



BALLAST WATER CONVENTION

Overview and Guidelines

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Introduction:

- The problem
- The solution

**Ballast Water Management
Convention: structure, ratification
and basic requirements**

D1 and D2 standards

Type Approval

Exceptions/ Exemptions

Additional Measures

Guidelines



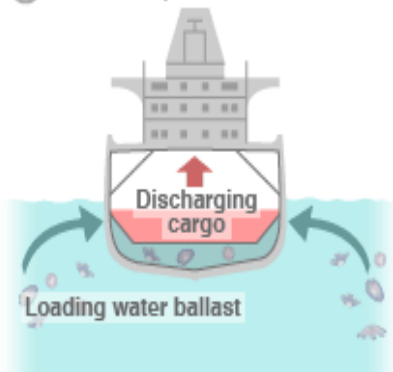
1) Historical - stones used as ballast

- Vasa, Stockholm

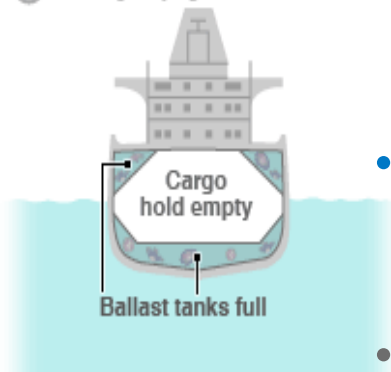


BALLAST WATER CYCLE

① At source port



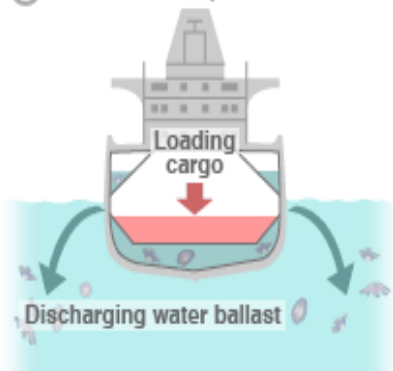
② During voyage



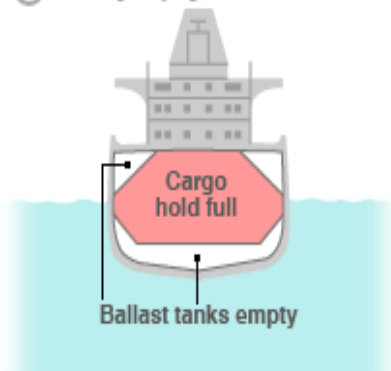
2) Now - water used as ballast
Increasing numbers of Alien species

- **Larger and faster ships (up to 100,000 tonnes of ballast water)**
- **Specific mass invasions**

③ At destination port



④ During voyage



SOURCE: GloBallast

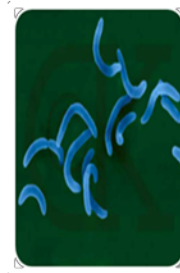


DR RICHARD KIRBY

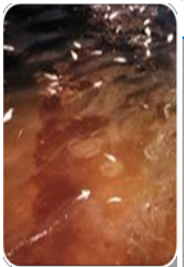
The Problem



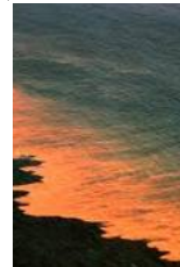
~ 3000-4000 million tons of untreated ballast water are discharged from ships every year in ports



Multitude of species, including bacteria, microbes, small invertebrates, eggs, cysts and larvae are carried in BW

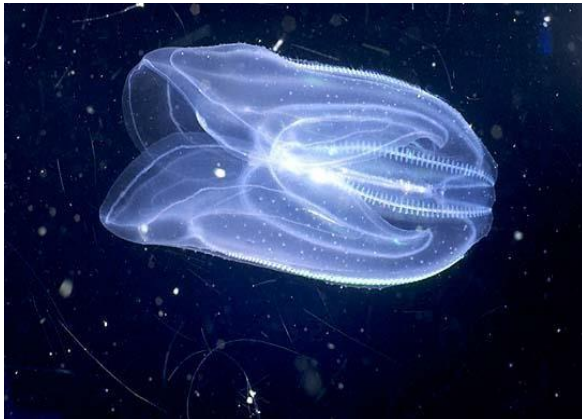


May survive and reproduce in the host environment, becoming invasive, out-competing native species and multiplying into pest proportions

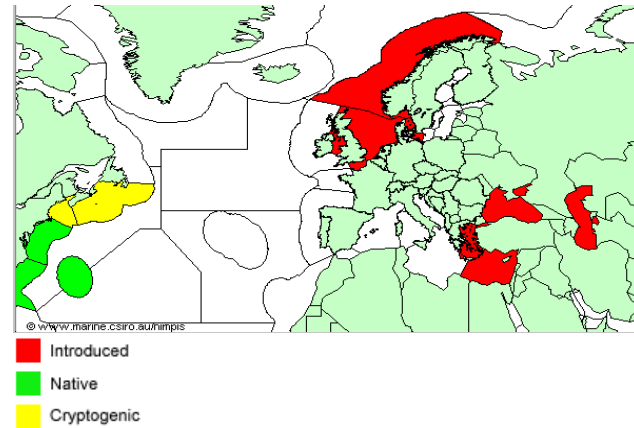


One of the four greatest threats to the world's oceans

Ecological, socio-economic, human health problems, often **irreversible**



<http://www.enature.com/>



©www.marine.csiro.au/nimpis

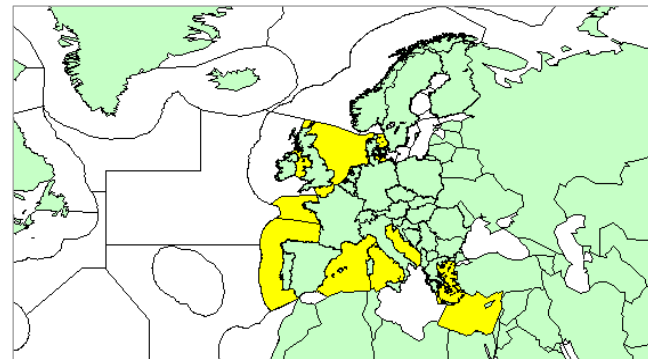
Mnemiopsis leidyi – Comb Jelly

Voracious predator consuming large numbers of zooplankton: fish eggs

Responsible for the collapse of the sprat and anchovy fishing industries in the Black Sea



Tony Rees, CSIRO Marine Research



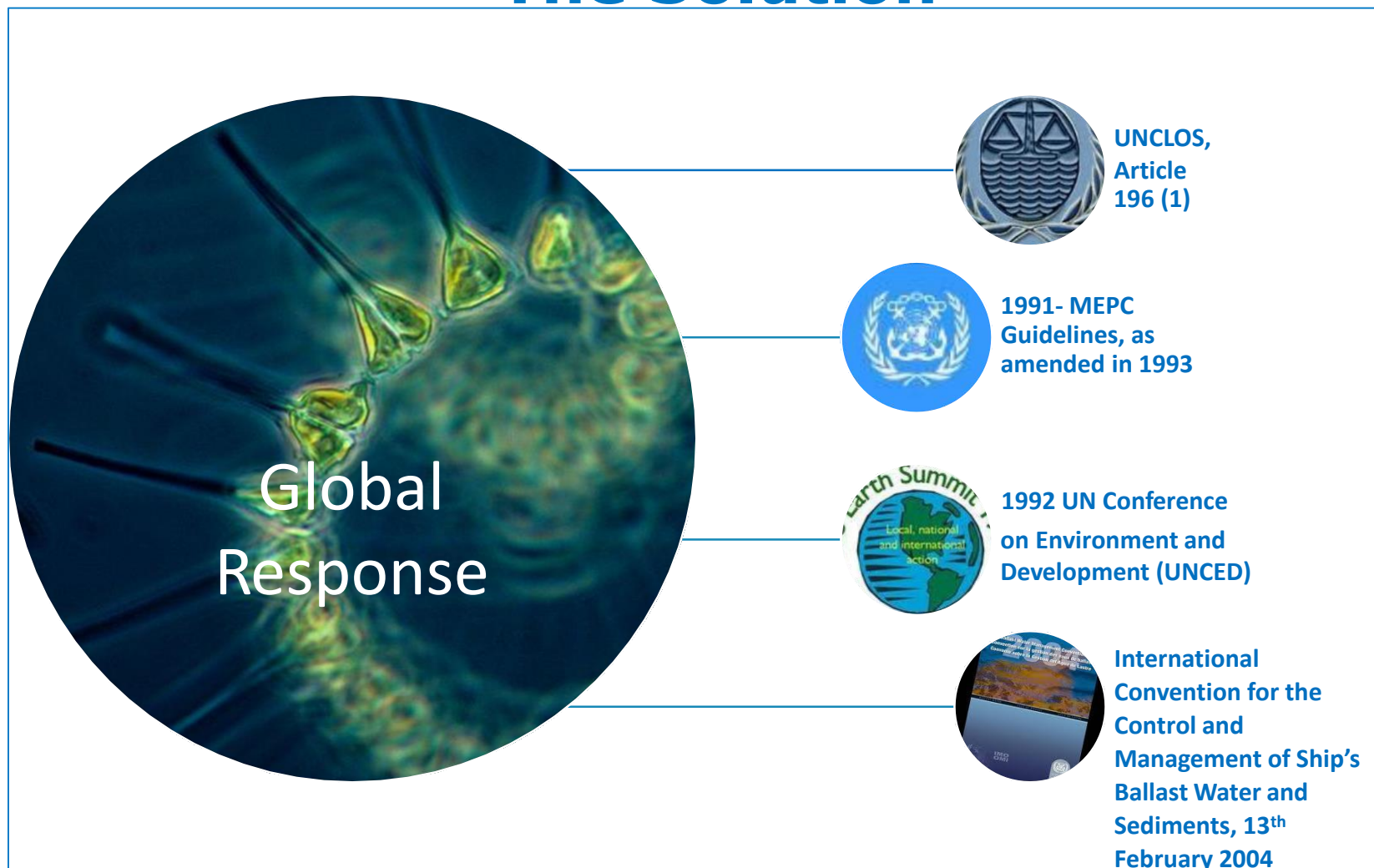
©www.marine.csiro.au/nimpis

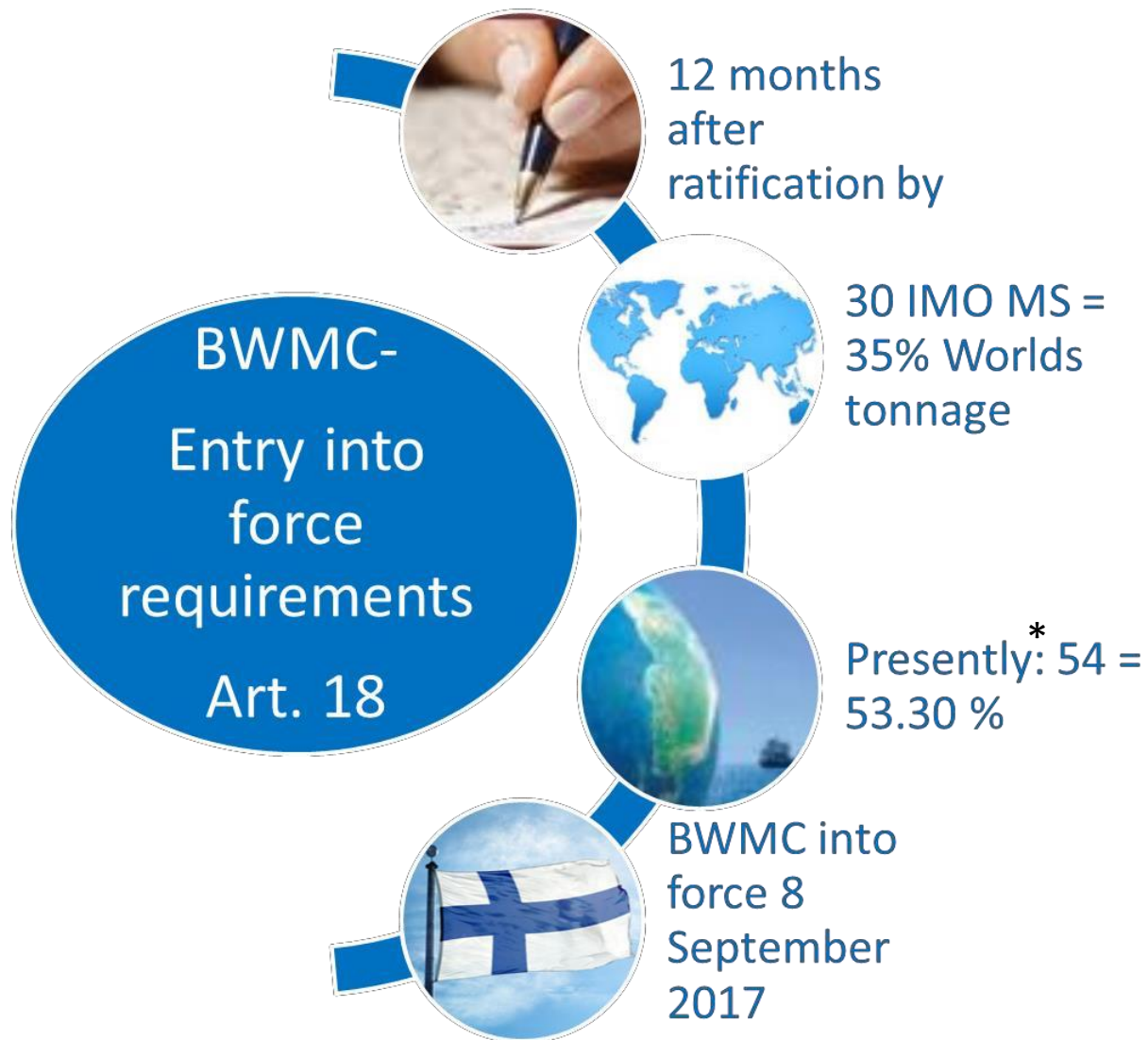
Alexandrium minitum

Produces paralytic shellfish toxins (PSTs) which are bioaccumulated in seafood

Closure of shellfish farms, and fisheries in case of contamination

The Solution





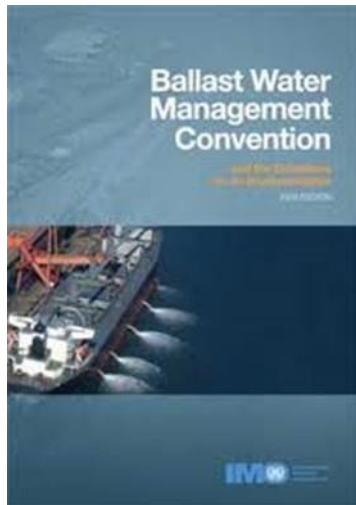
* Present Ratification – 81 States representing 81.3% of world tonnage

BWM Convention - Structure



Preamble

- Recalling, inter alia:
- UNCLOS Art. 196 (1)
- CBD
- Rio Declaration principle 15
- 2002 WSSD



22 Articles

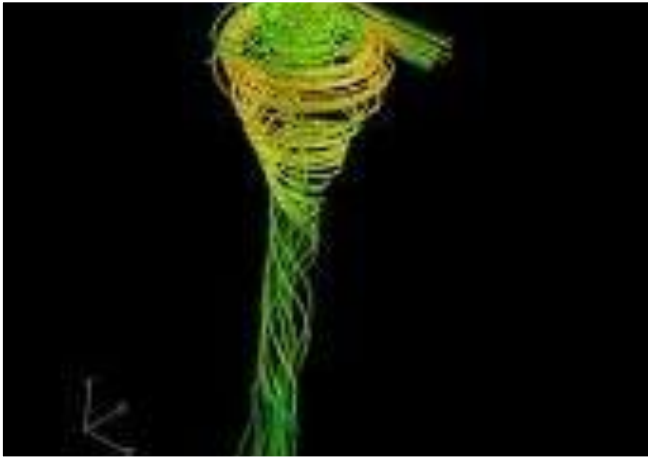
- Article 1 – Definitions
- Article 2 – General Obligations
- Article 3 - Application
- Article 4 – Obligations for Parties
- Article 5 - Sediment Reception Facilities
- Article 6 - Scientific and Technical Research
- Article 7 - Survey and Certification
- Article 8 - Violations
- Article 9 - Inspection of Ships
- Article 10 – Detection of violations and control of ships
- Article 11- Notification of control actions
- Article 12 – Undue delay
- Article 13 – Technical Assistance
- Article 14 – Communication of information
- [...]

Annex

- **Regulations**
 - A- General provisions
 - B- Management and Control Requirements for Ships
 - C- Special Requirements in Certain Areas
 - D- Standards for Ballast Water Management
 - E - Survey and Certification Requirements for Ballast Water Management
- **Appendices**
 - Form of International BWM Certificate
 - Form of ballast water record book

Technical guidelines

- G1: GLs for Sediment Reception Facilities
- G2: GLs for BW Sampling
- G3: GLs for BW Management Equivalent Compliance
- G4: GLs for BW Management and development of BW management plans
- G5: GLs for BW Reception Facilities
- G6: GLs for BW Exchange
- G7: GLs for Risk Assessment under Regulation A-4
- G8: GLs for approval of BW management systems
- G9: Procedure for Approval of BW Management Systems that make use of Active Substances
- G10: GLs for approval and oversight of prototype BW treatment technology programmes
- G11: GLs for BW exchange design and construction standards
- G12: GLs for sediment control on ships
- G13: GLs for additional measures including emergency situations
- G14: GLs on designation of areas for ballast water exchange



General obligations, Art.2

Parties shall give complete effect to the provisions of the Convention and the Annex in order to **prevent, minimize and ultimately eliminate the transfer of harmful aquatic organisms and pathogens** through the control and management of ship's ballast water and sediments

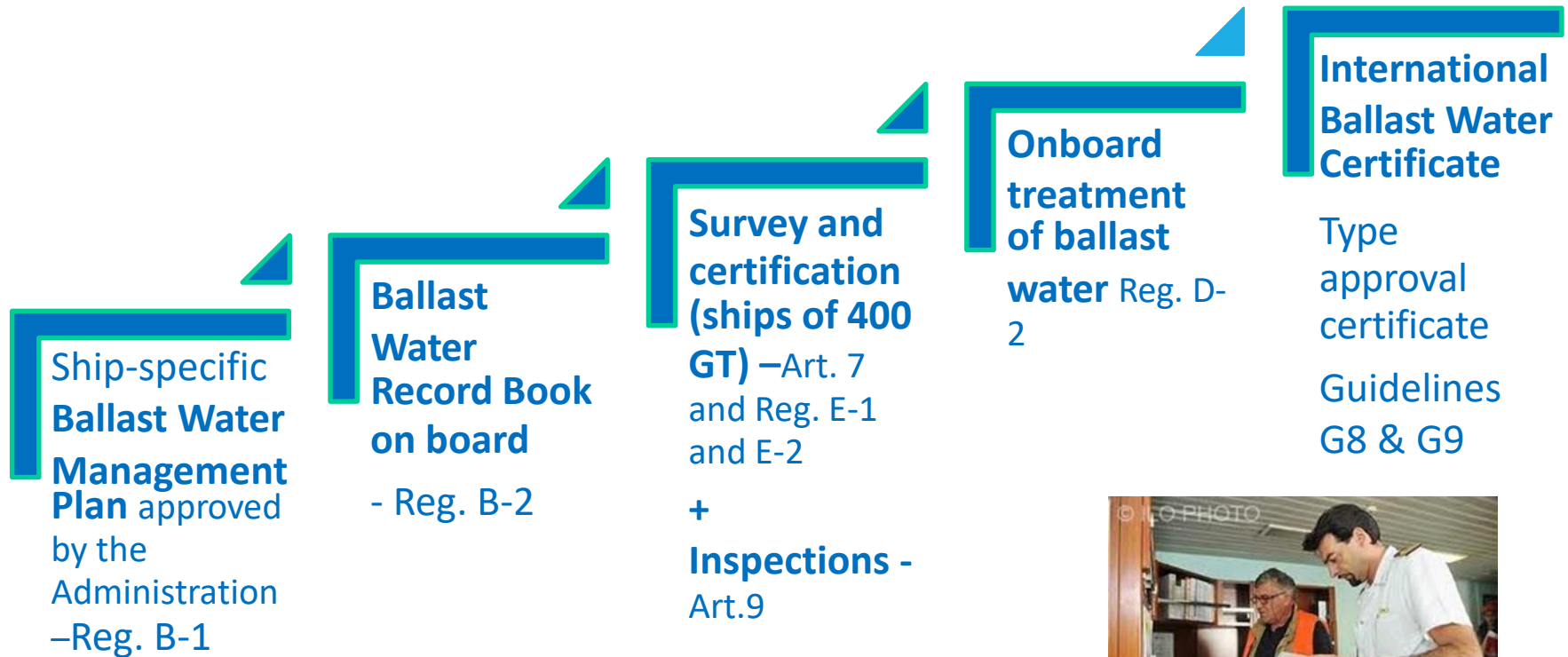


Scope of Application, Art. 3

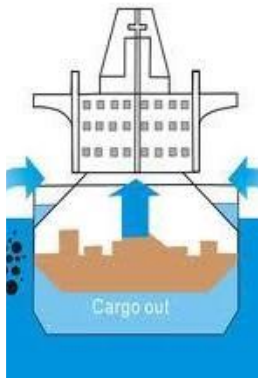
Ships flying the flag of a party or operating under its authority, except of:

- Ships not carrying BW
- Ships in operating exclusively in domestic waters
- Ships operating exclusively in waters of another Party (and high Seas)
- Warships, naval auxiliary and governmental ships

With respect to ships of non-Parties, **no more favourable treatment**



Ballast Water Exchange Standard- D1



At least **95 % volumetric exchange**

Pumping through **3 times** the volume of each ballast water tank

- **Less than 3 times** accepted when ship proves that at least 95% volumetric exchange is met



At least **200 nm from nearest land** and **200 m. depth**

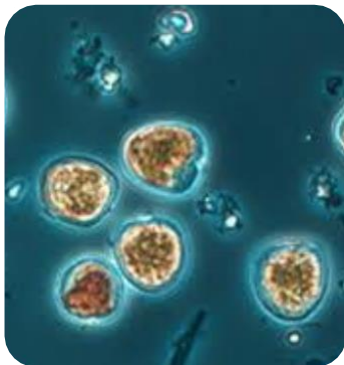
- If not possible - as far from the nearest land as possible, and:
- at least **50 nm /200 m. depth**
- Where these parameters can not be met **special areas** may be designated after consultation of relevant states

Ballast Water Performance Standard- D2



Ships conducting ballast water management shall discharge

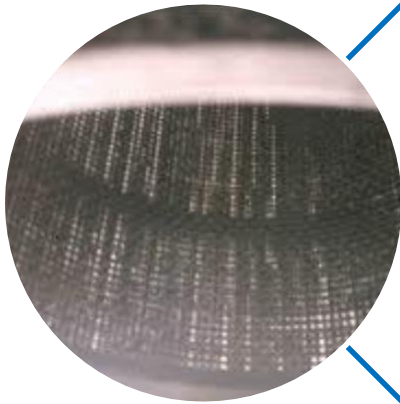
- < 10 viable organisms $\geq 50 \mu\text{m}$ minimum size **per m³**, and
- < 10 viable organisms < 50 μm and $\geq 10 \mu\text{m}$ minimum size **per ml**



Indicator microbes as a human health standard (not be limited to):

- Toxicogenic *Vibrio cholerae* (O1 and O139): <1 colony forming unit (cfu) per 100 ml or < 1 cfu per 1 g (wet weight) zooplankton samples
- *Escherichia coli*: < 250 cfu per 100 ml
- Intestinal Enterococci: < 100 cfu per 100 ml

How to achieve the performance standard?



Treatment systems **not using active substances** must be tested and approved **by national administration** in accordance with **Guidelines G8**

(Reg. D-3)



Treatment systems **using active substances** must be tested and approved **by IMO** in accordance with Procedures in **G9**

(Reg. D-3)



- Exceptions, Reg. A-3**
- Uptake/discharge of BW necessary to ensure safety in **emergency situations, safety of life at sea and minimise pollution**
 - Accidental discharges resulting from **damage to ship/equipment**
 - Uptake/discharge in the **high seas of same BW**
 - Discharge in same location where the BW was originally taken with **no mixing occurred**



- Exemptions, Reg. A-4**
- Ships on **voyage or operating exclusively between specific ports**
 - For **up to 5 years**, subject to intermediate review
 - Based on **G7, GLs for Risk Assessment**
 - To be communicated to IMO
 - To be **recorded in the BW Record Book**

Article 2(3) and Reg. C-1



Right to take, individually or jointly, more stringent BW management measures

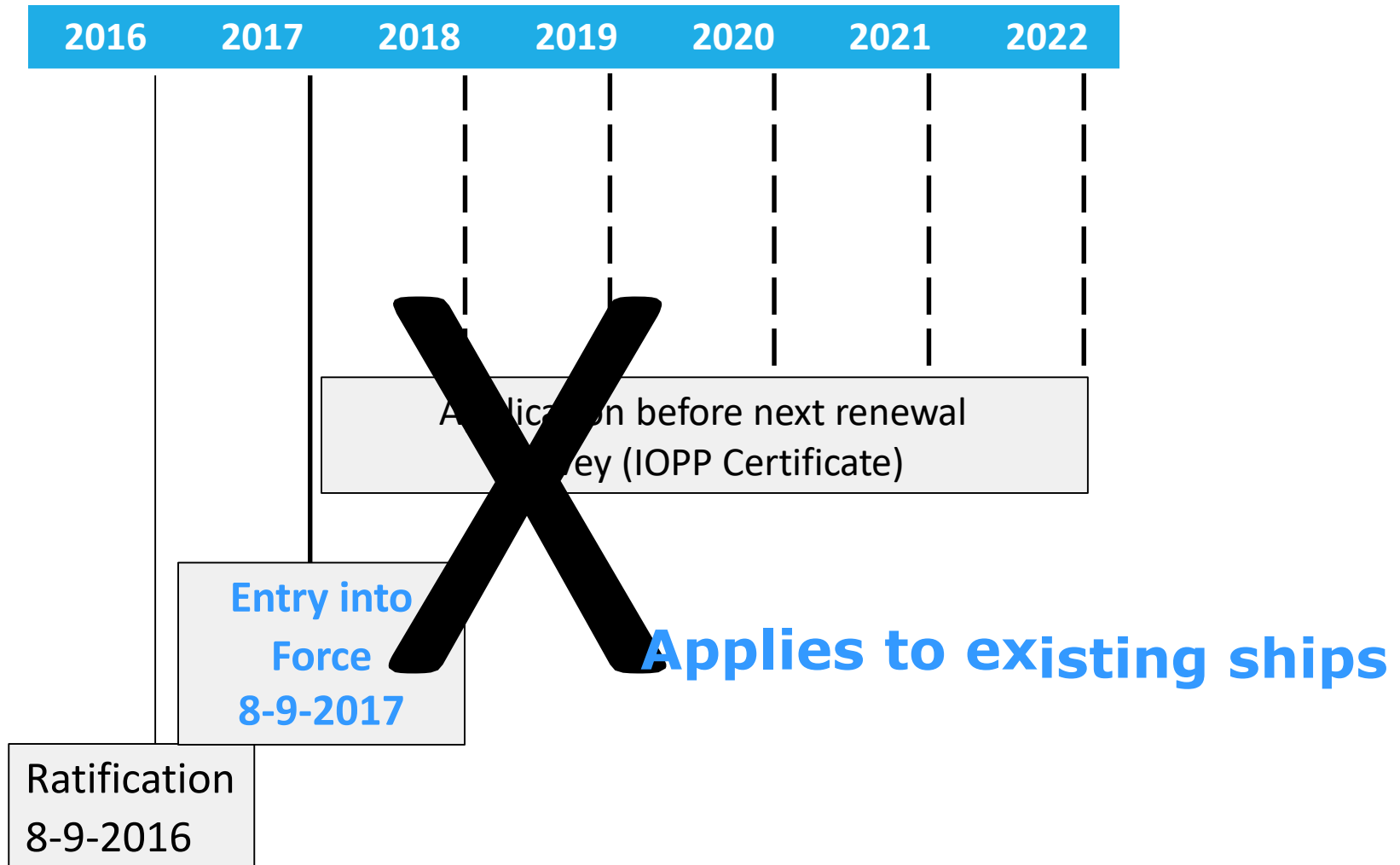


Consulting States potentially affected and informing IMO (at least 6 months in advance, except in emergency/epidemic situations)

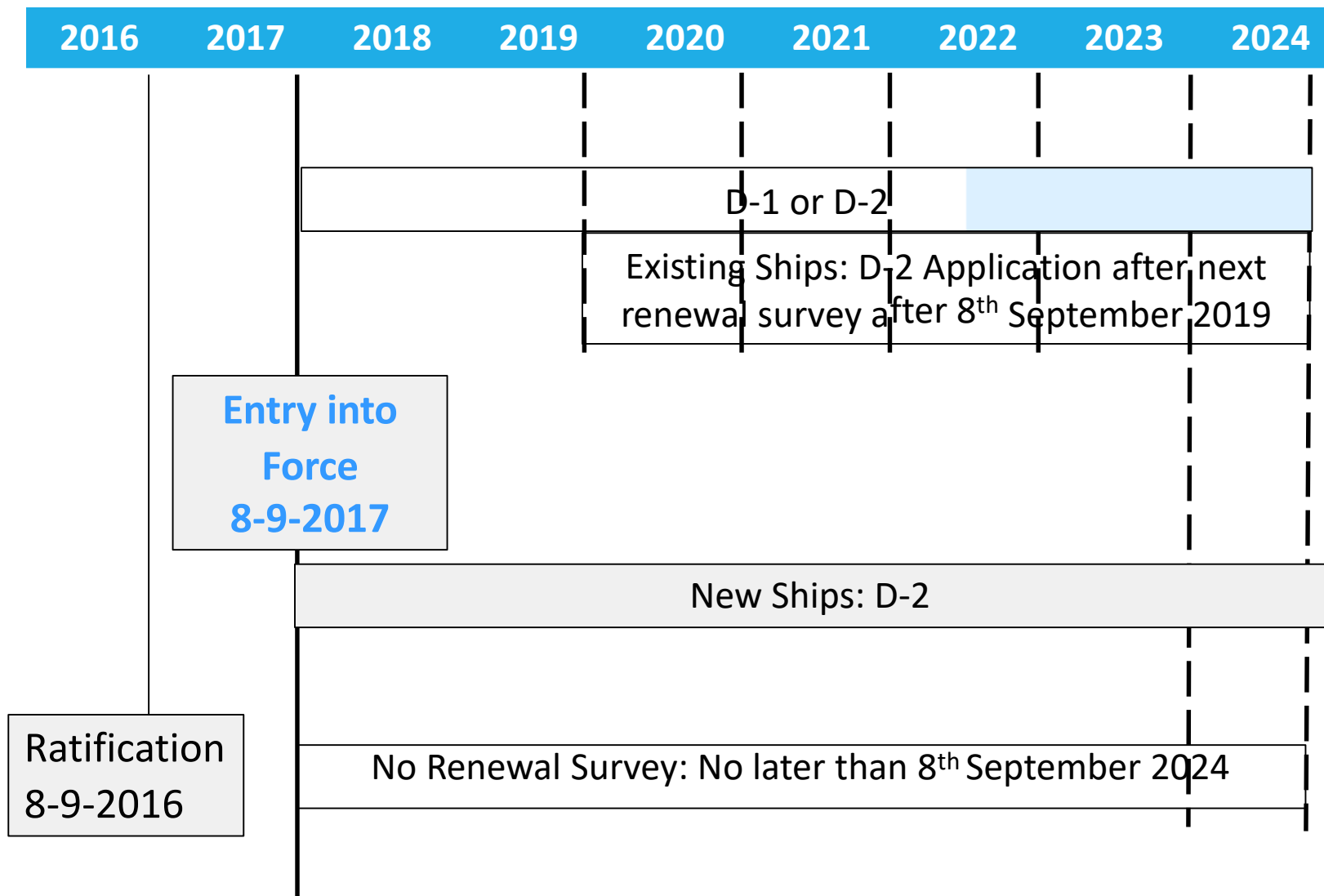


Ensuring that they do not cause greater harm than they prevent

Resolution A.1088(28)



Resolution A.1088(28)



G1: Guidelines for Sediment Reception Facilities.

G2: Guidelines for Ballast Water Sampling.

G3: Guidelines for Ballast Water Management
Equivalent Compliance.

G4: Guidelines for ballast water management and
development of ballast water management plans.

G5: Guidelines for Ballast Water Reception Facilities.

G6: Guidelines for Ballast Water Exchange.

G7: Guidelines for Risk Assessment under Regulation
A-4.

G8: Guidelines for approval of ballast water management systems.

G9: Procedure for Approval of Ballast Water Management Systems that make use of Active Substances.

G10: Guidelines for approval and oversight of prototype ballast water treatment technology programmes.

G11: Guidelines for ballast water exchange design and construction standards.

G12: Guidelines for sediment control on ships.

G13: Guidelines for additional measures including emergency situations.

G14: Guidelines on designation of areas for ballast water exchange



**Thank you for your
attention!
Any question?**

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 **EMSA**
European Maritime Safety Agency

- Guidelines for sediment reception facilities (G1) (resolution MEPC.152(55));
- Guidelines for ballast water sampling (G2) (resolution MEPC.173(58));
- Guidelines for ballast water management equivalent compliance (G3) (resolution MEPC.123(53));
- Guidelines for ballast water management and development of ballast water management plans (G4) (resolution MEPC.127(53));
- Guidelines for ballast water reception facilities (G5) (resolution MEPC.153(55));
- 2017 Guidelines for ballast water exchange (G6) (resolution MEPC.288(71));
- 2017 Guidelines for risk assessment under regulation A-4 of the BWM Convention (G7) (resolution MEPC.289(71));
- 2016 Guidelines for approval of ballast water management systems (G8) (resolution MEPC.279(70)) (this will be superseded by the BWMS Code (resolution.300(72)) in October 2019);

- Procedure for approval of ballast water management systems that make use of Active Substances (G9) (resolution MEPC.169(57));
- Guidelines for approval and oversight of prototype ballast water treatment technology programmes (G10) (resolution MEPC.140(54));
- Guidelines for ballast water exchange design and construction standards (G11) (resolution MEPC.149(55));
- 2012 Guidelines on design and construction to facilitate sediment control on ships (G12) (resolution MEPC.209(63));
- Guidelines for additional measures regarding ballast water management including emergency situations (G13) (resolution MEPC.161(56));
- Guidelines on designation of areas for ballast water exchange (G14) (resolution MEPC.151(55));
- Guidelines for ballast water exchange in the Antarctic treaty area (resolution MEPC.163(56)); and
- Guidelines for port State control under the BWM Convention (resolution MEPC.252(67)).