

*Connecting Whales and People
in the Pacific Northwest*

October 21, 2019

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Thank you for the opportunity to comment regarding the Puget Sound Nutrients General Permit. Orca Network is a non-profit organization dedicated to raising awareness of the whales of the Pacific Northwest and the importance of providing them healthy and safe habitats. Our education and outreach efforts include over 15,000 subscribers to our Whale Sighting Network and approximately 25,000 annual visitors to our Langley Whale Center on Whidbey Island. On behalf of our staff and Board of Directors, we would like to express our support for a general permit system for wastewater treatment plants in Puget Sound.

The population of Puget Sound is expected to grow by 1.8 million by 2050. Nutrients from human sources are already leading to low levels of dissolved oxygen that fall below our state water quality standards set by the federal Clean Water Act. Nutrient pollution has impacts on the entire food web by damaging marine habitats and water quality, and accelerating ocean acidification. In addition, reduced levels of dissolved oxygen can have significant negative effects on the survival of salmon, including impacts on growth and development in eggs, alevins and fry, and on the swimming, feeding and reproductive ability of juveniles and adults.¹ We are concerned about the effects of degrading water quality on our region's marine life, in particular the critically endangered Southern Resident orcas and the salmon upon which they depend.

Southern Resident orcas are a genetically, acoustically, socially, and culturally distinct population of fish-eating killer whales. They were listed under the United States Endangered Species Act in 2005. After 14 years of recovery efforts, they are continuing to decline and in 2019 the population dropped to just 73 animals, the lowest number in four decades. Their main threats include prey availability, namely a decline in their primary prey, Chinook salmon;

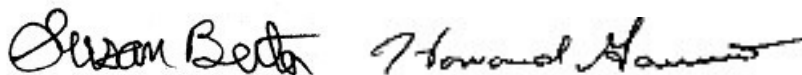
¹ The Effects of Dissolved Oxygen on Steelhead Trout, Coho Salmon, and Chinook Salmon Biology and Function by Life Stage; Carter 2005.

environmental contaminants, particularly bio accumulative organochlorines such as DDT and PCBs; and vessel effects and sound, as well as increased potential for oil spills and disease.² Of these threats, lack of prey is the biggest limiting factor in their recovery. Salmon depletion has led to changes in pod structure, decrease in presence in their core summer feeding areas, an increase in stress hormones and a miscarriage rate of almost 70%.³

In March 2018, Governor Inslee established the Southern Resident Orca Task Force to develop a long-term plan to recover the Southern Resident orcas, which led to 36 recommendations encompassing threats from prey, contaminants and vessels. In year two, the Task Force focused on two additional threats “that if left unchecked, will undermine recovery efforts and could lead to extinction: (1) climate change and ocean acidification and (2) rapid population growth and development.” Draft recommendations from the year two report include a recommendation to “develop a National Pollutant Discharge Elimination System permit framework for advanced wastewater treatment in Puget Sound to reduce nutrients in wastewater discharges to Puget Sound by 2022.”

We commend Washington Department of Ecology in your efforts to find solutions to the growing problems of increased nutrients and decreased dissolved oxygen. We support a general permit approach rather than staggering new requirements through individual permit renewals. We urge you to adopt and implement this system as quickly as possible and take advantage of advanced wastewater treatment technologies and innovative permit approaches now being used successfully in other regions. These improvements will contribute to efforts to increase the prey base for endangered Southern Resident orcas and will ultimately lead to enhanced water quality for the many diverse marine animals who live in the Puget Sound region and the people who call this area home.

Sincerely,



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² National Marine Fisheries Service. 2008. Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Northwest Region, Seattle, Washington

³ Data from the Center for Whale Research; Shields, M.W. et al. 2018. Declining spring usage of core habitat by endangered fish-eating killer whales reflects decreased availability of their primary prey; Wasser S.K. et al. 2017. Population growth is limited by nutritional impacts on pregnancy success in endangered Southern Resident killer whales (*Orcinus orca*).