



LUMMI INDIAN BUSINESS COUNCIL

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DEPARTMENT _____ DIRECT NO. _____

September 13, 2021

Marla Koberstein
Department of Ecology
Water Quality Program
PO Box 47600
Olympia, WA 98504-7600

SUBJECT: Washington's Water Quality Standards Triennial Review

Dear Marla:

Ecology has requested comments in response to its draft work plan to update Washington's Water Quality Standards for 2022-2024. Ecology has proposed to adopt two water quality criteria regulations to better protect salmonid spawning habitat: 1) dissolved oxygen (DO) and fine sediment, and 2) aquatic life criteria. Ecology should move forward with adopting criteria protective of salmonids and their spawning habitat swiftly and using the best available science. These updates are overdue and were initially intended to be completed by 2016. In addition, Ecology must redouble its efforts to assess freshwater bacteria pollutants that could undermine downstream marine shellfish harvesting areas that support treaty-reserved harvests.

Dissolved Oxygen Criteria

Ecology's DO criteria must ensure intra-gravel concentrations above 8 mg/L in salmonid spawning habitat, which is the concentration at which embryonic survival drops markedly.¹ Depending on the water temperature and permeability of the gravels, EPA (1986) determined that there is an average of 3 mg/L drop in DO levels between the water column and the gravel where fish eggs are deposited.² Where dissolved intra-gravel DO concentrations cannot be directly assessed, water column DO criteria should be at least 11 mg/L in spawning habitat.

¹ National Marine Fisheries Service, Endangered Species Act – Section 7 Consultation Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation EPA's Proposed Approval of Revised Washington Water Quality Standards for Designated Uses, Temperature, Dissolved Oxygen, and Other Revisions 93 (Feb 5, 2008).

² *ibid*

Fine Sediment Criteria

Ecology must adopt fine sediment criteria that are protective of salmonid spawning habitat and provide for methods of measurement that can be readily implemented in monitoring programs and used for compliance enforcement.

Aquatic Life Criteria for Toxics

Toxic pollutants for which Washington has not adopted new or revised aquatic life criteria since at least 1997 and for which EPA has issued new or revised CWA Section 304(a) recommended criteria include: acrolein, aldrin, aluminum, ammonia, arsenic, beta-Endosulfan, carbaryl, cadmium, chromium III, copper, cyanide, demeton, diazinon, dieldrin, endrin, guthion, heptachlor epoxide, iron, lindane, malathion, mercury, methoxychol, mirex, nickel, nonylphenol, pentachlorophenol, PCBs, selenium, and tributyltin. Ecology must adopt aquatic life criteria protective of salmon survival to protect the designated use of treaty fisheries. In protecting salmon, aquatic life criteria also protect the Southern Resident Killer Whale. Washington's Southern Resident Killer Whale Task Force recognized in 2019 the need to "[r]educe stormwater threats and accelerate clean-up of toxics harmful to orcas [and] [i]ncrease monitoring of toxic substances in marine waters" and recognized that "toxics can reduce salmon survival by making them more susceptible to disease" and "toxic contaminants can also reduce immunity and cause reproductive disruption in orcas."³ We support Ecology's decision to establish these long-awaited aquatic life criteria for toxics necessary for salmonid fisheries and other species in the food web and encourage Ecology to take the rulemaking approach that will bring the updated criteria into effect the fastest.

Freshwater Standards to Protect Downstream Marine Shellfish Harvesting Use

Lummi Nation has been working with Whatcom Clean Water Program (WCWP) partners in the Nooksack River watershed for a number of years to improve water quality, reduce fecal coliform pollution, and protect and reopen commercial, ceremonial, and subsistence tribal shellfish harvest in the downstream marine waters of Portage Bay and Lummi Bay. Whatcom Clean Water Program partners implement a Pollution Identification and Correction (PIC) program to address a multitude of nonpoint sources of fecal coliform pollution in the watershed. As you know, commercial shellfish harvesting areas must meet the stringent National Shellfish Sanitation Program fecal coliform criteria. Lummi Nation has made the decision that if shellfish are not safe for sale, they are also not safe for families, and has restricted ceremonial and subsistence harvest in Portage Bay due to human health concerns.

WCWP partners have relied on Ecology documents such as the Nooksack River Bacteria TMDL.⁴ This document assumed that the water contact recreation bacteria criteria in place at the time (for fecal coliform) was applicable for protecting all characteristic uses in the basin and the receiving waters, not just primary contact recreation. The Nooksack River TMDL was intended

³ Cascadia Consulting Group. 2019. Southern Resident Orca Task Force, Final Report and Recommendations. November.

⁴ Washington State Department of Ecology. 2000. Lower Nooksack River Basin Bacteria Total Maximum Daily Load Evaluation. Publication No. 00-03-006. January. and Washington State Department of Ecology. 2000. Nooksack River Watershed Bacteria Total Maximum Daily Load Submittal Report. Publication No. 00-10-036. June.

to protect downstream shellfish beds as the support of shellfish harvest was recognized as the most restrictive bacteria criterion and was the driving force for TMDL development due to closure of portions of the Portage Bay shellfish growing area at the time (1996-2006). The 90th percentile criterion (not more than 10% exceeding 200 colonies/100ml) was considered more restrictive than the geometric mean (100 colonies/100ml) for the purpose of meeting water quality standards, which was used to calculate the target geometric mean of 39 colonies/100ml on the lower Nooksack River and to develop the estimated percent reduction in fecal coliform needed for the twelve impaired waterways in the Nooksack River basin along with their upstream tributaries. The TMDL was developed prior to Lummi Nation establishing surface water quality standards; in 2007, Lummi Nation established (and in 2008, EPA approved) Surface Water Quality Standards for the Lummi Indian Reservation, including fecal coliform geometric mean (50 organisms/100ml) and 90th percentile (not more than 10% exceeding 100 colonies/100ml) criteria for the lower mainstem and Nooksack River delta.

For the above reasons, Whatcom Clean Water Program partners had routinely used the recreational freshwater fecal coliform criteria when communicating water quality monitoring results and progress, encouraging voluntary landowner engagement and action, and as part of compliance enforcement by regulatory agencies. Although it is understandable that Washington State used the best available science and changed the recreational use indicator species and criteria, as recommended by the EPA, the current lack of a numeric fecal coliform criterion for freshwaters has created uncertainties and challenges for Whatcom Clean Water Program partners in their continuing efforts to monitor and improve water quality in the Nooksack River watershed. We recognize that the recent revisions to the Water Quality Assessment Policy 1-11 include continuing assessment of freshwaters for fecal coliform when a TMDL is in place for that watershed, such as for the Nooksack River watershed. However, this does not provide for assessment of or protection of shellfish growing areas and marine waters with shellfish use that are meeting marine fecal coliform water quality criteria or for waters failing to meet marine fecal coliform water quality criteria but for which a TMDL for fecal coliform has not yet been developed. Furthermore, TMDL goals are not perceived as enforceable regulatory thresholds for nonpermitted nonpoint sources.

As you know, the Lummi Nation has a treaty right to harvest salmon and shellfish in a manner sufficient to support our *Schelangen* ("way of life"). Our ability to exercise this treaty right is impaired by the actions of others who have financially benefited while they have degraded our water quality, endangered our health, precluded our access to traditional fishing areas, and limited the harvestable surplus by severely degrading the habitat that our collective salmon and shellfish resources need to survive and thrive. Portions of the Portage Bay shellfish harvesting area have been seasonally closed to harvest since 2014 due to fecal coliform pollution originating from the Nooksack River and its freshwater tributaries.

Action is needed by Ecology to ensure the protection of downstream shellfish harvesting uses in both state and Lummi Nation Waters and to avoid conflict with the state's own antidegradation policy of "restor[ing] and maintain[ing] the highest possible quality of the surface waters of Washington." Ecology should:

- continue to utilize all previously existing monitoring and assessment tools for fecal coliform in both marine waters and in upstream freshwaters with a potential to deliver fecal loads to marine waters designated for shellfish harvesting use;
- increase its compliance enforcement actions by promptly and consistently responding to and correcting water quality violations that involve fecal coliform pollution in freshwaters upstream of marine shellfish harvesting areas; and
- develop (1) numeric fecal coliform criteria for freshwaters upstream of shellfish harvesting areas, or (2) narrative criteria with a clear process of how numeric freshwater criteria are to be developed on a site-specific basis for the protection of downstream shellfish harvesting use in a timely and scientifically rigorous basis.

Ecology should not wait for shellfish bed closures, impaired waters listings under Clean Water Act Section 303(d), or Total Maximum Daily Load (TMDL) or TMDL alternative approval before commencing fecal coliform monitoring, assessment, and enforcement in freshwaters that flow to shellfish harvesting areas. Ecology's monitoring efforts, assessment program, and remediation actions should be proactive and prevent impaired waters classifications and shellfish bed closures. Ecology's compliance enforcement actions need to be prompt, firm, and consistent in order to serve as the regulatory backstop needed to support voluntary approaches implemented by Whatcom Clean Water Program partners and other PIC programs throughout the state.

Ecology should develop standards for freshwaters to protect downstream marine shellfish harvesting uses. Ecology should consider the following, among other, approaches for developing freshwater bacterial criteria to protect downstream shellfish harvesting use:

- Adopt freshwater fecal coliform criteria numerically equivalent to the National Shellfish Sanitation Program criteria for shellfish growing areas. For example, for waters upstream of the Portage Bay shellfish growing area (e.g., the Nooksack River watershed), this would be a geometric mean of 14 fecal coliform organisms/100ml and a 90th percentile of 43 fecal coliform organisms/100ml.
- When EPA-approved tribal surface water quality standards are in place for freshwaters downstream of state waters, adopt freshwater fecal coliform criteria numerically equivalent to the downstream freshwater fecal coliform criteria. For example, Lummi Nation Surface Water Quality Standards apply to the Nooksack River as it crosses onto the Lummi Indian Reservation; at this point, Lummi Nation's Class AA freshwater fecal coliform criteria apply: geometric mean of 50 fecal coliform organisms/100ml and 90th percentile of (not more than 10% to exceed) 100 fecal coliform organisms/100ml.
- When fecal coliform TMDLs have been developed for waterbodies, adopt waterbody-specific fecal coliform criteria based on the TMDL goals or clearly allow TMDL goals to be used as enforceable regulatory thresholds.
- Adopt state-wide numeric fecal coliform criteria for freshwaters that would be protective of downstream shellfish harvesting use and apply to waters upstream of shellfish harvesting areas.

- Adopt waterbody-specific numeric fecal coliform criteria for freshwaters that would be protective of downstream shellfish harvesting uses. This process should be proactive and prevent closures rather than be triggered only when downstream marine shellfish harvesting use criteria or NSSP standards are not met and the waterbody is determined to be impaired. The path from poor water quality to impairment determination to TMDL to implementation is too slow, is not proactive, and allows for a significant period of noncompliance contrary to Washington’s own antidegradation policy.

If no numeric freshwater fecal coliform criteria are developed to protect marine shellfish harvesting uses when such uses exist downstream, Ecology should develop a process for assessing all freshwaters that flow to shellfish harvesting areas for fecal coliform, not just those with existing TMDLs. As mentioned above, Ecology should not wait for impairment in the marine water before taking action to monitor, assess, or take compliance enforcement actions in freshwaters contributing fecal coliform pollution to downstream shellfish growing areas.

Finally, as ambient monitoring in areas without fecal coliform TMDLs in place shift from fecal coliform to *E. coli* monitoring in response to the State’s revised primary recreational use criteria, it limits the ability to use bacterial results collected as part of ambient recreational use monitoring to determine potential sources of downstream shellfish harvesting use impairment. Ecology should work toward developing a crosswalk or translator to determine if and how freshwater *E. coli* data could be used for the assessment of freshwaters for the protection of downstream shellfish harvesting uses in addition to working to develop numeric criteria for freshwaters protective of shellfish harvesting.

Washington State’s Water Quality Standards require that “upstream actions must be conducted in manners that meet downstream water body criteria” in WAC 173-201A-260(3)(b). Table 602 lists the designated uses for specific freshwaters, and should be considered a location to acknowledge the presence of downstream designated uses or downstream waterbodies outside of Washington State jurisdiction, such as waterbodies that extend across borders into other states or onto tribal reservations, that may have more stringent water quality criteria. This information could go into the “Additional info for waterbody” column or into an additional “Downstream uses” column.

Conclusion

In summary, Ecology should work swiftly to develop and approve water quality criteria, including dissolved oxygen, fine sediment, and aquatic life toxics criteria that are protective of salmonids and the habitats our collective salmon and shellfish resources need to survive and thrive. Ecology needs to redouble its efforts to monitor, assess, and enforce bacterial pollution in freshwaters that could undermine downstream treaty-reserved shellfish harvesting. To this end, Ecology needs to establish enforceable regulatory thresholds that apply to freshwaters with downstream marine shellfish harvesting areas, including considering development of numeric fecal coliform criteria for freshwaters, in order to protect downstream shellfish harvesting uses both in and outside of state waters.

Sincerely,

A handwritten signature in blue ink that reads "Merle Jefferson". The signature is written in a cursive style with a long, sweeping horizontal line extending to the right from the end of the name.

Merle Jefferson, Executive Director
Lummi Natural Resources Department