City of Edmonds, WA (Phil Williams)

Please see uploaded file

CITY OF EDMONDS

Department of Public Works
7110 210th St. SW • EDMONDS, WA 98026 • 425.771-0234 • (cell) 425.758-1671
www.edmondswa.gov

August 27, 2025

Mr. Jon Kenning

State of Washington Department of Ecology

Water Quality Program

P.O. Box 47600

Olympia, WA 98504-7600

RE: Draft Puget Sound Nutrient Reduction Plan Public Comment Draft

The City of Edmonds (City) provides the following comments to Ecology's Draft Puget Sound Nutrient Reduction Plan (PSNRP) Public Comment Draft, dated June, 2025. The City of Edmonds is a proud environmental steward of Puget Sound. Our collection system sends raw wastewater flows to both the City's Wastewater Treatment Plant and to the King County collection system. The City's WWTP discharges treated effluent in compliance with its NPDES permit into the Sound's Main Basin. We, therefore, have a significant stake in and are deeply impacted by the PSNRP. We have a long-standing history of excellent plant performance and embracing innovative treatment to provide the best quality effluent we can with the resources we have.

While the City supports the spirit of Ecology choosing an alternative pathway in the PSNRP that would allow some flexibility in implementation, the way the document was developed offers minimal flexibility for point source dischargers and doesn't take advantage of any of the innovative pathways that an advanced restoration plan allows. The process utilized by Ecology to develop the PSNRP and de facto wasteload allocations provided in Appendix E is overly specific and the allocated loads and were not developed in collaboration with the utilities they impact. The City would like to be included in a more collaborative process for development of the final PSNRP in the last quarter of 2025 and into 2026.

Detailed comments are provided below:

City of Edmonds' Financial Impacts

The PSNRP includes modeled monthly dissolved inorganic nitrogen (DIN) loads that are significantly lower than those used in developing our Nutrient Reduction Evaluation (NRE). The estimated capital costs to meet the NRE loads is likely over $100M and with an increase in annual operation and

maintenance costs of over $3M per year. The estimated rate increase to meet the NRE nitrogen levels was more than 40%. We ask Ecology to consider modifying the financial assistance chapter to include data from facilities like ours that show significant financial impacts to the local utility.

Consider Federal/Statewide Grant Funding

The City of Edmonds took advantage of Ecology's grant program for assistance in developing its NRE. Thank you for providing our utility support in the development of these critical planning documents. We would like to request Ecology assist cities, perhaps in working together, in advancing a broader financing package that recognizes the true breadth and depth of the capital and operation/maintenance costs for this program.

The current financial assistance section of the PSNRP does not reference the financial capability guidance that Ecology issued last year and does not reference the aggregate costs of the program. Other large basin initiatives like San Francisco Bay, Chesapeake Bay, and the Great Lakes advanced large federal grant programs alongside the regulatory program. Ecology is moving ahead with a regulatory program without a meaningful funding strategy in place to support it. We ask Ecology to consider pausing this document while we work together on a broader funding package for this critical program that does not solely rely on the local ratepayer.

Consider EPA Guidance in Determining Financial Capability Assessment (FCA)

EPA released new Financial Capability Assessment guidance in 2023, prior to Ecology releasing its Puget Sound Nutrient FCA last year. The EPA guidance is not specific to nutrients and allows a more nuanced approach to determining financial capability of a utility (i.e. asset management costs, increasing operational costs, utility specific rate structures) that truly reflect the cost burdens each of these utilities face.

Edmonds handles flows both at its own facility and discharges flows to King County. Costs and rates for treatment are unique and are passed on to Edmonds' ratepayers. This multi plant approach along with the large capital and operation/maintenance needs for the City to maintain the other assets in its system could be better captured using the more nuanced EPA methodology (Alternative 2) in the 2023 guidance.

We ask Ecology to consider adding the approach outlined in the EPA 2023 FCA to the current Ecology Nutrient FCA guidance to allow utilities to document the true cost burdens and unique rate structures of their utility.

Current Approach Limiting Plant Capacity

The modeled loads in Appendix E are based on 2014 flows and loads to the City of Edmonds facility and will likely drive costs and rates higher than those cited above. The modeled loads in the PSNRP did not utilize the Ecology approved design flows of these facilities. Therefore, the 2014 modeled loads, by definition, take capacity from our existing facilities and compromise our ability to provide capacity for growth in our service area. The loads put our wastewater utility at risk for backsliding; given the detailed nature of the way loads are characterized (month by month and by utility). We ask Ecology to consider revising Appendix E using design flows rather than 2014 flows in its development of modeled loads for municipal point sources.

In addition, nitrification/denitrification is a biological process that inherently requires more time to achieve desired results than conventional secondary treatment does to remove BOD and TSS. To provide more time in fixed volume tanks means flow must be reduced and older sludge ages maintained. This results in a reduction of treatment capacity, limiting a city's ability to accommodate the population growth the State is requiring us to plan for. These two important State goals seem at odds with each other.

EPA Approval and Stronger Link to Aquatic Life Impacts in the Sound

The PSNRP relies on the results of the Salish Sea Model which has been developed and calibrated as well as possible to the dissolved oxygen (DO) data available. The load reductions that are called for, however, as based on an allowable anthropogenic depression in dissolved oxygen of 0.2 mg/L (developed in 1967); a standard disallowed by EPA in November 2021. Policy 1-11, Chapter 1, March 2023 states "Ecology will not utilize the following Natural Conditions methodology for waterbodies relevant to the disapproved provisions until a new natural condition provision has been adopted into our Surface Water Quality Standards and approved by EPA." New natural conditions were proposed in December 2024 but have not been approved by EPA. We ask Ecology to consider pausing finalizing this PSNRP document until the DO standard goes through the EPA approval process.

In addition, the 0.2 mg/L benchmark is not based on aquatic life support and is not tied to the beneficial use in any meaningful way. Puget Sound Institute's most recent workshop (8/15/25) that dissolved oxygen levels are sufficient for nearly all of Puget Sound for both Dungeness Craband Coho Salmon. A regulatory program of this magnitude should be rooted in sound aquatic life science with a meaningful tie to beneficial use. Similarly, if it were tied in a more concrete way to a beneficial use then the program could explain why, for instance, a year round rather than seasonal limit is needed. We ask Ecology to consider placing this program on hold while the University of Washington, Puget Sound Institute and others move forward in developing this critical link to beneficial use.

Consider Providing Better Documentation for 8 mg/L year-round cBOD

The PSNRP indicates *"Organic carbon assumptions are based on previous evaluations of nutrient removal technologies at WWTPs (Tetra Tech, 2011)"* The 2011 Tetra Tech report indicates that secondary treatment "reliably removes 90% of cBOD" but doesn't discuss how cBOD removal changes when plants introduce nitrogen reduction and does not reference a concentration value for cBOD. When nitrogen reduction is used at a municipal treatment plant, cBOD removal is impacted. Consider providing a basis for both the 8 mg/L cBOD and the year-round nature of the requirement and/or polling existing

Washington dischargers that remove both cBOD and nitrogen to determine a year-round value that is sustainable with removal of nitrogen.

Frameworks Presented do not recognize Nitrogen Removal Operations at Treatment Facilities

The frameworks presented in the PSRP offer seasonal operations modes based on 8 mg/L, 5 mg/L and 3 mg/L DIN in the cool, warm and hot months. Appendix E translates these frameworks into monthly loads by facility. Nitrification and denitrification of a municipal wastewater treatment facility is not something that can be altered simply on a month-by-month basis. These facilities run on a developed biomass that is very sensitive to flow and loading changes and biomass can often be "lost" (die or wash out) with even small changes in the process flows or temperature, taking days, weeks or even months to regrow the microorganisms that perform the desired nitrogen transformations (USEPA Biological Nutrient Removal Processes and Costs, 2007).

The current frameworks assume a level of change that is simply not possible, or wise for stable biological nitrogen removal operations. While Appendix H implies that annual/concentration loads are possible, the structure of the Appendix E and the way the frameworks were developed do not match that approach. We ask Ecology to consider rerunning the model and/or changing Appendix E to better represent the way treatment facilities operate, with a stable flow and loads. Working in collaboration with the discharger community could result in a better solution.

Conversion from Total Inorganic nitrogen TIN/Dissolved Inorganic Nitrogen DIN/Total Nitrogen TN Requires Additional Data

As Ecology's regulatory process has evolved its use of the form of regulated effluent nitrogen has evolved. The documents released in June provide point source loading targets expressed as DIN (Appendix E of the PSNRP and the Bounding Scenario Report), TIN (Puget Sound Nutrient General Permit), and TN (Body of PSNRP).

Edmonds has effluent data for TIN only, as required by its discharge permit. Without DIN data, or TN data it is impossible for us to understand or update the NRE to reflect the new loads included in the PSNRP. While there are industry reference values for typical ratios, there is significant variability in those values based on each treatment process type and to provide a reliable evaluation additional data TN and DIN data would be needed. We ask Ecology to consider pausing the proposed program until we can develop a dataset to better understand the impact of this program on our utility.

Consider Electrical/Chemical Production Burden in Developing Loads

The improvements proposed in the PSNRP will have larger power demands and will require production and transport of chemicals (i.e. supplemental carbon and/or alkalinity) to drive nitrogen levels down to those proposed in the summer. The process model that was developed for Edmonds as part of the NRE shows a 30-50% increase in power consumption and would require the addition of very significant quantities of methanol each year, i.e., several truckloads per week.

In August 2023, EPA concluded the following in its most recent revision of Publication EPA 832-R-21-006A *Life Cycle and Cost Assessments of Nutrient Removal Technologies in Wastewater Treatment Plants*.

"Clear tradeoffs exist between cost and potential environmental impact for different treatment level configurations"

"Cumulative energy demand, acidification potential, fossil depletion, smog formation potential, particulate matter formation, and global warming potential all showed a roughly similar trend. The values for these categories all increased from Level 1 to Level 5 due to increasing electricity use and natural gas heating consumption required to achieve the lower nutrient values for the treatment systems selected."

A SEPA process and Environmental Impact Statement could be used to consider these broader impacts from large scale implementation of higher levels of treatment. A Use Attainability Analysis is another tool that would allow ties to both beneficial use and consideration of broader environmental impacts. A third approach would be to revise the PSNRP to account for these critical environmental impacts and include them in the decision process for setting loads. We ask Ecology to consider using one of these pathways to consider the broader impact of this program on the environment and on climate change specifically.

Consider Allowing Advanced Restoration Plans where NPDES Permitted Point Sources are Present

The PSNRP specifically says:

"For watersheds with NPDES permitted point sources, such as municipal WWTPs or industrial facilities, TMDLs may be needed to set wasteload allocations consistent with the TN targets that will allow the TN targets to be met at the mouth of each watershed. However, there may be situations where we determine an ARP is more appropriate to achieve nutrient reductions. For those smaller watersheds with no point sources and where agriculture or forestry is the predominant source of nonpoint pollution, straight to implementation (STI) or ARP approaches may be an effective clean up tool prior to development of the TMDL."

This language implies that a more flexible tool like an Advanced Restoration Plan (ARP) would not be available in watersheds with a point source discharge without explaining why that would be the case. The ARP tool is often driven by a point source discharger who can provide the structure to support a holistic watershed improvement strategy. By including the monthly point source loads in Appendix E and including the above language Ecology has essentially removed any flexible watershed planning tools from consideration in implementation. We request Ecology to consider removing this language that excludes watersheds with point source dischargers from consideration for ARP.

Natural Sources of Nitrogen and Canadian Facility Impacts

The PSNRP states "For over a decade we have known that humans deliver a significant amount of nitrogen to the Sound, which contributes to low DO levels." The anthropogenic sources of nitrogen amount to 9% with the other 91% being naturally occurring (Mohamedali et al 2011, revised September 2023). Leaving this critical piece of information out of this document leaves the reader with a false impression of the role of municipal wastewater treatment in dissolved oxygen depression.

Similarly, the role of larger Canadian facilities is underrepresented. Many Canadian facilities have undergone major upgrades since 2014 (i.e. Victoria, Lions Gate, Annacis Island). These improvements are not reflected or considered in any way. Consider adding this information in the introduction to provide a more complete picture of the role of anthropogenic nitrogen in the Sound.

Convene the Technical Advisory Committee Before Rather the After the PSNRP is Finalized

Appendix H of the PSNRP talks about convening a Technical Advisory Committee (TAC) and indicates that important decisions need to be made with input from stakeholders. We ask that Ecology consider convening that TAC before rather than after the PSNRP is finalized. Given that there was minimal opportunity for input into the draft PSNRP as it was being developed, opening the TAC now with an atmosphere of collaboration and the willingness to listen meaningful input would allow for an improved final PSNRP. By doing so, Ecology would signal it is truly interested in discharger feedback. Finalizing the document without input and convening the TAC only after the loads are in place makes the TAC less impactful.

Conclusion

We urge Ecology to reconsider its current approach to the PSNRP. The final document should more clearly acknowledge the multitude of both technical, financial, and logistical challenges that must be overcome to implement this plan. It should recognize all capital and operational costs; especially those with significant environmental consequences. The modeled loads should be established in a way that would result in measurable improvement in water quality and provide a stronger tie to beneficial uses and aquatic life.

In the meantime, the City of Edmonds will continue to operate its treatment facility to the best of our ability. Thank you for your attention to these comments. We look forward to an active collaborative process with you as you work to revise the plan in the next few months. Should you need additional information or would like to discuss these comments please contact Phil Williams at 425-771-0234 or phil.williams@edmondswa.gov.