Table 4: Ballast Water Programs on the West Coast of North America, excluding Mexico.

Program Elements	U.S. Coast Guard	Washington[2]	Oregon[3]	California[4]	Alaska	Canada[5]
Enabling legislation	NISA 1990, 1996	RCW 77.120.030 WAC 220.77.090 and 095	ORS Chapter 783.620-.992	PRC71204, 71207, 71211, 71216, 71271, 72421, 72423, 72440	AS 46.03.750.	Canada Shipping Act 2006
Implementation—effective date of legislation	July 2004	2001—exchange July 1, 2007—treat if not exchanged	January 2002	1999, reauthorized 2003, 2006 rules for coastal traffic and treatment standards	Unknown	June 8, 2006
General application	All vessels entering US waters from outside EEZ	Vessels ≥300 tons entering WA water	Vessels ≥300 tons entering OR waters	Vessels ≥300 tons entering CA waters	All vessels	All vessels entering Canadian waters
Provides for safety exemptions	Yes	Yes	Yes	Yes	Yes	Yes
Preempts state or provincial programs	No	NA	NA	NA	NA	No
Requires consistency with IMO and USCG	NA	Yes	No	No	No	Yes
Requires that operators use best management practices[6]	Yes	No	No	Yes	No	Yes
Requires operators to develop and use vessel specific ballast management plans[7]	Yes	Yes	No	Yes	No	Yes
Requires that operators maintain logs and report ballast operations[8]	Yes—all vessels entering US ports.	Yes	Yes	Yes	No	Yes
Requires owner/operators to submit interim report that describes steps that they will take to meet treatment or exchange standards	No	Yes	No	No	No	No
Requires assessment of non-ballast water vectors and management recommendations	No	No	No	Yes	No	No
Requires an evaluation of the program's effectiveness	No	No	No	Yes	No	No
Jurisdiction's approach to managing ballast water	Exchange, retain on board or use approved treatment alternatives.	Exchange or treat.	Exchange.	Exchange, retain on board, treat or use shore side treatment	Prohibits discharge of ballast water from a cargo tank of a tank vessel only	Exchange, retain ballast on board, discharge to reception facilities or treat
Exchange standard	Flow-through = 3 times tank volume. 100% empty/refill	Flow-through = 3 times tank volume. 100% empty/refill	Flow-through = 3 times tank volume. 100% empty/refill	Flow-through = 3 times tank volume. 100% empty/refill	None	≥ 95% volumetric exchange and ≥30 parts per thousand salinity if exchanged ≥50 miles offshore Flow through = 3 X tank volume.
Exchange location	Transoceanic voyages: ≥200 nautical miles offshore	Transoceanic voyages: ≥200 miles offshore. Coastal voyages: ≥50 nautical miles offshore	Coastal voyages: For vessels originating from S of 40° and N of 50° on US west coast. ≥50 nautical miles offshore	Transoceanic voyages: ≥200 miles offshore in water ≥ 2000 m. > 50 nautical miles offshore in ≥ 200 m. deep	None	Transoceanic voyages: ≥200 miles offshore in water ≥ 2,000 m. deep. If unable to exchange as above, ≥ 50 miles offshore and in water ≥ 500 m. deep. Coastal voyages: >50 miles offshore in >500 m. depth

Program Elements	U.S. Coast Guard	Washington[2]	Oregon[3]	California[4]	Alaska	Canada[5]
Treatment standard	Three alternatives under consideration.	Technology standard: Inactivate/ remove 95% zooplankton and 99% bacteria & phytoplankton in ballast water.	Allows discharge of ballast water 'that has been treated to remove organisms in a manner that is approved by the USCG'	Interim—zero detectable standard for the largest organism size class (>50µm). Final—zero detectable for all organism size classes by 2020.	None	Same as IMO - Discharge $\leq$10 org/m^3 greater than 50 microns; $\leq$10 org/ ml between 10 to 50 microns, Human health standards.[9]
Exemption from ballast management requirements[10]		Ballast water or sediments that originate in WA waters, Columbia system, or internal waters of British Columbia south of 50^{0}N, including straits of Georgia and Juan de Fuca.	Exempts vessels originating from north of 40^0 and south of 50^0	Vessels operating within "common water" zones are not required to manage ballast water but must when operating between zones. Zones include: 1) ports within San Francisco Bay and delta region. 2) LA/Long Beach port complex	None	Exchange not required for vessels originating from ports north of Cape Blanco (42^o 50'N)
Requires jurisdiction to approve treatment systems	Proposed	Yes	No	Yes—for systems that are environmentally safe and as effective as exchange. Also, CA approves systems approved by USCG HQ	No	Yes (flag state)
Allows use of approved experimental treatment systems	Yes[11]	Yes	No	Yes	No	Yes
Requires early compliance for new ships	Unknown	No	No	No	No	No
Requires operators to manage ballast tank sediments[12]	Proposed	No	No	Yes	No	Yes
Requires facilities that clean or repair ballast tanks to provide sediment disposal options	No	No—but facilities—defined as point source polluters—are subject to state clean water regulations.	No	No—but facilities—defined as point source polluters—are subject to state rules	No	Yes
Requires jurisdictions to designate no-ballast uptake areas	Yes	No	No	No—state has authority to designate areas to be avoided.	No	No
Requires jurisdictions compensate operators for delays	No	No	No	No	No	No
Allows jurisdictions to inspect logs and sample ballast water	Yes	Yes	Yes	Yes Sample/cause to inspect a minimum of 25% of arriving vessels	No	Yes
Penalties for non-compliance	Civil penalties up to $27,500/ day and criminal	$500 to $5,000 per violation	$500 to $5,000 per violation	Up to $27,500 per violation for civil penalties as defined. Each day constitutes a separate violation	None	Unknown—same as current enforcement and compliance in Canada Shipping Act
Allows jurisdictions to assess fees to support program	No	No	No	Currently, $400 at first CA port per visit.	No	No

(Endnotes)
[1] cfu = colony forming units
[2] Washington state law: Chapter 177.120 RCW and state regulations WAC 220.77.090
[3] Oregon state law ORS 783.625, 783.630, 783.635, 783.640 and 783.992 – amended in March 2005.
[4] California Coastal Ecosystem Protection Act 2006
[5] Ballast Water Control and Management Regulations established by SOR 2006-129 effective June 8, 2006.
[6] Avoid uptake or discharge in certain areas, clean ballast tanks, clear anchors and chains, clean hull fouling organisms, etc
[7] Plans detail actions to implement BW requirements, how sediment must be managed, designates an office in charge and defines reporting requirements
[8] Ballast record book can be electronic, integrated into other record systems, etc. It must be available for inspection anytime. Logs detail ballast practices undertaken.
[9] Discharge less than 250 colony-forming units per 100 ml of E. coli; less than 100 cfu per 100 ml of intestinal enterococci and less than 1 living organisms per 100 ml of cholera
[10] Exchange, treatment, retention or discharge to approved facilities.
[11] Shipboard Technology Evaluation Program (STEP) January 2004. Approved systems must be environmentally safe and as effective as exchange.
[12] Remove and dispose of sediments according to the ship's ballast water management plan