



November 29, 2017

*Protecting and  
Preserving  
Puget Sound*

Ms. Amy Jankowiak  
Department of Ecology  
3190 160<sup>th</sup> Ave. SE  
Bellevue, WA 98008-5452

130 Nickerson Street,  
Suite 107  
Seattle, WA 98109

RE: Rulemaking - Chapter 173-228 WAC Vessel Sewage No Discharge  
Zone Formal Public Comment Period

P 206.297.7002

F 206.297.0409

[www.pugetsoundkeeper.org](http://www.pugetsoundkeeper.org)

Dear Ms. Jankowiak:

Puget Soundkeeper (hereinafter “Soundkeeper”) is a water quality focused grassroots organization founded in 1984. Soundkeeper’s mission is to protect and preserve the waters of Puget Sound. Representing over 3,000 members, supporters, volunteers and activists, Soundkeeper works to meaningfully decrease pollutants reaching the Sound by actively patrolling and monitoring Puget Sound water quality, enforcing clean water laws, improving policies and regulations, preventing pollution and cleaning up waterways. We appreciate this opportunity to comment on the Vessel Sewage No Discharge Zone

Together with Friends of the Earth, Futurewise, Sierra Club, and Washington Environmental Council, Puget Soundkeeper and our members strongly support establishing the Puget Sound No Discharge Zone. Our coalition generated over 25,000 comments in 2014 supporting Ecology’s draft designation, over 40,000 comments in 2016 supporting EPA’s determination, and another 25,000+ comments supportive of the No Discharge Zone designation in 2017. Establishing a Puget Sound No Discharge Zone is very important for our members and the general public.

### **It is Time for Puget Sound to Become a No Discharge Zone**

The Department of Ecology has spent over 6 years considering a No Discharge Zone (“NDZ”), with a carefully considered process that included state agencies, cruise lines, recreational boaters, marinas, yacht clubs, commercial vessels including tugboats and fishing vessels, trade associations, shellfish growers, environmental organizations, scientists, EPA, the Coast Guard, legislators, and members of Congress. As we explain in detail below, the facts show that the many positive benefits of an NDZ vastly outweigh any potential burdens of an NDZ. Enough deliberation has taken place on this topic, and all interested stakeholders have weighed in: it is time to stop dumping blackwater into our Sound.



## **A No Discharge Zone will protect public health and Puget Sound**

Vessel sewage directly discharging into Puget Sound contains high concentrations of bacteria and other pathogens that can impact public health and shutdown shellfish beds. Every year shellfish beds are closed due to bacterial contamination that renders shellfish unfit for consumption. Marine sanitation devices used on board some vessels do not sufficiently kill microorganisms and do not protect public health. Raw or partially treated sewage discharged in one location can impact water quality miles away because the waters of Puget Sound are so highly connected.

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## **A No Discharge Zone is a Fair Protection for Our Sound**

Tracking down the source of bacteria and other pathogens from inadequate or untreated sewage discharges can be timely and complicated, particularly if the source is mobile or intermittent such as a travelling vessel. Yet other pollution sources - including stormwater runoff from urban and rural land, failing septic systems, combined sewer overflows, and municipal wastewater discharges - each have controls in place to reduce and/or eliminate contamination. A No Discharge Zone will complement other pollution controls in the Puget Sound region. Moreover, the NDZ will level the playing field by requiring the reduction of pollution across the board: it goes against common sense to regulate some polluters while giving others a free pass. To continue to do so fosters a system that imposes unequal burdens on some polluters while letting others pollute with impunity.

## **A No Discharge Zone is Not Burdensome**

Significantly, most vessels already comply and hold their sewage. As Ecology's website explains, only 2% or fewer vessels would need to add holding tanks. The vast majority of vessels already have the equipment necessary to comply with a No Discharge Zone.

Over 100 pumpout facilities are available all over Puget Sound and publicized through [www.pumpoutwashington.org](http://www.pumpoutwashington.org). At least 7 of the 8 facilities in South Puget Sound, inland of the Tacoma Narrows, were operational even during the off season – December 20, 2016. Six pumpouts are free and one charges \$5. Adjacent to South Puget Sound, another 13 pumpout facilities serve Commencement Bay, three serve Gig Harbor, and one serves Quartermaster Harbor. Other basins of Puget Sound are equally well served: Hood Canal has 7 pumpouts; 13 serve Sinclair and Dyes Inlet, Liberty Bay, and Bainbridge Island; 13 serve Lake Washington, Lake Union, and the connecting waters; 4 serve Everett and southern Whidbey Island; 9 serve La Conner, Anacortes, and northern Whidbey Island; 6 serve the San Juan Islands; and many more serve Blaine, Bellingham, Sequim, and Port Townsend.



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This is not an exhaustive list of pumpout facilities within the proposed NDZ but confirms the geographic coverage of the existing network, particularly in places with substantial numbers of recreational boaters.

In addition, our partner organizations Friends of the Earth and Futurewise confirmed that at least five large marine services companies serve the Puget Sound region, as of December 14-19, 2016.

The number of pumpouts available is far more plentiful than the recommended one per 300 to 600 boats (Clean Vessel Act: Pumpout Station and Dump Station Technical Guidelines). Recreational boats have at least one pumpout facility per 171 vessels, and commercial vessels have at least one pumpout per 11 vessels. Commercial pumper trucks and mobile commercial pumpout barges already serve numerous commercial vessels and represent a range of capacities to serve a variety of dock sizes and vessel drafts.

### **Economic analyses are conservative**

The Small Business Economic Impact Statement (SBEIS) included within the proposed rule considers costs to “businesses in an industry” in Washington State for businesses with 50 or fewer employees. While the SBEIS includes costs for commercial vessels to comply, the SBEIS does not consider the benefits to other small businesses. These include shellfish companies, companies serving scuba diving, and other recreational businesses that rely on clean water.

In the Pacific Northwest, the shellfish industry injects an estimated \$270 million a year into the region’s economy, bringing jobs to over 3,200 people, primarily in coastal communities.<sup>1</sup> According to the Pacific Shellfish Growers Association, Washington State sees the most in shellfish sales of the 4 Pacific Coast States, netting approximately \$77 million in sales annually as of 2000.<sup>2</sup> According to WDFW, commercial and recreational fishing conducted in Washington fisheries directly and indirectly supported an estimated 16,374 jobs and \$540 million in personal income in 2006.<sup>3</sup>

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<sup>1</sup> NOAA publication, “From the Tides of Puget Sound to Your Plate: Northwest Shellfish Industry Provides Important Ecological & Economic Value.” January 2012. Last Accessed November 28<sup>th</sup>, 2017. Available online at [http://www.westcoast.fisheries.noaa.gov/publications/aquaculture/noaa\\_shellfish\\_initiative\\_f\\_sheet\\_011312.pdf](http://www.westcoast.fisheries.noaa.gov/publications/aquaculture/noaa_shellfish_initiative_f_sheet_011312.pdf).

<sup>2</sup> Shellfish Economy, Treasures of the Tidelands. July 2003. Last Accessed November 28<sup>th</sup>, 2017. Available online at: [http://www.akleg.gov/basis/get\\_documents.asp?session=27&docid=3161](http://www.akleg.gov/basis/get_documents.asp?session=27&docid=3161)

<sup>3</sup> WDFW, “Economic Analysis of the Non-Treaty Commercial and Recreational Fisheries in Washington State.” December 2008, Revised March 13, 2012. Last Accessed November 28<sup>th</sup>, 2017. Available online at: <http://wdfw.wa.gov/publications/00464/>



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A study by the Seadoc Society found that in 2014, divers in Washington State spent approximately \$5 million in state on diving and related expenditures.<sup>4</sup>

In comparison, the economic costs of compliance are biased high, particularly for tugboats. The 20-year present value of retrofit costs (\$91,233,047) and 20-year present value pumpout costs (\$148,190,365) are both apparently based on industry-supplied estimates of tank volumes and costs to retrofit.

The Puget Sound NDZ Commercial Vessels Economic Evaluation (Herrera, 2015) cited an analysis provided by Charlie Costanzo (2015)<sup>5</sup> that indicates an upper range of 2,900 gallons for tanks needed on the tugs. This is based on a per capita sewage generation rate of 16 gallons/day, a crew of 7 people, 21 days without access to pumpouts, and 25% overage to prevent spills.

Herrera researched a number of low-flush heads suitable for onboard toilet facilities. Table 2 of Herrera (2015) provides waste generation rates for live-aboard crews, based on US Coast Guard Guidelines:

Table 1. Waste generation rate for live-aboard crew based on US Coast Guard Guidelines (adapted from Herrera, 2015)

Head Type	Gallons per person per day	Tank volume for 4 crew, 14 days, 25% overage	Tank volume for 7 crew, 21 days, 25% overage
Recirculating	0.5	35	92
Vacuum	1.9	133	349
Hand pump	2.9	203	533
Electric	5.4	378	992

In response to the above options, Mr. Costanzo noted that high efficiency heads are more costly to install and maintain, and may not be durable enough for daily use on tugboats. Herrera then contacted head manufacturers who identified that “[w]hile some of the more efficient heads may be less reliable due to delicate moving parts,

<sup>4</sup> Northern Economics. “Economic Impacts of Washington State Resident Scuba Divers.” March 2016. Last Accessed November 28<sup>th</sup>, 2017. Available online at: <http://www.seadocsociety.org/wp-content/uploads/SCUBA-Economic-Valuation-Final-report.pdf>

<sup>5</sup> Costanzo (2015) refers to a letter responding to the draft NDZ petition in April 2015 that estimates tugs would need to be retrofitted with minimal tank sizes ranging from approximately 1,100 to 2,900 gallons to accommodate waste generated during longer trips. The upper end was based on a crew size of 7 people for 21 days with a per capita generation rate of 16 gallons per person and 25% added capacity to minimize spill risk. Information provided in Herrera (2015), page 3 and Table 1. While that table lists 2,911 gallons, these values total 2,940 gallons.



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mechanical macerators, and complex plumbing systems, it appears that reasonable options suitable for use in a commercial environment are available. For example, one of the heads researched has no moving parts, costs about \$2,000 to install, connects to a holding tank or treatment device with standard piping, and comes with a 5-year warranty. This particular system uses about 1 gallon per flush, which would result in about a 6-gallon ppd waste generation rates, so it is not among the most efficient systems available, but is still many times more efficient than conventional systems (Scott Mulligan, Senior Sales Engineer, Headhunter Inc., personal communication, June 2015). Another head researched is an air-assisted toilet that uses about 0.5 gallons per flush, which would correspond to about a 2-gallon ppd waste generation rate. This head is available for about \$1,500, and comes with a 2-year warranty.”

Using per capita rates of 0.5 to 5.4 gallons/day, based on US Coast Guard regulations, a crew of 7 people, 21 days without access to pumpouts, and 25% overage to prevent spills, the tank volume would be 100 to 1,000 gallons, significantly less than 2,900 gallons. Presumably these smaller tanks would cost significantly less than the \$161,500 estimated by Costanzo. In addition, oceangoing tugs could use a combination of holding tanks within Puget Sound, with shorter duration between pumpouts.

While we have no information as to the crew sizes of tugboats that operate in the Puget Sound region, we question whether any vessel would require 21 consecutive days at sea without access to pumpouts. In addition to the shore-based facilities, private companies serve mobile pumpout needs through trucks and barges. In calls conducted in December 2016, these companies indicate that they serve the entire Puget Sound.

Herrera (2015) cites Costanzo (2013) that “about 95 of the approximately 150 Puget Sound tugboat fleet would need to be retrofitted.” The analysis then assumed the most conservative costs, “... that all 95 tugboats would require installation of a 3,000-gallon holding tank at an estimated cost of \$161,500, would represent a 15.3 million expenditure in this sector,” noting that smaller tanks or more efficient heads could be installed.

Finally, Herrera (2015) cites the Massachusetts Office of Coastal Zone Management (T. Callaghan, personal communication, April 2015) that despite substantial retrofit costs, tug operators in other recently established NDZs, such as Boston Harbor, have successfully retrofitted tugboats without serious disruption to operations.

In summary, while the SBEIS indicates a highly conservative cost for tugboats to comply with the NDZ, which biases high the costs. Even given this highly inflated cost, the 20-year present-value cost per employee is \$8 (small business, average of 7.5 people per small business) and \$0.04 (large, average of 140.5 people for largest businesses affected). For pumpouts, the 20-year present-value cost per employee is \$12.97 if



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applied to small businesses and \$0.51 if applied to largest businesses. These results were used to establish a disproportionate cost on small businesses, and therefore Ecology included elements to mitigate this disproportion. However, they indicate that the per-employee costs to comply with this rule are reasonable expenditures for companies whose business relies on and benefits Puget Sound.

### **Commercial Vessels Already Have Holding Tanks and use Pumpouts**

Costanzo (2013)<sup>6</sup> indicates about 25% of the tugboat fleet based out of Puget Sound already utilize holding tanks. Many of these have simply adopted the company-wide policy to store and pump out all blackwater.

The Economic Evaluation also mentions that Campbell Maritime, a small tugboat company has outfitted every tugboat with 50 to 100-gallong holding tanks because those were less expensive than MSDs (cited in Herrera, 2015). The owner noted that while he had no detailed information on the cost of these retrofits, “they were not ‘a memorably significant cost.’”

### **U.S. Navy Already Uses Pumpouts**

The Department of Ecology confirmed that Navy vessels already use pumpout facilities to treat wastewater generated onboard their ships.

### **A 2 Year Implementation Period for Commercial Vessels is Fair**

We urge the Department of Ecology to reduce the implementation period from 5 years to 2 years in the proposed rule. While the 5-year compliance period was cited as mitigation of disproportionate impact per RCW 19.85.040, a 2-year compliance period would also mitigate disproportionate impact. No other No Discharge Zone has included a compliance period, and even two years would mitigate impacts.

### **Overwhelming Support for a No Discharge Zone**

Over the years, people have consistently weighed in supporting the Puget Sound No Discharge Zone. During the 2014 draft petition comment period, over 25,000 comments supported the No Discharge Zone while 250 opposed it. In December 2016, during EPA’s public comment period regarding the adequacy and availability of pumpout facilities, over 40,000 comments supported the No Discharge Zone. Rarely do the Department of Ecology and EPA receive this level of support.

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<sup>6</sup> Costanzo, Charlie. 2013. American Waterways Operators Vice President-Pacific Region, November, personal communication to the Washington State Department of Ecology.



## Summary

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In summary, Puget Soundkeeper and our members support establishing a No Discharge Zone for the marine waters of Washington State inward from the line between the New Dungeness Lighthouse and the Discovery Island Lighthouse to the Canadian border, and fresh waters of Lake Washington, Lake Union and connecting waters between and to Puget Sound. Now is the time to add this protection for Puget Sound.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Chris Wilke  
Puget Soundkeeper Alliance