

Washington Environmental Council

March 15, 2021

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Subject: Comments on Preliminary Draft Puget Sound Nutrient General Permit

Ms. Ott –

Thank you for your work and the opportunity to comment on the Preliminary Draft of the Puget Sound Nutrient General Permit. Transitioning to nutrient-removal technology is a generational opportunity, and we commend Ecology for identifying a path forward. Washington Environmental Council (WEC) advocates for clean air, clean water, and clean energy for all, and we can assure you that you have broad support. As you know, WEC served on the Advisory Committee, along with Puget Soundkeeper Alliance, representing the environmental community. We regularly updated other organizations, discussed the materials of the Advisory Committee, and provided feedback throughout the process. Our highest priority is transitioning wastewater treatment plants discharging to Puget Sound and the Salish Sea to nutrient-removal technology as quickly as possible.

While we do support many of the elements included in the Preliminary Draft, we would like to see the next iteration strengthened to protect water quality and the important habitat Puget Sound provides for salmon and other aquatic life. Specifically, we would like to see the largest plants taking meaningful action during the 5-year permit term.

Since the mid-2000s, Ecology's modeling work has indicated that current nutrient discharges from treated wastewater, together with other human sources of nutrients, violate the state water quality standard for dissolved oxygen in Puget Sound and cause more than a 0.2 mg/L depletion of dissolved oxygen below already low levels. Robust computer model development, peer reviews, and iterative refinements have reduced uncertainty while maintaining the core finding that nutrients from human sources do not meet water quality goals for Puget Sound. We are pleased that Ecology has made the Reasonable Potential determination. The transition to nutrient-removal technology is inevitable. In fact, multiple utilities, from Olympia to Sequim to Spokane, have already implemented this technology and remained financially solvent.

Throughout the Advisory Committee process, the environmental community identified reasonable approaches to achieving clean water. Water Quality Based Effluent Limits (WQBELs) will require additional time to complete, and we offered pragmatic steps that utilities should undertake toward the transition. These included short-term planning efforts, optimization efforts to reduce effluent concentrations without extensive expenditures, and evaluating how to meet anticipated limits effectively. In the final adoption of the Advisory Committee's recommendations, the Environmental Caucus, State Caucus, Federal Caucus, and our interpretation of the Northwest Indian Fisheries Commission letter, as well as the position of some utilities, consistently supported these transition steps. We offer the following specific comments.

Using the 99th percentile to estimate current nutrient loads from wastewater treatment plants pads the numbers and could defer planning activities.

Throughout the Advisory Committee deliberations, when asked for recommendations for what Ecology should use to estimate current loads, we were consistent in our feedback that the non-parametric bootstrapping calculation method was the most appropriate approach of those presented. Non-parametric statistics can appear mysterious at first glance, and we encourage Ecology to continue to document how these statistical approaches have been used in stormwater management and other environmental measurements when continuous data are simply not pragmatic and not available. We concur with ECY's assessment that using a straight percentile does not characterize existing loads as well as the bootstrapping method.

During the Advisory Committee proceedings, no organization made a public argument in favor of the 99th upper confidence percentile of the bootstrapping calculation, yet that value shows up in the Preliminary Draft permit. We were consistent in our feedback that the 95th percentile was a better level than the 99th percentile. In the world of statistics, a 5% error rate is the typical approach used, and a 1% error only tolerated with the repercussions or impacts of being wrong are extreme. Functionally, using the 99th percentile produces a higher permissible load number than the 95th percentile.

We do not agree with the use of a 99th percentile for ALo for the simple reason that if a facility goes over that value, the implications are simply planning and optimization. The entire goal of the permit is to transition to nutrient-removal technology. Exceeding those numerical values, at least as this preliminary draft describes, would not constitute a permit violation. In fact, the tiered actions are reasonable steps that should be taken by many utilities during the first permit term, as we describe below. A 1% error rate is too permissive and wholly unneeded because if a facility does exceed the trigger values described in the Preliminary Draft permit as action levels, those exceedances trigger planning activities and low-cost optimization, which are necessary and pragmatic steps toward the goal of nutrient-removal technology.

We raise this now because we believe **using the 99th percentile could effectively increase the nutrient loads to Puget Sound and could defer actions leading to nutrient reductions**. A facility could simply tolerate the 5% error rate and continue to grow into the ALo loads with no triggered actions at all. That is contrary to the intent of this first permit term and inconsistent with the feedback Ecology received from the Advisory Committee throughout the process. Therefore, the Preliminary Draft permit is more lax than described during the Advisory Committee without any explanation.

King County numbers inflated

King County's numbers appear to be calculated using a different approach from other plants and not currently documented. During the Advisory Committee process, Mukilteo provided an assessment of available data for each plant. However, the values in the preliminary draft Table 4 are much higher than the values introduced during the Advisory Committee, growing by as much as 49%. That means the entire 5-year permit term could pass without a single triggered action if King County is able to remain below its inflated ALo values. As the single largest nutrient discharger to Puget Sound, King County needs to actively reduce nutrients this first permit term, not continue to

grow into a padded load number. In particular, the South King plant has an even higher load than West Point, even though the South King plant discharges 25% less flow.

Table 1 – Comparing nutrient loads in preliminary draft general permit with estimates provided by Mukilteo in the Advisory Committee

Plant	Mukilteo estimate (lbs/yr)	ALo (lbs/yr)	Increase over Mukilteo estimate	AL1 (lbs/yr)	Increase over Mukilteo estimate
West Point	7,572,241	8,786,673	16%	9,226,007	22%
South King	6,778,683	9,623,203	42%	10,104,363	49%
Brightwater	1,931,446	2,261,549	17%	2,374,627	23%

The difference between the summed ALo (20,671,425 lbs/yr) and the Mukilteo estimate (16,282,370 lbs/yr) is 4,389,055 lbs/yr – greater than the total estimated loads from the 55 smallest plants, or every plant with a design capacity <11 mgd. Ecology must recalculate the current loads from the King County plants.

The largest plants need to do more during the first permit term, including facilities serving Seattle, King County, and Tacoma.

All plants need to begin the transition to nutrient-removal technology during the 5-year permit term, and we agree with the concepts that smaller plants should receive additional support. However, we would like to reiterate that five plants serving the largest population centers discharge over 67% of nutrients in treated wastewater in the entire Puget Sound – King County’s West Point, South King, and Brightwater plants, and Tacoma’s Central and North End plants.

Tacoma has repeatedly stated that their nutrient concentration data are not representative. If this is true, then they are both violating their current permit conditions, and the estimates of loads have a higher level of uncertainty. However, the point is that sewage from the nearly 3 million people in Seattle, Tacoma, King County, and Pierce County constitute the vast majority of the nutrient load, and they need to transition to nutrient removal to effectively reduce nutrients from all human sources.

We no longer support trigger loads for these five plants because of uncertainty in their own numbers and Tacoma’s recent lawsuits. Therefore, the **Draft Puget Sound Nutrient General Permit should trigger every action currently identified in Tiers 1, 2, and 3, rather than wait for a specific load estimate to be exceeded for these five facilities serving Seattle and Tacoma.** The actions are all planning and initial design activities rather than large capital investments. Given the magnitude of their loads, these plants must step up sooner.

All activities listed as Tier 2 should be moved to Tier 1 actions, along with the conceptual design for side stream treatment currently listed as a Tier 3 action

The annual Nitrogen Optimization Plan should work through each of the actions currently listed under both Tier 1 and Tier 2, as well as conceptual design for side stream treatment during the first permit term. That way this

foundation is developed in advance of the second permit term. (The plants serving Seattle, King County, and Tacoma should do all Tier 1, 2, and 3 actions regardless of action levels; this comment applies to the remaining plants currently discharging effluent concentrations >10 mg/L.) The remaining Tier 3 actions should be implemented when a facility exceeds its ALo.

The 5% allowance in AL1 is unwarranted

Every plant discharging effluent concentrations >10 mg/L must begin optimization activities right away. In doing so, the decrease in concentrations would likely offset any incremental flow increases during the first permit term. Tier 3 activities, as currently written in the Preliminary Draft, constitute planning-level actions. As currently written, the sum of loads under ALo is 14% higher than Mukilteo's estimates, and the AL1 loads are 22% higher. For facilities that have recently upgraded to provide flow capacity, AL1 can be 5 times ALo, which would increase nutrients to Puget Sound.

Plants that already achieve effluent nitrogen concentrations <10mg/L do not need AL1 values for nutrient loads

We commend the plants that have invested resources in transitioning to nutrient removal technology, beginning with the Lacey Olympia Tumwater and Thurston County (LOTT) plant many decades ago. These plants recognized the need, appropriately planned for the future, and implemented nutrient controls in a way that will favor their communities in the future. Other plants now need to do their fair shares to reduce nitrogen pollution to Puget Sound.

We disagree with simply setting every facility to 10 mg/L TIN concentration and multiplying by 85% of the maximum monthly flow to calculate AL1 for plants that already achieve nutrient reductions. Instead, these plants should continue to monitor and participate in regional studies. No AL1 is warranted because no further actions are warranted in the first permit term.

Upstream wastewater treatment plants should be included in the permit with a requirement to monitor effluent concentrations

Wastewater treatment plants that discharge to rivers and streams upstream of marine waters are included in Ecology's analyses as human sources in rivers. While they likely have some impact greater than zero, the instream travel times and natural processes reduce that impact once it hits marine waters. Their total contribution to marine dissolved oxygen problems likely is much less than those plants discharging to marine waters. While we agree that they should not be required to conduct optimization and planning during the 5-year permit term, we recommend that they be required to monitor nutrients – both nitrogen and phosphorus – in their effluents at a frequency capable of estimating their end-of-pipe loads.

Utilities have repeatedly claimed that they need more data. If that is the case, then the upstream treatment plants should be required to monitor effluents throughout this first 5-year permit term. Therefore, they should be included in this permit coverage with the understanding that the actions should be limited to monitoring to characterize effluent loads.

Private facilities should be included in the draft permit and should be required to monitor during the first 5-year permit term

The apparent exemption of private facilities as a result of RCW 173-220 was not identified nor discussed during the Advisory Committee process. As stated in the Preliminary Draft, RCW 173-240-104 requires domestic wastewater treatment plants owned by public entities. While private facilities must incorporate before they are allowed to expand or make substantial modifications, each of them still has an NPDES permit for their existing discharges. As such, they should be covered under this general permit as well. Several of these facilities such as Carlyon Beach (NPDES WA0037915) serve completely built-out areas and likely would not trigger flow-based upgrades as provided for under RCW 173-240-104. In fact, Carlyon has some of the highest TIN concentrations of any plant discharging to the Salish Sea, mainly because it is dominated by septage. However, discharges may have localized impacts that should be considered in the future.

If Ecology has identified a limit in state law that precludes nutrient reduction from private facilities, then we want to work with Ecology to change state law to ensure that the Clean Water Act is fully enforced for privately owned treatment plants. The requirement to transition to a publicly owned entity before any upgrades would be considered is insufficient, for the reason that these can serve already-built out areas that may not trigger a flow increase in the near future.

We suggest striking the mention that private facilities contribute 1% of the load. While a statement of fact, the point is that all facilities need to transition to nutrient-removal technology, including both private and publicly owned treatment plants.

Excluding industrial discharges from the Nutrient General Permit is reasonable

No current industrial discharges include significant concentrations or loads of nitrogen, and we concur with exempting them from this general permit. However, we would like to ensure no new high-nitrogen facilities would be permitted to discharge to Puget Sound in the future.

Federal and Tribal facilities appropriately described

We concur that EPA has authority over federal or tribal facilities. However, as regional studies are undertaken, we encourage federal regulators of federal and tribal facilities and state regulators to coordinate activities, including economic assistance programs.

Facilities with current nitrogen limits should not be changed

We concur that the general permit should not weaken existing ammonia limits, often developed to address nearfield ammonia toxicity issues rather than nearfield or farfield dissolved oxygen impacts. However, Ecology must ensure that those treatment processes are not simply tuned to discharge as nitrate, which is still a contributor to TIN.

Nitrogen as indicator of DO per 40 CFR 122.44(d)(iv)(C)

We concur with Ecology's assessment that nitrogen is an indicator of dissolved oxygen per 40 CFR 122.44(d)(iv)(C). EPA's Ben Cope described Ecology's highly peer reviewed model as at the level of "irreducible error" at the March 9 Puget Sound Nutrient Forum. We concur, and the model confirms that current nitrogen discharges from wastewater treatment plants discharging to Puget Sound clearly contribute to violations of the dissolved oxygen water quality standard and must be reduced now.

Again, thank you for the opportunity to comment. We appreciate the work you do, and we remain committed to finding reasonable paths forward to achieve clean water. Please let us know if you have any questions or clarifications.

Sincerely,

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Puget Sound Program Director, Washington Environmental Council