

Nutrient trading in Puget Sound

Focus on future options to help reduce nutrient pollution

Puget Sound's nutrient pollution problem

Nutrient pollution is still a problem in Puget Sound. Excess nitrogen from people creates a domino effect in the ecosystem, threatening Puget Sound recovery. We're continuing our work to restore nutrient balance in the Sound by taking a region-wide approach to address all human sources. Our draft Puget Sound Nutrient Reduction Plan explains the problem, the science, and the solutions in detail.

The connection between wastewater and nutrients

In 2021, Ecology established the [Puget Sound Nutrient General Permit](#). This permit addresses the largest source of nutrient pollution in Puget Sound —excess nitrogen that comes from local homes and businesses and through wastewater treatment plants before entering Puget Sound. Work is underway to modify the permit to make it optional, so the 58 wastewater treatment plants can choose to reduce nutrients as part of a collective under the general permit or receive nutrient reduction requirements in their individual permit.

A topic that often comes up when talking about nutrient pollution and wastewater treatment plants is nutrient trading. That is, would Ecology support a nutrient credit trading program for Puget Sound if it could result in quicker, more efficient nutrient reductions from wastewater treatment plants?

We were directed by the state Legislature to research this issue. In 2023, we submitted our formal [report to the Legislature](#) on recommended structures for a nutrient trading program for facilities covered under the Puget Sound Nutrient General Permit.

Water quality trading basics

Generally speaking, water quality trading is a market-based alternative to help meet water quality goals. Trading can be an effective approach to improving water quality when there are multiple sources of the same pollutant within a watershed, but the costs to reduce pollutant loading greatly vary among dischargers.

Trading assigns pollution reduction activities a water quality improvement value, or a “credit,” which can be traded on a local market to achieve cost-effective water quality improvements. Credits are simply an accounting mechanism to quantify pollution reduction, not dollar costs.

Could trading actually reduce nutrient pollution?

The goal of water quality trading is to facilitate exchanges of credits, which can more quickly reduce pollution and clean up impaired waters. Ecology would only consider supporting a trading program for facilities covered by the Puget Sound Nutrient General Permit if it helps permittees make progress toward reducing the amount of nitrogen going into Puget Sound.

What does this mean? While the specifics of the trading program would have to be developed, here is an example of how trading could work:

For a wastewater treatment plant to participate in trading, they would have to meet a minimum control level, which is usually the level the facility's technology can treat wastewater down to. Then they would need to identify a facility within their area of impact, and also under the permit, that has reduced nutrient discharges below their permit limit (known as “credit generation”) to offset their potential impacts of higher nutrient discharges. If

facilities are not meeting their minimum control level and there aren't any facilities that are reducing nutrients below their permit limit, then there aren't any credits to trade.

Facilities covered by the Puget Sound Nutrient General Permit would only be eligible to trade with one another if the trade will not result in lower water quality in Puget Sound.



Could trading help with the cost of updating wastewater treatment plants?

In the coming years, Ecology anticipates requiring reductions in nutrient discharges from wastewater treatment plants, which will require a significant investment from communities, and ultimately, ratepayers.

There are multiple ways for the communities that own and operate wastewater treatment plants to approach investing in nutrient reductions in ways that are equitable for the people that live in the community. Water quality trading may be an effective part of reducing nutrient discharges while alleviating the financial burden on communities.

For facilities not yet meeting their permit limits, trading can make sense if the credit is less than the cost of implementation. For those facilities below their permit limit, selling credits can offset the cost of their nutrient reduction investments.

Next steps for trading in Puget Sound

So, is nutrient trading on its way to Puget Sound wastewater treatment plants? We aren't sure, yet.

We would have a number of next steps before nutrient trading could happen in Puget Sound. As listed in our report to the Legislature, a market feasibility analysis is needed to answer the question "does trading make financial sense for the wastewater treatment plants in Puget Sound?".

In addition to outlining potential next steps, our recommendations to the Legislature for what a trading program could look like includes establishing a very simple trading program to start, limiting eligibility to only the wastewater treatment plants covered under the general permit, and Ecology setting the conditions which trades can occur. The program would have restrictions in place to alleviate any risk of reduced water quality in areas where trades occur.

It only makes sense to move forward with such a program if there is sufficient interest from permittees, Tribes, and communities.

Related Information

- [Draft Puget Sound Nutrient Reduction Plan](#)
- [Puget Sound Nutrient Credit Trading Report](#)

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ADA accessibility

To request an ADA accommodation, contact Ecology by phone at 360-407-6600 or email at jeremy.reiman@ecy.wa.gov, or visit <https://ecology.wa.gov/accessibility>. For Relay Service or TTY call 711 or 877-833-6341.