



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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May 4, 2012

Christian M. McCabe, J.D.
Executive Director
Northwest Pulp & Paper Association
212 Union Ave. SE, Suite 103
Olympia, WA 98501

Dear Mr. McCabe:

Thank you for your interest in Ecology's ongoing work on fish consumption rates (FCR). This letter responds to the questions identified in your February 24, 2012, e-mail.

As background, Ecology received over 300 comments on the FCR Technical Support Document. We are continuing to prepare a document with written responses to those comments. In that document, we will provide additional information on the five questions discussed in this letter, as well as the more specific issues discussed at the February 10 meeting between Ecology and members of the Northwest Pulp and Paper Association (NWPPA).

The comment response document is one of several documents related to the fish consumption rate issue that will be provided to the public when we publish the CR-102 (proposed rule making document) for the Sediment Management Standards (SMS) rule. We are also preparing:

- 1) a revised Technical Support Document that addresses the technical comments we received earlier this year,
- 2) a policy support document that identifies key policy choices and Ecology's rationale for the proposed fish consumption rate included in the SMS rule, and
- 3) the draft regulatory analyses required by the Administrative Procedures Act (including a draft cost-benefit analysis).

Ecology has carefully considered the issues raised by five questions identified in your e-mail of February 24. As you are aware, each question includes two types of questions: a technical or policy question and a question related to the benefits of Ecology's proposal. Ecology's responses to the technical and policy questions are enclosed in this letter. We are also continuing to evaluate the benefits and costs of revisions to the Sediment Management Standards (SMS) rule. That information will be included in the cost-benefit analysis prepared in accordance with the requirements in the Administrative Procedures Act. The five questions are:



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1. Why has Ecology not included the fish consumption habits of the vast majority of the state's citizens when considering an appropriate value for a statewide FCR? Can Ecology quantify the benefit to the overall health of the state's population it expects to result from this decision?
2. Why would Ecology not exclude anadromous fish from any default FCR meant for statewide use? Can Ecology quantify the benefit to the overall health of the state's population it expects to result from this decision? More specifically, can Ecology provide any data showing that anadromous fish accumulate a "significant" fraction of their ultimate pollutant body burden while in waters of the State of Washington?
3. Why would Ecology not exclude non-local fish from any default FCR meant for statewide use? Can Ecology quantify the benefit to the overall health of the state's population it expects to result from this decision?
4. Why would Ecology ignore the clear geographic patterns in fish consumption by adopting a single default FCR for use statewide? Can Ecology quantify the benefit to the overall health of the state's population it expects to result from this decision?
5. Why would Ecology not weigh fish consumption by identified sub-populations based on the percentage of the total population of the state (or, at the very least, as the percentage of the total surveyed population)? Can Ecology quantify the benefit to the overall health of the state's population it expects to result from the approach taken in the current TSD (assigning equal weights to each sub-population regardless of the relative sizes of these different sub-populations)?

I hope you find these responses provide you with a better understanding of Ecology's current thinking and rationale on these questions. As I mentioned in our recent phone conversation, I will be out of the office until May 29. If you have additional questions or would like to discuss the responses in this letter, please contact either Martha Hankins (360-407-6864) or Jim Pendowski (360-407-7177).

Sincerely,

Wayne Albritton for DAVE BRADLEY

Dave Bradley
Toxics Cleanup Program

Enclosure

cc: Ted Sturdevant, Director, Ecology
Jim Pendowski, Toxics Cleanup Program Manager, Ecology
Tom Laurie, Tribal Liaison, Ecology
Melissa Gildersleeve, Water Quality Program, Ecology
Martha Hankins, Toxics Cleanup Program, Ecology

Attachment

Responses to Questions Submitted By Mr. Christian McCabe (February 24, 2012)

Introduction

Ecology distributed two documents for public review in October 2011.

- Draft Revisions - Sediment Management Standards (SMS) (Part V and Definitions)
- Fish Consumption Rate Technical Support Document Version 1.0

The Technical Support Document was prepared to support discussions on whether and how to update the fish consumption rates in current state rules. Specifically, Ecology is considering whether to include a default fish consumption rate in the Sediment Management Standards (SMS) rule. The default fish consumption rate in the SMS rule would be used to establish sediment cleanup standards at sites being addressed under the Model Toxics Control Act (MTCA).

Ecology held several meetings with interested parties to discuss the report between October 2011 and March 2012. Ecology and members of the Northwest Pulp and Paper Association (NWPPA) met on February 10, 2012 to discuss the issues raised in comments from the NWPPA and individual companies. Subsequent to the February 10th meeting, Mr. Christian McCabe requested that Ecology provide written responses to five questions identified in his February 24th e-mail.

The purpose of this paper is to provide responses to the five questions in the February 24th e-mail. It supplements, but does not replace, the evaluation and written responses to comments on the Technical Support Document. The comment response document being prepared by Ecology will address the more detailed issues identified in written comments and discussed at the February 10th meeting.

Regulatory Framework

In October 2011, Ecology distributed draft rule language that included requirements for establishing sediment cleanup standards based on human health protection. In that draft, Ecology proposed that sediment cleanup standards should be based on a reasonable maximum exposure (RME) scenario for population groups at the sediment cleanup site:

Sediment concentrations that correspond to no significant human health risk shall be based on estimates of the reasonable maximum exposures expected to occur under both current and future site use conditions. For sites located within a tribal usual and accustomed fishing area, the reasonable maximum exposure scenario shall be based on tribal fish consumption rates. The department has developed a statewide default fish consumption rate of XXX g/day. The department may approve a site specific fish consumption rate.

Ecology's proposal to base sediment cleanup standards on RME estimates represents a continuation of current regulatory requirements. The MTCA Cleanup Regulation requires that cleanup standards must be based on a RME scenario. The RME is defined as "the highest exposure that is reasonably expected to occur at a site under current and potential future site use."¹ It is designed to represent a high-end (but not worst-case) estimate of individual exposures that falls within a realistic range of exposures.²

Ecology included a placeholder for the default fish consumption rate in the draft SMS rule language (see above). At that time, Ecology explained that the Department would use the results from the review and discussion of the technical support document when preparing the proposed SMS rule language.

Organization of the Attachment

The February 24th e-mail from Mr. McCabe identified five groups of questions. Each group includes two questions:

- A question on a specific technical/policy issue; and
- A question on the benefits of the proposed approach for that particular issue.

Ecology's responses to the technical/policy questions are provided in the following five sections (one question per section). Each section includes:

- The question posed by the NWPPA;
- A brief description of the issue and summary of public comments;
- Ecology's response.

Ecology is continuing to evaluate the benefits and costs of revisions to the SMS rule revisions. That information will be included in the preliminary cost-benefit analysis that Ecology is preparing in accordance with the requirements in the Administrative Procedures Act. Ecology will distribute the preliminary cost-benefit analysis for public review during the formal public comment period for the SMS rule. Ecology will consider all public comments when preparing the final SMS rule revisions and the final cost-benefit analysis.

¹ See WAC 173-340-708 (3) (b). CERCLA provides a similar definition "...the highest exposure that is reasonably expected to occur at a Superfund site..."

² The worst-case exposure represents an extreme set of exposure conditions, usually not observed in an actual population, which is the maximum possible exposure where everything that can plausibly happen to maximize exposure does happen. This is discussed in EPA's *Guidelines for Exposure Assessment*, Federal Register Vol. 57, No. 104, May 1992, pages 22888-22938.

Question #1

Questions

Why has Ecology not included the fish consumption habits of the vast majority of the States citizens when considering an appropriate value for a statewide FCR?

Can Ecology quantify the benefit to the overall health of the state's population it expects to result from this decision? **[The qualitative and quantitative benefits of Ecology's proposal will be addressed in the cost-benefit analysis for the SMS rule revisions.]**

Public Comments Related to Question #1

The technical support document incorporated the results of evaluations conducted by Ecology, EPA and other agencies over the last several years. The purpose of Chapter 4 was to (a) summarize the results of those evaluations and (b) provide an initial determination on the studies to be used to calculate a default fish consumption rate or rates.

Ecology concluded there are four surveys that should be considered when establishing a statewide default fish consumption rate:

1. *A Fish Consumption Survey of the Umatilla, Nez Perce, Yakama, and Warm Springs Tribes of the Columbia River Basin* (Columbia River Inter-Tribal Fish Commission, 1994³).
2. *A Fish Consumption Survey of the Tulalip and Squaxin Island Tribes of the Puget Sound Region* (Toy et al., 1996⁴).
3. *Fish Consumption Survey of the Suquamish Indian Tribe of the Port Madison Indian Reservations, Puget Sound Region* (Suquamish Tribe, 2000⁵).
4. *Asian and Pacific Islander Seafood Consumption Study* (Sechena et al., 1999⁶).

Several people stated that the studies used to develop the range in the Technical Support Document were not representative of the overall Washington population. They provided a variety of recommendations for addressing their concerns.

³ Columbia River Inter-Tribal Fish Commission. (CRITFC). *A Fish Consumption Survey of the Umatilla, Nez Perce, Yakama, and Warm Springs Tribes of the Columbia River Basin*. Technical Report 94-3. Portland, Oregon. 1994.

⁴ Toy, K.A., Polissar, N.L., Liao, S., and Mittelstaedt, G.D. *A Fish Consumption Survey of the Tulalip and Squaxin Island Tribes of the Puget Sound Region*. Tulalip Tribes, Department of Environment, 7615 Totem Beach Road, Marysville, Washington 98271. 1996.

⁵ The Suquamish Tribe. 2000. "Fish Consumption Survey of the Suquamish Indian Tribe of the Port Madison Indian Reservation." Puget Sound Region. August 2000

⁶ Sechena, R., C. Nakano, S. Liao, N. Polissar, R. Lorenzana, S. Truong, and R. Fenske. "Asian and Pacific Islander Seafood Consumption Study in King County, Washington." EPA 910/R-99-003. May 1999.

- Several people recommended that Ecology conduct additional studies before updating the default fish consumption rates used to support decisions under the Model Toxics Control Act and the Clean Water Act.
- Several people recommended that Ecology include information from various recreational studies in the technical support document.
- Several people recommended that Ecology include information on fish consumption rates for the general population in the technical support document.

Ecology's Response to Question #1

Ecology plans to include the results of two local studies of recreational anglers in the revised report: Mayfield et al., 2007⁷ and *Results of a Human Use Survey for Shoreline Areas of Lake Union, Lake Washington, and Lake Sammamish*, Sammamish-Washington Analysis and Modeling Program (SWAMP).⁸

Ecology is not aware of any Washington-specific studies that have examined the distribution of fish and shellfish consumption rates for the general population. However, we plan to include the national fish dietary survey data in the revised report.

This is similar to the approach used by EPA when updating the Exposure Factors Handbook⁹. Chapter 10 of the EPA report was finalized late last year and includes information on fish consumption rates for the general population, recreational anglers and Native American populations.

⁷ Mayfield et al, 2007. Mayfield, David B.; Robinason, Sue; and Simmonds, Jim. Survey of fish consumption patterns of King County (Washington) recreational anglers. *Journal of Exposure Analysis and Environmental Epidemiology* (2007) 17, 604-612.

⁸ Results of a Human Use Survey For Shoreline Areas of Lake Union, Lake Washington, and Lake Sammamish. Sammamish-Washington Analysis and Modeling Program (SWAM) September 2003. King County Department of Natural Resources and Parks. Wastewater Treatment Division.

⁹ U.S. Environmental Protection Agency. *Exposure Factors Handbook*. National Center for Environmental Assessment. Office of Research and Development. September 2011. Available at: <http://www.epa.gov/ncea/efh/>.

Question #2

Questions

Why would Ecology not exclude anadromous fish from any default FCR meant for statewide use?

Can Ecology quantify the benefit to the overall health of the state's population it expects to result from this decision? More specifically, can Ecology provide any data showing that anadromous fish accumulate a "significant" fraction of their ultimate pollutant body burden while in waters of the State of Washington? **[The qualitative and quantitative benefits of Ecology's proposal will be addressed in the cost-benefit analysis for the SMS rule revisions.]**

Public Comments Related to Question #2

Ecology summarized information on salmon consumption and life cycles in the Technical Support Document. Two main points emerged from that analysis.

- Salmon are a primary fish species consumed by Washington fish consumers.
- In contrast to other species, a significant portion (but not all) of the chemical body burden in salmon is received outside the waters of the state that are subject to the requirements of the Model Toxics Control Act (MTCA).

Ecology acknowledged that there are several important issues associated with deciding whether and how consumption of salmon should be taken into account when developing default fish consumption rates used in regulatory decisions. In the draft report, Ecology identified two key questions related to the consideration of salmon:

- How should the default rates take into account the consumption of fish species like salmon that spend much of their life outside of Washington waters?
- How should the complex life cycle and biology of the different salmon species be considered when making regulatory decisions?

Ecology received a wide range of comments on these questions. Several people recommended that Ecology include salmon when calculating an updated default fish consumption rate. They provided several reasons to support their recommendations:

- People in the Northwest eat large quantities of salmon.
- Salmon are important to the Pacific Northwest, both culturally and economically. Salmon have considerable spiritual significance for many Pacific Northwest tribes.

- Recent studies demonstrate that some salmon species can receive a significant percentage of their body burden of toxic chemicals during the early portion of their life cycle.¹⁰
- This approach is consistent with the approach used by the Oregon Department of Environmental Quality to establish surface water quality standards.

Several people recommended that Ecology not include salmon when calculating an updated default fish consumption rate. They also provided several reasons to support their recommendations:

- Salmon and other anadromous species spend considerable portions of their lives in the open ocean and obtain much of their body burden of bioaccumulative chemicals outside of Washington waters.
- This approach is consistent with the approach used in the EPA Region 10 framework.

Ecology's Response to Question #2

This is a complex issue. In preparing the SMS rule revisions, Ecology has information that people in the Northwest eat large amounts of salmon. However, Ecology also has information that shows that salmon spend a significant portion of their life in the open ocean outside Washington waters. Ecology is striving to create a decision framework that takes into account both sets of information.

Given this complexity, Ecology's current plan for addressing this issue in the SMS rule includes two main components. First, Ecology is currently planning to propose a default fish consumption rate in the SMS rule that includes salmon. Ecology's rationale for this approach includes the following:

- People in the Pacific Northwest eat large amounts of salmon. The regional fish dietary surveys document that salmon are the most frequently consumed and consumed in the largest amounts of all finfish. This information was summarized in the technical support document.
- Salmon obtain some of their body burden from their river of origin. Research and agency evaluations indicate that salmon do obtain some of their body burden from local and regionally sources of contamination.¹¹

¹⁰ For example, 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). Johnson et al, 2007. Contaminant exposure in outmigrant juvenile salmon from Pacific Northwest estuaries of the United States. Environ Monit. Assess. 124(1-3): 167-194. Other documentation will be presented in Ecology's Responsiveness Summary.

¹¹ O'Neill, Sandra M., James E. West, James C. Hoeman. "Spatial Trends in the Concentration of Polychlorinated Biphenyls (PCBs) in Chinook (*Oncorhynchus tshawytscha*) and Coho Salmon (*O. kisutch*) in Puget Sound and

- Resident populations of salmon have higher body burdens. Researchers have reported that Puget Sound salmon have higher levels of many contaminants than salmon returning to other areas.
- Salmon have great cultural and economic importance for people living in Washington. Several people provided comments emphasizing the significant importance of salmon in the Pacific Northwest.
- This approach is consistent with the approach used by the State of Oregon. The Oregon Department of Environmental Quality adopted a revised fish consumption rate in 2011. The revised fish consumption rate includes salmon. EPA has reviewed and approved the Oregon rule under the federal Clean Water Act.

However, Ecology recognizes that many salmon and other anadromous species spend considerable portions of their lives in the open ocean and obtain much of their body burden of bioaccumulative chemicals outside of Washington waters.

Consequently, Ecology is considering a separate factor (site use factor) in the equation used to calculate risk based concentrations. Ecology believes this approach will provide a flexible way to take into account the complex life cycle of anadromous fish (salmon) while accounting for the diversity of aquatic habitats and the large range of possible chemical contaminants in sediments.

Question #3

Questions

Why would Ecology not exclude non-local fish from any default FCR meant for statewide use?

Can Ecology quantify the benefit to the overall health of the state's population it expects to result from this decision? **[The qualitative and quantitative benefits of Ecology's proposal will be addressed in the cost-benefit analysis for the SMS rule revisions.]**

Public Comments Related to Question #3

In some surveys, the respondents report on the source of the fish they consume. Sources of fish and shellfish can include self-harvested, or purchased from stores or restaurants. The fish and shellfish that are purchased may be locally caught.

Ecology summarized information from four key fish consumption surveys in the Technical Support Document. Ecology did not distinguish between locally-harvested and store-bought fish and shellfish. That information is not uniformly available for all studies.

Several people stated that it was important to distinguish between locally harvested fish and fish from other areas purchased in stores. They noted that this is particularly important because most regulations are applied to specific water bodies. Several people recommended that Ecology use an approach similar to EPA Region 10 to adjust the tribal study results to remove non-regionally harvested fish.

Ecology's Response to Question #3

The technical support document was based on the work done by Oregon DEQ's Human Health Focus Group¹² which considered fish and shellfish from all sources. Consequently, as a starting point, Ecology included information on all fish and shellfish consumed. However, Ecology acknowledges that the report prepared by the Human Health Focus Group also presents information on the amount of locally- or regionally-harvested fish.

In response to public comments regarding locally harvested versus non-locally harvested seafood, Ecology is (1) looking at the EPA Region-10 framework and (2) is evaluating the regional-specific fish dietary information to see if and how that data can be adjusted to correct for non-locally harvested fish. This is work-in-progress with results from our analysis pending in mid-May. Ecology plans to incorporate the results of these analyses in the revised technical support document.

¹² Oregon Department of Environmental Quality, "Human Health Focus Group Report– Oregon Fish and Shellfish Consumption Rate Project Report." June 2008.

Ecology will use the new analyses as the basis for the proposed default fish consumption rate in the SMS rule. Ecology's rationale for this approach includes the following:

- This approach is consistent with the approach used by EPA when preparing the EPA Region 10 framework document.¹³ The EPA Region 10 framework explicitly recognizes source contribution issues by adjusting the rates based on total fish consumption rates to account for fish harvested and consumed from Puget Sound.
- This approach is consistent with current scientific information. Available regional studies indicate that most (but not all) fish reported by the survey participants was from local sources. Members of these population groups consume large amount of fish and shellfish; when local sources are available it is reasonable to assume they will be preferred.
- This approach is consistent with the current MTCA rule. The MTCA rule currently considers the fish diet fraction (FDF) when calculating site-specific surface water cleanup standards. The FDF is defined in the MTCA rule as "...the percentage of the total fish and/or shellfish in an individual's diet that is obtained or has the potential to be obtained from the site."¹⁴

With respect to this issue, Ecology will be considering three main factors when selecting the default fish consumption rate for the SMS rule proposal:

- The results of the additional analyses. There are several analyses that will influence how we resolve this issue. These include additional statistical analyses and regulatory analyses required by the Administrative Procedures Act.
- How the default fish consumption rate will be used to establish sediment cleanup standards. The EPA Region 10 approach and use of a fish diet fraction are two approaches for addressing this issue. Ecology believes it would be inappropriate to use both approaches at the same time (essentially making the adjustment twice).
- How the default fish consumption rate and implementation framework complies with MTCA statutory requirements. We believe this approach is consistent with the definition of reasonable maximum exposure that takes into account both current and future¹⁵ exposure. However, people providing comments on the draft SMS rule raised questions on whether current survey results have been influenced by toxic contamination. Ecology is considering this issue as we prepare the proposed SMS rule.

¹³ U.S. EPA Region 10. 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. August 2007.

¹⁴ WAC 173-340-708(10)(b).

¹⁵ The MTCA statute directs Ecology to consider both current and future generations. In particular, the law states that: "...[e]ach person has a fundamental and unalienable right to a health environment, and each person has a responsibility to preserve and enhance that right. The beneficial stewardship of the land, air, and waters of the state is a solemn obligation of the present generation for the benefit of future generations." (RCW 70.105D.010(1))

Question #4

Questions

Why would Ecology ignore the clear geographic patterns in fish consumption by adopting a single default FCR for use statewide?

Can Ecology quantify the benefit to the overall health of the state's population it expects to result from this decision? **[The qualitative and quantitative benefits of Ecology's proposal will be addressed in the cost-benefit analysis for the SMS rule revisions.]**

Public Comments Related to Question #4

Several people noted that there is substantial variation in the amount of fish and shellfish consumed in different parts of Washington. Most of these people recommended that Ecology establish multiple default rates that would take into account differences between water bodies (freshwater vs marine) and fish species (shellfish vs finfish vs salmon). Other people suggested that Ecology provide enough flexibility to adjust a default fish consumption rate based on chemical characteristics, species present at a cleanup site and water body characteristics.

Ecology's Response to Question #4

There are many examples where regulatory agencies have adopted statewide values that do not fully account for geographic patterns of one or more factors. For example, the current surface water quality standards are based upon a single fish consumption rate of 6.5 grams/day. Similarly, the MTCA rule includes a single default fish consumption rate of 54 grams/day.

However, Ecology acknowledges that a certain amount of flexibility is needed to address site specific issues at MTCA sediment cleanup sites. The question is where to build in the flexibility and where it is most needed. Flexibility is important for considering questions around current and future habitat and resource abundance; and the flexibility to address the variability of fish species present at a site and their life cycle, including where contaminants are obtained. Ecology also acknowledges that there are some water bodies that are not large enough to sustain moderate to high fish consumption rates.

Ecology is currently planning to provide the flexibility to modify the default fish consumption rate on a site-specific basis. This flexibility was provided in the draft SMS rule language (see page 1 above). This approach will enable Ecology and the regulated community to take geographic variations into account when establishing site-specific sediment cleanup standards at MTCA cleanup sites.

Question #5

Questions

Why would Ecology not weigh fish consumption by identified sub-populations based on the percentage of the total population of the state (or, at the very least, as the percentage of the total surveyed population)?

Can Ecology quantify the benefit to the overall health of the state's population it expects to result from the approach taken in the current TSD (assigning equal weights to each sub-population regardless of the relative sizes of these different sub-populations)? **[The qualitative and quantitative benefits of Ecology's proposal will be addressed in the cost-benefit analysis for the SMS rule revisions.]**

Public Comments Related to Question #5

Most of the people providing comments on the draft SMS rule language or the technical support document expressed general support for Ecology's proposal to base sediment cleanup decisions on a reasonable maximum exposure (RME) scenario.

However, Ecology received a wide range of comments on the proposal to develop a default fish consumption rate using survey results from high exposure population groups instead of the entire Washington population.

Many individuals, organizations and tribal governments urged Ecology to establish a default fish consumption rate using survey results from high exposure groups. These people provided several reasons to support their recommendations:

- This approach is consistent with the approaches being used by Ecology and EPA at sediment cleanup sites in Washington.
- This approach is consistent with the policies underlying the surface water quality standards recently adopted by the Oregon Department of Environmental Quality

There were also several individuals and organizations who questioned the need to establish a statewide default fish consumption rate in the SMS rule. However, they recommended that, if Ecology determined it was necessary to establish a default rate, Ecology should consider the range of fish consumption rates for the entire Washington population. They provided several reasons to support their recommendations:

- This approach is consistent with the approach used by EPA to establish the default fish consumption rate in national guidance for establishing water quality standards under the Clean Water Act.
- This approach is consistent with the approaches used by Ecology and EPA to establish cleanup requirements for contaminated ground water, surface water, soils and air.

- Ecology could continue to establish site-specific cleanup standards that account for higher amounts of fish and shellfish consumed by specific population groups (e.g., Native Americans, Asian Pacific Islanders, etc).

Ecology's Response to Question #5

Ecology is currently planning to propose a default fish consumption rate in the SMS rule that represents a reasonable maximum exposure. We are currently planning to base the default fish consumption rate on the four regional fish consumption surveys identified in the technical support document. Ecology's rationale for this approach includes the following:

- This approach complies with the statutory requirements in the Model Toxics Control Act (MTCA). RCW 70.105D.030(2) directs Ecology to adopt rules under Chapter 34.05 RCW to "...[p]ublish and periodically update minimum cleanup standards for remedial actions..." The cleanup standards must be at least as stringent as the cleanup standards established under the federal Superfund law. The federal cleanup standards are based on "reasonable maximum exposures" or "RME".¹⁶ EPA Region 10 uses a tribal exposure scenario to establish cleanup standards at Superfund sites in Puget Sound (EPA 2007a¹⁷).
- The vast majority of sediment cleanup sites are located in the Usual and Accustomed (U&A) fishing areas for one or more tribes. Ecology has identified over 150 sediment cleanup sites in Washington. Based on information compiled by the Washington State Department of Transportation (WSDOT 2008¹⁸), the vast majority of these cleanup sites are located in the Usual and Accustomed (U&A) fishing areas for one or more tribes.
- This approach is consistent with advice from the MTCA Science Advisory Board. In 2008, the MTCA Science Advisory Board for advice on a site-specific fish consumption rate applicable to a cleanup action being conducted in the Port Angeles Harbor. The harbor is located within the usual and accustomed fishing area for the Lower Elwha Klallam Tribe.¹⁹ The board agreed with Ecology's conclusion that the recreational default fish consumption rate used in the

¹⁶ The federal rule defines RME as "...the highest exposure that is reasonably expected to occur at a Superfund site...The preamble to the federal rule (the National Oil and Hazardous Substances Pollution Contingency Plan) includes the following guidance:

"EPA defines reasonable maximum such that only potential exposures that are likely to occur will be included in the assessment of exposures. The Superfund program has always designed its remedies to be protective of all individuals and environmental receptors that may be exposed at a site; consequently, EPA believes it is important to include all reasonably expected exposures in its risk assessments..."

¹⁷ U.S. EPA Region 10. 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. August 2007.

¹⁸ ¹⁹ MTCA Science Advisory Board (SAB), Meeting Notes for SAB Meetings held December 14, 2007 and March 11 and June 2, 2008, http://www.ecy.wa.gov/programs/tcp/SAB/SAB_mtg_info/mtg_info.htm.

MTCA rule does not represent an RME scenario for Native American populations who typically eat higher amounts of fish and shellfish than recreational anglers.

- This approach is consistent with current site-specific decisions at MTCA sediment cleanup sites. The general MTCA cleanup standard provisions (including the RME requirements) apply to all environmental media including sediments. Ecology currently establishes site-specific sediment cleanup requirements using a RME approach that reflects a tribal exposure scenario.²⁰
- This approach provides a health-protective approach for all population groups. Cleanup standards based on high fish consuming populations groups will also protect people who eat smaller amounts of fish and shellfish.
- This approach is consistent with federal guidance for water quality standards. EPA has approved the SMS rule as part of Washington's water quality standards. Consequently, EPA guidance (EPA 2000²¹) for developing water quality standards is a relevant consideration when revising the SMS rule. EPA recommends that states consider regional information on the amount of fish and shellfish eaten by high exposure population groups when establishing state water quality standards.
- This approach is consistent with Title VI of the Civil Rights Act of 1964, federal trust responsibilities and tribal treaty rights. Title VI of the Civil Rights Act of 1964 and EPA's implementing regulations (40 CFR 7.25) state that federal grant recipients should not use criteria or methods that have the effect of inequitably treating members of a protected group. Under the federal rules, protected groups include "American Indians" and "Asian and Pacific Islanders".

²⁰ Ecology has established (or in the process of establishing) sediment cleanup requirements for a wide range of sites located in usual and accustomed fishing areas of one or more tribes. In these situations, Ecology has used a tribal exposure scenario to establish cleanup standards. Sites include Bellingham Bay (Whatcom Waterway), Alcoa Vancouver and the former Rayonier mill site in Port Angeles.

²¹ U.S. Environmental Protection Agency. "Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health." EPA-822-B-00-005. October 2000

<http://water.epa.gov/scitech/swguidance/standards/criteria/health/methodology/index.cfm>

