



PROPOSED RULE MAKING

CR-102 (August 2017) (Implements RCW 34.05.320)

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FILED

DATE: October 04, 2017

TIME: 9:49 AM

WSR 17-20-107

Agency: Department of Ecology AO # 17-02

Original Notice

Supplemental Notice to WSR _____

Continuance of WSR _____

Preproposal Statement of Inquiry was filed as WSR 17-14-104 ; or

Expedited Rule Making--Proposed notice was filed as WSR _____; or

Proposal is exempt under RCW 34.05.310(4) or 34.05.330(1).

Proposal is exempt under RCW _____.

Title of rule and other identifying information: (describe subject)

The Washington State Department of Ecology is proposing a new rule, Chapter 173-228 WAC – Vessel Sewage No Discharge Zones, to establish a Puget Sound No Discharge Zone.

The Puget Sound No Discharge Zone would cover 2,300 square miles of marine waters of Washington State inward from the line between 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.

Hearing location(s):

Date:	Time:	Location: (be specific)	Comment:
November 13, 2017	2:00 p.m.	Webinar Only Hearing To join the webinar hearings, use the following: Web link: https://watech.webex.com/watech/onstage/g.php?MTID=ec7e53ab91e33e8d47a6493617234fc20 Phone: (240) 454-0887 (Access code: 805 088 513)	All three scheduled hearings will have the same agenda: <ul style="list-style-type: none"> • Brief presentation • Question and answer session • Formal public hearing We are holding the two November 13 hearings via webinar. Webinars are an online meeting forum that you can attend from any phone and computer using internet access.
November 13, 2017	6:00 p.m.	Webinar Only Hearing To join the webinar hearings, use the following: Web link: https://watech.webex.com/watech/onstage/g.php?MTID=ed5c33f0e9867db925e1f1b0b35563375 Phone: (240) 454-0887 (Access code: 803 382 624)	
November 15, 2017	11:00 a.m.	In-person Only Hearing South Seattle College - Georgetown Campus 6737 Corson Avenue South Seattle, WA 98108	

Date of intended adoption: February 28, 2018 (Note: This is **NOT** the **effective** date)

Submit written comments to:

Name: Amy Jankowiak

Address: Department of Ecology, 3190 160th Ave SE, Bellevue, WA 98008-5452

Email: Please submit comments online or by mail.

Fax: N/A

Other: Electronic comments: <http://ws.ecology.commentinput.com/?id=EQHjt>

By (date) November 30, 2017

Assistance for persons with disabilities:

Contact Hanna Waterstrat

Phone: 360-407-7668

Fax: N/A

TTY: 877-833-6341

Email: hanna.waterstrat@ecy.wa.gov

Other: 711

By (date) November 7, 2017

Purpose of the proposal and its anticipated effects, including any changes in existing rules: The Department of Ecology is proposing a new rule, Chapter 173-228 WAC – Vessel Sewage No Discharge Zones. This rule will establish a Puget Sound No Discharge Zone, which would prohibit the release of sewage (black water) from vessels, whether treated or not.

Reasons supporting proposal: Puget Sound is a unique, sensitive water body. Its limited tidal flushing makes it prone to poor water quality conditions. Federal law currently allows vessels to discharge treated sewage within three miles of shore.

We are beginning a rulemaking to make Puget Sound a No Discharge Zone, which would prohibit the release of sewage (black water) from vessels, whether treated or not. This follows the 5-year stakeholder process, the petition submittal to the Environmental Protection Agency (EPA), and EPA's final affirmative determination that adequate pumpout facilities for the safe and sanitary removal and treatment of sewage from vessels are reasonably available for the waters of Puget Sound. This information will all be used as part of this rulemaking.

The Puget Sound No Discharge Zone would cover 2,300 square miles of marine waters of Washington State inward from the line between 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.

Vessel sewage discharges have a high potential impact due to proximity, often directly over or near shellfish and other protected resources, such as swimming beaches. Shellfish beds are vulnerable to pathogen pollution (which comes from sewage), which threatens an important shellfish food supply in Washington State. Due to this risk, we have closed approximately 3,000 acres of shellfish harvesting areas that are in close proximity to marinas, we anticipate that under these rules the status of these shellfish harvesting restrictions would be reevaluated.

Our state has made large investments in sewage treatment, stormwater management, and in the prevention of industrial pollution and agricultural runoff. Making Puget Sound a No Discharge Zone for vessel sewage addresses a missing piece in our strategy to clean up and restore Puget Sound. It is a near-term action in the Puget Sound Action Agenda, and is a recommendation of the Washington Shellfish Initiative.

On February 21, 2017, the EPA made a final affirmative determination that the Puget Sound region, as described above, has adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels reasonably available. The EPA said the State may finalize its proposed designation.

Most of Puget Sound's estimated 156,600 recreational and commercial vessels with on-board toilets have sewage holding tanks and use pump-out stations, or wait to discharge more than three miles from shore or at sea. Roughly 2,200, or 2 percent, have limited treatment systems and would need to add holding tanks.

The rule will clarify requirements necessary to implement the No Discharge Zone determination by the EPA, which applies to all recreational and commercial vessels. Previous work in preparation for the petition to the EPA lead to including a delayed implementation of five years for some commercial vessels such as tugs, fishing, research, and small overnight passenger cruise vessels to add sewage holding tanks.

Statutory authority for adoption: RCW 90.48.030, 90.48.035, 90.48.260, and 33 USC § 1322

Statute being implemented: RCW 90.48 and 33 USC § 1322

Is rule necessary because of a:

Federal Law? Yes No
Federal Court Decision? Yes No
State Court Decision? Yes No

If yes, CITATION:

Agency comments or recommendations, if any, as to statutory language, implementation, enforcement, and fiscal matters: N/A

Name of proponent: (person or organization) Washington State Department of Ecology

Private
 Public
 Governmental

Name of agency personnel responsible for:

	Name	Office Location	Phone
Drafting:	Amy Jankowiak	3190 160th Ave SE, Bellevue, WA 98008	425-649-7195
Implementation:	Heather R. Bartlett	300 Desmond Drive SE, Lacey, WA 98503	360-407-6600
Enforcement:	Coordinated by Water Quality Program staff and other agencies with jurisdiction.	300 Desmond Drive SE, Lacey, WA 98503	360-407-6600

Is a school district fiscal impact statement required under RCW 28A.305.135?

Yes No

If yes, insert statement here:

The public may obtain a copy of the school district fiscal impact statement by contacting:

Name: N/A
Address: N/A
Phone: N/A
Fax: N/A
TTY: N/A
Email: N/A
Other: N/A

Is a cost-benefit analysis required under RCW 34.05.328?

Yes: A preliminary cost-benefit analysis may be obtained by contacting:

Name: Kasia Patora
Address: Department of Ecology, 300 Desmond Drive SE, Lacey, WA 98503
Phone: 360-407-6184
Fax: N/A
TTY: 877-833-6341
Email: kasia.patora@ecy.wa.gov
Other: N/A

No: Please explain:

Regulatory Fairness Act Cost Considerations for a Small Business Economic Impact Statement:

This rule proposal, or portions of the proposal, **may be exempt** from requirements of the Regulatory Fairness Act (see chapter 19.85 RCW). Please check the box for any applicable exemption(s):

This rule proposal, or portions of the proposal, is exempt under RCW 19.85.061 because this rule making is being adopted solely to conform and/or comply with federal statute or regulations. Please cite the specific federal statute or regulation this rule is being adopted to conform or comply with, and describe the consequences to the state if the rule is not adopted.

Citation and description:

This rule proposal, or portions of the proposal, is exempt because the agency has completed the pilot rule process defined by RCW 34.05.313 before filing the notice of this proposed rule.

This rule proposal, or portions of the proposal, is exempt under the provisions of RCW 15.65.570(2) because it was adopted by a referendum.

This rule proposal, or portions of the proposal, is exempt under RCW 19.85.025(3). Check all that apply:

- | | |
|---|--|
| <input type="checkbox"/> RCW 34.05.310 (4)(b)
(Internal government operations) | <input type="checkbox"/> RCW 34.05.310 (4)(e)
(Dictated by statute) |
| <input type="checkbox"/> RCW 34.05.310 (4)(c)
(Incorporation by reference) | <input type="checkbox"/> RCW 34.05.310 (4)(f)
(Set or adjust fees) |
| <input type="checkbox"/> RCW 34.05.310 (4)(d)
(Correct or clarify language) | <input type="checkbox"/> RCW 34.05.310 (4)(g)
((i) Relating to agency hearings; or (ii) process requirements for applying to an agency for a license or permit) |

This rule proposal, or portions of the proposal, is exempt under RCW _____.

Explanation of exemptions, if necessary:

COMPLETE THIS SECTION ONLY IF NO EXEMPTION APPLIES

If the proposed rule is **not exempt**, does it impose more-than-minor costs (as defined by RCW 19.85.020(2)) on businesses?

- No Briefly summarize the agency’s analysis showing how costs were calculated. _____
- Yes Calculations show the rule proposal likely imposes more-than-minor cost to businesses, and a small business economic impact statement is required. Insert statement here:

**WA Department of Ecology
Small Business Economic Impact Statement:
Relevant Information for State Register Publication**

Proposed WAC 173-228 – Vessel Sewage No Discharge Zones

This Small Business Economic Impact Statement (SBEIS) presents the:

- Compliance requirements of the proposed rule.
- Results of the analysis of relative compliance cost burden.
- Consideration of lost sales or revenue.
- Cost-mitigating action taken by Ecology, if required.
- Small business and local government consultation.
- Industries likely impacted by the proposed rule.
- Expected net impact on jobs statewide.

A small business is defined by the Regulatory Fairness Act (chapter 19.85 RCW) as having 50 or fewer employees. Estimated costs are determined as compared to the existing regulatory environment—the regulations in the absence of the rule. The SBEIS only considers costs to “businesses in an industry” in Washington State. This means that impacts, for this document, are not evaluated for non-profit or government agencies.

The existing regulatory environment is called the “baseline” in this document. It includes only existing laws and rules at federal and state levels.

COMPLIANCE REQUIREMENTS OF THE PROPOSED RULE, INCLUDING PROFESSIONAL SERVICES

The baseline for our analyses generally consists of existing rules and laws, and their requirements. This is what allows us to make a consistent comparison between the state of the world with and without the proposed rule. For this proposed rulemaking, the baseline includes:

- Chapter 90.48 RCW – Water Pollution Control
- 33 U.S.C. §1251 et seq. (1972) – US Clean Water Act
- Environmental Protection Agency (EPA) 2013 Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels
- There is no existing No Discharge Zone rule in Washington State.

COSTS OF COMPLIANCE: EQUIPMENT

The proposed rule elements that differ from the baseline and are not *specifically* dictated in the authorizing statute or elsewhere in law or rule include all elements of the proposed rule:

- Establishes a No Discharge Zone (NDZ) in all the marine waters of Washington State inward from the line between New Dungeness Lighthouse and the Discovery Island Lighthouse to the Canadian border, and in the fresh waters of Lake Washington, Lake Union, and connecting waters between and to Puget Sound. (See Appendix B for map.)
- Requires all vessels with installed and operable toilets to have a Type III marine sanitation device to allow for complete and adequate sewage holding capacity while in the NDZ.
- Requires all vessels with marine sanitation devices (MSDs) to secure the devices to prevent the discharge of sewage in the NDZ.
- Requires vessels without installed toilets to dispose of any collected sewage from portable toilets or other containment devices at disposal facilities (including pumpouts) in a manner that complies with state law.
- Delays requirements for tug boats, commercial fishing vessels, small commercial passenger vessels, and National Oceanic and Atmospheric Administration (NOAA) research and survey vessels.
- Exempts public vessels actively involved in emergency, safety, security, and related contingency operations where it would not be possible to comply with the NDZ from requirements.

COSTS OF COMPLIANCE: SUPPLIES, LABOR, PROFESSIONAL SERVICES

The proposed rule is likely to result in compliance costs for retrofits (equipment, labor, professional services) and using pumpouts (professional services).

Vessel Type	20-Year Present Value Retrofit Costs	20-Year Present Value Pumpout Costs
Harbor vessels:		
Tugboats (various types)	\$91,233,047	\$148,190,365
Commercial fishing vessels (low)	\$19,649,836	\$40,635,387
Commercial fishing vessels (high)	\$59,544,958	\$61,568,768
Small commercial passenger ships	\$1,912,107	\$0
NOAA research and survey vessels	\$633,447	\$1,419,453
Ferries	\$0	\$0
Military and other government	\$0	\$0
Excursion vessels	\$0	\$0
Oceangoing vessels		
Container ships, cargo, and carriers	\$0	\$0
Large and medium cruise ships	\$0	\$0

Recreational vessels		
Less than 26 feet	\$0	\$0
Greater than 26 feet	\$397,589,940	\$0

Total 20-year present value costs for retrofits are estimated to be between \$511 million and \$551 million, including all costs estimated. Isolating only costs to businesses and government, this number is \$113 million to \$153 million.

Total 20-year present value costs associated with pumpouts are estimated to be between \$190 million and \$211 million, including all costs estimated.

COSTS OF COMPLIANCE: ADMINISTRATIVE COSTS

Where applicable, Ecology estimates administrative costs (“overhead”) as part of the cost of labor and professional services, above.

COMPARISON OF COMPLIANCE COST FOR SMALL VERSUS LARGE BUSINESSES

The average affected small business likely to be covered by the proposed rule employs approximately 7.5 people¹. The largest ten percent of affected businesses employ an average of 140.5 people.² Based on present-value cost estimates from Chapter 3, we estimated the following compliance costs per employee.

RETROFITS	20-Year Present-Value Cost per Employee IF SMALL	20-Year Present-Value Cost per Employee IF LARGEST
Commercial passenger	\$137,094	unknown
Commercial fishing -- LOW	\$9,934	unknown
Commercial fishing -- HIGH	\$30,102	unknown
Tugboats	\$8	\$0.04
PUMPOUTS	20-Year Present-Value Cost per Employee IF SMALL	20-Year Present-Value Cost per Employee IF LARGEST
Commercial passenger	\$0	\$0
Commercial fishing -- LOW	\$20,542	unknown
Commercial fishing -- HIGH	\$31,125	unknown
Tugboats	\$12.97	\$0.51

Unknown cost ratios are due to limited data availability for the largest businesses, which could be potentially individually identified in aggregate data.³ Note that commercial fishing values are based on entire commercial fishing vessel population of 347 initial 2005 population, and commercial passenger estimates are based on an initial population of 3 if they choose to retrofit.

We concluded that the proposed rule is likely to have disproportionate impacts on small businesses within the industries that incur compliance costs, based on identifiable data, and therefore Ecology must include elements in the proposed rule to mitigate this disproportion, as far as is legal and feasible. Where the relative ratios are unknown, Ecology must also mitigate costs to small businesses. Note that employment distributions were available at the three-digit NAICS level, which combined different sizes of vessel (such as small commercial passenger vessels that are primarily large businesses, and large cruise ships owned exclusively by large businesses) and were identified at the facility or location level. This means the disproportionate impact identified in the table above is likely overestimated.

¹ WA Employment Security Department (2017) Establishment size by number of Employees 2016. <https://www.esd.wa.gov/labormarketinfo/establishment-size>

² Ibid.

³ Ibid.

CONSIDERATION OF LOST SALES OR REVENUE

Businesses that would incur costs could experience reduced sales or revenues if the costs would significantly affect the prices of the goods they sell. The degree to which this could happen is strongly related to each business's production and pricing model (whether additional lump-sum costs significantly affect marginal costs), as well as the specific attributes of the markets in which they sell goods, including the degree of influence of each firm on market prices, as well as the relative responsiveness of market demand to price changes.

Businesses could also lose sales and revenue under the proposed rule if they need to take time away from business operations to comply. Based on the assumption that tugs would need to take additional time off of doing business, and a reported cost of between approximately \$2,500 and \$3,000 in lost revenues per pumpout event for tugs that were not retrofitted with a Type III MSD.⁴

MITIGATION OF DISPROPORTIONATE IMPACT

The RFA (19.85.030(2) RCW) states that:

Based upon the extent of disproportionate impact on small business identified in the statement prepared under RCW [19.85.040](#), the agency shall, where legal and feasible in meeting the stated objectives of the statutes upon which the rule is based, reduce the costs imposed by the rule on small businesses. The agency must consider, without limitation, each of the following methods of reducing the impact of the proposed rule on small businesses:

- a) Reducing, modifying, or eliminating substantive regulatory requirements;
- b) Simplifying, reducing, or eliminating recordkeeping and reporting requirements;
- c) Reducing the frequency of inspections;
- d) Delaying compliance timetables;
- e) Reducing or modifying fine schedules for noncompliance; or
- f) Any other mitigation techniques including those suggested by small businesses or small business advocates.

Ecology considered all of the above options, and included the following legal and feasible elements in the proposed rule that reduce costs. In addition, Ecology considered the alternative rule contents discussed in Chapter 6, and excluded those elements that would have imposed excess compliance burden on businesses. For vessel types that expressed concern about being able to comply – which included small businesses – the proposed rule allows an additional five years before compliance is required. Other NDZs, such as in Massachusetts, required immediate compliance.

SMALL BUSINESS AND LOCAL GOVERNMENT CONSULTATION

Ecology involved small businesses and local government in its development of the proposed rule as part of its overall engagement strategy, summarized in the table below.

⁴ WA Ecology (2012). Phase 2 Vessel Population and Pumpout Facility Estimates, Puget Sound No Discharge Zone for Vessel Sewage. Publication no. 12-10-031 Part 4.

Outreach Activity	Date	Description	Attendees/Audience
Washington Departments of: Health (DOH), Parks (Parks) and Fish and Wildlife (DFW) consultations	2011-2012	Ecology included other state agencies in the early planning process of NDZ evaluation.	DOH, Parks, WDFW, WA Sea Grant, PSP
Annual Cruise Ship Memorandum of Understanding (MOU) Meetings	January 13, 2011 February 16, 2012 February 28, 2013	At each of these annual MOU meetings, Ecology briefed the cruise industry, the Port of Seattle, and the public on the No Discharge Zone Evaluation Project progress to-date.	Cruise Lines/Assoc, Port of Seattle
People for Puget Sound meetings	2011-2012	Ecology involved People for Puget Sound on the first phase of the NDZ, to provide input and help with research.	People for Puget Sound
Clean Boating Foundation Meeting	January 9, 2012	Ecology provided a presentation, open discussion, and answered questions on the NDZ evaluation project.	Clean Boating Foundation
Washington's Clean Marina Meeting	June 13, 2012	Ecology provided a presentation, open discussion, and answered questions on the NDZ evaluation project.	Clean Marina WA
Ballast Water Workgroup Meeting	June 14, 2012	This meeting was focused on the vessel general permit, but Ecology briefly mentioned/discussed the NDZ with commercial vessel stakeholders.	WA Ports Association, Port of Seattle, various commercial vessel reps
Washington Sea Grant	Summer 2012	Ecology worked with Washington Sea Grant on a survey for recreational boats during the summer of 2012.	WA Sea Grant, rec boaters
Recreational Boaters Association of Washington Meeting (RBAW)	September 6, 2012	This meeting was a result of e-mail exchanges between RBAW folks and Ecology and included a discussion session on the NDZ evaluation project, clarifications, and technical discussions.	Rec boaters/RBAW
Washington Boating Alliance (WBA) Meeting, Tacoma	December 13, 2012	Ecology provided a presentation, open discussion, and answered questions on the NDZ evaluation project.	Rec boaters/WBA: RBAW, Northwest Marine Trade Association (NMTA), Northwest Yacht Brokers Association (NYBA), United States Coast Guard (USCG), yacht clubs, Parks, WDFW, PSP

Washington Department of Natural Resources (DNR)	January 9, 2013	Through phone conversation with Naki Stevens, Ecology provided a brief overview on the NDZ evaluation and answered questions.	DNR
Cruise Line Association and Port of Seattle Meeting	February 28, 2013	Ecology met with the Cruise Line Association and the Port of Seattle; provided a presentation, open discussion and answered questions on the NDZ evaluation project.	Cruise Lines Association, Port of Seattle
Washington Boating Alliance Meeting, Bellevue	March 4, 2013	WBA requested a meeting with Ecology to openly discuss the NDZ evaluation and options.	Rec boaters/WBA
E-mail sent to approximately 50 tribal stakeholders	February 13, 2013	Ecology sent e-mail to approximately 50 tribal contacts to provide a summary of the evaluation, a link to our website and a request for input. Emails sent through Tom Laurie.	tribal
Email sent to approximately 300 stakeholders.	February 21, 2013	Ecology sent e-mail out to approximately 300 stakeholder groups/associations/entities and individuals to provide a summary of the evaluation, a link to our website and a request for input. Received numerous e-mails and letters from interested parties.	all
Outreach letters in response to questions and comments from stakeholders.	2012-2013	Ecology received phone calls and e-mails from interested stakeholders. Sent responses to letters to Shilshole Liveboard Association, WBA, WA Ports Association, RBAW and NYBA.	all
Northwest Marine Trade Association (NMTA) Meeting	April 4, 2013	Ecology met with NMTA to discuss the NDZ evaluation project, engage in open discussion and answer questions.	Rec boaters/NMTA
Washington Liveboard Association (WLA) Meeting	April 4, 2013	Ecology met with Washington Liveboard Association to discuss the NDZ evaluation project, engage in open discussion and answer questions.	Rec boaters/WLA
Recreational Boaters Association of Washington (RBAW) Meeting	May 9, 2013	Ecology met with RBAW to discuss the NDZ evaluation project, engage in open discussion and answer questions.	Rec boaters/RBAW
Ecology's NDZ Advisory Group meeting	June 20, 2013	This was the first of two Advisory Group meetings that included various stakeholders.	All (see attendee list)
Ecology's NDZ Advisory Group meeting	July 11, 2013	This was the second of two Advisory Group meeting that included various stakeholders.	All (see attendee list)

Tug and Barge industry Meeting	August 13, 2013	Ecology met with a group of tug and barge industry representatives to discuss the details of sewage management on the various tug and barge vessels and the NDZ.	Tug and Barge industry, Port of Seattle
Puget Sound Partnership Ecosystem Coordination Board	September 19, 2013	Ecology provided a briefing on the NDZ evaluation project and answered questions.	PSP
E-mail sent to approximately 50 tribal stakeholders	November 7, 2013	Ecology sent e-mail to approximately 50 tribal contacts to provide a summary of the evaluation, a link to our website and a request for input. Emails sent through Tom Laurie.	tribal
NW Marina & Boatyard Conference	November 8, 2013	Ecology provided a presentation on the NDZ and answered questions.	Marinas, boatyards, rec boaters
Boater Safety Checks and Boarding Discussion, WBA and agencies	November 20, 2013	Ecology took part in a discussion requested by WBA on inspections and boardings by the various agencies.	USCG, WDFW, local sheriffs, WBA, others
RBAW Annual Meeting	November 23, 2013	Ecology provided a presentation on the NDZ and answered questions.	Rec boaters/RBAW
Tug and other vessel operator meeting at the North Pacific Fishing Vessel Owner's Association (NPFVOA) building	November 25, 2013	Ecology provided a presentation on the NDZ and answered questions.	More than 60 mostly commercial (tugs, fishing, small passenger vessel) and some rec vessel operators
U.S. Environmental Protection Agency (EPA)	On-going	Ecology has included EPA since the beginning of the evaluation process and provides regular updates.	EPA
Ecology's NDZ Website	On-going	Ecology's NDZ website has been on-line since August 2012 and has been updated regularly. The website has the following information: background on NDZs; relevant reports; a summary of the process; status updates; links to related sites; and contact information for questions or comments.	all
Puget Sound Partnership (PSP) Leadership Council	December 12, 2013	Ecology provided a briefing on the NDZ evaluation project and answered questions.	PSP, environmental groups
Small Passenger Vessel site visit and meeting	January 9, 2014	Ecology toured 2 vessels and met with two companies (Un-Cruise and Linblad Expeditions) along with a naval architect. Discussed logistics of sewage management, etc.	Small passenger vessel industry

NDZ Marine Alliance, Director Mellon meeting	February 3, 2014	Discussed the concerns from the NDZ Marine Alliance on the NDZ.	NDZ Marine Alliance (RBAW, American Waterworks Operators (AWO), fishing industry, NMTA, small cruise industry)
Cherry Point Aquatic Reserve meeting	February 18, 2014	Ecology provided a presentation on the NDZ and answered questions.	Aquatic Reserve committees, boaters, general public
NDZ Marine Alliance meeting	March 11, 2014	Discussion on NDZ concerns with the NDZ Marine Alliance.	NDZ Marine Alliance (RBAW, AWO, fishing industry, NMTA, small cruise industry)
Schooner Adventuress	March 17, 2014	Discussion on NDZ with Schooner Adventuress (Living Boat Foundation concept).	Schooner Adventuress
Seattle Yacht Club	May 29, 2014	Ecology provided a presentation on the NDZ and answered questions.	Rec boaters
Washington Boating Alliance meeting	June 12, 2014	Ecology provided a brief on the NDZ and answered questions.	Rec boaters/WBA
American Waterworks Operators meeting (and others) at FOSS	August 25, 2014	NDZ status update and discussion on concerns, costs, and pumpouts.	Tug and Barge industry, and other vessel operators (small passenger vessels, rec, etc.)
Shellfish stakeholders meeting	September 4, 2014	NDZ status update, general feedback discussion and answered questions.	Shellfish industry
Pacific Coast Shellfish Growers Association (PCGSA) annual conference	September 25, 2014	Ecology provided a brief on the NDZ and answered questions.	Shellfish industry
House Committee work session	September 29, 2014	Ecology provided a brief on the NDZ and answered questions.	House Committee and interested parties
Small Passenger Vessel meeting	October 6, 2014	NDZ status update and discussion on concerns and costs	Small passenger vessel industry
American Waterworks Operators meeting (and others) at Harley Marine Services	January 15, 2015	NDZ status update and discussion on costs, and pumpouts.	Tug and Barge industry
Puget Soundkeeper Alliance	March 9, 2015	Ecology met with Puget Soundkeeper Alliance to provide a status update and answer questions.	NGO

Cruise Line Association International North West & Canada and Port of Seattle Meeting	March 12, 2015	Ecology provided a status update and answered questions on the NDZ evaluation project.	Cruise Lines/Association, Port of Seattle
Washington Boating Alliance (WBA) Meeting	April 9, 2015	Provided a brief update on the NDZ	Rec boaters/WBA
American Waterworks Operators call with Herrera Environmental Consultants, Inc.	May 7, 2015	Led a call to coordinate technical information to Herrera for work done on studying cost impacts	Tug and barge industry
Washington Boating Alliance (WBA) Meeting	November 12, 2015	Presented an update on the NDZ	Rec boaters/WBA
NDZ Implementation Planning Meeting	December 3, 2015	Review of Draft Implementation Plan and planning meeting	State agencies, environmental groups, and other implementation partners
Ecosystem Coordination Board Meeting	January 14, 2016	Provided NDZ status update and answered questions	Board Members
NDZ Marine Alliance representatives Meeting	February 1, 2016	Provided an update on modeling results and recent studies	Tug and Barge industry, cruise ships, recreational boaters, NDZ Marine Alliance
NDZ Marine Alliance Meeting	February 23, 2016	Update and discussion on modeling results and the NDZ	Tug and Barge industry, NDZ Marine Alliance representatives, Governor's Office
NDZ Marine Alliance representatives Meeting	March 3, 2016	Discussion on modeling results	Tug and Barge industry, cruise ships
Cruise Lines and Port of Seattle Meeting	April 5, 2016	Ecology met with the Cruise Line International Association North West & Canada and the Port of Seattle; provided a status update and answered questions on the NDZ.	Cruise Lines/Association, Port of Seattle
Washington Department of Fish & Wildlife Briefing	April 7, 2016	Provided a briefing on the NDZ and answered questions.	State agencies

Salish Sea Conference	April 13, 2016	Provided a presentation on the NDZ and modeling work	Various
American Petroleum Institute	June 14, 2016	Provided a briefing on the NDZ and answered questions.	Oil tanker companies and tug and barge industry
NDZ Marine Alliance representatives Meeting	July 19, 2016	Discussion on status of NDZ, implementation challenges and long term infrastructure planning.	Tug and Barge industry, NDZ Marine Alliance representatives, Governor's Office
Northwest Straits Commission	August 26, 2016	Provided a briefing on the NDZ and answered questions.	NW Straits Commission members
United States Coast Guard (USCG) Meeting	December 20, 2016	Discussion on potential NDZ implementation	USCG
Various phone calls	Ongoing	Various calls with stakeholders to either answer questions or brief with an update or discussion	Various

NAICS CODES OF INDUSTRIES IMPACTED BY THE PROPOSED RULE

The proposed rule is likely to impact North American Industry Classification System (NAICS) codes:

- 1141 – Fishing (includes shellfish industry)
- 4831 – Deep Sea, Coastal, and Great Lakes Water Transportation
- 4872 – Scenic and Sightseeing Transportation, Water
- 4883 – Support Activities for Water Transportation

IMPACT ON JOBS

Ecology used the Washington State Office of Financial Management's (OFM) 2007 Washington Input-Output Model⁵ to estimate the impact of the proposed rule on jobs in the state. The model accounts for inter-industry impacts and spending multipliers of earned income and changes in output.

The proposed rule will result in transfers of money within and between industries. Because pumpouts and dump stations could be public or private, we conservatively assumed that those expenditures were made at public facilities, which does not result in additional jobs or spending in the OFM model (the model does not include a public sector). It was also not possible to confidently assume what proportion of retrofit expenditures would stay in state. This means job losses are overestimated, and net impacts to jobs would likely be smaller due to some types of expenditure staying in the state and funding positions such as public or private pumpout facility staff.

Under the low cost assumptions, the Washington State economy could experience a net loss of 214 full-time employees (FTEs) over 20 years, across all private industries in the state. Most losses would be within the most-impacted industry, of 62 FTEs in shipping and transportation support industries.

Under the high cost assumptions, the Washington State economy could experience a net loss of 242 FTEs over 20 years, across all industries in the state. Similarly to the estimate under low-cost assumptions, most losses would be within the most-impacted industry, of 62 FTEs in shipping and transportation. The higher total job losses stem from higher estimated costs for commercial fishing.

These prospective changes in overall employment in the state are the sum of multiple small increases and

⁵ See the Washington State Office of Financial Management's site for more information on the Input-Output model.
<http://www.ofm.wa.gov/economy/io/2007/default.asp>

decreases across all industries in the state. These estimates include only the impacts of compliance cost expenditures, and do not include potential job growth from increases in harvestable shellfish acreage.

The public may obtain a copy of the small business economic impact statement or the detailed cost calculations by contacting:

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