



Columbia Riverkeeper.  
North Sound Baykeeper.  
Puget Soundkeeper Alliance  
Spokane Riverkeeper.

October 26, 2012

Washington Department of Ecology  
Toxics Cleanup Group  
fishconsumption@ecy.wa.gov

*Submitted Via Email*

**RE: Public Comments on Ecology's Draft Fish Consumption Rates Technical Support Document Version 2.0**

Dear Department of Ecology:

Columbia Riverkeeper, Spokane Riverkeeper, the Puget Soundkeeper Alliance, and North Sound Baykeeper (collectively "Washington Waterkeepers") submit the following comments on the Washington Department of Ecology's (Ecology) draft *Fish Consumption Rates Technical Support Document: A Review of Data and Information About Fish Consumption in Washington Version 2.0* (Second Draft Report). Waterkeepers Washington is a coalition of Waterkeeper Alliance members in Washington State and represents thousands of individuals who regularly eat fish caught in Puget Sound and Washington rivers and streams.

The cultural, health, and economic benefits of the state's aquatic resources cannot be overstated. Puget Sound, the Columbia River, the Spokane River, and countless other waterbodies across the state provide healthy sources of food for individuals and families from all walks of life. Yet Washington State has dozens of fish advisories and many individuals are eating less locally caught fish and shellfish because of fear of toxic exposure. Despite these facts, Washington has relied on one of the nation's lowest fish consumption rates—6.5 grams per day—for nearly two decades. By using a low fish consumption rate, Washington's regulations which are intended to protect public health and aquatic resources fail to achieve these objectives.

Despite the critical importance of protecting people from toxic pollution, Ecology's Second Draft Report is a significantly watered down version of the draft *Fish Consumption Rates Technical Support Document: A Review of Data and Information About Fish Consumption in Washington Version 1.0* (First Draft Report). Specifically, the Second Draft Report omits important recommendations on a state default fish consumption rate and how the rate should account for consumption of salmonids. As we explained in a letter sent to Ecology and the U.S. Environmental Protection Agency (EPA) earlier this month, we are joining the Northwest Indian Fisheries Commission (NWIFC) and many Washington State Tribes in calling on EPA to take over the state's broken process and establish new human health criteria water quality standards. Ecology's decision to make significant changes to the Second Draft Report is one of several reasons for this decision. The department, however, still has the opportunity to restore important recommendations contained in the First Draft Report. We urge Ecology to issue a final Technical Rate Report that includes recommendations on a default fish consumption rate for use in the state's forthcoming human health criteria revisions and sediment management standards.

## **I. Specific Comments on the Second Draft Report.**

### **A. Ecology Should Restore Recommendations on a Default Rate.**

The First Draft Report recommends a default fish consumption rate that would protect all people in Washington who eat fish, including those individuals that eat a lot of fish, such as Native Americans, Asian and Pacific Islanders, and some recreational fishers. *See* First Draft Report at 92. Aside from pressure from industry, it is entirely unclear what changed between the development of the First Draft Report and the Second Draft Report to prompt Ecology to remove critical recommendations and analysis from the technical report. Moreover, Ecology routinely published technical reports that contain policy recommendations based on reviewing scientific literature or Ecology-commissioned studies. What is different about the fish consumption rate analysis?

Ecology now states that the report should not include any policy recommendations. Yet, as the Second Draft Report acknowledges, the line between "science" and "policy" is not always clear. Furthermore, the underlying purpose of the Report is to provide the Department with expert input on an accurate rate. In reality, the Second Draft Report—despite being scrubbed of a fish consumption rate recommendation—still contains a number of policy recommendations.

The Final Technical Rate will advance Ecology's work to adopt new standards if it contains a science-based recommendation on an accurate, protective fish consumption rate. Unfortunately, Ecology's abrupt decision to remove major recommendations and discussion from the Second Draft Report casts doubt on the entire process.

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**B. Ecology should Account for “Suppression” Impacts in the Fish Consumption Rate.**

The Second Draft Report acknowledges the impact of “suppression effects” when calculating the fish consumption rate. *See* Report at Section 5.3.3. “Suppression effects” refer to suppressed fish consumption rates due to a variety of reasons including habitat degradation, fish and shellfish contamination, lower fish and shellfish abundance, and fewer numbers of Native Americans practicing subsistent or traditional lifestyles. For example, the Second Draft Report states:

Studies indicate that tribal fish consumption rates are suppressed compared with historical rates and presumable rates that would exist given historical fishing stocks. The recommendations in this report, however, were developed using existing data from published studies.

In short, the Report acknowledges that suppression effects exists, but fails to provide any recommendations on how the department should account for suppression effects in adopting a default fish consumption rate or site specific fish consumption rates. This misses an important component of identifying an accurate fish consumption rate. Waterkeepers Washington recommend that Ecology revise the Report to include specific recommendations on how site specific and default fish consumption rates can account for suppression effects.

**C. The Report Acknowledges, but Fails to Account for Increased Fish Consumption by Children Living in Coastal States.**

Ecology estimates fish consumption rates from children based on a national average. This is a flawed estimate because, as the department acknowledges, people in coastal states consume more fish. Specifically, Ecology assumes that approximately 290,000 Washington children eat some amount of fish on regular basis. The Second Draft Report states that its estimate for fish consumption by children “is based on current population estimates and national survey results that indicate that 16 to 19 percent of children reported eating some amount of finfish or shellfish.” Second Draft Report at 17. The Second Draft Report also acknowledges that “[s]tudies have shown that people living in coastal states tend to consume finfish and shellfish at a higher frequency and higher rates than inland states.” *Id.* at 19.

Despite acknowledging increased fish consumption in coastal states, Ecology fails to incorporate this fact into the fish consumption rate estimates for children. Instead, the department defaults to the national average. Waterkeepers Washington recommends that Ecology revise Second Draft Report to account for increased fish consumption in coastal states by children.

**D. Ecology Should Account for Salmon and Steelhead Consumption When Calculating the Default Fish Consumption Rate.**

Waterkeepers Washington urges Ecology to retain the First Draft Report’s recommendation: salmon consumption should be included in calculating the state fish consumption rate. Ecology discusses this issue at length and requests input from stakeholders on this decision. As we explained in our January 18, 2012 comment to Ecology (First Comment

Letter), studies demonstrate that salmon are exposed to and impacted by bioaccumulative toxins during life stages spent in state-regulated waters. Ecology should restore recommendations contained in the First Draft Report that support including salmon in calculating a default fish consumption rate.

The Second Draft Report also states that “[m]ost states have adopted human health-based water quality criteria that do not include anadromous salmon.” Ecology provides no authority for this blanket assertion, let alone an explanation for why this is “good policy” or “sound science.” We recommend that Ecology omit this statement from the final report or provide authority and explanation for its value in developing a fish consumption rate.

Like the First Draft Report, the Second Draft Report fails to address the impacts of toxic pollution on Columbia River salmon and steelhead stocks. Instead, without explanation, the Report focuses exclusively on Puget Sound. Our First Comment Letter, along with other comments submitted to Ecology, provided extensive information on the impact of toxic pollution on salmon and steelhead during life stages spent in the Columbia River. For example, the Columbia River Intertribal Fish Commission’s comment letter on the First Draft Report states:

Recent studies demonstrate that salmon receive a significant percentage of their body contaminant burden from the freshwater portion of their life cycle through contact with contaminated sediments and ingestion of contaminated food sources. (NOAA, 2009, Data Report for Lower Columbia Juvenile Salmon Persistent Organic Pollutant Exposure Assessment, prepared by the Environmental Conservation Division, Northwest Fisheries Science Center, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, for the NOAA Damage Assessment Center and Portland Harbor Natural Resource Trustees; and Sloan, C.A., et. al, 2010, Polybrominated Diphenyl Ethers in Outmigrant Juvenile Chinook Salmon from the Lower Columbia River and Estuary and Puget Sound, Washington, Arch. Contam. Toxicol, (2010), 58:403-414.) Ecology should consider these findings when reviewing the discussion contained in Appendix E – *The Question of Salmon*.

Letter from CRITFC to Ecology (Dec. 20, 2011).

Other studies on toxics in salmon conducted in the lower Columbia River demonstrate that PCBs and DDTs are accumulating in the bodies of outmigrating juvenile salmon. For example, a study published in 2007 showed that almost one-third of juvenile salmon had PCB concentrations that exceeded threshold levels for adverse health effects such as metabolic alterations, reduced growth immune dysfunction, and reduced long-term survival. Johnson, L.L. *et al.* 2007a. Persistent Organic Pollutants in Outmigrant Juvenile Chinook Salmon from the Lower Columbia Estuary, USA. *Science of the Total Environment*, 374: 342-366; *see also* Meador *et al.* 2002. Use of Tissue and Sediment-Based Threshold Concentrations of Polychlorinated Biphenyls (PCBs) to Protect Juvenile Salmonids Listed Under the U.S. Endangered Species Act. *Aquatic Conservation: Marine and Freshwater Ecology*, 12: 493-516. Other studies found amounts of DDT in some juvenile salmonid bodies at levels that could contribute to disruption of the endocrine and immune systems. Beckvar *et al.* 2005. Approaches

for linking Whole-Body Fish Residues of Mercury or DDT to Biological Effects Thresholds. *Environmental Toxicology and Chemistry*, 24: 2094-2105.

The findings of the *Lower Columbia River and Estuary Monitoring: Water Quality and Salmon Sampling Report* (“LCREP study”) also support including salmon when calculating the fish consumption rate. The LCREP study explains:

A salmon fry hatches with toxic contamination in its body from the fats and proteins it inherits from its mother, who deposits toxics during egg production. As the young salmon maneuvers and feeds, it takes in additional toxics in several ways: from the water that passes over its skin and through its gills, from bed sediment it ingests as it pursues bottom-dwelling prey, and from suspended sediment it swallows during feeding. The aquatic and terrestrial insects it eats also contain toxics, which then are absorbed in the fish’s body.

Lower Columbia River Estuary Partnership. 2007. *Lower Columbia River and Estuary Ecosystem Monitoring: Water Quality and Salmon Sampling Report* at 18. The LCREP study also discusses exposure profiles of salmon populations, stating:

Because toxic contaminants are unevenly distributed and different salmon populations use different habitats, the types and levels of toxics that juvenile salmon are exposed to in the lower Columbia River and estuary vary from one population to the next. Ocean-type juveniles rear in the lower river for weeks or months during the first year of life. They take refuge and forage in side channels, shallow marshes, and swamps—**the very areas where bioaccumulative toxics can build up if contaminant sources are present.**

*Id.* at 19 (emphasis added). The LCREP study further explains:

Given the habitat use and relatively long estuarine residence time of ocean-type juveniles, their contaminant exposure profiles tend to reflect toxics present in the habitat and prey species of the lower river. These toxics include both water-soluble toxics, such as pesticides currently being used, and bioaccumulative toxics, such as PCBs and DDT. Thus ocean-type juveniles experience both short-term and bioaccumulative toxicity.

*Id.* In short, toxics present in the lower Columbia River account for toxics found in salmon during later life stages.

The impacts of toxins in the Columbia River are not limited to ocean-type juvenile salmonids. The LCREP study explains that stream-type juveniles, which spend most of their first year in freshwater tributaries, are also impacted by toxic pollution in the estuary and freshwater environment. The study states:

When they [*i.e.*, the stream-type juveniles] do migrate downstream, they move through the estuary more quickly than ocean-types do, using deeper water habitats and spending more time in the plume waters. Consequently, the exposure profile of stream types is

more likely to reflect toxics in upstream tributaries and the water-soluble toxics in the river's deeper channels.

*Id.* at 19. After conducting monthly juvenile salmon sampling at multiple points along the lower Columbia River, the LCREP study found the following toxic pollutants in juvenile salmon: PCBs, PAHs, Organochlorine, pesticides, PBDEs, and vitellogenin. In particular, the LCREP study detected PCBs, PAHs, DDTs and PBDEs in both the bodies and stomach contents of juvenile salmon, including that prey are a source of exposure to these bioaccumulative toxics. *Id.* at 43. Notably, the LCREP study found that “[t]he highest concentrations of PCBs, PAHs, and PBDEs were observed in salmon from sites near the more industrialized areas of the Columbia River: lower Willamette River, confluence of the Columbia and Willamette rivers, Columbia City, and Beaver Army Terminal. *Id.* In short, the findings of the LCREP study support Ecology’s decision to include salmon when calculating the fish consumption rate.

We again urge Ecology to revise the Second Draft Report to incorporate information and recommendations based on the impact of state-regulated waters on Columbia River salmon and steelhead stocks.

## **II. Conclusion.**

Ecology’s recent decisions related to the sediment management standards and human health criteria water quality standards cast doubt on the department’s commitment to protect public health in Washington State in the near future. We urge Ecology to reconsider its decision to remove important recommendations from the Second Draft Report and move swiftly to finalize the report so that it can advance important work on adopting accurate standards. Thank you in advance for considering these comments.

Sincerely,

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