Nutrients and Dissolved Oxygen: Big Stakes and Uncertainty

A healthy Puget Sound with robust aquatic life is a priority for our communities. Regional and municipal clean water utilities exist to help protect water quality and human health. Utilities are committed to both regulatory compliance and investing public dollars to achieve tangible environmental benefits. This document is for local elected officials to explain an important water quality issue – significant new state regulations regarding nutrient discharges to Puget Sound from wastewater plants.

Nutrients, especially nitrogen, are essential components to support life and growth in natural systems. However, too much nitrogen in Puget Sound can lead to excessive algal growth and ultimately low oxygen as that growth dies. The low dissolved oxygen can stress aquatic organisms. This problem is of most concern in shallow, poorly flushed bays.

The Department of Ecology's current regulatory process regarding nutrient removal focuses primarily on requirements for wastewater treatment plants - upgrades that will have **significant impacts on utility rates**, **housing affordability**, and capacity to invest in other water quality and salmon recovery actions. Preliminary cost estimates to meet current and future nutrient requirements indicate **$25 billion in facility upgrade needs, leading to millions of households seeing monthly sewer bills increase by $100-300.** These rate increases will impact the lowest income households hardest, worsening housing affordability.

While utilities are committed to protecting the Sound, scientific questions remain as to whether and the extent to which expensive clean water infrastructure upgrades will result in measurable improvements in DO levels and in Puget Sound health. **In short, the stakes are enormously high, and we must get this right.**

Clean water utilities believe we can improve water quality in a cost-effective way through greater partnership. We ask for your leadership to encourage Governor Ferguson to provide an opportunity to evaluate other potential solutions, those that will provide more targeted environmental benefits more quickly and at a lower cost. Instead of proceeding with the current approach, we are strongly encouraging the state to engage in a collaborative process led by the Ruckelshaus Center, which has a proven track record of facilitating durable, consensus-based solutions to complex environmental challenges.

We are asking Mayors around the region to sign a letter to Governor Ferguson asking him to provide funding in his proposed budget for a collaborative process to gather all affected parties to work together towards an outcome that is protective of both the Puget Sound and its residents. Please email Carl Schroeder at the Association of Washington Cities (carls@awcnet.org) if you would like to add your signature to the attached letter or with any questions.

Proposal Summary:

- Use the next 18-24 months for a collaborative process facilitated by the Ruckelshaus Center to conduct a nutrient dialogue across impacted parties to develop a consensus framework to address nutrient levels in Puget Sound.
- Include the state, municipal utilities, affected communities, environmental organizations, the scientific community, and Tribes
- Focus water quality investments on desired biological outcomes and build a regional strategy for priority actions and funding to realize them.
- Develop a multifaceted approach that includes early actions, coordinated science, cost-effective management actions, and accountable, yet adaptive, regulatory structures.

The stakes are high:

- The Puget Sound region already faces rapidly increasing utility rates to ensure reliability of aging assets, serve a growing population, and address existing regulatory mandates. The projected scale of investment in nutrient upgrades will further exacerbate housing affordability challenges and require hard tradeoffs in public investments.
- For example, the King County Wastewater Treatment Division ("WTD") manages three regional treatment facilities (out of the nearly 60 such systems across the region) that discharge to Puget Sound. Depending on Ecology's regulatory choices, the cost to WTD ratepayers to comply with nutrient regulations could be $10B-$20B. This would be the single largest expenditure in the history of the agency. Other clean water utilities across Puget Sound face similar significant cost and rate increases.
- Scientific questions remain as to the extent to which expensive clean water infrastructure upgrades will result in measurable improvements in DO levels and Puget Sound health. The Salish Sea Model utilized by Ecology is a robust model, but the model can't accurately measure to the regulatory threshold level in many areas of Puget Sound (0.2 mg/L).

Summary:

- Nitrogen is the primary chemical building block (or nutrient) for marine algae—including phytoplankton—that form the base of food webs, supporting all fish, shellfish, and marine mammals that live in Puget Sound.
- Nitrogen sources are both natural, like the ocean and air, and human-caused including point sources like wastewater treatment facilities (aka clean water utilities) and non-point sources such as storm-water runoff, agricultural runoff, and leaking septic tanks.
- Approximately 90% of the nitrogen in Puget Sound comes from the Pacific Ocean. Reducing human input of nitrogen may only chip at the margins. Even aggressive nitrogen treatment may not result in substantial water quality improvements or biological value.
- Ecology is proposing to further regulate clean water utilities for nutrients through either changes to a utility's individual treatment facility discharge permit or through an opt-in general permit coupled with an Advanced Restoration Plan.
- Nutrient regulation is driven by dissolved oxygen (DO) water quality standards. Washington's marine DO standards are not biologically based, are nearly sixty years old, and need updating to reflect Puget Sound's environment and inhabitants.
- Washington's approach stands in contrast to that taken in Chesapeake Bay under similar challenges. The best practice regulatory approach is to develop water quality standards that reflect variable habitat conditions and the scientifically supported biological needs of species.
- The nutrient challenge is multi-faceted, involving multiple public and private parties and the state. In recent years, disagreements among parties have resulted in costly litigation, taking time and resources away from faster progress forward for the benefit of the public and Puget Sound.
- Clean water utilities are committed to doing their part by undertaking near-term opportunities to optimize nutrient removal, evaluating more substantial, long-term wastewater plant upgrades to meet future nitrogen limits, collaborating with Ecology and supporting continued scientific research, modeling, monitoring, outreach and other associated activities.
- Regulatory requirements established today will require significant capital investments and result in large ratepayer impacts for decades to come, even as our collective scientific understanding of the interaction between nutrients and dissolved oxygen continues to evolve.
- Our region will benefit from a collaborative process to better address nutrient pollution that includes the perspectives from many parties including regulators, Tribes, utilities, the scientific community, and non-governmental organizations.