DEPARTMENT OF ECOLOGY
State of Washington

Focus on: Puget Sound Nutrient Reduction Strategy

Nutrient pollution is causing water quality problems in Puget Sound. Excess nutrients from humans causes a domino effect in the ecosystem by fueling excessive plant growth and algae blooms, which reduces the amount of oxygen in the water. This is a serious problem for fish and the health of Puget Sound.

Fortunately, there is a solution to this problem. We can control the amount of excess nutrients that goes into Puget Sound and the surrounding watersheds. By investing in our communities and the critical wastewater infrastructure they rely on, we can provide a cleaner, healthier future for Puget Sound.

Our region-wide strategy

There are many human sources of nutrient pollution. The largest source, contributing well over half of the excess nitrogen, is treated human waste discharged from local wastewater treatment plants. We are moving forward with requiring these facilities to add nutrient control technologies to remove excess nitrogen. We will also address the excess nutrients coming from surrounding watersheds.

Learn more about how wastewater treatment plants are helping solve the nutrient problem in our blog. Watch Solving Puget Sound Nitrogen Pollution on YouTube.

To restore the nutrient balance in this iconic estuary, we are taking a region-wide approach:

- **Prioritizing** where the largest nutrient reductions are necessary to maximize regional efforts. Many wastewater treatment plants need upgrades to reduce excess nitrogen and we want to be strategic about those investments.
- **Defining** the levels of nutrient reductions needed so that Puget Sound meets state water quality standards.
- **Identifying** watershed sources of nutrients so we can prioritize and support implementation of reduction strategies within the watersheds.

This work includes improved monitoring, regulatory requirements, federal and state funding to support communities, technical assistance, and collaborating with communities on clean water projects.

Wastewater Treatment Plants

Our top priority is to support Puget Sound communities in improving their wastewater treatment plants. This addresses the largest, most concentrated sources of nutrient pollution as facilities reduce the amount of nitrogen they discharge. The Puget Sound Nutrient General Permit regulates 58 municipal wastewater treatment plants that discharge to Puget Sound. We established a grant program for permittees to assist with optimizing their existing operations and planning for future upgrades. With support from the legislature, we plan to continue providing grants to communities for planning, design, and construction.

This is a critical time for investments in our region's wastewater infrastructure. Over 40 years have passed since the last region-wide investments brought communities up to secondary treatment standards. Now, communities can improve their wastewater treatment plants for multiple benefits at the same time. This

includes addressing aging facilities, expanding capacity for growing populations, and making updates to meet local water quality issues and reduce nutrient pollution. This is a long-term planning, design, and construction process to lay the groundwork for improvements that will take 10-25 years to accomplish.

Communities will ultimately determine the most efficient and effective path to achieve nutrient reductions for their facilities. State and federal governments can support these improvements with funding and clear direction. We have included requirements in the permit for economic and environmental justice analyses to prevent unnecessary burdens on community members. Rate increases are not a forgone conclusion of providing people with better wastewater treatment. Communities in Washington have successfully made these investments without drastic rate hikes in the past. Learn more at: ecology.wa.gov/nutrientpermit.

Watershed sources of excess nutrients

Nutrient pollution also enters Puget Sound from our region's many streams and rivers, often referred to as watershed sources. Human sources of excess nutrients in watersheds include wastewater treatment plants that discharge to rivers, agricultural activities, onsite sewage systems, and industrial wastewater. To address these sources, we will work on individualized solutions for Puget Sound watersheds following completion of the Puget Sound Nutrient Reduction Plan.

There are effective solutions to reduce nutrient pollution that can happen now. We work with conservation districts, local governments, and other partners to tackle excess nutrients. We fund projects, support the successful septic loan program, and provide technical assistance to landowners and businesses. In 2025, we will publish the remaining eight chapters of the Voluntary Clean Water Guidance for Agriculture to support best management practices that address nutrient pollution.

Puget Sound Nutrient Reduction Plan

This strategy to address human sources of nitrogen is guided by the Puget Sound Nutrient Reduction Project which formalizes our science and extensive planning. We use the Salish Sea Model to evaluate nutrient reduction scenarios, with the goal of meeting water quality standards for dissolved oxygen. We bring interested parties together to better understand this complex issue. Our upcoming milestones include:

- Using the Salish Sea Model to predict how oxygen levels will increase with different reduction scenarios, with a peer-reviewed report available in Spring 2025. Learn more at the Salish Sea Model webpage.
- Publishing the Puget Sound Nutrient Reduction Plan, an advance restoration plan, for public comment in Summer 2025.
- Identifying priority areas within the 162 Puget Sound watersheds for continued or new nutrient source reduction work.

Stay involved

To restore healthy oxygen levels for Puget Sound, the region must plan strategic investments, focusing on where we can make the biggest reductions in human-caused nitrogen pollution. These investments will improve the health of Puget Sound and its fisheries and many communities will have more resilient wastewater infrastructure for decades to come. Washington's iconic estuary can thrive and our region will have greater enjoyment of all the benefits it shares with us when we take action to reduce nutrient pollution.

Visit ecology.wa.gov/ReducingNutrients to join our email list and stay up-to-date on upcoming meetings and feedback opportunities.

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