Oregon Department of Environmental Quality
Jan. 17-19, 2017
Oregon Environmental Quality Commission meeting
Rulemaking, Action item R

Ballast Water Management
Noise Regulations

This document contains:

- EQC staff report
- Attachment A: Draft rules; edits highlighted
- Attachment B: Draft rules; edits incorporated

DEQ recommendation to the EQC

DEQ recommends that the Environmental Quality Commission adopt the proposed rules in attachment A as part of Chapter 340 of the Oregon Administrative Rules.

Overview

Short summary

Ballast Water Rules

DEQ operates a ballast water management program to protect Oregon's water from the potentially harmful economic and environmental consequences associated with the transport and introduction of aquatic invasive species. Recent changes to federal policy and Oregon ballast water management law have prompted the need for rule amendments under OAR 340-143. The proposed rules enhance aquatic invasive species prevention for Oregon in two ways.

First, the rules address concerns with residual ballast water and sediments in 'empty' ballast tanks that represent a risk for introducing aquatic invasive species if a vessel must ballast and subsequently de-ballast from empty ballast tanks while in state waters. The rules would require that affected vessels flush empty tanks with oceanic saltwater to remove or kill low-salinity organisms that may be present and thereby pose a risk to low-salinity port habitats in Oregon. This management practice is already required under the 2013 EPA Vessel General Permit but adopting it under OAR 340-143 would facilitate technical assistance, compliance verification and enforcement efforts by Oregon DEQ.

Second, the rules retain existing management practices that otherwise will be phased out in response to new federal one-size-fits-all management requirements. New standards from United States Coast Guard and U.S. Environmental Protection Agency will require most vessels to manage ballast water using first-generation shipboard treatment systems instead of conducting mid-ocean ballast exchange. This strategy has proven to be highly effective for preventing aquatic invasive species introductions to low-salinity ports like those that are common in Oregon. The federal numeric discharge standards are likely to improve aquatic invasive species prevention for marine ports such as Puget Sound and Los Angeles. However, under some circumstances these standards could make low-salinity ports such as the Columbia River and Coos Bay more vulnerable to the introduction of new aquatic invasive species. The proposed rule to retain ballast water exchange requirements for a subset of high-risk vessel arrivals, in addition to federal treatment standards, hereafter referred to as 'exchange + treatment', is modeled after policies established by EPA and other states for ballast discharges to Great Lakes and other eastern jurisdictions.

Retaining ballast exchange for high-risk voyages would serve as an important interim strategy to protect Oregon's low-salinity ports during a significant transition that depends upon the reliability of new technologies that have lacked rigorous testing. As proposed, the rule would be subject to a sunset date, beyond which 'exchange + treatment' would no longer be required unless DEQ and EQC determine that technology reliability and efficacy of federal shipboard treatment policies remain inadequate. In the event that Oregon adopts these rules, DEQ anticipates that the Washington Department of Fish and Wildlife will seek to adopt comparable rules for vessels operating in the Columbia River.

The proposed rules do not impose fees, additional equipment requirements or significant administrative efforts in order to comply. Therefore, under normal operating circumstances, these rules will not have any significant negative economic impacts, either direct or indirect.

DEQ Noise Regulations

This rulemaking includes a second element. As an administrative action intended to improve the clarity of its rules, DEQ has included rulemaking on a second topic in this rulemaking. This action involves DEQ's noise control regulations, found at OAR 340, division 35.

In 1991 the Oregon Legislature withdrew all funding for implementing and administering DEQ's noise regulations. DEQ therefore ended its noise control program, although the noise control regulations remain in effect. In response to budget reductions, DEQ no longer conducts a noise control program or enforces the noise control regulations. DEQ has no funding or program to respond to noise complaints, to provide advice about noise issues or to interpret the noise regulations. Local governments may choose to enforce the noise regulations.

The changes DEQ is proposing for the noise regulations are purely administrative to make it easier for the public to access information about these rules. These changes do not indicate any change in DEQ policy or practice concerning the noise regulations. DEQ still does not have a noise control program or have funding or the ability to enforce, apply or interpret the noise regulations or to investigate noise issues or complaints.

The noise control regulations refer to a number of tables and external documents. Currently, those documents are not published with the official version of the rules on the Oregon Secretary of State web page. Instead, DEQ maintains those documents on its own web site.

In this rulemaking DEQ is asking EQC to approve amendments to the noise regulations that only incorporate directly into the rules the tables and documents the rules already refer to. This will make it easier for users of these rules to find the information they need to interpret and apply the rules. It will also relieve DEQ from the cost and responsibility of maintaining these documents on its web site.

This rule change does not change any content or wording of the noise control regulations. There is no change in the meaning, effect or application of these rules. There is also no negative fiscal impact to any person or entity from this rule change.

Brief history – Ballast water

Commercial ships are designed to travel at full cargo capacity and routinely transfer water from ambient surroundings into dedicated ballast tanks in order to maintain optimal stability. The transfer and subsequent discharge of ballast water from one port to another is a leading contributor to aquatic invasive species introductions and their associated risks to the environment, economy and human health.

Oregon established ballast water management regulations in 2001 to prohibit commercial vessels from discharging ballast to state waters unless the discharge meets specified management criteria. The primary ballast management practice available to mariners has been mid-ocean ballast water exchange. This strategy replaces ballast originally sourced from distant coastal and nearshore port environments, representing a high-risk for transporting aquatic invasive species, with lower-risk water sourced from the open ocean. Ballast exchange reduces the risk of transporting non-indigenous species from other freshwater ports to Oregon's freshwater ports in two important ways: by significantly reducing the number of near-shore organisms in discharged ballast and by causing high mortality to any remaining freshwater or brackish organisms in the tanks via osmotic shock. In addition to other management options, such as retaining ballast while in port or using a municipal water supply, the use of a Coast Guard-approved shipboard ballast water treatment system is also identified as an acceptable management method. However, until recently, technology was still in development and the Coast Guard had not established numerical standards or technology certification criteria to guide implementation of treatment–based strategies. In recent years Oregon has been closely monitoring the development of ballast discharge standards at state, federal and international levels to determine whether state-specific discharge standards are necessary, or whether adopting federal standards adequately protects Oregon waters.

In 2009, the Oregon Legislature clarified authority for EQC to adopt by rule standards and procedures to minimize the risk of introducing aquatic invasive species from ballast discharged to state waters under House Bill 2714. The legislature also created the Shipping Transport of Aquatic Invasive Species Task Force. This group represents a range of stakeholders and makes recommendations to the state on matters related to ballast water management for commercial vessels transiting Oregon waters.

Based on developments at the international and federal level, the Shipping Transport of Aquatic Invasive Species Task Force recommended in 2010 that Oregon wait for final determination of federal ballast water discharge standards before deciding whether state specific discharge standards are necessary. At that time, federal authorities were considering whether to adopt standards for the numerical limits on living organisms in discharged ballast comparable to those California established in 2007 or the considerably less protective standards established by the International Maritime Organization's 2004 Ballast Water Management Convention.

The 2012 Coast Guard's final rule on ballast water management established numeric standards for discharging living organisms in ballast discharge by adopting the less protective standards the International Maritime Organization established. EPA also adopted the less protective standards within the 2013 NPDES Vessel General Permit. However, the U.S. 2nd Circuit Court of Appeals ruled in October 2015 that the EPA's reliance on the International Maritime Organization standard was arbitrary and capricious.

Of particular interest to Oregon, the EPA noted in issuing the 2013 Vessel General Permit that relying upon first generation shipboard treatment systems certified to meet the International Maritime Organization standard may not represent an improvement over

ballast water exchange for protecting freshwater ports from further aquatic invasive species damages. Rather, for voyages that source ballast from low-salinity environments, replacing ballast water exchange with shipboard treatment systems could increase the chance of transporting and releasing non-indigenous species that represent a high-risk for invasion to freshwater ecosystems.

To achieve an adequate protection level, EPA proposed retaining ballast exchange requirements, in addition to imposing the new ballast treatment standards, for ocean-going vessels that enter the Great Lakes/St. Lawrence system with low-salinity water in their ballast tanks. Based upon similar concerns, DEQ submitted comments to EPA strongly encouraging the adoption of 'exchange + treatment' for all freshwater harbors in the U.S, and in particular the low-salinity ports in Oregon. EPA issued the final permit with 'exchange plus treatment' requirements only for vessels operating in the Great Lakes. As a result of the implementation of these federal policies, Coast Guard-certified shipboard treatment systems can now be used in place of ballast water exchange to meet ballast water management requirements under OAR 340-143-0050.

In response to the federally mandated changes in ballast water management, the states of Maine, Rhode Island, New York, Minnesota and Michigan established 401 certification conditions to the 2013 EPA Vessel General Permit that require all vessels to retain ballast water exchange in addition to meeting federal discharge standards, regardless of ballast water origin salinity levels. Also, Canadian authorities announced the intention of adopting the International Maritime Organization D-2 discharge standards, but with additional provisions requiring 'exchange + treatment' for ballast discharged to low-salinity ports, including those of the Pacific Coast such as the Fraser River.

In response to these developments, DEQ has been working with the task force to evaluate efficacy of the federal discharge standards for preventing aquatic invasive species introductions to Oregon. Task force stakeholders sought to develop consensus recommendations based on compatibility with federal regulations and regional consistency with neighboring states. Task force recommendations resulted in the passage of House Bill 2207 which established and clarified EQC rulemaking authority to revise ballast water management regulations for high-risk voyages to Oregon waters.

Regulated parties

Ballast Water

The proposed amendments to OAR 340-143 do not change the regulated parties.

Noise Regulations

The proposed amendments do not change the regulated parties or the compliance requirements in any way.

Request for other options

During the public comment period, DEQ requested public comment on whether to consider other options for achieving the rules' substantive goals while reducing any potential negative economic impact on business resulting from the rules.

Ballast Water

Management of Empty Ballast Tanks

What need would the proposed rule address?
The need is to reduce the invasive species transfer risk associated with residual ballast water and sediments in 'empty' ballast tanks that may be used for ballasting and subsequent de-ballasting while in state waters.

How would the proposed rule address the need?
The proposed rule requires vessel operators to conduct a mid-ocean saltwater flush of empty ballast tanks that they want to use for ballasting and subsequent de-ballasting while in port.

How will DEQ know the rule addressed the need?
Mid-ocean saltwater flushing of an empty ballast tank will result in residual water salinity of at least 30 parts per thousand and thereby will significantly reduce the probability for introducing high-risk species to the low-salinity environments of Oregon ports. This minimum salinity criterion can be used for compliance verification purposes.

Retaining Ballast Water Exchange

What need would the proposed rule address?
There are concerns that new management practices established by federal requirements could, under some circumstances, represent a lower efficacy for preventing AIS transport to low-salinity ports in Oregon than current mid-ocean ballast exchange management practices.

How would the proposed rule address the need?
The rules would retain ballast water exchange, in addition to treatment requirements ('exchange + treatment), for a subset of vessel arrivals to Oregon that represent a high risk for transporting AIS.

How will DEQ know the rule addressed the need?
Vessel inspections by DEQ staff, including sampling of ballast tank water for a minimum salinity, provides opportunity to verify compliance with elements of the proposed rule, as well as other ballast management criteria. The ballast water program at DEQ currently has the capacity to inspect approximately 15% of vessel arrivals to Oregon. Inspections are prioritized for vessel arrivals that represent a higher risk for transporting AIS to Oregon waters, such as the vessel arrivals that would be subject to the proposed rule. Compliance verification sampling of vessels subject to the rule, combined with ongoing evaluation of

ballast water treatment system efficacy and monitoring for new non-indigenous species in Oregon waters, will inform DEQ's evaluation of the new rule and a determination of whether it is needed beyond the proposed expiration date in 2025.

Noise Tables

What need would the proposed rule address?
The rules are currently difficult for users to read, interpret and apply because the necessary information contained in tables and reference documents is not published in the same location as the rules.

How would the proposed rule address the need?
The amendments move tables and reference documents from a source that is external to the official published version of the rules and incorporates those documents into the official published version of the rules.

How will DEQ know the rule addressed the need?
The external documents will have been incorporated into the official published version of DEQ's rules.

Rules affected, authorities, supporting documents

Ballast Water Rules

Lead division

Operations Division

Program or activity

Ballast Water Management

Chapter 340 action

Amend

OAR 340-143-0005, 340-143-0010, 340-143-0050

Statutory authority

ORS 468.020, 783.620 – 783.640

Statute implemented

ORS 783.620 – 783.640

Legislation

Other authority

Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA - Section 1205) (codified as 16 U.S.C. § 4725)

Documents relied on for rulemaking

Document title	Document location
Oregon Task Force on Shipping Transport of Aquatic Invasive Species – Report to the 2015 Legislature	OTF Report
EPA VGP 2013	EPA VGP 2013
Transport Canada Policy Implementation Paper 2012	Transport Canada 2012 Implementation Paper
Briski, E., Gollasch, S., David, M., Linley, R. D., Casas-Monroy, O., Rajakaruna, H., & Bailey, S. A. (2015). Combining ballast water exchange and treatment to maximize prevention	Combining ballast water exchange

of species introductions to freshwater ecosystems. *Environmental science & technology*, *49*(16), 9566-9573.	
Bailey, S. A., Deneau, M. G., Jean, L., Wiley, C. J., Leung, B., & MacIsaac, H. J. (2011). Evaluating efficacy of an environmental policy to prevent biological invasions. *Environmental Science & Technology*, *45*(7), 2554-2561.	Evaluating efficacy of environmental policy
Briski, E., Allinger, L. E., Balcer, M., Cangelosi, A., Fanberg, L., Markee, T. P. & Regan, D. H. (2013). Multidimensional approach to invasive species prevention. *Environmental science & technology*, *47*(3), 1216-1221.	Multidimensional approach
Gray, D. K., Johengen, T. H., Reid, D. F., & MacIsaac, H. J. (2007). Efficacy of open-ocean ballast water exchange as a means of preventing invertebrate invasions between freshwater ports. *Limnology and Oceanography*, *52*(6), 2386-2397.	Efficacy of open ocean ballast water exchange
Bradie, J. N., Bailey, S. A., Van Der Velde, G., & MacIsaac, H. J. (2010). Brine-induced mortality of non-indigenous invertebrates in residual ballast water. *Marine Environmental Research*, *70*(5), 395-401.	Brine induce mortality
Gollasch, S., David, M., Voigt, M., Dragsund, E., Hewitt, C., & Fukuyo, Y. (2007). Critical review of the IMO international convention on the management of ships' ballast water and sediments. *Harmful algae*, *6*(4), 585-600.	Critical review of the IMO convention
Ruiz, G.M, & Reid, D.L. (2007). Current State of Understanding about the Effectiveness of Ballast Water Exchange (BWE) in Reducing Aquatic Nonindigenous Species (ANS) Introductions to the Great Lakes Basin and Chesapeake. NOAA Technical Memorandum GLERL-142.	Current state of understanding
Simkanin, C., Davidson, I., Falkner, M., Sytsma, M., & Ruiz, G. (2009). Intra-coastal ballast water flux and the potential for secondary spread of non-native species on the US West Coast. *Marine Pollution Bulletin*, *58*(3), 366-374.	Intra-coastal ballast water flux

Noise Control Regulations

Lead division

Operations Division

Program or activity

Rulemaking

Chapter 340 action

Amend

OAR 340-035-0015, 340-035-0025, 340-035-0030, 340-035-0035, 340-035-0040, 340-035-0045

Statutory Authority

ORS 467

Statutes Implemented

ORS 467.030.

Documents relied on for rulemaking

None

Fee Analysis

This rulemaking does not involve fees.

Statement of fiscal and economic impact

Fiscal and Economic Impact

Ballast Water Rules

This rulemaking amends invasive species prevention practices required of commercial vessels greater than 300 gross tons that intend to discharge ballast water while operating in state waters. Large foreign businesses own and operate the vast majority of affected vessels. The proposed rules do not involve a significant cost of compliance for these foreign businesses and are not expected to have any indirect effects on local businesses that depend on maritime commerce. As proposed, the rules affecting management of empty ballast tanks (340-143-0010) are in essence the same as preexisting federal requirements. And the 'exchange plus treatment' requirement is specifically tailored to only target high-risk voyages carrying low salinity ballast water. This is less than 11% of all vessel arrivals according to DEQ estimates.

Noise Table Rules

This rulemaking makes no wording or substantive change to DEQ's noise regulations and therefore has no fiscal impact on any person or entity.

Statement of Cost of Compliance

State and federal agencies

Ballast Water Rules

This rulemaking will not require additional resources for the Department of Environmental Quality, nor other state or federal agencies.

Noise Table Rules

This rulemaking makes no wording or substantive change to DEQ's noise regulations and therefore has no fiscal impact on any person or entity.

Local governments

Ballast Water Rules

These rules would not impose a negative economic impact on local governments. Rather, these rules are intended to protect the general public by preventing the introduction of aquatic invasive species which have caused devastating economic impacts for public and private sector entities in other regions of the country.

Noise Table Rules

This rulemaking makes no wording or substantive change to DEQ's noise regulations and therefore has no fiscal impact on any person or entity.

Public

Ballast Water Rules

These rules would not impose a negative economic impact on the general public. Rather, these rules are intended to protect the general public by preventing the introduction of aquatic invasive species, which have caused devastating economic impacts for public and private sector entities in other regions of the country.

Noise Table Rules

This rulemaking makes no wording or substantive change to DEQ's noise regulations and therefore has no fiscal impact on any person or entity.

Large businesses - businesses with more than 50 employees

Ballast Water Rules

DEQ does not anticipate any significant economic impact for large businesses operating in Oregon as a result of the proposed rules. The proposed rules do not impose fees or require the use or installation of new equipment or management practices for regulated vessels. For those vessel operators that the proposed rule revisions affect, cost of compliance may involve a minor increase in operational costs of shipboard treatment systems if a bypass option is not available for initial uptake of ballast water, prior to conducting mid-ocean ballast exchange.

Noise Table Rules

This rulemaking makes no wording or substantive change to DEQ's noise regulations and therefore has no fiscal impact on any person or entity.

Small businesses – businesses with 50 or fewer employees

Ballast Water Rules

DEQ does not anticipate any significant economic impact as a result of the proposed rules. DEQ's state ballast water management regulations establish a minimum vessel size criteria of less than 300 gross tons with ballast tanks and exemptions for commercial fishing vessels so that no small businesses are subject to these rules. Moreover, the proposed rules do not establish fees or require new operational practices to manage ballast water. Therefore, under normal operational conditions, the rules would not impose significant economic impacts, either directly or indirectly, on any small businesses.

a. Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule.	This rulemaking has no fiscal impact on small businesses.
b. Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule.	None.
c. Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule.	None.
d. Describe how DEQ involved small businesses in developing this proposed rule.	See discussion below.

Noise Table Rules

This rulemaking makes no wording or substantive change to DEQ's noise regulations and therefore has no fiscal impact on any person or entity.

a. Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule.	This rulemaking has no fiscal impact on small businesses.
b. Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule.	None.
c. Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule.	None.
d. Describe how DEQ involved small businesses in developing this proposed rule.	N/A

How DEQ involved small businesses in developing this rule

Ballast Water Rules

Large companies headquartered outside of Oregon own greater than 95% of the vessels ORS 783.620 through 783.640 regulate. There are a limited number of local businesses that operate regulated vessels, and those that do, ocean going tug and barge operations, have more than 50 employees. To incorporate a broader perspective on potential economic impacts to other non-regulated businesses, DEQ relied on advisory committee members representing the general maritime industry for Oregon ports. This included representatives from the Port of Portland, the Columbia River Steamship Operators Association, Sause Brothers Ocean Towing, and the Western States Petroleum Association.

Noise Table Rules

This rulemaking makes no wording or substantive change to DEQ's noise regulations and therefore has no fiscal impact on any person or entity.

Documents relied on for fiscal and economic impact

None.

Advisory committee

DEQ appointed an advisory committee.

As ORS 183.33 requires, DEQ asked for the committee's recommendations on:

- Whether the proposed rules would have a fiscal impact,
- The extent of the impact, and
- Whether the proposed rules would have a significant impact on small businesses and complies with ORS 183.540.

The committee reviewed the draft fiscal and economic impact statement and its findings are stated in the approved minutes dated February 29, 2016. The committee determined the proposed rules would not have a significant adverse impact on small businesses in Oregon.

Housing cost

Ballast Water Rules

As ORS 183.534 requires, DEQ evaluated whether the proposed rules would have an effect on the development cost of a 6,000-square-foot parcel and construction of a 1,200-square-foot detached, single-family dwelling on that parcel. DEQ determined the proposed rules would have no effect on the development costs because the rules only affect commercial vessels discharging ballast water that had been sourced from outside state water and the changes to regulations do not impose significant changes in operational costs or investment.

Noise Table Rules

As ORS 183.534 requires, DEQ evaluated whether the proposed rules would have an effect on the development cost of a 6,000-square-foot parcel and construction of a 1,200-square-foot detached, single-family dwelling on that parcel. DEQ determined the proposed rules would have no effect on the development costs because the changes to the noise rules are administrative only and have no substantive effect.

Federal relationship

Ballast Water Rules

Relationship to federal requirements

ORS 183.332, 468A.327 and OAR 340-011-0029 require DEQ to attempt to adopt rules that correspond with existing equivalent federal laws and rules unless there are reasons not to do so.

To address risks associated with empty ballast tanks, the proposed rules (OAR 340-143-0010) adopt management requirements that are substantively equivalent to federal requirements established under section 2.2.3.6.3 of the 2013 EPA NPDES Vessel General Permit. Adopting these requirements under Oregon law would facilitate compliance verification inspections and enforcement by DEQ staff. These are functions that EPA generally does not have current capacity for conducting for vessel arrivals to Oregon waters.

Proposed rules to retain ballast water exchange practices for a subset of high-risk vessel arrivals (340-143-0050) would add requirements additional to those in federal requirements for vessels calling on Oregon waters. Instead of being able to forego ballast water exchange practices once a vessel is equipped with a federally approved shipboard treatment system, vessels undertaking high-risk voyages would be required to carry out ballast exchange, in addition to meeting numeric discharge standards. The rules are substantively equivalent, however, to federal requirements established under section 2.2.3.7 of the 2013 EPA NPDES Vessel General Permit. That provision requires vessels entering the Great Lakes to retain ballast water exchange practices.

What alternatives did DEQ consider if any?

In addition to a 'no-action' alternative, DEQ also considered adopting a state-specific ballast water discharge standard that is more protective than what has been established by federal regulations. For example, California's ballast water discharge standard is roughly 100x more stringent than the federal standard.

In dealing with regulated parties that are mobile entities operating in many jurisdictions, there are many challenges associated with adopting a state-specific discharge standard that is more protective than a federal standard. Besides determination of technology availability to meet the higher standard, it would also likely involve additional equipment investments for vessel operators beyond the federal requirement.

In contrast, the proposed rule is compatible within the framework of implementing federal discharge standards but does not require any additional equipment or technological investments. Rather, it simply requires that under some voyage conditions, vessel operators are required to conduct ballast exchange, the same management practice that has been required for the past 15 years, in addition to meeting the new federal discharge standards.

In order to adequately protect Oregon waterways from aquatic invasive species introductions, the proposed rules were modeled after the existing regulations that EPA developed for protecting the Great Lakes. Scientific studies have shown that the 'exchange plus treatment' strategy is highly effective at protecting freshwater ports from the economic, ecological and human health threats that can be associated with aquatic invasive species. DEQ, in consultation with stakeholders, determined that the strategy adopted for protecting the Great Lakes, and similarly adopted by states of MI, MN, MA, NY, and RI, will be a sufficiently protective strategy for the predominantly low-salinity ports of Oregon.

In the absence of additional prevention strategies targeting high-risk voyages, studies suggest that the new technology based strategies required under federal regulations could, under some circumstances, represent an increased threat for aquatic invasive species compared to ballast water exchange. Therefore, DEQ rejected the 'no-action' alternative.

Noise Regulations

Relationship to federal requirements

The proposed amendments make no substantive changes to the rules and therefore do not conflict with or duplicate federal requirements.

What alternatives did DEQ consider if any?

DEQ did not consider any alternatives because the proposed amendments do not make any substantive changes to the rules.

Land Use

Land-use considerations

In adopting new or amended rules, ORS 197.180 and OAR 340-018-0070 require DEQ to determine whether the proposed rules significantly affect land use. If so, DEQ must explain how the proposed rules comply with state wide land-use planning goals and local acknowledged comprehensive plans.

Under OAR 660-030-0005 and OAR 340 division 18, DEQ considers that rules affect land use if:

- The statewide land use planning goals specifically refer to the rule or program, or
- The rule or program is reasonably expected to have significant effects on:
  - Resources, objectives or areas identified in the statewide planning goals, or
  - Present or future land uses identified in acknowledged comprehensive plans

To determine whether the proposed rules involve programs or actions that affect land use, DEQ reviewed its Statewide Agency Coordination plan, which describes the DEQ programs that DEQ determined significantly affect land use. DEQ considers that its programs specifically relate to the following statewide goals:

Goal	Title
5	Open Spaces, Scenic and Historic Areas, and Natural Resources
6	Air, Water and Land Resources Quality
9	Ocean Resources
11	Public Facilities and Services
16	Estuarial Resources

Statewide goals also specifically reference the following DEQ programs:

- Nonpoint source discharge water quality program – Goal 16
- Water quality and sewage disposal systems – Goal 16
- Water quality permits and oil spill regulations – Goal 19

Determination

DEQ determined that these proposed rules do not affect land use under OAR 340-018-0030 or DEQ's State Agency Coordination Program.

Advisory committee

Background

DEQ convened the Ballast Water Rulemaking 2016 advisory committee. The committee included representatives from local and regional maritime industry entities, advocacy groups, research institutions, and state, regional and federal agencies. The committee met four times between December 2015 and March 2016, and held a fourth meeting in October 2016 during the final open public comment period. The committee's web page is located at: Ballast Water Rulemaking Advisory Committee.

The committee members were:

Name	Representing
Mark Sytsma, Chair	Portland State University
Jas Adams	Willamette University, State Marine Board
Michelle Hollis	Port of Portland
Frank Holmes	Western States Petroleum Association
Ross McDonald	Sause Bros
Hans Meere	EGT, LLC
Fred Myer	Port of Portland
Amanda Hanson	Lower Columbia River Estuary Partnership
Kate Mickelson	Columbia River Steamship Operators Association
Dick Vander Schaaf	The Nature Conservancy
Travis Williams	Willamette Riverkeeper
Rick Boatner	OR Dept. Fish and Wildlife
Nicole Dobroski	CA State Lands Commission
Robyn Draheim (Alt: Craig Rowland)	U.S. Fish and Wildlife Service
Michael Pearson	U.S. Coast Guard
Allen Pleus	WA Dept. Fish and Wildlife

Meeting notifications

To notify people about the advisory committee's activities, DEQ:

- On Jan. 12, 2016, Feb. 17, 2016, and Oct. 10, 2016, sent GovDelivery bulletins, a free e-mail subscription service, to the following lists:
    - Rulemaking (6969)
    - Ballast Water (24)
- Added advisory committee announcements to DEQ's calendar of public meetings at DEQ Calendar.
- Provided news release statements announcing advisory committee meeting details
- Provided notice of meetings and links to committee information through postings on Facebook and Twitter.

Committee discussions

In addition to the recommendations described under the Statement of Fiscal and Economic Impact section above, the committee devoted a significant proportion of its time to discussing the ballast exchange plus treatment proposal. The advisory committee, as well its precursor the 2014 Task Force on Shipping Transport of Aquatic Invasive Species, played an instrumental role in identifying a solution that is practicable within the broad framework of global shipping but also locally tailored to address targeted threats to local resources. Specifically, the committee guided the determination to adopt an 'exchange plus treatment' model based on the EPA Vessel General Permit for the Great Lakes, rather than more stringent models that have been adopted or proposed in other jurisdictions. Generally, committee members representing maritime industry interests believed that the 'exchange plus treatment' strategy proposed here only needs to be required of voyages representing a high-risk for introducing AIS to Oregon waters, which is approximately 10.7% of arrivals, and does not need to be applied to all vessel operators discharging ballast. Some other jurisdictions have adopted this strategy.

Although regional consistency is an important guiding objective for most advisory committee members, the committee recognized that the predominance of low-salinity ports in Oregon compared to neighboring states provides greater incentive for Oregon to take the initiative to first establish a model regulatory solution for these circumstances. Both Washington, for the Columbia River, and California, for the Sacramento River, have suggested that they will be looking to adopt rules that are substantively comparable to what has been developed for this rulemaking effort.

Moreover, the committee's participation was important in developing detailed exemptions that will make the regulations more adaptable to rapidly evolving shipboard treatment technologies.

In order to facilitate further discussion and full transparency with all stakeholders, DEQ convened a fourth meeting on October 10 during the final open public comment period. This meeting provided an opportunity for DEQ to identify revisions to the proposed rules that were being considered based on comments received during earlier public

comment periods, and for all stakeholders to identify their support or concerns. In particular, the advisory committee was able to further discuss individual members' positions on the 'exchange + treatment' proposal and specific elements related to defining criteria, exemptions, sunset date, and regional coordination with neighboring states. In addition, DEQ was able to present results from a re-analysis of anticipated vessel arrivals that would be affected by the proposed rule, made at the request of industry representatives during the second public comment period, using updated and more robust data sets that had recently become available. These results showed that an estimated 8.8 percent of vessel arrivals to Oregon may be subject to the 'exchange + treatment' requirement. This is less than the 10.7 percent estimated in earlier analyses. It is also important to note that the modeled data used for the updated analysis is highly conservative in estimating which San Francisco Bay ports may have low-salinity conditions where uptake of ballast may be subject to the proposed rule. As a result, the percentage of vessels affected is likely to be less than 8.8 percent.

Meeting minutes and recordings are available by request from DEQ or from the advisory committee webpage at: Ballast Water Rulemaking Advisory Committee.

EQC prior involvement

DEQ shared general information with EQC about this rulemaking proposal in the monthly Director's Report for the August 2016 EQC meeting in Boardman, Oregon.

DEQ did not present additional information specific to this proposed rule revision.

Public Notice

DEQ provided notice of the proposed rulemaking and hearing by:

- Filing with Secretary of State for publication in the May 1, 2016 *Oregon Bulletin*
- Posting notice on the DEQ rulemaking web page: Ballast Water 2016 Rulemaking Web Page
- On April 11 and 12, 2016, sending email notices through GovDelivery to the following subscriber lists:
    - Rulemaking (6969 subscribers)
    - DEQ Public Notices (1008 subscribers)
    - Ballast Water Management (24 subscribers)
- Issuing a press release
- Emailing the following key legislators:
    - Senator Edwards (as Chair of Environment and Natural Resources Committee)
    - Representative Witt (as Chair of Agriculture and Natural Resources Committee)
    - Senator Roblan (2014/15 legislative liaison to STAIS task force)
    - Representative McKeown (2014/15 legislative liaison to STAIS task force)

DEQ re-opened the comment period on June 20, 2016. DEQ provided notice of this by:

- On June 20, 2016, sending email notices through GovDelivery to the following subscriber lists:

    - Rulemaking (6969 subscribers)
    - Ballast Water (24 subscribers)
    - DEQ Public Notices (1008 subscribers)
- Posting notice on the rulemaking web page: Ballast Water 2016 Rulemaking Web Page
- Issuing a press release

DEQ re-opened the comment period on September 7, 2016. DEQ provided notice of this by:

- On September 7, 2016, sending email notices through GovDelivery to the following subscriber lists:
    - Rulemaking (6969 subscribers)
    - Ballast Water (24 subscribers)
    - DEQ Public Notices (1008 subscribers)
- Posting notice on the rulemaking web page: Ballast Water 2016 Rulemaking Web Page
- Issuing a press release

Request for other options

During the public comment period, DEQ requested public comment on whether to consider other options for achieving the rules' substantive goals while reducing the rules' negative economic impact on business. This document includes a summary of comments and DEQ responses.

Public hearings

DEQ held one public hearing. DEQ received no public comments at the hearing. Later sections of this document include a summary of the 48 comments received during the open public comment period, DEQ's responses, and a list of the commenters. Original comments are on file with DEQ.

Presiding Officers' Record

Hearing 1

Meeting location: Portland, Oregon
Meeting date and time: May 18, 2016; 3 to 5 p.m.
Presiding Officer: Rian vanden Hooff

The presiding officer convened the hearing, summarized procedures for the hearing, and explained that DEQ was recording the hearing. The presiding officer asked people who wanted to present verbal comments to sign the registration list, or if attending by phone, to indicate their intent to present comments. The presiding officer advised all attending parties interested in receiving future information about the rulemaking to sign up for GovDelivery email notices.

As Oregon Administrative Rule 137-001-0030 requires, the presiding officer summarized the content of the rulemaking notice.

Public comment period(s)

DEQ accepted public comments on the proposed rulemaking during three comment periods: April 15 to May 25; June 20 to July 8; and Sept. 7 to Oct. 24, 2016. A summary of the 48 comments received, DEQ's responses, and a list of the commenters is available in the following sections. Original comments are on file with DEQ.

Summary of comments and DEQ responses

Sixteen commenters provided 48 individual comments during open public comment periods. The comments have been organized into 11 categories, with cross references to commenter numbers identified in a table in the next section. DEQ's response follows the summary. Original comments are on file with DEQ.

1. **Comment 1**
   General response to DEQ's substantive goal of preventing the transfer of non-indigenous species to Oregon by maintaining ballast water exchange requirements (under 340-143-0050(2)), in addition to implementing new federal ballast water discharge standards that require the use of shipboard ballast water treatment systems.

   DEQ received comments in this category from all 16 commenters identified in the *Commenters* table below.

   Commenters #1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14 support the rationale and justification for maintaining mid-ocean ballast water exchange practices for voyages discharging high-risk ballast to low-salinity ports in Oregon. Multiple commenters noted the economic and ecological threats posed to Oregon and regional watersheds by aquatic invasive species and concerns that new federal discharge standards have not been shown to be adequately protective for freshwater ports.

   Commenters #4, 15, and 16 argue that 'exchange + treatment' is unwarranted at this time and have questioned whether sufficient proof exists to demonstrate that it will have appreciable benefits. These commenters are concerned that the proposed rule would establish an inconsistent regulatory framework that could discriminate against Oregon's maritime industry. The commenters would prefer that DEQ postpone rulemaking efforts until after finalization of the next EPA Vessel General Permit in December 2018 in order to ensure consistency with 'exchange + treatment' policies adopted by EPA (for the Great Lakes) and some east coast states, and to allow for further coordination toward consistent policies amongst west coast states.

   Response:
   DEQ agrees with the majority of commenters, the EPA, and multiple states of the Great Lakes and east coast regions that maintaining ballast exchange has proven to be a valuable strategy for preventing the transfer of aquatic invasive species. This is particularly true when ballast is being transferred from low-salinity source conditions to low-salinity ports. Ocean-going commercial vessels have been using ballast exchange as the predominant strategy to meet ballast requirements for more than 15 years. A significant decline in the introduction of new non-indigenous species to North America ports over the past two decades is largely attributed to these management efforts. New federal ballast discharge standards are ushering in a new era of ballast management that aims to replace ballast exchange with shipboard ballast treatment systems, despite concerns that under some circumstances discharge meeting

the new discharge standards could represent a greater risk for introducing aquatic invasive species than under ballast exchange, alone.

Although DEQ believes that implementing numeric discharge standards promises to eventually provide a more standardized and protective one-size-fits-all ballast management strategy, the department maintains that the new federal policies are not sufficiently protective. In addition to concerns regarding the stringency of the federally adopted numeric ballast discharge standard we are concerned that some of the treatment systems currently approved for use have not been adequately tested for all environmental conditions, including low-salinity and high-turbidity. Also, the reliability of first-generation technology to perform consistently and under heavy use operational conditions in the marine environment has not been verified. In response to these federal policies that primarily aim to improve AIS prevention for marine ports – and because ballast discharge operations to Oregon waters occur predominantly to low-salinity environments - DEQ recommends that EQC adopt an 'exchange + treatment' strategy (modeled after other jurisdictions) as a temporary measure until shipboard treatment systems can be enhanced or verified as an effective strategy for low-salinity conditions.

Based on the above reasons, DEQ disagrees with commenters #4, 15 and 16's suggestion that 'exchange + treatment' is unwarranted for protecting Oregon waters at this time. Use of first-generation shipboard treatment systems meeting the federal discharge standard has been increasing over the past three years and is expected to increase dramatically in September 2017 following implementation of the International Maritime Organization Convention on Ballast Water Management. DEQ is concerned that use of these first-generation systems, without ballast water exchange, could increase AIS threats to Oregon waters under some circumstances. Since the establishment of 'exchange + treatment' requirements by EPA and other states, scientific studies have provided additional supporting evidence that this strategy results in the discharge of fewer high-risk organisms to low-salinity ports than scenarios where vessels implement a 'treatment-only' strategy for ballast management (Briski et al. 2015).

The same commenters' suggest that the department should postpone rulemaking efforts to wait for the next issuance of the EPA Vessel General Permit, in case there is a repeal or modification to the 'exchange + treatment' regulations for vessels operating in the Great Lakes. However, since the EPA established 'exchange + treatment in 2013, scientific results have only supported, and not refuted, the value of 'exchange + treatment' for protecting low-salinity ports. Due to this scientific support and because DEQ has no indication that EPA or individual states will be retracting 'exchange + treatment' provisions during re-issuance of the Vessel General Permit in 2018, DEQ disagrees with the commenters rationale for postponing the proposed rule. In addition, communications from other west coast ballast water management jurisdictions during this rulemaking process indicate that regional consistency on the topic of 'exchange + treatment' is attainable following Oregon adoption of these rules, and therefore further reduces the likelihood that Oregon

would be alone in requiring 'exchange + treatment' practices for some voyage conditions.

2. **Comment 2**
   Salinity criteria used to determine which vessel ballast tanks are affected by the 'exchange + treatment' proposal under 340-143-0050(2).

   DEQ received seven comments in this category from commenters #1, 2, 4, 9, 13, 15, and 16 identified in the *Commenters* table below.

   Commenters #1, 2, 9, and 13 suggest that DEQ should revise the proposed rule to be more protective of Oregon waters by requiring 'exchange + treatment' for all ballast discharge to state waters, regardless of source water salinity conditions. Various states have adopted this alternative model for 'exchange + treatment' implementation under their 401 certification conditions to the 2013 EPA Vessel General Permit (MA, MI, MN, NY, RI, and WI), and these commenters suggest Oregon should adopt a comparable strategy. Moreover, commenters suggest that this model simplifies enforcement and vessel operator implementation by eliminating potential confusion over salinity conditions at source and discharge locations.

   Commenters #4, 15 and 16 suggest that if DEQ is unwilling to delay implementation of 'exchange + treatment' that it should be done in a manner that only applies to vessels that have taken on ballast with salinity less than 18 parts per thousand and is therefore consistent with 'exchange + treatment' regulations EPA established under the 2013 Vessel General Permit for vessels voyaging into the Great Lakes.

   Response:
   DEQ declines to apply 'exchange + treatment' requirements for all ballast discharged to Oregon waters, regardless of source water salinity levels, and has retained the proposed criteria which is the preferred alternative of commenters #4, 15, and 16.

3. **Comment 3**
   Identifying criteria of the receiving environment (e.g. geographic location, salinity threshold, etc.) that is used to determine whether 'exchange + treatment' requirements proposed under 340-143-0050(2) are required prior to the discharge of ballast water.

   DEQ received comments in this category from commenters #1, 2, 3, 4, 7, 9, 13, 15, and 16 identified in the *Commenters* table below.

   Commenters #4, 15, and 16 requested that if DEQ is unwilling to delay rulemaking that the final rule provide greater specificity for circumstances within waters of the state where 'exchange + treatment' requirements may apply. Rather than applying the 'exchange + treatment' requirement to discharge of all ballast to state waters that was sourced from low-salinity environments, they would prefer that it be more specifically defined in rule to freshwater and low-salinity locations within state waters that receive ballast discharge.

Commenters #1, 2, 9 and 13 generally indicate a preference for applying 'exchange + treatment' requirements to all ballast discharge to Oregon, regardless of receiving port salinity conditions. Comments from these entities and others during the advisory committee discussions suggested that if greater specificity of rule language is necessary than it should be based on salinity conditions at the time and location of discharge, not on river mile markers, because fixed locations experience wide ranging salinity variability due to tides and seasonality of river discharge.

Response:

According to ballast management data reported to DEQ, essentially all ballast discharge to Oregon by regulated vessels occurs at locations that are deemed to exhibit low-salinity surface water conditions during some if not all of the year. Therefore, defining greater specificity of locations within the state subject to the rule, either by river mile of major ports or by salinity threshold, is expected to have little to no effect on the amount of ballast discharge that may be subject to the 'exchange + treatment' proposal. Because the difference in approaches is semantic, the proposed rule language was preferred by DEQ for clarity and simplicity of communication and outreach.

In response to comments received, however, DEQ has revised the proposed rule to provide greater specificity for low-salinity areas of Oregon that are likely to receive ballast water discharge from regulated vessels. In order to strike a balance between the various commenter requests, preserve the intent of preventing the discharge of low-salinity ballast to low-salinity receiving environments, and establish rule language that can be easily communicated to regulated entities, the rule has been revised to require 'exchange + treatment' for vessel ballast discharge to the waters of the Columbia River, Coos Bay, and Yaquina Bay. The Columbia River has low-salinity surface water conditions out to the mouth and beyond, at least during ebb-tide conditions, throughout the year. Coos Bay surface waters exhibit low-salinity conditions out to the mouth under some ebb tide conditions during heavy river flow conditions, but routinely are low-salinity in the mid-to-upper bay locations where most vessel terminals and ballast discharge occur. In light of proposals to re-open the international terminal in Yaquina Bay, which may result in new ballast discharge activity from regulated vessels, and the fact that tidal and seasonal variability produce low-salinity conditions through much of the year, the revised rule would also require 'exchange + treatment' for vessels that are transporting low-salinity ballast to that port. Although fixed locations defined by river mile, as suggested by commenters #4, 15, and 16, provide additional clarity, DEQ found that salinity values fluctuate substantially at these locations and as such it would be arbitrary with respect to environmental protection intent of the rule. In addition, DEQ found that establishing the criteria based on receiving environment salinity at the time of discharge, as suggested by commenter #1, would result in additional and unnecessary potential for confusion and uncertainty by vessel operators to determine whether or not the 'exchange + treatment' rule applied to their ballast discharge events.

4. **Comment 4**
   Suggested changes to the proposed rule that are technical or editorial in nature aimed at greater clarity of the final rule.

   DEQ received comments in this category from commenters #6, and 10 identified in the *Commenters* table below.

   Commenter #6 suggested removing 'sediments' because it is already included in the definitions associated with the content of ballast tanks and because verification of ballast tank sediment salinity can be challenging for typical vessel inspection and compliance verification activities. Also, commenter made sentence structure suggestion related to 'vessel operators unable to verify ballast salinity' to OAR 340-143-0050(2) for clarity and consistency with similar language proposed under OAR 340-143-0010(3).

   Commenter #10 provided word choice and sentence structure suggestions including: using 'must' rather than 'shall'; using 'before' rather than 'prior to'.

   Response:
   DEQ changed the proposed rule according to most of the editorial suggestions by both commenters after determining that the proposed revisions improve clarity and that none of the revisions would have substantive impact on the effect of the rule. In particular, DEQ wanted to accommodate requested changes by commenter #6, where appropriate, in order to further facilitate coordination of consistent regulations between states managing shared waters of the Columbia River.

5. **Comment 5**
   Recommends providing greater specificity for exemptions to the 'exchange + treatment' portion of the rule under OAR 340-143-0050(2)(c).

   DEQ received comments in this category from commenters #4, 7, and 16 identified in the *Commenters* table below.

   Commenters #4 and 16 suggest that if DEQ is unwilling to delay implementing OAR 340-143-0050(2) that DEQ should further clarify language to ensure that exemption allowances are provided for circumstances where requirement to conduct exchange, prior to treatment, may be incompatible with proper use of treatment systems due to vessel design or system configuration. In these cases, vessel operators should be exempt from the exchange portion of the rules management requirements.

   Commenter #7 suggested that DEQ revise exemption language to ensure that exchange not be required under some voyage circumstances where a requirement to conduct exchange, prior to treatment, could result in the inadvertent discharge of toxic biocides to Oregon waters.

   Response:

DEQ has revised the proposed rule in order to address the concerns raised by all commenters in this comment category. Rather than relying solely on existing safety exemption criteria already established under OAR 340-143-0040(2), DEQ has provided additional exemption specificity. DEQ agrees that there may be some circumstances under which ballast treatment system design specifications or piping configurations may not be compatible with conducting exchange prior to treatment. DEQ also recognizes that there may be some treatment systems that require biocide deactivation holding times that are longer than would be feasible for normal vessel operations under a short voyage to an Oregon port. In order to prevent this rule from causing economic impacts due to delayed operations, or from causing inadvertent discharge of active biocides to waters of the state, DEQ agrees with commenter #7 that additional exemption criteria are warranted. Similar to current options for vessel operators to request safety exemptions from ballast management requirements, the revised rule is clear that requests for exemptions under circumstances specific to 340-143-0040(2)(c) will need to be submitted to DEQ for review and approval prior to discharge.

6. **Comment 6**
Recommendations regarding revisions to the sunset date for the 'exchange + treatment' rule proposed under OAR 340-143-0050(2).

DEQ received comments in this category from commenters #4, 15, and 16 identified in the *Commenters* table below.

Commenter #4 noted that if DEQ is unwilling to delay implementation of OAR 340-143-0050(2) that DEQ should repeal the rule in accordance with the EPA re-issuing a new Vessel General Permit in December 2018.

In response to advisory committee discussions during subsequent re-opened comment periods where DEQ noted inadequate rationale to justify a sunset date less than two years after establishment, but a willingness to shorten the sunset date to be in alignment with the 2023 VGP re-issuance, commenter #16 supports revising the repeal date effective December 2023. However, during the final comment period, commenters #15 and 16 also recommended further contingencies that would repeal the rule earlier if the EPA 2018 VGP failed to continue 'exchange + treatment' requirements for vessels operating in the Great Lakes or if California and Washington State fail to implement comparable policies before December 2018.

Response:
DEQ has revised the sunset date for the proposed 'exchange + treatment' requirements under OAR 340-143-0050(2). In response to commenters #4, 15, and 16 request that the repeal data be aligned with 5-year timelines for re-issuing the EPA Vessel General Permit, DEQ has agreed to shorten the sunset date period from January 2025 to December 2023.

DEQ also revised the wording for the sunset date to reflect the fact the DEQ cannot repeal a rule because only EQC may do so. Instead, the revised rule establishes a date beyond which the rule will no longer be in effect.

DEQ has not revised the implementation of 'exchange + treatment' requirements to be contingent upon the actions of other enforcement jurisdictions. Establishing rules that are contingent upon activities in other jurisdictions is problematic for implementation, may cause considerable confusion about whether a regulation is in effect, and is permitted under the Oregon Constitution. DEQ will be closely monitoring any potential changes to the 'exchange + treatment' requirements in the 2018 re-issuance of the EPA Vessel General Permit and in other west coast region jurisdictions. If new developments or evidence suggest that 'exchange + treatment' is no longer practicable for regulated vessels or that Oregon maritime industry interests are at significant economic risk as a result of the proposed rules, DEQ may pursue rulemaking efforts to request that EQC repeal the rule earlier than prescribed by the proposed sunset date. Alternatively, if DEQ fails to respond to such hypothetical circumstances, other parties may petition EQC to repeal the rule. In light of these available options DEQ has not provided additional sunset date revisions to be contingent upon the actions of EPA, California and Washington State.

7. **Comment 7**
   Support for saltwater flushing requirements of empty ballast tanks that will be used for ballasting and subsequent de-ballasting while in state waters.

   DEQ received six comments in this category from commenters #3, 5, 6, 7, 12, and 13 identified in the *Commenters* table below.

   All six commenters indicate support for the proposed rule.

   Response:
   DEQ agrees with and appreciates the comments in support of this proposed rule.

8. **Comment 8**
   Expressing concerns that the absence of rules in Washington State identical to those proposed under OAR 340-143-0050(2) could result in competitive disadvantage circumstances for Oregon maritime industry port facilities.

   DEQ received two comments in this category from commenters #4 and 15 identified in the *Commenters* table below.

   Commenters #4 and 15 suggest that proposed rules under 340-143-0050(2) could discriminate against Oregon's maritime industry unless DEQ postpones rulemaking efforts until it can be assured that neighboring jurisdictions will adopt comparable regulations. They suggest that ocean going vessel operators calling upon the Columbia River may be confused by a regulatory requirement that is established by Oregon but not Washington, and that the scenario could result in complications for

vessels that operate at facilities on both sides of the river. Moreover, they suggest that vessels may choose to discriminate against loading cargo at Oregon facilities and opt to load cargo from facilities on the Washington side of the river in order to avoid circumstances where the proposed rules require a vessel to conduct ballast exchange operations in addition to using shipboard treatments systems to meet federal discharge standards.

Response:
Neighboring states have been closely engaged with Oregon's efforts to develop a regulatory solution aimed at protecting low-salinity ports, and have signaled their intent (commenters #3 and #5) to adopt comparable regulations for their low-salinity ports after regulations have been adopted by Oregon. For Washington State, that would mean adopting regulations that establish consistency with these proposed rules for vessels operating on the shared waters of the Columbia River.

Ballast water programs of west coast states have developed in close coordination over the past 16 years in order to achieve coastwise regulatory consistency whenever possible. On multiple occasions, new ballast water management policies have been developed by stakeholder input and close coordination of state regulators and facilitated by regular meetings of the Pacific Ballast Work Group (PBWG). Then, following the establishment of a model regulation in one of the three states, other jurisdictions can adopt similar regulatory measures that ensure coastwise consistency. Through close coordination and participation on Oregon's STAIS Task Force and rulemaking advisory committee by representatives from neighboring state ballast water programs, we have proceeded in a similar manner for the purpose of developing management solutions for low-salinity ports. For these purposes, Oregon is the state on the west coast with much more at stake with respect to protecting low-salinity port environments because over 97% of ballast discharged to Oregon waters by commercial vessels occurs to ports with surface salinity values below 18 parts per thousand. In contrast, ballast discharge to low-salinity ports in Washington State and California is 48% and 10%, respectively. Therefore, neighboring states who have a different suite of AIS management high-priority concerns have indicated their interest in contributing to the development of low-salinity port strategies for Oregon that can then be adopted in their respective jurisdictions. DEQ recognizes that there is no perfect mechanism for parallel policy adoption in neighboring jurisdictions, but in this case, relevant agencies from both neighboring states have actively contributed to the development of this rule and support its implementation in Oregon so that a comparable policy can then be adopted in their respective jurisdictions (as indicated by commenters #3 and 5).

In order to ensure adequate awareness amongst vessels calling on the Columbia River that may be subject to the propose rules, DEQ will carry out extensive outreach communications with all local vessel agents, maritime organizations that regularly provide regulatory information to vessel operators, and regulated entities that we have communicated with in the past. Communication materials will clearly communicate which voyage circumstances will be subject to the proposed rules and will be widely

distributed at least 30 days prior to the rule effective date. These communications efforts will also be shared with the Pacific Ballast Work Group and with the Washington Department of Fish and Wildlife so that they can incorporate appropriate messaging and information in correspondence with their stakeholders and regulated vessels, where applicable.

9. **Comment 9**

Recommends that DEQ provide more detailed information to support its estimate of the vessel arrivals per year and voyage types to Oregon that may be affected by proposed rule under OAR 340-143-0050(2). Specifically, the commenter asserts that the number of affected vessel arrivals could be higher than DEQ estimated during advisory committee meetings and in the notice of proposed rulemaking.

DEQ received one comment in this category from commenter #4 identified in the *Commenters* table below.

Commenter #4 requested a more detailed list of global ports where salinity is below the 18 part per thousand threshold and suggested that including ports from upper San Francisco Bay may increase the estimate of voyages affected beyond the 10% per year that DEQ had originally forecasted.

Response:

DEQ conducted a new analysis using more robust data sources prior to the October 10 advisory committee meeting and associated public comment period. Rather than relying on data estimates from a 2007 Portland State University masters' thesis, DEQ's more recent analysis used 2013-2015 vessel arrival data and a more robust dataset of global port salinity estimates (Keller et al. 2015). The result of the revised analysis indicates that fewer vessel arrivals are likely to be affected than originally estimated, not more. Originally, DEQ estimated that approximately 10.7% of arrivals to Oregon waters may be required to meet the 'exchange + treatment' requirement, whereas the revised analysis indicates a lower estimate of 8.8%. Also, there are reasons to believe the revised estimate may still be conservatively high because it relied on modeled salinity data for some ports that underestimate surface salinity values at some ports in California, as confirmed by DEQ. Thus, the 8.8% estimate assumes 'exchange + treatment' would be required for multiple vessels traveling to Oregon from some ports where, contrary to the modeled salinity estimates relied upon for the analysis, salinity values are rarely observed below the 18 parts per thousand threshold. The results of the new analysis confirm DEQ's earlier findings that a small minority of vessel arrivals to Oregon waters would be affected by the proposed rule and be required to conduct ballast exchange, in addition to meeting federal discharge standards.

10. **Comment 10**

Recommends that DEQ remove ballast water discharge prohibition exemptions under OAR 340-143-0010(2)(d) that allow vessels transferring ballast within our 'common waters zone,' as defined under OAR 340-143-0005(4), to do so without undertaking

ballast management practices aimed at reducing the risk of transferring invasive species between ports.

DEQ received one comment in this category from commenter #13 identified in the *Commenters* table below.

Commenter #13 suggests that ballast water sourced from ports in close geographical proximity to Oregon should not be exempt from risk-reduction management practices. Specifically, they note that the movement of invasive species is not restricted by state boundaries or other arbitrary lines, and that the transfer of unmanaged ballast water from Vancouver B.C. or ports in northern California poses a threat for introducing invasive species that are established in those locations but not yet established in Oregon.

Response:
This is an issue outside the scope of the topics discussed by the rulemaking advisory committee or proposed under the Notice of Proposed Rulemaking and as such DEQ will decline to address it in the final rule.

11. Comment 11
Recommends that in addition to revising rules regarding implementation of shipboard ballast water treatment systems under OAR 340-143-0050, DEQ should also propose rules addressing the use of onshore or barge-based ballast water treatment systems.

DEQ received one comment in this category from commenter #13 identified in the *Commenters* table below.

Commenter #13 expressed concerns that the proposed rules do not address the use of onshore or barge based treatment systems. Even though no facilities or operations of this variety have been proposed in Oregon, or elsewhere in North America, as a practicable means of managing ballast water and preventing the introduction of invasive species, there are active discussions promoting this alternative strategy in multiple jurisdictions. The commenter feels that Oregon should anticipate that shore or barge based solutions may be forthcoming as a potential option to manage contaminated ballast water in the future.

Response:
DEQ is monitoring developments related to the feasibility and practicability of alternative approaches to achieving sufficiently protective ballast discharge standards, including the potential for shore-based or barge-based treatment strategies. At this time, however, there are no active proposals for this type of activity in Oregon that DEQ could evaluate as a basis for rule development. Moreover, authority and rules governing shore-based facilities would likely be addressed by other water quality facility permitting processes and not under state regulations governing commercial vessel ballast discharge management. Therefore, DEQ has determined that this issue is outside the scope of this rulemaking effort and it is not addressed in the draft rule.

Commenters

Comments received by close of public comment period

The table below lists commenters (representing 918 people or organizations) that provided comments about the proposed rules during public comment periods. Original comments are on file with DEQ.

List of Commenters			
#	**Name**	**Affiliation**	**Comment Category**
1	Mark Sytsma	Portland State University	1, 2, 3
2	Doug Heiken	Oregon Wild	1, 2, 3
3	Nicole Dobroski	California State Lands Commission	1, 3, 7
4	Charles Costanzo[1], Kate Mickelson[2], Mark Landauer[3], Ross McDonald[4], Frank Holmes[5], Fred Myer[6] (5/24/16; 7/8/16)	[1]American Waterways Operators, [2]Columbia River Steamship Operators Assn., [3]Oregon Public Ports Association, [4]Sause Bros., [5]States Petroleum Association, [6]Port of Portland	1, 3, 5, 6, 8, 9
5	James Unsworth	Washington Department of Fish and Wildlife	1, 7 ,8
6	Allen Pleus	Washington Department of Fish and Wildlife	1, 4, 7
7	Debrah Marriot	Lower Columbia River Estuary Partnership	1, 5, 7, 3
8	Kim Cox	City of Portland, Bureau of Environmental Services	1
9	Blaine Parker	Columbia River Inter-Tribal Fish Commission	1, 2, 3
10	Jas Adams	Citizen (retired DOJ)	1, 4
11	Dorothy Shoemaker	Citizen	1
12	Cybele Knowles and 898 co-signatories	Center for Biological Diversity	1, 7
13	Nina Bell and Tierra Curry	Northwest Environmental Advocates	1, 2, 3, 7, 10, 11
14	Paul Henson	U.S. Fish and Wildlife Service	1

15	Charles Costanzo[1], Kate Mickelson[2], Mark Landauer[3], Ross McDonald[4], Frank Holmes[5] (10/24/16)	[1]American Waterways Operators, [2]Columbia River Steamship Operators Assn., [3]Oregon Public Ports Association, [4]Sause Bros., [5]Western States Petroleum Association	1, 3, 6, 8
16	Charles Costanzo	American Waterways Operators	1, 3, 6

Implementation

Notification

The proposed rules would become effective on approximately March 1, 2017. At least 30 days prior to the rules taking effect, would notify affected parties by sending email notification to:

- DEQ's listserv of local vessel agents that represent oceangoing vessel operator clients calling upon Oregon ports;
- Local maritime organizations (including, but not limited to the Portland Merchants Exchange and the Columbia River Steamship Operators Association);
- the Pacific Ballast Work Group listserv; and
- Washington Department of Fish and Wildlife's Ballast Water Program.

Prior to the rules becoming effective, DEQ would also update the ballast water program webpage and other appropriate agency webpages and factsheets with notice of the newly adopted rules and outreach messaging.

Compliance and enforcement

- Affected parties - No changes in compliance and enforcement are anticipated.
- DEQ staff - DEQ would continue to administer the program and conduct shipboard vessel inspections and compliance verification efforts. No changes to compliance and enforcement implementation are anticipated.

Measuring, sampling, monitoring and reporting

- Affected parties - No revisions would be required. Ballast water reporting to the state would continue to rely on the same reporting form required by the U.S. Coast Guard. The reporting form revised by USCG in February 2016 is designed to capture management practices including saltwater flushing of empty tanks and 'exchange + treatment'.

- DEQ staff – No changes are anticipated in staff review and data management of vessel pre-arrival reporting forms.

Systems

- Website - DEQ would update external websites with updated rules and information to assist affected parties.
- Database – Only minor changes to the DEQ ballast water management database would be required. All changes would be accommodated by DEQ ballast water program staff.
- Invoicing - Invoicing activities would not be affected as a result of this rulemaking.

Training

- Affected parties – Regulated entities would receive email notification with links to program webpage, factsheets and informational materials. However, the procedures established under the proposed rule rely on management practices that are already conducted by regulated vessels (ballast exchange) or are already established by federal regulations (saltwater flushing of empty tanks; implementation of shipboard treatment systems). It is expected that training for proper integration of ballast exchange with a shipboard ballast treatment system will be addressed in treatment system manufacturer specifications and within the vessel specific ballast water management plan.
- DEQ staff - Program staff have been involved in the rulemaking and are aware of the changes. Staff would implement the program changes, train affected parties, and update the website and outreach materials, as needed.

Five-year review

ORS 183.405

Requirement

Oregon law requires DEQ to review new rules within five years after EQC adopts them. The law also exempts some rules from review. DEQ determined whether the rules described in this report are subject to the five-year review based on the law in effect when EQC adopted these rules.

Exemption from five-year rule review

The Administrative Procedures Act exempts all of the proposed rules from the five-year review because the proposed rules would amend or repeal an existing rule. ORS 183.405(4).