Nutrient Discharges

Discharges of nutrients, such as nitrogen and phosphorus, occur from activities both manmade and naturally. Problems can occur when those discharges become higher than the waterbody can assimilate. Examples of manmade activities are discharges from wastewater treatment plants (WWTP) which typically do not remove all nutrients from the waste stream, and stormwater discharges which pick up nutrients as the water flows across the land and is difficult to treat because of these diffuse sources. Natural sources of nutrients are the influx of nutrient-rich seawater to the Salish Sea, fish spawning and subsequent death, and erosion. Ecology and the Puget Sound Institute are using the Salish Sea Model to determine the effects of nutrient pollution in this waterbody.

The Department of Ecology has identified WWTPs as a source of excess nutrients to Puget Sound, and in 2021 issued a Nutrient General Permit requiring all plants on Puget Sound to enact changes to minimize nutrients. These changes will vary from optimization of current processes to construction of advanced treatment facilities costing millions of dollars. In addition, point and nonpoint sources of nutrients in the upper watersheds of the state's rivers will also be required to reduce nutrient pollution. Ecology is developing the Nutrient Reduction Program to address those sources and assign nutrient budgets much like a Total Maximum Daily Load process is done currently for impaired waters. WASWD participates in the Nutrient Forum and submits comments as programs are developed and implemented.