

Ballast Water Rulemaking 2016

Advisory Committee Meeting #2

January 27th, 2016

DEQ Headquarters, Portland

BWM Regulatory Landscape Updates

- **International (IMO BWM Convention)**
- **Federal**
 - Ç **USCG NPRM**
 - Ç **EPA Vessel General Permit**
 - Ç **VIDA (Federal legislative proposals)**
- **West Coast Regional**

OR Ballast Program AIS Prevention:

Prioritization Criteria

BWM Variable	Highest Risk	Lower Risk
In-port BWM plan	High-Volume Discharge; NOBOB > discharge	Retain; Low-Volume Discharge
Voyage Type (BW age)	Short (<i>Coastwise</i>)	Long (<i>Transoceanic</i>)
BWE Method	Flow-Through	Empty-Refill
Vessel Type	Bulk Carriers	Tankers; Ro-Ro's; Containers; Passenger
Environmental Similarity (Source v. Receiving Port)	Match (<i>e.g. FW > FW or Brackish > Brackish</i>)	Mis-match (<i>e.g. Marine > FW</i>)

Environmental Similarity Factors:

- ñ Salinity*
- ñ Temperature
- ñ Hydrology
- ñ AIS profile
- ñ Disturbance regime characteristics

OR BW Program AIS Prevention: Risk/Prioritization Criteria for Oregon

Ballast discharge?	Environmental Match Potential?	Voyage Type	RISK LEVEL
High Volume	High (e.g. FW>FW)	Any	Very High
Yes	Moderate (e.g. Brackish>FW)	Coastwise	High
NOBOB > BWD	Moderate	Any	High
Yes	Moderate	Transoceanic	Mod. High
Yes	Low	Coastwise	Moderate
Low Volume	Low	Transoceanic	Lower
None	n/a	Any	Lowest

Note: Other factors that influence perceived risk of any given vessel arrival also includes compliance history and reporting compliance.

Examples of High-Risk Source Ports

(for ballast discharged to Oregon low-salinity ports)

Ç *Sacramento/Stockton, USA	Ç Tianjin, CHN
Ç San Francisco Bay, USA (Vallejo, Richmond, Oakland)	Ç Yantai, CHN
Ç Baltimore, USA	Ç *Jiangmen/Zhongshang, CHN
Ç *Houston, USA	Ç Masan, KOR
Ç *New Orleans, USA	Ç Chiba, JPN
Ç *Kitimat, CAN	Ç Tokyo, JPN
Ç Port Alberni, CAN	Ç Yokoshima, JPN
Ç *Stewart, CAN	Ç *Ho Chi Minh, VNM
Ç *Guangzhou, CHN	Ç Melbourne, AUS
Ç Huangpu, CHN	Ç Sydney, AUS
Ç *Shanghai, CHN (Changzhou, Nantong, Yangzhou)	Ç *Amsterdam/Rotterdam, NLD
	Ç *Guayaquil, ECU

Examples of ports with annual average surface salinity < 16 ppt

** = very high-risk (annual average surface salinity < 2 ppt)*

Bold – frequent BWD to Oregon

DEQ BW Rulemaking Objectives



- *Enhance ballast management strategies to prevent discharge of ballast water representing high-risk for AIS.*
- *Support implementation of federal BWDS, but mitigate concerns with solutions that are locally tailored and globally compatible.*
- *Develop ballast management strategy for freshwater ports that could facilitate west coast regional consistency.*

Salt-water flushing for 'NOBOB's

Objective:

Amend OAR 340-143-0010 to *adopt EPA Vessel General Permit requirements for **salt-water flushing of 'empty' ballast tanks*** (VGP 2.2.3.6.3).

Supporting rationale:

- Residual ballast and sediments in ~~NOBOB~~ vessels are known vectors for wide variety of aquatic invasive species.
- Salt-water flushing is particularly effective at removing FW or brackish water organism.
- Establishes federal regulation under state law to enable state program personnel to enforce.

Salt-water flushing for 'NOBOB's

Rule Elements:

- For ballast tanks that are empty upon arrival to state waters to be used for ballasting and subsequently de-ballasting while in state waters, salt-water flushing of tanks must be performed:
 - At least 200 nm from shore if tanks were last filled outside EEZ
 - At least 50 nm from shore if tanks were last filled from a port within the Pacific Coast Region (of North America).
- Oceanic salt-water flushing of tanks must achieve residual ballast water salinity of at least 30 ppt.
- Safety and Common Waters exemptions apply.

Maintaining BWE requirements

– *in addition to BWT implementation*

Objective:

Amend OAR 340-143-0050 to ensure that implementation of federal BWDS represent an AIS prevention improvement for low-salinity ports of Oregon.

Supporting rationale:

- BWE is highly protective for low-salinity harbors.
- BWE+BWT mitigates concerns over low-efficacy of federally adopted BW discharge standards.
- Redundancy provides precautionary safeguard in light of 1st generation technology uncertainties and potential AIS control costs.
- BWE+BWT has been demonstrated to improve efficacy of treatment systems.
- BWE+BWT can be strategically applied to target only those voyage types that are considered to be high-risk.
- Does not require anything new of vessel operators.

Maintaining BWE requirements

– *in addition to BWT implementation*

Discussion Points:

- ❖ Criteria for vessels required to meet BWE+BWT (e.g. salinity threshold of source ballast; receiving port salinity, etc.)
 - Ç Mirror EPA VGP regulations for GL, or
 - Ç Mirror existing state regulations established by MA, MN, NY, RI, or
 - Ç focus on West Coast consistency (i.e. adopt Canada proposal).

- ❖ Exemptions for
 - Ç Use of BWT that meet BWDS higher than IMO/D-2
 - Ç BWT design that can accommodate BWE
 - Ç Voyages with duration that is shorter than BWE+BWT operational specifications can accommodate.

- ❖ Implementation schedule and enforcement grace-period options

BWE+BWT Proposal - Criteria

BWE + BWT required if.....

BWE+BWT Policy	BW Source Salinity	Receiving Port	Voyage Type
EPA (GL)	< 16 ppt	St. Lawrence / GL	fr/ outside EEZ
MA/MN/NY/RI	all	all	fr/ outside EEZ
CANADA*	<i>all</i>	< 2 ppt	<i>tbd</i>
Oregon**	<i>all</i>	< 2 ppt	<i>Transoceanic and Coastwise</i>

* based on Transport Canada Implementation Plan Discussion Paper

** based on 1/20/16 BWAC Strawman

BWE+BWT Proposal - Exemptions

Exemptions for:

BWE+BWT Policy	Safety	More Stringent BWTS	BWTS –BWE incompatibility
EPA (GL)	Y	N	N
MA/MN/NY/RI	Y	N	N
CANADA*	Y	N	<i>tbd</i>
Oregon**	Y	Y	Y

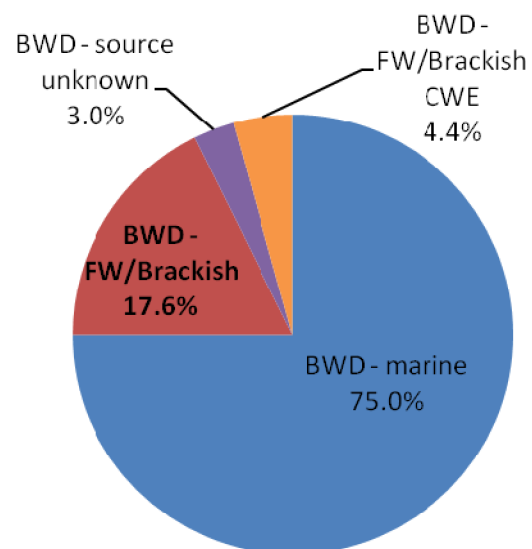
* based on Transport Canada Implementation Plan Discussion Paper

** based on 1/20/16 BWAC DRAFT Rule

BWE + BWT* – Implications for Oregon Vessel Arrivals

Oregon BWD (volume) – Source Environment

(12.9 Million m³ per year)

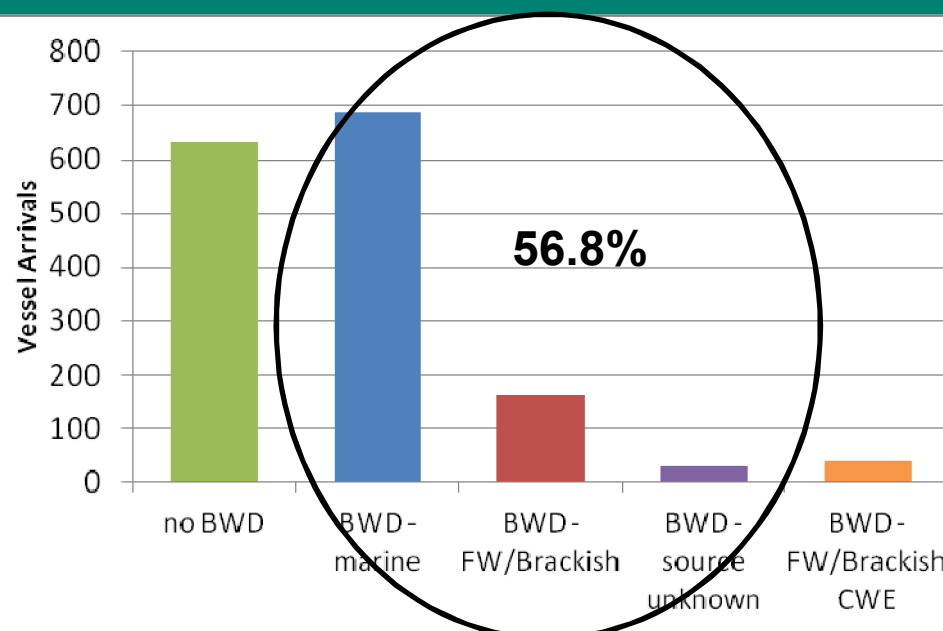


(Adapted from Noble 2007)

~ 2 Million m³ per year of ballast discharged to state waters would be subject to BWE + BWT provision

Oregon BWD (annual arrivals) – Source Environment

(n= 1550 per year)



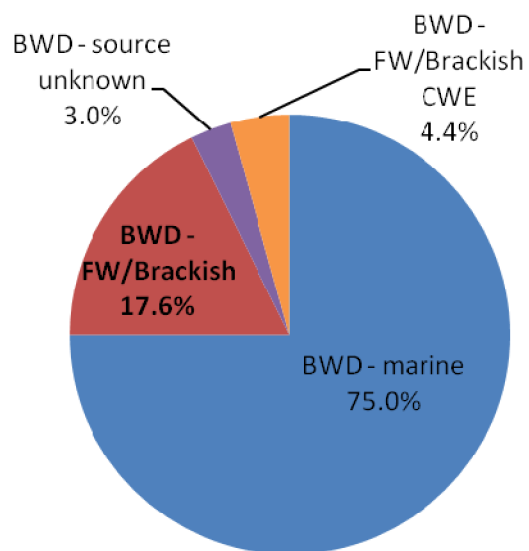
~ 57% of vessel arrivals to state waters (~ 880 per year) may be subject to BWE + BWT requirement

* - based on 'Transport Canada' implementation criteria

BWE + BWT** – Implications for Oregon Vessel Arrivals

Oregon BWD (volume) – Source Environment

(12.9 Million m³ per year)

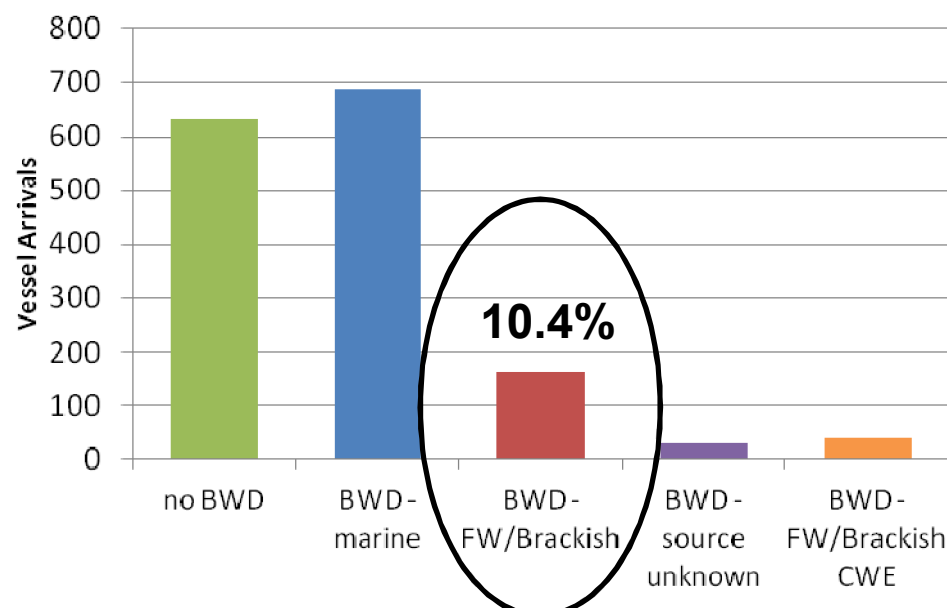


(Adapted from Noble 2007)

~ 2 Million m³ per year of ballast discharged to state waters would be subject to BWE + BWT provision

Oregon BWD (annual arrivals) – Source Environment

(n= 1550 per year)



~ 10.4% of vessel arrivals to state waters (~ 162 per year) may be subject to BWE + BWT requirement

** - based on 'STAIS 2015' report recommendations

Discussion-Roundtable-Feedback

Ç What works?

Ç What doesn't?

Ç How can draft rules be further amended to be more practicable and feasible?