Lloyd's Register Marine

Working together for a safer world

National ballast water management requirements

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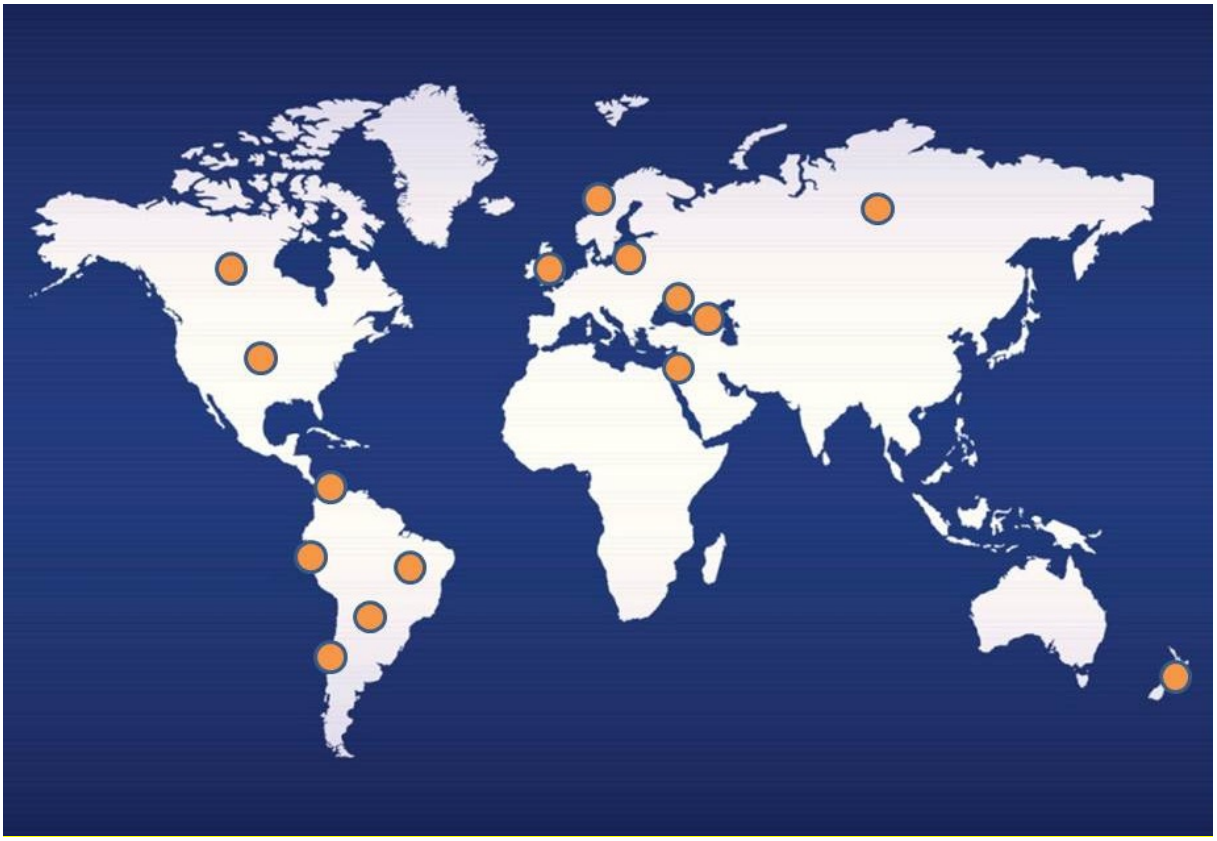
Contents

1. Introduction

This document contains a synopsis of a number of known national, regional and local ballast water management regulations and known bio-fouling management regulations and requirements.

The information here is an overview of the regulations and requirements to the best of our knowledge at the time of writing, but may not be an exhaustive list. Individual country authorities should be consulted before entering their jurisdiction, to ensure compliance with any relevant ballast water regulations. In addition, the complete text of each regulation referenced in this document should be consulted for full details.

The map below shows the locations contained in this report.



2. National requirements

2.1 Argentina

Authority:	Dirección de Prefectura Naval Argentina (DPMA)
Ports affected:	All (for access to which the vessel will navigate along the River Plate)
Ships affected:	All ships
Implementation:	Mandatory
Start date:	1998
Acceptable methods:	a) Ballast water exchange (BWE): to be conducted in open-sea following the IMO approved methods, i.e. total ballasting and deballasting, flow-through, or over-flow or sequential exchange. **Note:** 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 and pathogens:	No information
Uptake control:	No information
Sampling:	Prefectura Naval Argentina may take samples of the content of ballast tanks, pipes, and pumps to control, by means of the methodology deemed more convenient, the presence of aquatic harmful organisms, and to verify that the specifications of the regulations have been complied with.
Ballast Water Management Plan:	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.
Records and reporting:	No reporting or recording requirements specified
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	The regulations apply to all ships entering the River Plate Basin. The area is 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 36o 14' South and longitude 53o 32' West. From there back to Punta del Este."

2.2 Argentina - Buenos Aires

Authority:	Direccion Nacional de Sanidad de Fronteras, del Ministerio de Salud Publica (quarantine authorities from the ministry of public health)
Ports affected:	Buenos Aires
Ships affected:	Ships arriving from areas where cholera is endemic
Implementation:	Mandatory
Start date:	1990
Acceptable methods:	In-tank treatment by adding chlorine to ballast water through air pipes
Unwanted organisms and pathogens:	Not defined
Uptake control:	No information whether any specified
Sampling:	Random, by Argentine authorities
Ballast Water Management Plan:	No information
Records and reporting:	No information
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	Not applicable
Notes:	Ships should note that new regulations are introduced under Ordinance No. 12-97, dated 7 January, 1998, entitled Rules for the Protection of the Environment. The regulations designate coastal areas in which discharge of ballast water is prohibited. The areas in question are generally small and mostly comprise enclosed bays. Ships should seek the latest information from their agents prior to arrival.

2.3 Australia

Authority:	Department of Agriculture
Ports affected:	All
Ships affected:	All ships entering Australian ports or waters from overseas territories. No exceptions specified.
Implementation:	Mandatory
Start date:	1992
Acceptable methods:	Ballast water exchange methods in deep ocean areas: 1. Sequential exchange (to ensure no more than 50% of high-risk ballast water) 2. Flow through method or dilution exchange method with 300% of a tank's capacity pumped through 3. Compliance regime in agreement with Department of Agriculture 4. Other in-tank treatment agreed with Department of Agriculture (only Department of Agriculture heat treatment method approved as yet for cross equatorial voyages. Further information available from Department of Agriculture – see website, address below).
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	The department officers will conduct ballast water verification inspections onboard vessels to ensure compliance with Australia's ballast water management requirements. The department officers will use the QPAR, the BWMS and the vessel's deck, engineering and ballast water management logs to verify that the information supplied to the department is correct. The verification inspection will take around 30 minutes to complete and in most cases will be conducted at the same time as a routine vessel inspection. Targeted, random and mandatory, under supervision of an Department of Agriculture officer.
Ballast Water Management Plan:	Required
Records and reporting:	Quarantine Pre- Arrival Report (QPAR) must be submitted to the Department for Agriculture between 12-96 hours prior to entering Australian water. The QPAR requires Masters to declare whether or not they have complied with Australia's mandatory Ballast Water Management Requirements. Masters must also complete the 'Ballast Water Management Summary' (form 26) with details about ballast water uptake ports, ocean exchanges. The details on the Ballast Water Management Summary form should be a duplication of the vessels own

	ballast water recordings from the vessels log book or ballast log. These must be submitted to the Department of Agriculture with the QPAR if the vessel plans to discharge ballast water in Australian waters. Record time, dates location, volume and salinity of all ballast water loaded, exchanged at sea, and discharged.
Alternatives to en route management procedures:	1. Normal discharge based on risk assessment taking into account the type of vessel, origin and 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
Notes:	Department of Agriculture website: **http://www.agriculture.gov.au/biosecurity/avm/vessels/quarantine-concerns/ballast** It is suggested that a copy of the 'Ballast Water Requirements Australia' is obtained for vessels visiting Australia.

2.4 Australia – State of Victoria

Authority:	Victoria State Government Environment Protection Authority
Ports affected:	All Victorian ports
Ships affected:	All vessels intending to visit Victorian waters (12 nautical miles off the coast) or Victorian ports, where domestic ballast water is intended to be discharged. All ships visiting a Victorian port that have capacity to carry marine ballast water, unless specifically exempted by the Regulations.
Implementation:	Mandatory
Start date:	July 2006
Acceptable methods:	Ballast water exchange methods in deep ocean areas: 1. Sequential exchange until suction is lost, and stripping pumps or eductors to be used if possible. 2. Flow through method or dilution exchange method with 300% of a tank's capacity pumped through Additional ballast water treatment methods being researched internationally and in Australia include filtration, heat treatment, and biological and chemical control. The International Maritime Organisation (IMO) has guidelines that outline the performance standard of treatment that needs to be met. EPA may consider such treatment methods on a case-by-case basis, provided sufficient documentation is received to allow a comprehensive review and analysis of the treatment method. Of critical importance is data on the impact that the discharge of treated ballast water is likely to have on the receiving waters.
Unwanted organisms and pathogens:	Unknown
Uptake control:	Unknown
Sampling:	EPA Authorised officers will carry out compliance monitoring and verification inspections out of any port on a random basis to ensure compliance with the Policy and the Regulations.
Ballast Water Management Plan:	Not specified
Records and reporting:	The owner and master of any ship visiting a port must ensure that a completed ballast water report form and ballast water log is provided to the EPA in accordance with the requirements of the protocol.
Alternatives to en route management procedures:	The owner and master of a ship must ensure there is no discharge of domestic ballast water in Victorian State waters unless written authorisation to discharge has been received from the Authority.
Procedure for unacceptable ballast water:	To avoid discharging high-risk domestic ballast water, the ship may elect to hold the ballast water onboard or transfer it from tank to tank within the ship. This is an acceptable way of managing ballast water risk.

Notes:	Victoria EPA website: **http://www.epa.vic.gov.au/business-and-industry/guidelines/water-guidance/ballast-water-guidance**

2.5 Brazil

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
Start date:	30 December, 2006
Acceptable methods:	Sequential method, flow-through method and dilution method, where at least 3 times the tank's volume should be pumped. Ballast water exchange should be carried out with an efficiency of at least 95% volumetric exchange. The exchange must take place in an area no less than 200 nautical miles from the coast and in a water depth of 200 metres or more. If this is not possible exchange may take place at least 50 nautical miles from the coast and in a water depth of at least 200 metres. 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 is to reduce the salinity of the ballast water between the 20 metres isobaths contour and Macapá. When the ballast volume is less than 5,000 cubic metres the additional exchange should be carried out at the mouth of the Jari river. In this second exchange it will be necessary only to pump the tank volume once. The same applies to the River Para for which the second exchange must conducted at least 60 nautical miles from Salinópolis as far as the lighthouse of Ponta do Chapéu Virado (Mosqueiro Island).
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	Targeted, random and mandatory.
Ballast Water Management Plan:	A Ballast Water Management Plan to be onboard and must be approved by classification society or the vessel's flag Administration.
Records and reporting:	The ship must send a copy of the Ballast Water Reporting Form to the relevant authority 24 hours prior to the estimated time of arrival. One copy of this report will have to be maintained on board for possible presentation to any other authorities.
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.
Notes:	None

2.6 Canada

Authority:	Transport Canada
Ports affected:	All
Ships affected:	All ships (including Canadian vessels everywhere)
Implementation:	Mandatory
Start date:	2011
Acceptable methods:	a) Ballast Water Exchange (BWE): A ballast water exchange must achieve at least 95% volumetric exchange and a ballast water salinity of at least 30 parts per thousand, if the exchange is conducted in an area not less than 50 nautical miles from shore. In the case of a vessel that exchanges ballast water through flow-through exchange, pumping through three times the volume of each ballast tank is considered to meet the requirements. **Note:** 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) Treatment system/ballast discharge standard: the treatment standard is the same as that contained in the IMO Convention – Regulation D-2. The use of a treatment system that does not meet the standard specified in section 9 of the Regulations may also be acceptable if it is at least equivalent to ballast water exchange, but such systems would have to be evaluated and accepted by Transport Canada on a case by case basis.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	A Ballast Water Management Plan must be on board. Plans carried on Canadian and non-Canadian vessels should be reviewed by the national Administration, but do not have to be approved. In the case of Canadian vessels, the authorised representative must ensure that a copy of the ballast water management plan carried on board has been submitted to the Minister.
Records and reporting:	A Ballast Water Reporting Form should be submitted by email before entering Canadian waters. For vessels proceeding to areas situated on the East Coast, in Quebec or in Ontario (Great Lakes Basin) email atlanticballastwater@tc.gc.ca For vessels proceeding to areas situated north of 60° N, including all the waters of Hudsons Bay, Ungava Bay, and James

	Bay email atlanticballastwater@tc.gc.ca For vessels proceeding to areas situated on the West Coast email pacballastwater@tc.gc.ca The master or operator must keep on board a copy of each Ballast Water Reporting Form for 24 months after it is submitted.
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	Should a vessel be unable to exchange or treat its ballast it may be requested to conduct exchange in an alternative area under Canadian jurisdiction. Please refer to the text of the regulations and their guidance notes (link below) for exact details.
Notes:	**http://laws-lois.justice.gc.ca/PDF/SOR-2011-237.pdf**

2.7 Chile

Authority:	Chilean Navy; General Directorate of the Maritime Territory and the Merchant Marine, Maritime Safety, Security 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
Start date:	10 August, 1994
Acceptable methods:	Ballast water exchange in deep water at a distance of not less than 12 nautical miles from the coast.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	Required
Records and reporting:	Entries in bridge and engine room logbooks, showing geographical co-ordinates, amount replaced and what percentage of total ballast capacity it represents.
Alternatives to en route management procedures:	In-tank treatment before discharge, by 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 discharge of the treated ballast water.
Procedure for unacceptable ballast water:	No information
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.

2.8 Georgia

Authority:	Georgian Environmental Protection Ministry
Ports affected:	All Georgian ports
Ships affected:	All
Implementation:	Mandatory
Start date:	No information
Acceptable methods:	Ballast water exchange (BWE): BWE must be conducted in the Black Sea.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	Required
Records and reporting:	No information
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	No information

2.9 Israel

Authority:	Ministry of Transport, Administration of Shipping and Ports
Ports affected:	All
Ships affected:	All
Implementation:	Mandatory
Start date:	1 April, 2009
Acceptable methods:	The State of Israel has published in the past a requirement for mandatory BWE for all ships destined for Israeli Port/s and/or navigating along the coast of Israel. The 1st such requirement was published in 1994 (NTM 5/95) and the superseding requirement in 1996 (NTM 4/96). The above NTM required all ships arriving at Mediterranean ports of Israel to perform BWE at the Atlantic Ocean, and ships arriving at the Port of Eilat, outside the Red Sea when practicable. As of 1 April, 2009, all ships arriving at any Israeli port are obliged to comply with the requirements of the 2004 "International Convention for the Control and Management of Ships' Ballast Water and Sediments" and in line with IMO Guidelines, Resolution A.868(20). Ships conducting open-sea BWE are requested to prove adherence to the procedures specified in the Convention, maintain an approved Ballast Water Management Plan (Regulation B-1), a Ballast Water Record Book (Regulation B-2) and any other documentation/certification (Regulation E-2) which may be required by Port State Control officers. Ships equipped with IMO approved BWT technologies (under Regulation D-2 "Ballast Water Performance Standards"), will be requested to produce evidence of appropriate certification and demonstrate proficiency in the safe and efficient operation and maintenance of the BWT equipment.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	Required
Records and reporting:	No information
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	No information

2.10 Korea (South)

Authority:	The South Korean Ministry of Oceans and Fisheries (MOF)
Ports affected:	South Korean ports
Ships affected:	Vessels that have loaded ballast water within 50 miles of the Fukushima nuclear power plant or within the Japanese ports of Hachinohe, Ishinomaki, Sendai, Soma, Onahama and Hitachi, and visiting South Korean ports
Implementation:	Guidance
Start date:	September 2013
Acceptable methods:	If it is necessary to load ballast water in the listed Japanese areas/ports, e.g. for the purpose of ensuring the safety of the vessel in an emergency situation, the vessel should perform a ballast water exchange operation in the open sea prior to entering a South Korean port. The ballast water should be replaced by means of overflowing the tanks and pumping through three times the volume of the ballast tanks' capacity. Vessels with ballast vent heads, not designed for or intended to be used for continuous overflow during ballast water exchange should ensure that an alternative method used is in compliance with Regulation D-1 of the Ballast Water Management Convention. Records from the operation should evidence that a ballast water exchange operation with an efficiency of at least 95% volumetric exchange of ballast water has been carried out prior to port entry. Port Authorities will inspect the relevant vessels arriving from Japan and vessels found in breach of the guidance will be instructed to leave the Korean port in order to exchange the ballast water in open sea.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	No information
Records and reporting:	The vessel should report the ballast water exchange operation to the Korean Port Authorities when declaring port entry.
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	No information

2.11 Lithuania – Butinge oil terminal, Klaipeda

Authority:	Klaipeda State Seaport Authority and Butinge Port Authority (respectively)
Ports affected:	Port of Klaipeda and Butinge oil terminal
Ships affected:	All
Implementation:	Believed to be mandatory
Start date:	1 January, 2009
Acceptable methods:	Prior to ship's entry into the port, a ship shall replace her ballast water with the Baltic Sea or North Sea waters except ships arriving from the Baltic Sea ports. 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 Helsinki Commission (HELCOM) recommendation.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	No information
Records and reporting:	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 of a shipboard Ballast Water Management Plan.
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	Edition as per Order No. 3-510, dated 29 December, 2008 effective as of 1 January, 2009

2.12 New Zealand

Authority:	Ministry for Primary Industries (MPI), New Zealand
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:	Compliance with a standard requiring mid-ocean exchange of ballast water. An import health standard for ballast water came into effect on 1 May, 1998 (revised 13 June, 2005), applying to ballast water loaded in another country and due for discharge in New Zealand. It requires that ballast water to be discharged has been exchanged in mid-ocean, preferably 200 nautical miles from the nearest land and in water over 200m in depth. Submission of Ballast Water Declaration forms prior to arrival in first New Zealand port, and on departure from final New Zealand port, is mandatory. No ballast discharge permitted until inspector's permission received.
Start date:	Mandatory measures from 30 April, 1998
Acceptable methods:	Ballast water exchange at mid ocean position preferably 200 nautical miles from land. 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. Alternative methods: Use of fresh water in ballast tanks (<2.5ppt NaCl) Use of approved on-shore treatment facility (none approved yet) Use of approved in-tank treatment (none approved yet).
Unwanted organisms and pathogens:	Not applicable
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, or in areas where there are known to be active algal blooms or an outbreak of any disease communicable through ballast water.
Sampling:	Samples may be taken. Ballast tank covers should be maintained in good order to allow access for sampling.
Ballast Water Management Plan:	No information

Records and reporting:	Per tank: • location and volume of ballast water loaded in other port • location, volume, method and duration of exchange at sea and pumping rate • location, volume and date of discharge in New Zealand.
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, providing that 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 water:	Vessel retains ballast and possibly redistributes it around the vessel, or returns to 200 nautical miles to undertake the exchange and reapplies for permission.
Notes:	New Zealand Import Health Standard for Ballast Water from All Countries – a standard issued under the Biosecurity Act 1993 (New Zealand statue). Further information can be found on the MPI New Zealand website: **www.biosecurity.govt.nz/enter/ships/ballast**

2.13 Norway

Authority:	Norwegian Maritime Directorate
Ports affected:	All, including territorial waters surrounding Svalbard and Jan Mayen, and the Norwegian economic zone.
Ships affected:	All, including submersible vessels and mobile offshore units under transport. Exceptions are ships training exclusively in Norwegian territorial waters and the Norwegian economic zone, ships with permanent ballast water in sealed tanks, and craft of less than 50 metres in length overall and with maximum ballast water capacity of 8 cubic metres, which is used solely for recreation, competition or craft used primarily for search and rescue. However, such crafts shall exchange ballast water outside port waters and as far from the coast as practically possible.
Implementation:	Mandatory
Start date:	1 January, 2010
Acceptable methods:	Ballast water 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 than 50 nautical miles from land. Ships are not required to deviate from their intended voyage to meet this requirement, however, ballast water may not be discharged into ports and internal waters. At least 95% of the volume in all ballast tanks to be used for port calls shall be exchanged. Pumping through three times the volume of each ballast water tank shall be considered equal to this requirement. Treat with an IMO approved system. Deliver to a reception facility. The Norwegian Maritime Directorate may, in individual cases and upon written application, grant exemption from these requirements. There must be special reasons that make the exemption necessary and it must be justifiable in terms of safety.
Unwanted organisms and pathogens:	No information
Uptake control:	Ships which are to discharge ballast water, and which have taken on board ballast water from areas outside the region shown in Annex 1 of the Regulations, or from another area within the region than the area in which it is to be discharged, shall manage ballast water by employing exchange, treatment or delivery to reception facilities pursuant to Chapter 2 of the Regulations.
Sampling:	Not defined
Ballast Water Management Plan:	Ships must have a Ballast Water Management Plan approved in accordance with IMO Resolution (MEPC.127(53) - Guidelines for Ballast Water Management and Development of Ballast Water

	Management Plans (G4), adopted on 22 July, 2005.
Records and reporting:	Ships must have a ballast water record 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 areas off the Norwegian coast. For details of these areas please see Annex 1 of the Regulations.
Procedure for unacceptable ballast water:	No information
Notes:	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) can be downloaded from: **www.sjofartsdir.no/en/legislation/regulations/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/**

2.14 Panama

Authority:	Panama Canal Authority
Ports affected:	Panama Canal
Ships affected:	All
Implementation:	Mandatory
Start date:	September 23, 1999
Acceptable methods:	Ballast tanks shall not be discharged into Canal waters. Vessels wishing to load or unload ballast must have properly fitted chutes or spouts, built and located in such a way that the ballast is not spilled overboard.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	No information
Records and reporting:	No information
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	No information

2.15 Peru

Authority:	General Directorate of Captainships and Coastguards acting as the Maritime Authority
Ports affected:	All Peruvian ports
Ships affected:	All ships
Implementation:	Mandatory
Start date:	March 2006
Acceptable methods:	Ballast water exchange: All ships trading internationally proceeding from foreign ports that have onboard ballast water and which have Peruvian ports as destination or as port of calls must renew their ballast water at least once beyond 12 nautical miles off the coast before entering a Peruvian port. Every time it is possible they will carry out the cleaning of the ballast tanks to withdraw sediments.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	Records of ballast water management must be kept in a Ballast Water Register Book. While referred to as a 'Ballast Water Register Book' in the regulations, it is understood that this is equivalent to a Ballast Water Management Plan and as a consequence is required to be maintained on board.
Records and reporting:	A 'Ballast Water Notification' should be submitted to the Maritime Authority on arrival at the Port.
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:	No information
Notes:	Local authorities are obligated to provide designated ballast exchange zones

2.16 United Kingdom

Authority:	Orkney Islands Council Harbour Authority
Ports affected:	29 piers and harbours located in the Orkney Islands, including Scapa Flow
Ships affected:	All ships intending to conduct ballast water management and / or discharge within Scapa Flow, in particular: a) all vessels over 400 gt within or using the Scapa Flow Oil Port or Anchorage Facility as defined by the harbour authority limits, b) all vessels carrying out ship to ship oil or liquid gas operations within 500m (radius) of designated STS locations 1 to 4 as shown on United Kingdom Hydrographic Office Chart 35. Liquid Petroleum Gas Carriers using Flotta Oil Terminal are subject to special ballast management agreements. See the OIC Harbour Authority Ballast Water Management Policy for Scapa Flow for further details.
Implementation:	Mandatory
Start date:	10 December, 2013
Acceptable methods:	a) For vessels using the Flotta Oil Terminal jetty or Single Point Mooring (SPM) facilities: Discharge is only permitted through the ballast water reception and treatment facilities that are provided at the Flotta Oil Terminal. b) Direct discharge to sea of their ballast water is only permitted in accordance with the following restrictions: i. The total quantity of ballast water for discharge is limited to the minimum essential quantity possible. ii. The ballast water for discharge must have been taken onboard or exchanged in accordance with IMO Resolution A.868 (20) Reg B-4 criteria. If this is not possible, then at least taken onboard or exchanged within 24 hours of arrival at Scapa Flow and a minimum of 12 nautical miles from the nearest land. iii. The Master has formally requested and obtained written permission from the Harbour Authority to undertake specific de-ballast operations. c) Direct discharge to sea of their ballast water is only permitted in accordance with the following conditions: i. The total quantity of ballast water for discharge is limited to the minimum essential quantity possible. ii. The ballast water for discharge must have been taken onboard or exchanged within the specific locations and in accordance with the circumstances and conditions identified within the agreement. iii. The Master submits to the Harbour Authority prior to arrival a ballast water reporting form or similar indicating the times, quantities and positions of all

	ballast water intake operations and indicating those tanks to be discharged. iv. The Master has onboard a valid copy of the ballast water management agreement.
Unwanted organisms and pathogens:	Some unwanted organisms include leathery sea squirt (*styela clava*), common cord-grass (*spartina anglica*), colonial tunicate (*didemnun vexillum*), slipper limpet (*crepidula fornicata*), chinese mitten crab (*eriocher sinensis*), American oyster drill (*urosalpinx cinerea*) and marine tubeworm (*ficopomatus enigmaticus*).
Uptake control:	No information
Sampling:	Sampling of vessels ballast water will be carried out in accordance with Article 9 of the Convention.
Ballast Water Management Plan:	All ships are required to be prepared to submit for inspection a Ballast Water Management Plan as described by Regulation B-1 of the Convention, and a Ballast Water Record Book as described by Regulation B-2.
Records and reporting:	To obtain permission to discharge ballast water the Master must provide OIC Harbour Authority with a Ballast Water Reporting Form, or similar, indicating the position and time of taking on-board and/or exchange of the ballast water, and a Ballast Water Discharge Request Form or similar, indicating those tanks and quantities being requested for discharge. Permission will be granted to the Master either directly or through the Ship's agent as appropriate.
Alternatives to en route management procedures:	Vessels fitted with IMO Convention compliant and certificated ballast water treatment systems (regulation D-2) must still exchange ballast water prior to undertaking treatment, before discharge of any ballast water will be authorised within Scapa Flow
Procedure for unacceptable ballast water:	Vessels that for any reason cannot comply with the conditions described in a), b) or c) will not be permitted to de-ballast within Harbour limits.
Notes:	For further information and download forms visit http://www.orkneyharbours.com/ballast_water_management.asp

2.17 United States (US)

Authority:	US Coast Guard
Ports affected:	All US ports
Ships affected:	All non-recreational vessels, US and foreign, that are equipped with ballast tanks and operate in the waters of the US, in excess of 79 feet in length. The following vessels are exempt from the requirements: 1. Crude oil tankers engaged in coastwise trade 2. Vessels that operate exclusively within one Captain of the Port (COTP) Zone. The following vessels are exempt only from the BWM requirements but not the record keeping and reporting requirements: 1. Seagoing vessels that operate in more than one COTP Zone, do not operate outside of the Exclusive Economic Zone (EEZ), and are less than or equal to 1,600 gross register tons or less than or equal to 3,000 gross tons 2. Non-seagoing vessels, and 3. Vessels that take on and discharge ballast water exclusively in one COTP Zone.
Implementation:	Mandatory
Start date:	21 June, 2012
Acceptable methods:	Ballast water exchange: if water was taken on in areas less than 200 nautical miles from any shore and will subsequently operate beyond the EEZ, and more than 200 nautical miles from any shore, the vessel must perform complete ballast water exchange in an area more than 200 nautical miles from any shore, before discharging. If water is engaged in Pacific nearshore voyages that carries ballast water that was taken on in areas less than 50 nautical miles from any shore, the vessel must carry out ballast water exchange more than 50 nautical miles from any shore and in waters more than 200 metres deep prior to discharge. Exchange is permitted until treatment is required in line with the timetable given below. Treatment system/ballast discharge standard: ships calling at US ports and intending to discharge ballast will be required to use an approved ballast water treatment system that meets the US discharge standard (which is the same as the IMO D-2 standard) in accordance with the following timetable:

	Vessel's ballast water capacity	Date constructed	Vessel's compliance date
New	All	On or after 1 December,	On delivery

vessels		2013	
Existing vessels	Less than 1,500 m^3	Before 1 December, 2013	First scheduled drydocking after 1 January, 2016
	1,500-5,000 m^3	Before 1 December, 2013	First scheduled drydocking after 1 January, 2014
	Greater than 5,000 m^3	Before 1 December, 2013	First scheduled drydocking after 1 January, 2016

The regulations will also require all ships to:

- clean ballast tanks to remove sediments. Sediments must be disposed of in accordance with local, state, and federal regulations,
- Discharge only the minimal amount of ballast water essential for vessel operations while in the waters of the United States,
- rinse anchors and chains when an anchor is retrieved,
- remove fouling from the hull, piping and tanks on a regular basis,
- maintain a Ballast Water Management Plan that includes procedures for fouling and sediment removal as well as ballast water management – there is no requirement for the plan to be approved,
- submit a report form 24 hours before arrival by emailing to NBIC@BallastReport.org.

The USCG will review the practicability of implementing a higher ballast water discharge standard and publish the results no later than 1 January, 2016.

Unwanted organisms and pathogens:

No information

Avoid the discharge or uptake of ballast water in areas within, or that may directly affect, marine sanctuaries, marine preserves, marine parks, or coral reefs.

Uptake control:

Minimise or avoid uptake of ballast water in the following areas and situations:

areas known to have infestations or populations of harmful organisms and pathogens (e.g., toxic algal blooms)

- areas near sewage outfalls

	• areas near dredging operations • areas where tidal flushing is known to be poor or times when a tidal stream is known to be turbid • in darkness, when bottom dwelling organisms may rise up in the water column • where propellers may stir up the sediment • areas with pods of whales, convergence zones, and boundaries of major currents.
Sampling:	The Captain of the Port (COTP) must be provided with access to the vessel in order to take samples of ballast water and sediment, examine documents, and make other appropriate inquiries to assess the compliance of any vessel.
Discharge standard:	Treatment systems must be approved by the USCG and must be able to meet the following standards: 1. For organisms greater than or equal to 50 micrometers in minimum dimension discharge must include fewer than 10 organisms per cubic meter of ballast water. 2. For organisms less than 50 micrometers and greater than or equal to 10 micrometers discharge must include fewer than 10 organisms per millilitre (mL) of ballast water. 3. Indicator micro-organisms must not exceed: i. for Toxicogenic Vibrio cholerae (serotypes O1 and O139), a concentration of less than 1 colony forming unit (cfu) per 100mL ii. for Escherichia coli, a concentration of fewer than 250 cfu per 100mL iii. for intestinal enterococci, a concentration of fewer than 100 cfu per 100mL.
Records and reporting:	A ship must maintain records of ballast and fouling management on board, and submit a report form to the National Ballast Information Clearinghouse before arrival at US ports.
Alternatives to en route management procedures:	The Coast Guard will allow the master, owner, operator, agent, or person in charge of a vessel that cannot practicably meet the requirements of ballast water exchange because its voyage does not take it into waters 200 nautical miles or greater from any shore for a sufficient length of time and the vessel retains ballast water on board or because the master of the vessel has identified safety or stability concerns, to discharge ballast water in areas other than the Great Lakes and the Hudson River north of the George Washington Bridge. The Coast Guard will not allow such a discharge if the vessel is required to have a Coast Guard-approved ballast water treatment system in accordance with the implementation schedule above. If the treatment system stops work for any reason the ships is required to report the fact to the nearest Coast Guard commander as soon as possible.

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.
Notes:	Several US States certified the Vessel General Permit (VGP) with additional permit conditions relating to ballast water, including Arizona, California, Connecticut, Hawaii, Illinois, Indiana, Maine, Michigan, Minnesota, New York, Ohio, Rhode Island, Washington, Winsconsin. For full details, please see the full text of the VGP at: **http://water.epa.gov/polwaste/npdes/vessels/upload/vgp_permit2013.pdf**. For the text of 33 CFR 151.2035(a) see **http://www.gpoaccess.gov/ecfr**

3. Regional ballast water requirements

3.1 Mediterranean

Authority:	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)
Ports affected:	All
Ships affected:	All
Implementation:	Voluntary
Start date:	1 January, 2012
Acceptable methods:	a) Ballast water exchange: exchange ballast water before entering the Mediterranean Sea or after leaving the Mediterranean Sea to meet the regulation D-1 standard of the Ballast Water Convention. Exchange should be carried out at least 200 nautical miles from land and in waters at least 200 metres deep. The sequential, flow-through or dilution methods of ballast water exchange are accepted as meeting the D-1 standard. When engaged in traffic between the ports and areas listed below, ships should undertake ballast water exchange in waters at least 50 nautical miles from the nearest land and at least 200 metres deep or in an area designated by a port state: • ports located within the Mediterranean Sea area • a port located in the Black Sea area and a port located in the Red Sea area • a port located in the Black Sea and a port located in the Mediterranean Sea area • a port located in the Red Sea area and a port located in the Mediterranean Sea area. Sediments collected during cleaning or repair of ballast tanks should be delivered to sediment reception facilities or be discharged to sea beyond 200 nautical miles from the nearest coastline when the ship is sailing in the Mediterranean Sea area. b) An IMO-approved ballast water treatment system.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	Required
Records and reporting:	Ballast water record book

Alternatives to en route management procedures:	In situations where this is not possible (because the ship will have to deviate from its intended voyage; because exchange will delay the ship; or for safety reasons) exchange should be undertaken before entering the Mediterranean Sea area, or after leaving the Mediterranean Sea area, as far from the nearest land as possible, and in all cases in waters at least 50 nautical miles from the nearest land and at least 200 metres deep.
Procedure for unacceptable ballast water:	No information
Notes:	IMO circular BWM.2/Circ.35 15 August 2011

3.2 Persian Gulf area

Authority:	Regional Organization for the Protection of the Marine Environment (ROPME)
Ports affected:	All
Ships affected:	All
Implementation:	Mandatory
Start date:	1 November, 2009
Acceptable methods:	a) Ballast water 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 than 50 nautical miles from land. Ships are not required to deviate from their intended voyage to meet this requirement b) Treat with an IMO-approved system
Unwanted organisms and pathogens:	No information
Uptake control:	All ballast water taken up **outside** the ROPME Sea Area, 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:	No information
Ballast Water Management Plan:	Ships must have a Ballast Water Management Plan approved in accordance with the IMO Resolution MEPC.127(53) – Guidelines for Ballast Water Management and Development of Ballast Water Management Plans (G4), adopted on 22, July 2005
Records and reporting:	Ships must have a ballast water log book or record ballasting operations in the deck log book
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	No information

3.3 North East Atlantic and the Baltic Sea

Authority:	OSPAR and Helsinki Convention members*
Ports affected:	All
Ships affected:	All ships entering the waters** of contracting parties to the OSPAR and Helsinki Conventions, which are also IMO member states
Implementation:	Voluntary
Start date:	1 April, 2008
Acceptable methods:	Exchange all ballast tanks at least 200 nautical miles from the nearest land in water at least 200 metres deep prior to entering the waters of OSPAR and Helsinki Convention Members and members of the IMO* This applies to vessels transiting the Atlantic, or entering the areas of the OSPAR and Helsinki Conventions from routes passing the West African Coast – it does not apply to vessels entering the area from the Mediterranean Sea. If exchange has not been undertaken as above, vessels will be expected to exchange in waters at least 200 nautical miles from the nearest land in water at least 200 metres deep within the North East Atlantic. (If this is not possible for operational reasons then such exchange should be undertaken as far from the nearest land as possible, and in all cases in waters at least 50 nautical miles from the nearest land and at least 200 metres deep). It should be noted that nowhere in the Baltic Sea fulfils these criteria. Ships must not release sediments during the cleaning of ballast tanks within 200 nautical miles of the coastline of the North East Atlantic or within the Baltic Sea.
Unwanted organisms and pathogens:	No information
Uptake control:	No information
Sampling:	No information
Ballast Water Management Plan:	Required
Records and reporting:	Ballast water record book required
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	*OSPAR and Helsinki Convention members who are also members of the IMO are: Belgium, Denmark, Estonia, Finland, France, Germany, Latvia, Lithuania, Luxembourg, Iceland, Ireland, The Netherlands, Norway, Poland, Portugal, the Russian

Federation, Spain, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland.

** 'Waters' refers to: those parts of the Atlantic and Arctic Oceans and their dependent seas, including the Baltic Sea, which lie north of 36° north latitude and between 42° west longitude and 51° east longitude, but excluding the Mediterranean Sea and its dependent seas as far as the point of intersection of the parallel of 36° north latitude and the meridian of 5° 36' west longitude; and that part of the Atlantic Ocean north of 59° north latitude and between 44° west longitude and 42° west longitude.

http://www.ospar.org/html_documents/ospar/html/ospar_helcom_guidance_ballast_water.pdf

3.4 Antarctic

Authority:	No information
Ports affected:	No information
Ships affected:	No information
Implementation:	Voluntary
Start date:	July 2007
Acceptable methods:	For vessels needing to discharge ballast water within the Antarctic Treaty area, ballast water should first be exchanged before arrival in Antarctic waters (preferably north of either the Antarctic Polar Frontal Zone or 60oS, whichever is the furthest north) and at least 200 nautical miles from the nearest land in water at least 200 metres deep. (If this is not possible for operational reasons then such exchange should be undertaken in waters at least 50 nautical miles from the nearest land in waters of at least 200 metres depth). Only those tanks that will be discharged in Antarctic waters would need to undergo ballast water exchange following the procedure above. Ballast water exchange of all tanks is encouraged for all vessels that have the potential/capacity to load cargo in Antarctica, as changes in routes and planned activities are frequent during Antarctic voyages due to changing meteorological and sea conditions. If a vessel has taken on ballast water in Antarctic waters and is intending to discharge ballast water in Arctic, sub-Arctic, or sub-Antarctic waters, it is recommended that ballast water should be exchanged north of the Antarctic Polar Frontal Zone, and at least 200 nautical miles from the nearest land in water at least 200 metres deep. (If this is not possible for operational reasons then such exchange should be undertaken in waters at least 50 nautical miles from the nearest land in waters of at least 200 metres depth.) For vessels that have spent significant time in the Arctic, ballast water sediment should preferably be discharged and tanks cleaned before entering Antarctic waters (south of 60oS). If this cannot be done then sediment accumulation in ballast tanks should be monitored and sediment should be disposed of in accordance with the ship's Ballast Water Management Plan. If sediments are disposed of at sea, then they should be disposed of in waters at least 200 nautical miles from the shoreline in waters at least 200 metres deep.
Unwanted organisms and pathogens:	No information
Uptake control:	No information

Sampling:	No information
Ballast Water Management Plan:	A Ballast Water Management Plan should be prepared for each vessel with ballast tanks entering Antarctic waters, specifically taking into account the problems of ballast water exchange in cold environments and in Antarctic conditions.
Records and reporting:	Each vessel entering Antarctic waters should keep a record of ballast water operations.
Alternatives to en route management procedures:	No information
Procedure for unacceptable ballast water:	No information
Notes:	Release of sediments during the cleaning of ballast tanks should not take place in Antarctic waters. See Guidelines for Ballast Water Exchange in the Antarctic Treaty Area, Resolution MEPC.163(56), Annex 4 http://globallast.imo.org/2012/Individual%20Guidelines%20for%20reference/Antarctica%20MEPC.163%2856%29.pdf

Appendix – Useful web sites

For further information on national regulations or ballast water management in general, visit:

Lloyd's Register

www.lr.org/bwm

IMO

www.imo.org
http://globallast.imo.org

USCG

https://homeport.uscg.mil

US EPA (Environmental Protection Agency)

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

US – Smithsonian Environmental Research Centre

invasions.si.edu/ballast.htm

Lloyd's Register Marine

For further information, contact your local Lloyd's Register Group office, or email:
marine-environment@lr.org

For all other LR ballast water management guidance and information about our services go to:
www.lr.org/bwm

www.lr.org