate the options presented for compliance tools. Thank you for your attention to the tribes' concerns on the preliminary options for the human health criteria.