Jeff Marrs

Please see attached for the City of Everett's comments on the Nutrient Reduction Plan.

EVERETT
WASHINGTON

August 27, 2025

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Dear Mr. Reiman and Mr. Weaver,

Thank you for the opportunity to comment on Washington's draft Puget Sound Nutrient Reduction Plan (NRP) and draft Puget Sound Nutrients General Permit (PSNGP). While Everett supports Ecology's intent to improve water quality, we must again convey significant, ongoing concerns regarding the timing, funding, and scientific foundation of both proposed documents. These concerns have been consistently raised during Nutrient Forum meetings and were formally outlined in our public comment letter submitted during the issuance of the 2022 Nutrient General Permit. Unfortunately, the Department of Ecology has not adequately addressed these issues in the proposed reissuance of the PSNGP. Additionally, although the draft NRP represents an initial framework, the 60-day review provided did not allow sufficient time for the Utility or our consultants to independently review and analyze the extensive information contained in the NRP and its referenced documents.

Therefore, Everett respectfully requests that Ecology takes additional time to incorporate feedback and resolve recurring and emerging concerns highlighted in public comment before moving forward. Thoughtful planning at this stage will ultimately strengthen the effectiveness and long-term success of the strategies Ecology implements in pursuit of protecting the Puget Sound.

Since the 2022 issuance of the PSNGP, the City has complied with permit requirements by implementing optimization planning, submitting annual reports, initiating the Nutrient Reduction Evaluation, and maintaining the designated action level. Everett has pursued process optimization at our Water Pollution Control Facility by focusing on the Trickling Filter/Solids Contact system and aerated lagoons to enhance nitrification and denitrification. To further support these efforts, the City constructed an alkalinity addition system and invested in technology designed to suppress algal growth in the stabilization pond, resulting in improved effluent quality and reduced total suspended solids. Despite these improvements, achieving further nutrient removal will likely necessitate substantial facility upgrades and long-term investments. As required, the forthcoming Nutrient Reduction Evaluation (NRE),

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outlined in both the original and draft reissued PSNGP, will assess the treatment modifications needed to meet Ecology's Puget Sound targets and associated costs.

Given the concurrent deadlines for public comment and shared concerns for both the NRP and PSNGP, this letter is submitted under each document for consideration. In addition to shared comments, specific feedback related to each document are also included in the four sections below. This includes specific recommended changes and additions, as requested by Ecology during the August 2025 Nutrient Forum.

1. Economic Impacts and Funding Challenges

Ecology has not adequately assessed the cost implications associated with compliance under the PSNGP or planned under the NRP, nor meaningfully engaged the stakeholders who will bear these financial burdens. In the absence of a comprehensive economic impact analysis, decision-makers lack the necessary context needed to evaluate whether the anticipated Puget Sound water quality benefits justify the costs, or whether such costs are even financially feasible.

The proposed path will present significant economic challenges for residents and businesses in Everett and across the region. Ecology's own evaluations have consistently shown that the Everett Water Pollution Control Facility (WPCF) is not designed for effective nutrient removal and offers limited potential for nutrient optimization. Requiring significant upgrades to meet nutrient reduction targets will impose a substantial financial burden on our utility ratepayers. Everett residents already face affordability pressures due to the multiplicity of regulatory requirements for wastewater treatment, combined sewer overflow control, and stormwater management. Furthermore, Ecology added new requirements to the City's NPDES discharge permit this year for PBDE and PFAS. These challenges are compounded by the ongoing need to reinvest in the renewal and replacement of the City's existing infrastructure assets just to maintain current service levels and meet existing compliance obligations. Further rate increases to fund nutrient removal on top of these existing demands could exacerbate economic instability and contribute to displacement in our region. Everett anticipates the required rate increases to cover the combination of nutrient management and all other water costs may be unaffordable to our rate payers, who are considered economically sensitive based on EPA's March 2024 Clean Water Act Financial Capability Assessment Guidance (EPA 2024).

Outlined below are specific comments and recommendations related to economic impact:

- The NRP acknowledges that "achieving the nutrient targets… will require significant investment" (page 53). However, the plan fails to include even preliminary cost estimates for the level of treatment necessary to meet those targets.
    - Everett asks that Ecology include, at a minimum, a high scale cost evaluation in the NRP. This information is crucial for state and local budgeting and planning.
    - Everett encourages Ecology to also consider the cumulative costs of environmental mandates (i.e. stormwater management, CSO compliance, habitat restoration, asset management renewal and replacement, etc.) and prioritize investments that yield the greatest water quality improvements for an integrated water quality planning approach.

- The funding levels cited in the draft NRP are not aligned with the scale of the required actions. The $10 million proposed to be shared among 58 utilities is grossly inadequate, especially considering the likely need for major capital improvements.
    - Everett request that Ecology identify the potential funding options sufficient to meet the evaluated costs.

2. Scientific Foundation and Modeling Limitations

While we share Ecology's commitment to improving water quality and addressing dissolved oxygen (DO) concerns in impaired areas of Puget Sound, the current scientific foundation for the NRP and PSNGP remain insufficient. The Salish Sea Model, which underpins the permit's regulatory framework, continues to face scrutiny regarding its accuracy, completeness, and suitability for decision-making. Given the complexity of the Puget Sound ecosystem, regulatory action must be grounded in robust, repeatable, and peer-reviewed science rather than assumptions based on incomplete modeling.

Specific comments are included below, with the overarching recommendation to continue modeling and scientific efforts for a stronger understanding of dissolved oxygen impairment in Puget Sound:

- Both the PRP and PSNGP assume completion and EPA approval of the Natural Conditions Provision. While Ecology has published a Second Draft of a Performance Based Approach for Site Specific Natural Conditions Criteria, Ecology has not completed the rulemaking process and submitted a final natural condition standard to EPA for review.
    - Ecology has previously represented that it would not be using the natural conditions rule for any regulatory purpose until it has been submitted and approved by EPA. Ecology should defer finalizing these documents until EPA approves the natural conditions rule.

- The NRP acknowledges that 98% of nitrogen entering Puget Sound is oceanic in origin. Also, recent findings from Puget Sound Institute indicate a higher correlation between temperature and DO levels than between nitrogen and DO (April 2025 "Century- Scale Changes in Temperature, Salinity, and Dissolved Oxygen in Puget Sound", University of Washington). These findings underscore the importance of framing the problem and its solutions within a broader scientific and ecological context.
    - Everett advocates for the more explicit integration of broader scientific and ecological context into both the problem definition and the strategic planning of solution pathways. Such dominant roles played by oceanic inputs and climate driven factors suggests inherent limitations on what local nutrient reduction actions alone can achieve. A holistic, science-based approach is essential to ensure that resources are effectively directed toward possible interventions with the greatest potential to deliver measurable and meaningful improvements in Puget Sound water quality.

- Ecology appears to have conflated effluent nitrogen characterization in future scenarios by shifting from Total Inorganic Nitrogen (TIN) in the PSNGP, to Total Nitrogen (TN) in the NRP. This shift may overlook the presence of Soluble Organic Nitrogen (SON), which is present in all municipal wastewater in the range of 1 to 3 mg/L. SON cannot be removed in nutrient removal treatment because it is not biodegradable and may not be bioavailable in receiving waters. If Ecology's shift to TN does not account for SON in effluent scenarios modeled at 8/5/3 mg/L, the

actual achievable targets could be significantly lower than the model, rendering them technically infeasible short of treatment molecular removal with reverse osmosis, which is environmentally intensive and prohibitively costly.

  - Ecology should clearly define the nitrogen species included in its modeling assumptions and ensure that future scenarios reflect realistic treatment capabilities. This will help avoid setting unattainable targets and support more scientifically grounded and cost-effective nutrient management strategies.

- Ecology's "Effectiveness Monitoring" section in the NRP places minimal emphasis on direct measurement of DO in the marine environment. Instead, Ecology relies on the natural condition standard, based on a hypothetical construct of pre-development conditions, in a theoretical manner using the Salish Sea Model. The natural reference condition cannot be validated through water quality monitoring because it does not exist. Ecology's characterization of DO impairment is based upon post processing model results, counting the number of days a model cell falls below the DO standard to calculate the number of days of DO noncompliance. However, Salish Sea Model's margin of error exceeds the narrow 0.2 mg/L human use allowance for DO depression from natural conditions by applying an uncertainty threshold that is unlikely to be met.
  - Everett recommends that Ecology adopt an aquatic life-based DO standard, which would enable direct water quality monitoring to assess actual conditions and determine the level of beneficial use supported by direct measurement of DO. This approach would improve the credibility and effectiveness of monitoring by aligning with real-world conditions. It would also shift the focus toward measuring tangible water quality outcomes in Puget Sound, rather than primarily monitoring inputs like point source and watershed loading.

- The Salish Sea Modeling, which serves as the foundation for Ecology's draft Nutrient Reduction Plan, is based on modeling of the year 2014. This data is now outdated by more than a decade and does not represent current conditions, including recent changes to the Evertt WPCF discharge and significant treatment facility upgrades across the region. For example, Oak Harbor is the closest in proximity to Everett that Ecology's model identifies as DO deficient, but the Salish Sea Model simulations of DO from 2014 pre-date the ~$100M investment the City of Oak Harbor has made in advanced levels of treatment that have fundamentally and directly changed water quality conditions in Oak Harbor. Similarly, Alderwood Water and Wastewater District's Picnic Point Treatment Plant in the Main Basin saw significant upgrades to the membrane bioreactor system in 2020. Nutrient optimization efforts at the City's WPCF have also altered the summer season effluent nitrogen ammonia and nitrate/nitrite speciation in recent years such that they differ from the historical periods Ecology used in the Salish Sea Model to assess DO.
  - These examples highlight the need for updated modeling that incorporates recent infrastructure improvements to place changes in nutrient discharges in proper context. The research and modeling since 2022 has not been incorporated into the reissuance of the PSNGP but continues to rely on the same preliminary assumptions made using outdated information from that time. Relying on outdated simulations risks mischaracterizing current nutrient dynamics and could lead to misinformed regulatory strategies. Everett strongly recommends that Ecology revisit and revise the modeling inputs to ensure the NRP is grounded in accurate, current, and regionally representative data.

- Recent modeling updates in Ecology's Phase 2 Salish Sea Modeling Update explored scenarios changing the influence of dominant point sources in the main basin and WWTPs within or near the Sinclair Inlet while maintaining a biological nutrient removal of 8/5/3 for the majority of dischargers elsewhere in the Puget Sound to address localized DO impacts in particularly inhibited areas, such as shallow embayments. None of the scenarios investigated changes within the Everett WPCF discharge, and therefore the impact of the City's treatment plant discharge on impaired areas is little understood.
    - Everett recommends that Ecology conduct additional modeling specific to point sources and basins to determine appropriate regulatory objectives before establishing target limits. That modeling should be updated to reflect current water quality conditions in Puget Sound and include sensitivity analysis that allows for individual discharges to be simulated separately from all other nutrient sources. This is necessary to determine the impact that individual discharges, such as the City of Everett, may have on distant embayments where Ecology has identified DO challenges. Further, simulation of the separated nutrient discharges provides the opportunity to explore optimization scenarios that may more efficiently address DO or do so in ways that accomplish water quality objectives sooner. These sensitivity modeling simulations are also necessary to evaluate incremental facility improvements over future decades associated with realistic implementation plans and financially feasible investment schedules. This approach would inform more effective nutrient limits while preserving affordability for our residents. The tools that Ecology have published do not allow for this type of analysis to be evaluated (Ecology, 2025. Puget Sound Nutrient Source Reduction Project. Volume 2: Model Updates and Optimization Scenarios, Phase 2).

- The Opt2 scenarios assume a 53.5% to 67.7% (pg 32, NRP) reduction in watershed nutrient loading, including from non-point sources, which is a significant assumption.
    - Everett requests that Ecology simulate scenarios with only the watershed reductions as cited to compare with the other model scenarios focused on reducing point source loading. Disaggregating these effects would be useful for stakeholders evaluating the cost-effectiveness and appropriateness of different strategies.

- The rationale for selecting the Opt2_8 scenario (page 33, NRP) is unclear. The document suggests that additional mathematical adjustments were applied after modeling to achieve "zero days of impairment" for this scenario.
    - To improve clarity, Everett requests Ecology provide a detailed explanation of the adjustments made to the modeled outputs. Additionally, we would like to see this post-processing for the other scenarios, and if these scenarios also result in zero impairment days.

- Many of the references cited in the NRP are internally published by Ecology rather than peer-reviewed studies. Additionally, our consultants have been unable to replicate the findings presented by Ecology from the Salish Sea Modeling.
    - While internal expertise is valuable, Everett strongly recommends that future scientific foundations of this plan undergo independent peer review to improve credibility. For further transparency and repeatability, access to the Salish Sea Model should be provided with the ability to simulate sensitivity analysis scenarios that have not been considered in Ecology's Phase 2 Salish Sea Modeling Update.

- The draft Nutrient Reduction Plan refers to the 2011 Tetra Tech Report (June 2011 "Technical and Economic Evaluation of Nitrogen and Phosphorus Removal at Municipal Wastewater Treatment Facilities," Ecology Publication 11-10-060). This publication is far out of date and was created for a generalized review and characterization of nutrient removal treatment and costs. It does not reflect the site-specific aspects of existing Puget Sound wastewater facilities, such as the City of Everett, and it does not consider the site-specific constraints that present challenges to adapting facilities designed for secondary treatment to nutrient removal. Furthermore, Ecology's association of an annual effluent quality of 8 mg/L CBOD with the nitrogen limits of 8/5/3 do not appear to be supported by the 2011 Tetra Tech report. Those site-specific details that inform the actual potential for nutrient removal at existing facilities is the purpose of the Nutrient Reduction Evaluation (NRE) and AKART analysis that the City is currently developing as required.
    - The NRE and AKART evaluations that wastewater dischargers are invested in preparing should be the basis that Ecology uses to determine the feasible levels effluent nitrogen performance and the potential costs for those facilities. That information should supersede reliance on the 2011 Tetra Tech report that is referenced and should supersede the assumptions about effluent nitrogen limitations selected by Ecology for the Phase 2 Salish Sea Modeling Update which may not be attainable with nutrient removal treatment technology (i.e. 8/5/3 TIN or TN).

3. NRP Timeline and Milestone Planning

The NRP process is moving too quickly to allow for meaningful analysis and evaluation, particularly given the recent publication of the Puget Sound Nutrient Source Reduction Project, Volume 2, Phase 2 in June of 2025. Given how heavily the NRP relies on this modeling work, Everett encourages Ecology not to rush the publication of the NRP until further Salish Sea Model scenarios can be explored, and sensitivity analysis has been conducted. Instead, more time should be dedicated to thorough review of comments, stakeholder engagement, and robust scientific validation.

Specific recommendations regarding the NRP's timeline are as follows:

- Baseline and continued data collection through water quality sampling and modeling in Puget Sound will be essential for measuring progress throughout the NRP's implementation. Further comments on modeling are outlined in Section 2, but we note that the current NRP does not allow adequate time for water quality sampling needed for this baseline analysis and basic comparison to the modeling results.
    - Everett recommends that Ecology include appropriate scientific assessment of baseline conditions and establish clearly defined milestones, especially in the early years of the 25-year plan, to guide ongoing modeling and scientific data collection. In addition, we request the inclusion of regular checkpoints to compare emerging scientific findings and updated modeling results with the NRP's implementation strategy. These steps will support real time decision making and enhance responsiveness within the adaptive management framework. Continued scientific assessment through the Advance Restoration Plan (ARP) will also be critical, as it can provide quantitative assessments of the effectiveness of incremental nutrient management actions implemented over time to provide feedback for needed plan adjustments.

- Mention of stakeholder engagement is almost non-existent in the current document.
    - Everett requests that stakeholder engagement continue throughout the plan's implementation, with structured collaborative opportunities to revisit and revise strategies. Specifically, we recommend incorporating a formal progress report around 2035 (about a third into the Plan's timeline) to allow Ecology and stakeholders to actively evaluate successes, identify challenges, and consider potential course corrections.

- Everett notes the milestone stating: "all marine point source permits to be updated with WQBELs by 2031" (pg 58).
    - Premature development of water quality-based effluent limits precludes the ability to evaluate whether incremental reductions in nutrients may be as effective in protecting beneficial uses. Ecology's assumed effluent characterizations in the Phase 2 Salish Sea Modeling Update may not reflect the full range of viable alternatives and advancing strict limits too early risks overlooking more balanced cost-effective strategies that could achieve comparable outcomes.

4. PSNGP Language and Implementation Concerns

Everett continues to have serious concerns about the structure and language of the draft General Permit, and reiterate comments from the 2022 issuance of the PSNGP:

- The preliminary draft permit with the first issuance included specific language stating that dischargers will be considered in NPDES permit compliance should effluent limits be exceeded because of optimization efforts or pilot studies related to nitrogen reduction. These explicit protections have been removed in the current draft. Likewise, the draft permit does not appear to require Ecology review and approval of proposed optimization strategies prior to implementation. Absence of such provisions, reviews and approval steps, etc. presents compliance risks to dischargers and the potential for third party litigation when pursuing optimization, testing new technologies that may be beneficial, and/or operating more aggressively to achieve some degree of nitrogen removal beyond conventional performance.

- In the event of an Action Level (AL) exceedance, Section S4.D.1.a. requires dischargers to determine when the exceedance occurs and number of days of exceedance. The basis for determining potential exceedance is not clear, nor is the accounting of days. The permit does not specify how discharges for non-sampling days will be accounted for and therefore the basis for determining an exceedance is not clear. Additionally, action levels are not permit limits and are merely reference levels of nitrogen based on historical discharge characteristics. This could present risks to the City for potential legal liabilities if the Everett WPCF is unable to maintain an action level established in the general permit.

- The City currently accepts chemical toilet waste and septage from large regional haulers. A readily available optimization strategy, as currently outlined in the new permit language, would no longer allow acceptance of such wastes. Accepting these wastes encourages environmentally responsible waste disposal from haulers. Changes to the City's current policy in this regard may shift discharges of these waste streams to more environmentally sensitive locations; or possibly result in illegal dumping and discharge to state waters without treatment. Ecology should

reconsider this aspect of the general permit and avoid discouraging the acceptance of wastewater that might otherwise result in adverse environmental impacts.

Conclusion

Everett remains committed to protecting and restoring Puget Sound. However, we believe Ecology must fully evaluate alternatives that may offer greater environmental benefits at a more sustainable cost. The expedited nature of the comment period limited our ability to conduct a comprehensive review of the draft documents and fully address all concerns. Nevertheless, we have made every effort to provide thoughtful and constructive input. Until the scientific foundation is strengthened and the economic implications are clearly understood, the magnitude of investment required by the PSNGP cannot be justified to Everett residents and business community. For these reasons, Everett believes that both the NRP and PSNGP require further refinement before they are finalized and issued.

Thank you for your continued consideration of our concerns. For further discussion, please contact me at 425-257-8800.

Sincerely,

Jeff Marrs
Operations Superintendent

cc: Jeff Marrs, Operations Superintendent
Ryan Sass, Public Works Director
Tim Benedict, Deputy City Attorney
Chris Merwede, Wastewater Plant Manager
Hanna Lintukorpi, Senior Environmental Specialist