Ballast Water Rulemaking 2016

Advisory Committee Meeting #2

January 27th, 2016
DEQ Headquarters, Portland

Rian Hooff Oregon Department of Environmental Quality

DEQ
State of Oregon
Department of
Environmental
Quality

BWM Regulatory Landscape Updates

- International (IMO BWM Convention)
- Federal
  - USCG NPRM
  - EPA Vessel General Permit
  - 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 *(Coastwise)*	Long *(Transoceanic)*
BWE Method	Flow-Through	Empty-Refill
Vessel Type	Bulk Carriers	Tankers; Ro-Ro's; Containers; Passenger
Environmental Similarity (Source v. Receiving Port)	Match *(e.g. FW > FW or Brackish > Brackish)*	Mis-match *(e.g. Marine > FW)*

Environmental Similarity Factors:

- Salinity*
- Temperature
- Hydrology
- AIS profile
- 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)

- ***Sacramento/Stockton, USA**
- **San Francisco Bay, USA**
  (Vallejo, Richmond, Oakland)
- Baltimore, USA
- *Houston, USA
- *New Orleans, USA
- *Kitimat, CAN
- Port Alberni, CAN
- *Stewart, CAN
- ***Guangzhou, CHN**
- Huangpu, CHN
- ***Shanghai, CHN**
  (Changzhou, Nantong, Yangzhou)
- **Tianjin, CHN**
- **Yantai, CHN**
- *Jiangmen/Zhongshang, CHN
- Masan, KOR
- **Chiba, JPN**
- **Tokyo, JPN**
- Yokoshima, JPN
- *Ho Chi Minh, VNM
- Melbourne, AUS
- Sydney, AUS
- *Amsterdam/Rotterdam, NLD
- *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 ónewôof 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.)
  - Mirror EPA VGP regulations for GL, or
  - Mirror existing state regulations established by MA, MN, NY, RI, or
  - focus on West Coast consistency (i.e. adopt Canada proposal).

- Exemptions foré é ?
  - Use of BWT that meet BWDS higher than IMO/D-2
  - BWT design that cannot accommodate BWE
  - 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**	*all*	*< 2 ppt*	*tbd*
*Oregon***	*all*	*< 2 ppt*	*Transoceanic and Coastwise*

* 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*	*tbd*
*Oregon***	*Y*	*Y*	*Y*

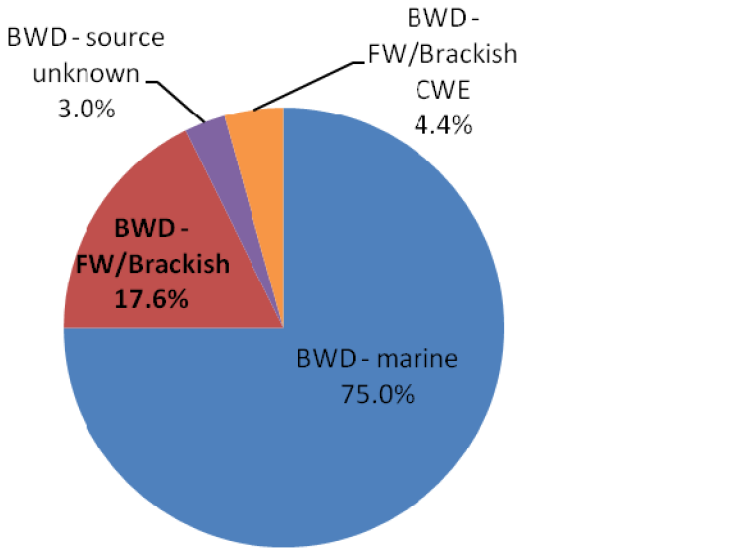
* based on Transport Canada Implementation Plan Discussion Paper

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

BWE + BWT* – Implications for Oregon Vessel Arrivals

Oregon BWD (volume) – Source Environment

(12.9 Million m^3 per year)

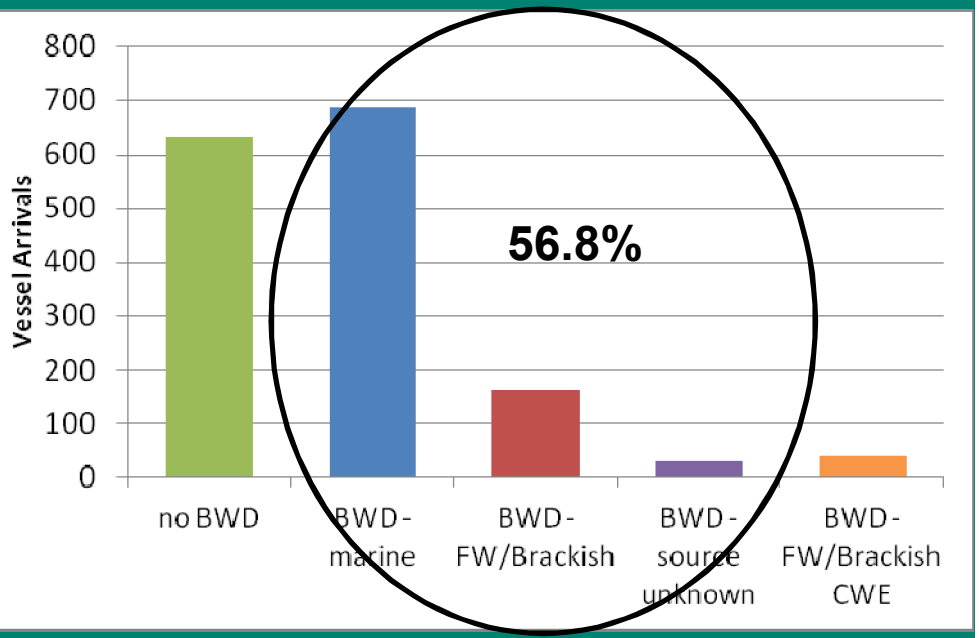


(Adapted from Noble 2007)

~ 2 Million m^3 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

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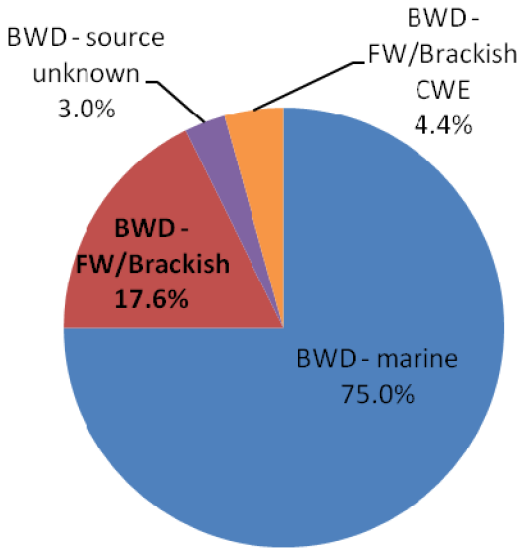

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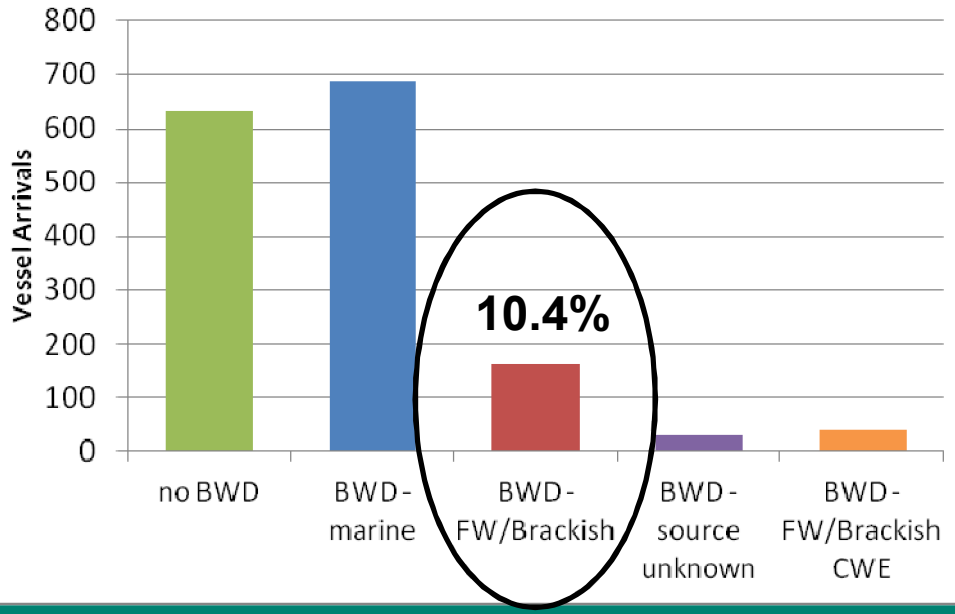

~ 10.4% of vessel arrivals to state waters (~ 162 per year) may be subject to BWE + BWT requirement

*** - based on 'STAIS 2015' report recommendations*

Discussion-Roundtable-Feedback

- What works?
- What doesn't?
- How can draft rules be further amended to be more practicable and feasible?