Summary of existing and proposed regional ballast water legislation

ARGENTINA

Authority:	Dirección de Prefectura Naval Argentina (DPMA)
Ports Affected:	All
Ships Affected:	All ships
Implementation:	Mandatory.
Date of Start:	1998
Acceptable Methods:	a) Ballast Water Exchange (BWE): BWE to be conducted in open-sea following on of the IMO approved methods, i.e. flow-through, over-flow or sequential exchange. Note that salinity levels following BWE must not be below 30mg/cm^3 b) Treatment System/Ballast Discharge Standard: Alternative methods are allowed under strict guidance and approval from either the IMO or the administration, details of which are found in Section 8 and Annex 1 of the ORDENANZA N° 7-98.
Unwanted Organisms / Pathogens:	Not defined
Uptake Control:	Not known.
Sampling:	Random, by Argentine authorities.
Ballast water management plan , records and reporting	Ballast Water Management Plans: A ballast water management plan must be carried on board with a record/log of all ballast water exchange and operations to be maintained and available for inspection. No reporting or recording requirements specified
Alternatives to en route management procedures:	Not known
Procedure for unacceptable ballast water:	It is understood that ships may be required to treat ballast with chlorine
Notes:	The regulations apply to all ships entering the River Plate Basin and transiting the River Parana and its ports which the area delineated as: "The zone from Punta del Este (Republic of Uruguay) to Punta Rasa, Cape San Antonio (republic of Argentina). From there to a point located latitude 37° 32' South, longitude 55° 23' West. From there to a point located in latitude 36° 14' South and longitude 53° 32' West. From there back to Punta del Este"

ARGENTINA - Buenos Aires

Authority:	Local regulations
Ports Affected:	Buenos Aires
Ships Affected:	All ships
Implementation:	Mandatory.
Date of Start:	1990
Acceptable Methods:	In addition to national requirements above ships are required to treat ballast water with chlorine if ballast has been taken up in a WHO listed cholera high risk area. Chlorine dilution is specified as 50ltrs chlorine to 100tonnes of ballast water. It is understood that if the vessel has no chlorine it can be provided at the Racalada pilot station.

AUSTRALIA

National Authority:	Australian Quarantine and Inspection Service (AQIS)
Ports Affected:	All
Ships Affected:	All ships entering Australian ports from overseas territories. No exceptions specified.
Implementation:	Mandatory
Date of Start:	2001
Acceptable Methods of Ballast Water Management :	All vessels are to exchange all "high risk" ballast water intended to be discharged in Australian waters High risk ballast is deems all salt water from ports and coastal waters outside Australia's territorial sea. Acceptable exchange methods are : Ballast water exchange in deep ocean areas:- 1. Tanks to be drained until pump suction is lost. 2. Flow through method or dilution method to archive at least 3 x tank volume pumped through.
Alternatives to en route management procedures:	1. Normal discharge based on risk assessment taking into account type of vessel, origin, risk factors at port of entry, e.g. fish farms. 2. Withholding discharge until analysis of samples found to be free of harmful organisms. 3. Ship to proceed to designated area or open sea to exchange ballast.
Procedure for unacceptable ballast water:	Ship to proceed to designated area or open sea to exchange ballast.
Ballast Water Management Plan	The regulations strongly recommend a ship has a ballast water management plan endorsed by the ships classification society
Sampling:	Targeted, random and mandatory, under supervision of AQIS officer.
Reporting and Records:	All ships are required to submit a *Quarantine Pre-Arrival Report (QPAR)* to AQIS together with a declaration that the regulations have been complied with Records of ballast exchange are to be kept including a calculation to show the requirements above have been met
Notes:	See the following web site for full details and for copies of the reporting forms http://www.daff.gov.au/aqis/avm/vessels/ballast/requirements The sate of Victoria has slightly different requirements please se their web site for details http://www.epa.vic.gov.au/water/ballastwater/documents.asp

BRAZIL

National Authority:	Diretoria De Portos E Costas
Ports Affected:	All
Ships Affected:	All ships entering Brazilian ports with additional requirements for ships entering the Amazon and Para Rivers. No exceptions specified.
Implementation:	Mandatory
Date of Start:	2006
Acceptable Methods of Ballast Water Management	Sequential method Flow through method Dilution method. The exchange is to take place water exchange in an area no less than 200 nautical miles (nm) from any shore and in a water depth of 200 metres or more. If this is not possible exchange may take place 50 nm or more from land and in a water depth of 200 meters or more. Ships entering the Amazon River from international voyages or from other hydrographical region are required to undertake two water ballast exchanges as follows. The first exchange is to be as detailed above and the second to reduce the salinity of the water ballast between the isobaric of 20 metres and Macapá. When the ballast volume is less then 5000 cubic metres the limit will be the Jari river. In this second exchange it will be necessary only to pump the tank volume once. Ships entering the Para River from international voyages or from other hydrographical region are also required to undertake two water ballast exchanges The first exchange as detailed above and the second exchange must be between 70 nautical miles from Salinópolis until the Light of the Ponta do Chapéu Virado (Ilha do Mosqueiro)
Alternatives to en route management procedures:	When it is not possible to exchange the water ballast at sea, the ballast will have to be retained on board, being accepted a minimum discharge with the authorisation of the Maritime Authority that will have to record this occurrence. The master will have to formally justify with the necessary anticipation.
Procedure for unacceptable ballast water:	Ship to proceed to designated area or open sea to exchange ballast.
Ballast Water Management Plan	A Ballast Water Management Plan to be onboard and must be approved by the ships classification society
Sampling:	Targeted, random and mandatory,
Reporting and records:	Ships must send a ballast water report form to the Harbour Masters or their Agencies by the ship's masters or its Agents 24 hours prior arrival in Port. One copy of this report will have to be maintained on board for possible presentation to the any other authorities
Notes	Web site https://www.dpc.mar.mil.br/ The site is in Portuguese only

CANADA

National Authority:	Transport Canada
Ports Affected:	All
Ships Affected:	All ships
Implementation:	Mandatory
Date of Start:	2000
Acceptable Methods of Ballast Water Management	a) Ballast Water Exchange (sequential, flow through or dilution method). Note that an onboard inspection may be undertaken to verify whether BWE has been conducted. If BWE has not been undertaken, clear proof as to why it could not be performed must be provided. b) b) Treatment System/Ballast Discharge Standard: The treatment standard is the same as that contained in the IMO Convention, Regulation D-2.
Alternatives to en route management procedures:	
Procedure for unacceptable or non exchanged or treated ballast water:	Should a vessel be unable to exchange or treat its ballast it may be requested to conduct exchange in the Scotian Shelf of the Gulf of Maine. Please refer to the text of the regulations and its guidance notes (linked below) for exact details.
Ballast Water Management Plan	A Ballast Water Management Plan to be onboard
Sampling:	
Reporting and records:	Ballast Water Reporting Requirements: A Reporting Form should be submitted, via email, prior to entry into Canadian waters. Email addresses are as follows: for ships proceeding to ports on the West Coast: rmic-pacific@pac.dfo-mpo.gc.ca or ships proceeding to ports in Eastern Canada North of 60 degrees North Latitude: atlanticballastwater@tc.gc.ca for ships proceeding to ports on the East Coast, in Quebec or in Ontario (Great Lakes): atlanticballastwater@tc.gc.ca
Notes	http://www.tc.gc.ca/marinesafety/oep/environment/ballastwater/menu.htm

CANADA -- VANCOUVER

National Authority:	Vancouver Port Corporation
Ports Affected:	Vancouver, Canada
Ships Affected:	All ships destined to arrive at the Port of Vancouver in ballast condition.
Implementation:	Mandatory application
Date of Start:	1st January 1998.
Acceptable Methods of Ballast Water Management	Ballast water exchange in mid ocean prior to entering Canadian waters. No ballast water to be discharged into harbour until samples have been taken and analysed by the harbourmaster's representative. Exemptions: • ships wishing to discharge less than 1000 metric tonnes • ships arriving from West Coast of USA, Canada and Alaska if the ballast water to be discharged originated from these waters. • stress of weather • stability or hull stress concerns
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	Retention on board, or departure from port and exchange of ballast in outgoing current of the north side of the Strait of Juan de Fuca, west of Race Rocks
Ballast Water Management Plan	Required
Sampling:	No information.
Records:	A harbourmaster's representative will require to see either an entry (in English) in the logbook, an abstract of the logbook entry, or other formal record (company or administration). This must include the place where the original ballast was taken on, the position of exchange (latitude and longitude), the amount of ballast on board, and ballast tanks that have had water exchanged.
Notes:	Vancouver Port Corporation announcement, dated 10th February 1997, or contact the Harbour Master by telephone (+1 604 666 2405), facsimile (+1 604 666 1072) or E-mail harbour-master@portvancouver.com

CHILE

National Authority	Chilean Navy; Division for Maritime Territory and the Merchant Marine, Maritime Safety and Operations Department
Ports affected	All
Ships affected	All ships coming from abroad, ballasted with sea water. No exceptions are listed. All ships coming from zones affected by cholera or by any similar contagious epidemic.
Implementation	Mandatory
Date of start	1995
Acceptable Methods of Ballast Water Management	Ballast water exchange in deep water.
Procedures if en route management is not possible	In-tank treatment prior to discharge. Addition of 100 grams of powdered sodium hypochlorite, or 14 grams of powdered calcium hypochlorite, per tonne of ballast water, ensuring thorough mixing, and then allowing 24 hours before beginning to deballast.
Procedure if ballast water found to be unacceptable after sampling	No information
Ballast Water Management Plan	Required
Sampling required	No information
Reporting and Records	Entries in bridge and engine room logbooks, showing geographical co-ordinates, amount replaced and what percentage of total ballast capacity it represents.
Notes	Chilean Declaration DGTM. And MM. ORD. NO. 12600/228 VRS. Order for Preventative Measures to Avoid Transmission of Harmful Organisms and Epidemics by Ballast Water. 10th August 1995

GEORGIA

National Monitoring Authority	Georgian Environmental Protection Ministry
Ports affected	All Georgian ports
Ships affected	All
Implementation	Mandatory
Date of start	Unknown
Acceptable Methods of Ballast Water Management	Ballast Water Exchange (BWE): BWE must be conducted in the Black Sea. Ballst water treatment may be accepted however owners are advise to conform first with the intended port(s)
Procedures if en route management is not possible	No information
Procedure if ballast water found to be unacceptable after sampling	No information
Ballast Water Management Plan	Required
Sampling	No information
Reporting and Records	No information
Notes	

ISREAL

National Authority:	Ministry of Transport, Administration of Shipping and Ports.
Ports Affected:	All
Ships Affected:	All ships destined for Israeli ports, wishing to pump out ballast water while in port or while navigating along the coast of Israel. No exceptions are listed.
Implementation:	Mandatory application
Date of Start:	1994
Acceptable Methods of Ballast Water Management	Ballast water that has not been taken on in open ocean, must be exchanged in open ocean, beyond any continental shelf or fresh water current effect. Masters will be requested to provide ships' inspectors (pilots) with a completed ballast water exchange report. Ships bound for Eilat must exchange outside of the Red Sea, when practicable. Ships bound for Mediterranean ports must exchange in the Atlantic Ocean when practicable.
Alternatives to en route management procedures	Retention on board
Procedure for unacceptable ballast water:	Retention on board
Sampling:	Not defined.
Reporting and Records:	Israel has issued a format for recording the status of ballast. Please refer to the Authority directly – Israel Ministry of Transport, Administration of Shipping and Ports
Notes:	Israel Notice to Mariners No. 4/96 dated 19th April 1996, issued by the Israeli Administration of Shipping and Ports.

LITHUANIA - Butinge Oil Terminal, Klaipeda

National Authority:	
Ports Affected:	Port of Klaipeda and in particular Butinge Oil Terminal
Ships Affected:	All
Implementation:	Believed to be Mandatory
Date of Start:	Unknown
Acceptable Methods of Ballast Water Management:	Ballast Water Exchange (BWE): BWE should be conducted so as discharge into Butinge and/or Klaipeda is Baltic or North Sea water. No specific details on methodology are given although the IMO Guidelines are advised in the HELCOM recommendation.
Alternatives to en route management procedures	No information
Procedure for unacceptable ballast water:	No information
Ba	
Sampling:	No information
Reporting and Records:	While the Port Authority has not directly advised on reporting it does specify following the HELCOM recommendations which require the reporting of an IMO type ballast water reporting form prior to arrival. In addition, HELCOM recommend the carriage and implementation f a shipboard ballast water management plan.
Notes:	Full text of the HELCOM Recommendations can be downloaded from the link. Further information can be gained from the HELCOM site directly

NEW ZEALAND

National Authority:	New Zealand Ministry of Fisheries
Ports Affected:	All
Ships Affected:	All ships entering New Zealand territorial seas carrying ballast water loaded within the territorial water of another country. No exceptions are listed.
Implementation:	Mandatory
Date of Start:	1998 and updated 2005
Acceptable Methods:	Option 1 Demonstrating the ballast water has been exchanged en route to New Zealand in areas free from coastal influences, preferably 200 nautical miles from the nearest land and in water over 200m in depth. Accepted techniques are either emptying and refilling ballast tanks/ holds with an efficiency of 95% volumetric exchange or pumping through the tanks a water volume equal to at least three times the tank capacity. Tanks should be pumped no more than two at a time and, if two tanks are pumped together, they should be a symmetrical pair of tanks to ensure the safety of the vessel. Option 2 Demonstrating the ballast water is fresh water (not more than 2.5 parts per thousand sodium chloride). Option 3 Ballast water has been treated using a shipboard treatment system approved by MAF. Option 4 Ballast is discharged in an onshore treatment facility approved by MAF.
Unwanted Organisms / Pathogens:	Not defined
Uptake Control:	None specified. However, masters are expected to use their discretion and care when loading ballast water, avoiding where possible, taking ballast in shallow water, in areas where there are known to be active algal blooms or an outbreak of any disease communicable through ballast water, and in the vicinity of dredging operations.
Sampling:	Not defined.
Records and reporting:	A log must be kept of all ballast operations to include: • location and volume of ballast water loaded in other port • location, volume, method and duration of exchange at sea • location, volume and date of discharge in New Zealand A ballast water declaration must be completed see web site below
Alternatives to en route management procedures:	Until other treatment options are available, discharge will be permitted if it can be shown that weather conditions and/or vessel design precluded safe exchange, and the ballast water for discharge was not loaded in an area listed in Annex 1 of the Import Health Standard (currently Tasmania and Port Philip Bay, Australia).
Procedure for unacceptable ballast	Not Applicable

water:	
Detailed information:	New Zealand Import Health Standard for Ballast Water from All Countries. New Zealand Ballast Water and Ships Hull De-fouling: a Government Strategy January 1998.
Notes:	Further information can be found on http://www.biosecurity.govt.nz/enter/ships/ballast

Norway

National Authority:	Norwegian Maritime Directorate
Ports Affected:	All
Ships Affected:	All
Implementation:	Mandatory
Date of Start:	1 July 2010
Acceptable Methods:	Exchange, Ballast is to be exchanged in waters at least 200 metres deep and 200 nautical miles from the nearest land. If this is not possible, ballast may be exchanged in waters 200 metres deep and not less that 50 nautical miles from land. Ships are not required to deviate from their intended voyage to meet this requirement or Treat with an IMO approved system or Deliver to a shore reception facility The Norwegian Maritime Directorate may, in individual cases and upon written application, grant exemption from the requirements of this Regulation. There must be special reasons that make the exemption necessary and it must be justifiable in terms of safety.
Unwanted Organisms / Pathogens:	Not defined
Uptake Control:	All ballast water taken up **outside** the following areas: the Barents Sea, the Norwegian Sea, the North Sea, the Irish Sea, the Bay of Biscay and surrounding Iberian peninsular, and the northern part of the Atlantic Ocean
Sampling:	Not defined.
Records and reporting:	Ships must have a ballast water management plan approved in accordance with the IMO guidelines (MEPC.127(53) - Guidelines for Ballast Water Management and Development of Ballast Water Management Plans (G4) - (Adopted on 22 July 2005)) Ships must have a ballast water log book or record ballasting operations in the deck log book
Alternatives to en route management procedures:	If a ship cannot exchange ballast in the specified depth of water or at the required distance from land, it must be exchanged in one of three designated exchange zones off the Norwegian coast For details of these control areas please see the link below.
Procedure for unacceptable ballast water:	
Detailed information:	Regulation of 7 July 2009 No. 992 concerning the prevention of transfer of alien organisms via ballast water and sediments from ships (the Ballast Water Regulation)

Notes:	Further information can be found at: http://www.sjofartsdir.no/en/News_-_press_releases/New-Ballast-Water-Management-Regulation/

PANAMA

National Authority:	Panama Canal Authority
Ports Affected:	Panama Canal
Ships Affected:	All
Implementation:	Mandatory
Date of Start:	1999
Acceptable Methods:	No ballast to be discharged into the canal
Unwanted Organisms / Pathogens:	
Uptake Control:	
Sampling:	
Reporting and Records:	
Alternatives to en route management procedures:	
Procedure for unacceptable ballast water:	
Notes:	

Persian Gulf Area

National Authority:	
Ports Affected:	All
Ships Affected:	All
Implementation:	Mandatory
Date of Start:	1 November 2009
Acceptable Methods:	Exchange, In waters at least 200 metres deep and 200 nautical miles from the nearest land. If this is not possible, ballast may be exchanged in waters 200 metres deep and not less thant 50 nautical miles from land. Ships are not required to deviate from their intended voyage to meet this requirement or Treat with an IMO approved system
Unwanted Organisms / Pathogens:	Not defined
Uptake Control:	All ballast water taken up **outside** the following the ROPME area The ROPME Sea Area (RSA) is defined as extending between the following geographic latitudes and longitudes, respectively: 16°39'N, 53°3'30"E; 16°00'N, 53°25'E; 17°00'N, 56°30'E; 20°30'N, 60°00'E; 25°04'N, 61°25'E.
Sampling:	Not defined.
Records and reporting:	Ships must have a ballast water management plan approved in accordance with the IMO guidelines (MEPC.127(53) - Guidelines for Ballast Water Management and Development of Ballast Water Management Plans (G4) - (Adopted on 22 July 2005)) Ships must have a ballast water log book or record ballasting operations in the deck log book
Alternatives to en route management procedures:	If a ship cannot exchange ballast in the specified depth of water or at the required distance from land, it must be exchanged in one of three designated exchange zones off the Norwegian coast For details of these control areas please see the link below.
Procedure for unacceptable ballast water:	Not defined
Detailed information:	Not available
Notes:	-

PERU

National Authority:	General Directorate of Captainships and Coastguards acting as the Maritime Authority
Ports Affected:	All Peruvian ports
Ships Affected:	All ships
Implementation:	
Date of Start:	May 2006
Acceptable Methods:	a) Ballast Water Exchange (BWE): BWE must be undertaken 12nm from the Peruvian coast even if ballast taken up in a Peruvian port. b) Treatment System/Ballast Discharge Standard: None specified a) Ballast Water Management Plans: While referring to a 'Ballast Water Register Book' in the regulation, it is understood that this is equal to a Ballast Water Management Plan and as a consequence is required t be maintained on board.
Unwanted Organisms / Pathogens:	
Uptake Control:	
Sampling:	No information
Reporting and Records:	A 'Ballast Water Notification' should be submitted to the Maritime Authority.
Alternatives to en route management procedures:	If BWE was not undertaken, the harbourmaster must be notified. On notification of this the Harbourmaster must notify the master of an alternative ballast exchange area where the vessel will have to undertake BWE.
Procedure for unacceptable ballast water:	
Notes:	Local authorities are obligated to provide designated ballast exchange zones

RUSSIA - NOVOROSSIYSK,

Authority:	Novorossiysk Port Authority
Ports Affected:	Novorossiysk
Ships Affected:	All
Implementation:	
Date of Start:	2006
Acceptable Methods:	Ballast Water Exchange (BWE): de-ballasting will only be permitted if the ballast water has been taken (exchanged in) the Black Sea.
Sampling:	Not known
Reporting and Records:	Not known
Alternatives to en route management procedures:	Not known
Notes:	

UKRAINE

Authority:	
Ports Affected:	Odessa and Yuzhnyy
Ships Affected:	All ships
Implementation:	
Date of Start:	Date unknown but in force
Acceptable Methods:	All ships must exchange ballast with Black Sea water or Treatment System/Ballast Discharge Standard: Discharge standard is based on chemical properties with the following maximum limits specified: ▪ Iron 0.05mg/l Suspended Matter 1.75mg/l
Sampling:	Ballast may be sampled
Reporting and Records:	There is no requirement for a Ballast Water Management Plan however the authorities will require an entry in the oil record book and the log book detailing the exchange procedure The ships agent must be informed as to the amount of ballast water to be discharged in the port. Ships must then await approval of their ballast before discharging.
Alternatives to en route management procedures:	
Notes:	

UNITED STATES

National Authority	US Coast Guard
Ports Affected:	All
Ships Affected:	All ships carrying ballast and arriving from outside the US exclusive economic zone (EEZ). Except: 1. Passenger ships equipped with systems that can kill aquatic organisms in ballast water. 2. Crude oil tankers engaged in US coastwise trade.
Implementation:	Mandatory.
Date of Start:	2004
Acceptable Methods:	1. Ballast water exchange at sea, outside US EEZ. 2. Ballast water exchange in designated sea area within US EEZ. 3. Environmentally sound alternative ballast water management methods that can include modifications to a ship.
Unwanted Organisms / Pathogens:	Not defined
Uptake Control:	• Avoid ballast operations in or near marine sanctuaries, marine preserves, marine parks, or coral reefs. • Avoid or minimize ballast water uptake: Where infestation, harmful organisms and pathogens are located. Near sewage outfalls. Near dredging operations. Where tidal flushing is poor or when a tidal stream is known to be more turbid. In darkness when organisms may rise up in the water column. In shallow water or where propellers may stir up the sediment. Areas with pods of whales, convergence zones and boundaries of major currents • Clean ballast tanks to remove sediment regularly. • Only discharge minimal amounts of ballast water in coastal and internal waters. • Rinse anchors and anchor chains during retrieval to remove organisms and sediments at their place of origin. • Remove fouling organisms from hull, piping, and tanks on a regular basis and dispose of any removed substances in accordance with local, state and federal regulations. • Maintain a vessel specific ballast water management plan. Train vessel personnel in ballast water and sediment management and treatment procedures.

Discharge Standards	Federal regulation expected April 2011
Sampling:	Not defined.
Reporting and Records:	The master, owner, operator, person in charge, or vessel agent of any vessel equipped with ballast water tanks that is bound for ports or places of the United States, must ensure complete and accurate Ballast Water reporting Forms are submitted in accordance with 33 CFR 151.2041, and signed ballast water records the kept on board the vessel for a minimum of two years in accordance with 33 CFR 151.2045. Note - Different reporting requirements apply for the Great Lakes, Hudson River and all other US ports. The US has issued a format for recording the status of ballast. A copy can be obtained from http://www.uscg.mil/hq/g-m/mso/estandards.htm
Alternatives to en route management procedures:	Not known

Procedure for unacceptable ballast water:	The master of a vessel will not be prohibited from discharging unexchanged ballast, in areas other than the Great Lakes and the Hudson River, if the master decides the practices would be a threat to safety, stability, or security due to adverse weather, vessel design equipment failure, or any other extraordinary condition. All vessels, however, must discharge only the minimal amount of ballast water operationally necessary and ensure ballast water records accurately reflect any reasons for not complying with the mandatory requirements.
Detailed information:	For text of 33 CFR 151.2035(a) see http://www.gpoaccess.gov/ecfr/ Also see http://www.uscg.mil/hq/cg5/cg522/cg5224/bwm.asp

UNITED KINGDOM, ORKNEY ISLANDS

Monitoring Authority	Orkney Islands Council
Ports affected	Scapa Flow, 58°50'23"N; 03°06'25"W.
Ships affected	All ships wishing to discharge ballast at Flotta Terminal. Exemptions - Liquefied gas carrying tankers
Implementation	Mandatory application
Date of start	Prior to 1998
Methods acceptable	Discharge to shore reception facilities. Ballast water treatment plant has capacity to receive 40,000 barrels per hour
Unwanted aquatic organisms or pathogens	Not defined
Uptake control measures	None specified
Sampling required	None
Records required	Not specified
Procedures if en route management is not possible	Not applicable
Procedure if ballast water found to be unacceptable after sampling	Not applicable
For further information refer to	Flotta Terminal Port Information Book, issued by Elf Exploration UK plc.
Notes	Ballast from liquefied gas carrying tankers may be discharged into Scapa Flow if it has been taken on board within 24 hours, and at least 12 miles from shore. The master must provide the Harbor Authority with signed advice stating date, time and positions between which ballasting operations were carried out, quantity of ballast and tanks in which it is contained. Ballast samples will be taken by authorities to assess suitability for discharge.

US State requirements

California

Monitoring Authority	California States Land Commission
Ports affected	All
Ships affected	All 1)Vessels arriving to California Waters from a port or place *outside the Pacific Coast Region.* 2)Vessels arriving to California Waters from a port or place *within the Pacific Coast Region, with ballast water from the Pacific Coast Region.* **Pacific Coast Region (PCR) Definition:** All coastal waters (within 200 nm of land) on the Pacific Coast of North America east of 154 degrees W longitude and north of 25 degrees N latitude (Public Resources Code, Section 71200(k)). Excludes the Gulf of California.
Implementation	Mandatory application
Date of start	
Methods acceptable	1)Retain ballast water (no discharge). 2)Exchange ballast water in ***mid-ocean waters***(waters more than 200 nm from land at least 2,000 m deep): 3)Discharge ballast water at the *same location* where the ballast water originated. It must be demonstrated that the water was not mixed with ballast water taken on in an area other than mid-ocean waters. Same location = Within 1 nautical mile (6,000 ft) of the berth or within the recognized breakwater of a California port or place at which the ballast water was loaded. 3)Use an alternative, environmentally sound, Commission or US Coast Guard-approved method of treatment 4)Discharge to an approved reception facility (none currently exist). 5) Ships which have a ballast water ,treatment system onboard will be required to met the California discharge standard and complete the report forms available from the link below
Unwanted aquatic organisms or pathogens	Not defined
Uptake control measures	1)Discharge only the minimal amount of ballast water essential to operations 2)Minimize discharge and uptake in marine sanctuaries, marine preserves, marine parks, or coral reefs. 3)Minimize or avoid uptake of ballast water in: Areas with known infestations of

	non-indigenous organisms. •Areas near a sewage outfall. •Areas for which the master has been informed of the presence of a toxic algal bloom. •Areas of poor tidal flushing or high turbidity. •Periods of darkness when bottom dwelling organisms may rise up in the water column. •Areas where sediments have been disturbed (e.g. near dredging operations). 4)Clean ballast tanks regularly in mid-ocean waters or in port or drydock. 5)Rinse anchors and anchor chains to remove organisms and sediments at their place of origin. 6)Remove hull fouling organisms on a regular basis
Sampling required	None
Records required	Yes
Procedures if en route management is not possible	Under extraordinary circumstances, perform a ballast water exchange within an area agreed to in advance by the Commission.
Procedure if ballast water found to be unacceptable after sampling	unknown
For further information refer to	For further information see: http://www.slc.ca.gov/Spec_Pub/MFD/Ballast_Water/Laws_Regulations.html
California hull fouling requirements	
Requirements	With effect from January 2011 all ships calling at Californian ports will be required to complete and submit annually a Hull Husbandry Reporting form to the California State Lands Commission. The ships agents should supply the required form which is also available from the link above.

New York

Monitoring Authority	New York State Department of Environmental Conservation
Ports affected	All
Ships affected	All
Implementation	Mandatory application
Date of start	
Methods acceptable	All vessels entering New York waters must have the ability to measure salinity levels in each tank onboard the vessel so that salinities of at least 30 ppt can be ensured Any vessel whose voyage originates from within the exclusive economic zone and enters New York waters with ballast on board, shall conduct ballast water exchange at least 50 nautical miles from shore and in water at least 200 meters in depth. Such vessels that carry only residual amounts of ballast water and/or sediments shall conduct saltwater flushing of their ballast water tanks, at least 50 nautical miles from shore and in water at least 200 meters in depth. This does not apply to vessel(s): (i) that operate exclusively in the Great Lakes - St. Lawrence Seaway System upstream of Montreal, Quebec, or (ii) operating exclusively within waters of New York Harbour and Long Island Sound, or (iii) entering New York waters from ports of call within New Jersey and Connecticut waters which are included in the definition of "waters of New York Harbour and Long Island Sound," provided that the vessel has met the requirements of this condition prior to entering the waters of New York Harbour and Long Island Sound, or (iv) that have met the requirements of Condition #2 or Condition #3, or (v) that carry only permanent ballast water, all of which is in sealed tanks that are not subject to discharge, or (vi) of the Armed Forces, or (vii) of the National Defense Reserve Fleet that are scheduled to be disposed of through scrapping or sinking. **Not later than January 1, 2012**, each vessel that operates in New York waters, shall have a ballast water treatment system that meets the following standards, subject to the exceptions listed below. (A) *Standard for organisms 50 or more micrometers in minimum dimension*: Any ballast water discharged shall contain less than 1 living organism per 10 cubic meters. (B) *Standard for organisms less than 50 micrometers in minimum dimension and more than 10 micrometers in minimum dimension*: Any ballast water discharged shall contain less than 1 living organism per 10 milliliters. (C) *Standards for indicator microbes*: (i) Any ballast water discharged shall contain less than 1 colony-forming unit of toxicogenic *Vibrio cholera* (serotypes O1 and O139) per 100

	milliliters or less than 1 colony-forming unit of that microbe per gram of wet weight of zoological samples; (ii) Any ballast water discharged shall contain less than 126 colony-forming units of *escherichia coli* per 100 milliliters; and (iii) Any ballast water discharged shall contain less than 33 colony-forming units of intestinal enterococci per 100 milliliters. **Vessels constructed on or after January 1, 2013** and that operates in New York waters, shall have a ballast water treatment system that meets the following standards, subject to the exceptions listed below. (A) *Standard for organisms 50 or more micrometers in minimum dimension*: Any ballast water discharged shall contain no detectable living organisms. (B) *Standard for organisms less than 50 micrometers in minimum dimension and more than 10 micrometers in minimum dimension*: Any ballast water discharged shall contain less than 0.01 living organism per milliliter. (C) *Standards for indicator microbes*: (i) Any ballast water discharged shall contain less than 1 colony-forming unit of toxicogenic *Vibrio cholera* (serotypes O1 and O139) per 100 milliliters or less than 1 colony-forming unit of that microbe per gram of wet weight of zoological samples, (ii) Any ballast water discharged shall contain less than 126 colony-forming units of *escherichia coli* per 100 milliliters, and (iii) Any ballast water discharged shall contain less than 33 colony-forming units of intestinal enterococci per 100 milliliters.
Unwanted aquatic organisms or pathogens	Not defined
Uptake control measures	None specified
Sampling required	Not defined
Records required	Not specified – Vessels should keep a ballast water log
Procedures if en route management is not possible	
Procedure if ballast water found to be unacceptable after sampling	None specified
For further information refer to	http://www.dec.ny.gov/permits/72399.html

Notes	New York has permitted waivers from the requirement to treat ballast to the above standards – these waivers are valid to 1 August 2013

BALLAST WATER MANAGEMENT - USEFUL WEB SITES

The following is a selection of useful web sites which have information on national regulations or Ballast Water Management in general.

Lloyd's Register

http://www.lr.org/bwm

IMO

http://www.imo.org

http://globallast.imo.org

http://www.uscg.mil/hq/g-m/mso/estandards.htm

US EPA (Environmental Protection Agency)

http://www.epa.gov/owow/invasive_species/ballast_water.html

US – Smithsonian Environmental Research Centre

http://invasions.si.edu/ballast.htm

SOCP Ballast Water Management Information Centre

http://www.socp.org/ballast/bwm.htm

CQD Journal for the Maritime Environmental Industry

http://www.cqdjournal.com/html/cqd.html

http://www.cqdjournal.com/Hot_Events/Press_Releases/MEPC-47/mepc-47.htm

http://www.cqdjournal.com/Hot_Events/ballast-imo/ballast-tech/ballast-tech.htm