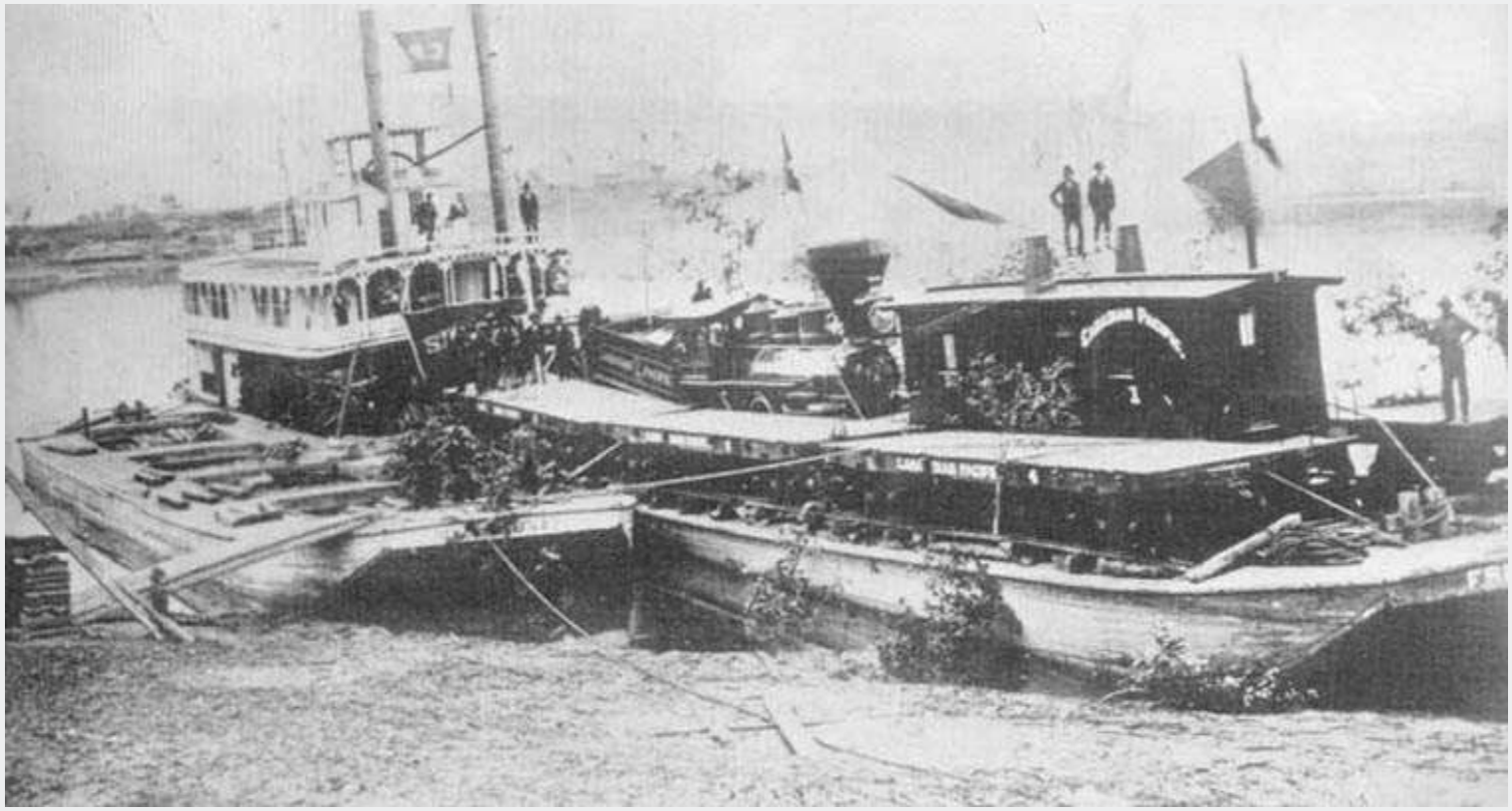
IMO update on the BWM Convention

ICAIS Winnipeg April 2016



Chris Wiley
Chair IMO BW Working Groups

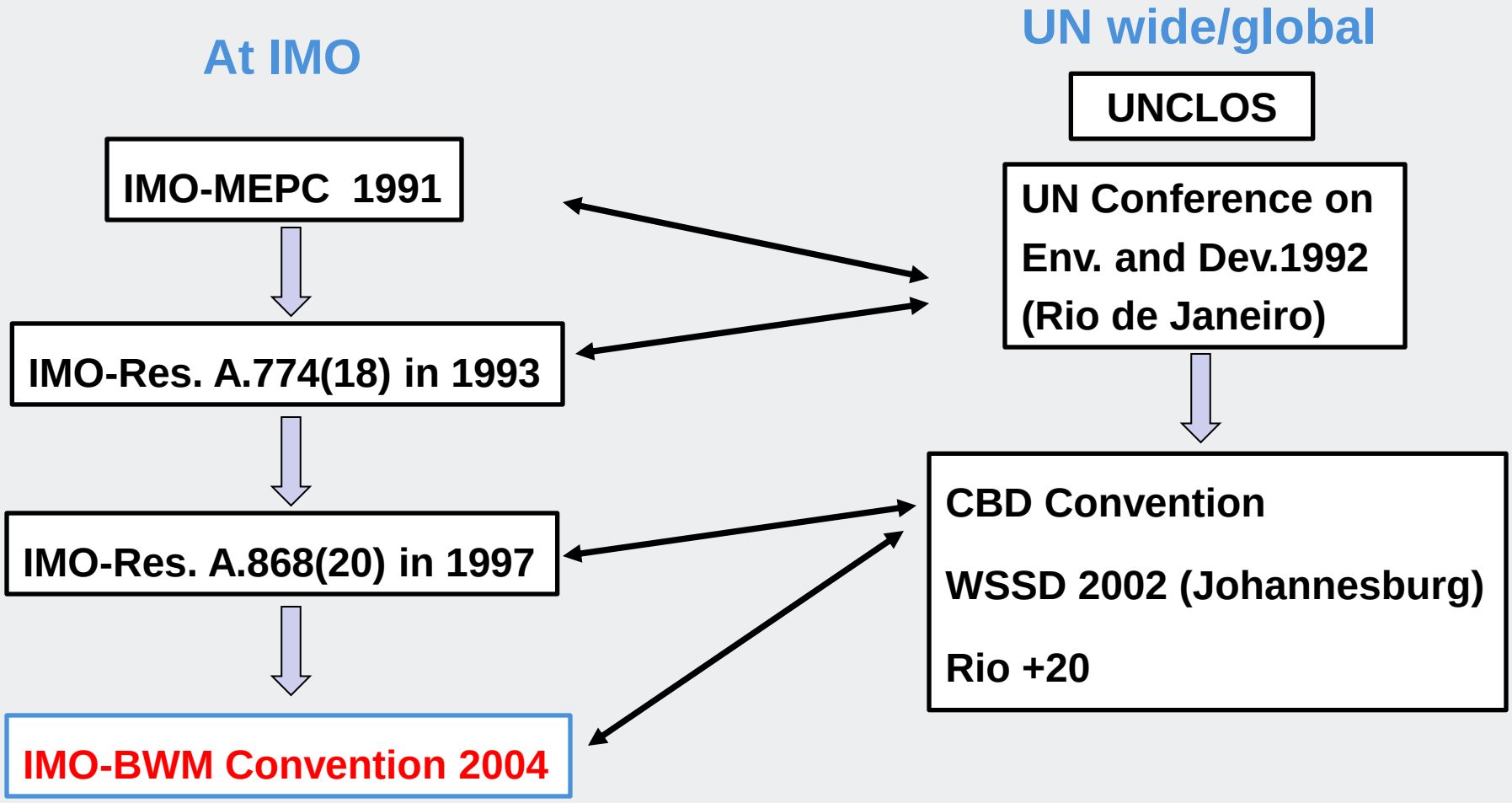
Which is bigger threat?

Oil pollution is visible, has a strong media impact and often triggers political action. In time, the environment eventually recovers.

Introduction of harmful aquatic organisms to new environment is one of the four greatest threats to worlds oceans - irreversible.

Zebra Mussel alone in Great Lakes. Huge Ecological, Economic and Human Health Costs

Global Response to BW Issue

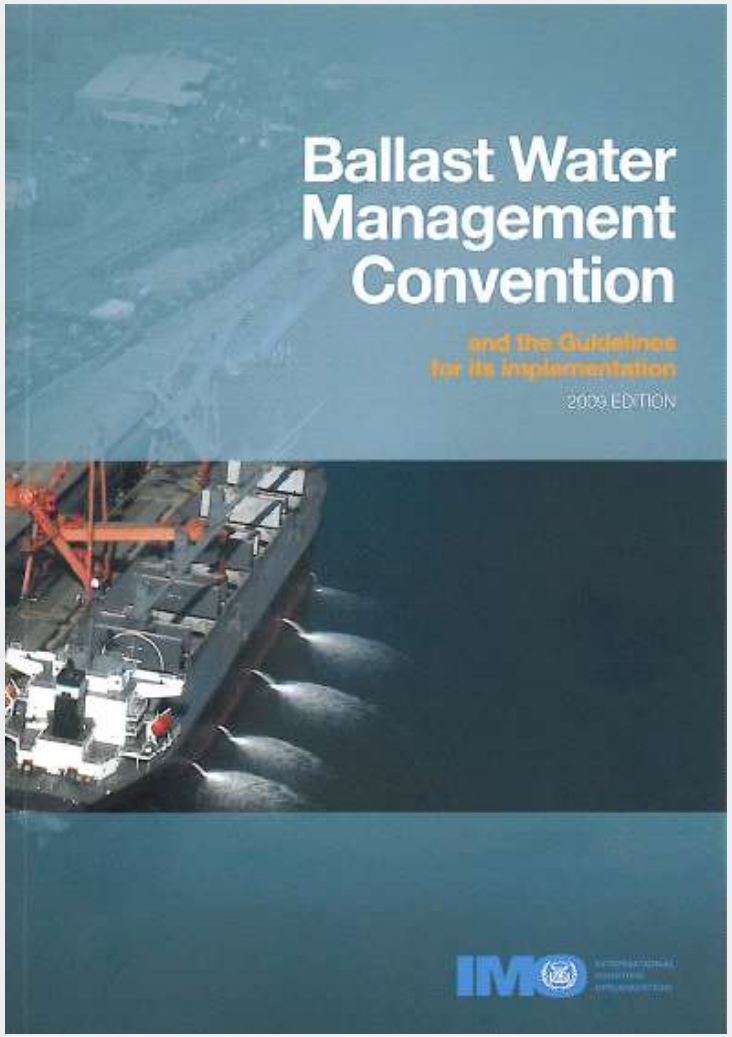


International Maritime Organization

- The common sense and experience of seafarers coupled with technological knowledge, scientific research and political agendas of member states

The Ballast Water Management Convention

- Adopted on 13th of Feb. 2004
- 49 countries have ratified to date, representing 34.82% of the world merchant GT
- Entry into Force requires 30 Countries and 35% World GT
- Ratification process ongoing in a number of countries
- Tonnage variance could put it over the top without further ratification



The BW Convention

Provides:

- Level Playing Field – standardized global approach for industry
- Ability to amend – after entry into force but only by Parties
- Enhanced protection of the Marine Environment
- Conservation of Biodiversity

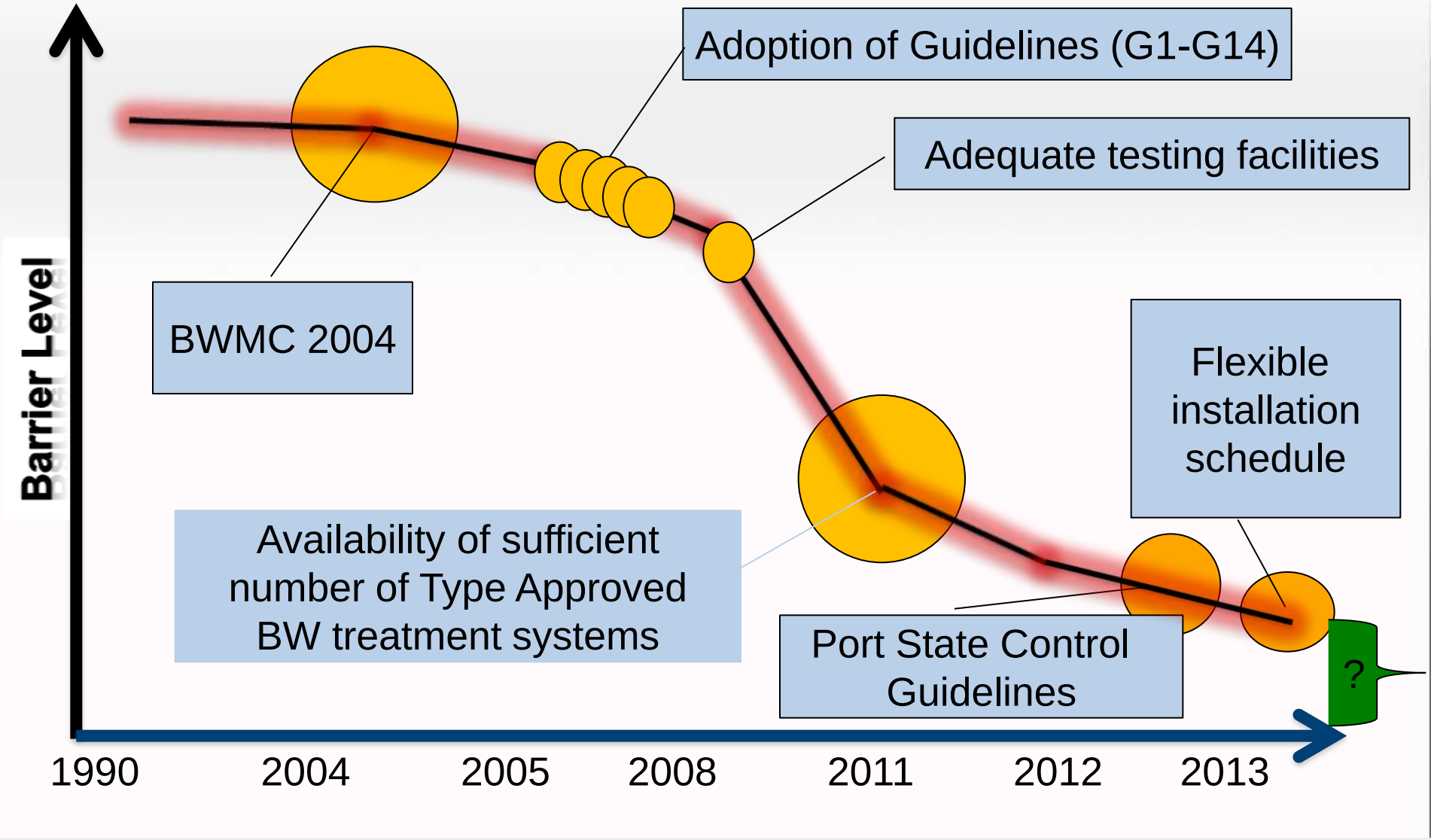
49 Contracting States to date

- Albania
- Antigua and Barbuda
- Barbados
- Brazil
- Belgium
- Canada
- Congo
- Cook Islands
- Croatia
- Denmark
- Egypt
- France
- Fiji
- Germany
- Georgia
- Ghana
- Iran (Islamic Republic of)
- Indonesia
- Japan
- Jordan
- Kenya
- Kiribati
- Lebanon
- Liberia
- Malaysia
- Maldives
- Marshal Islands
- Mexico
- Mongolia
- Montenegro
- Morocco
- Netherlands
- Nigeria
- Niue
- Norway
- Palau
- Republic of Korea
- Russian Federation
- Saint Kitts and Nevis
- Sierra Leone
- South Africa
- Spain
- Sweden
- Switzerland
- Syrian Arab Republic
- Tonga
- Trinidad and Tobago
- Turkey
- Tuvalu

Requirement for ship under the BW Convention

- Carry approved Ballast Water and Sediment Management Plan
- Carry a Ballast Water Record book
- Be surveyed and certified at regular intervals
- Implement Ballast Water Management procedure to given Standard -
- D-1 BW Exchange
- D-2 BW Treatment
- Other Method

Removal of Barriers In Addressing Ballast Water Issues since 2004



IMO process to encourage Implementation

- Sufficient Guidance from IMO
- Sufficient BWMS available to ship owners
- Clear and practical implementation dates
- Efficient regime of fair and consistent enforcement to provide method for Port States to protect environment
- Type approval process (G8) for Ballast Water Management Systems (BWMS) suitable for world wide trading
- Sufficient certainty for ship owners

IMO Technical Guidelines

- Guidelines for sediments reception facilities (G1)
- Guidelines for Ballast Water Sampling (G2)
- Guidelines for ballast water management equivalent compliance(G3)
- Guidelines for Ballast Water Management and Development of Ballast Water Management Plans (G4)
- Guidelines for ballast water reception facilities (G5)
- Guidelines for Ballast Water Exchange (G6)
- Guidelines for Risk Assessment under Regulation A-4 (G7)
- Guidelines for approval of Ballast Water Management Systems (G8)
- Procedure for Approval of BWM systems that make use of Active Substances (G9)
- Guidelines for approval and oversight of prototype ballast water treatment technology programmes (G10)
- Guidelines for Ballast Water Exchange Design and Construction Standards (G11)
- Guidelines for sediment control on ships (G12)
- Guidelines for additional measures including emergency situations (G13)
- Guidelines on designation of areas for ballast water exchange (G14)
- Guidelines on PSC under the BWM Convention

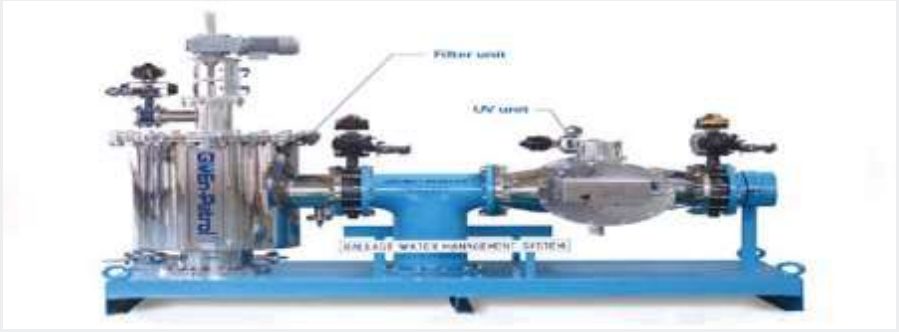
+ a number of resolutions, circulars, etc.

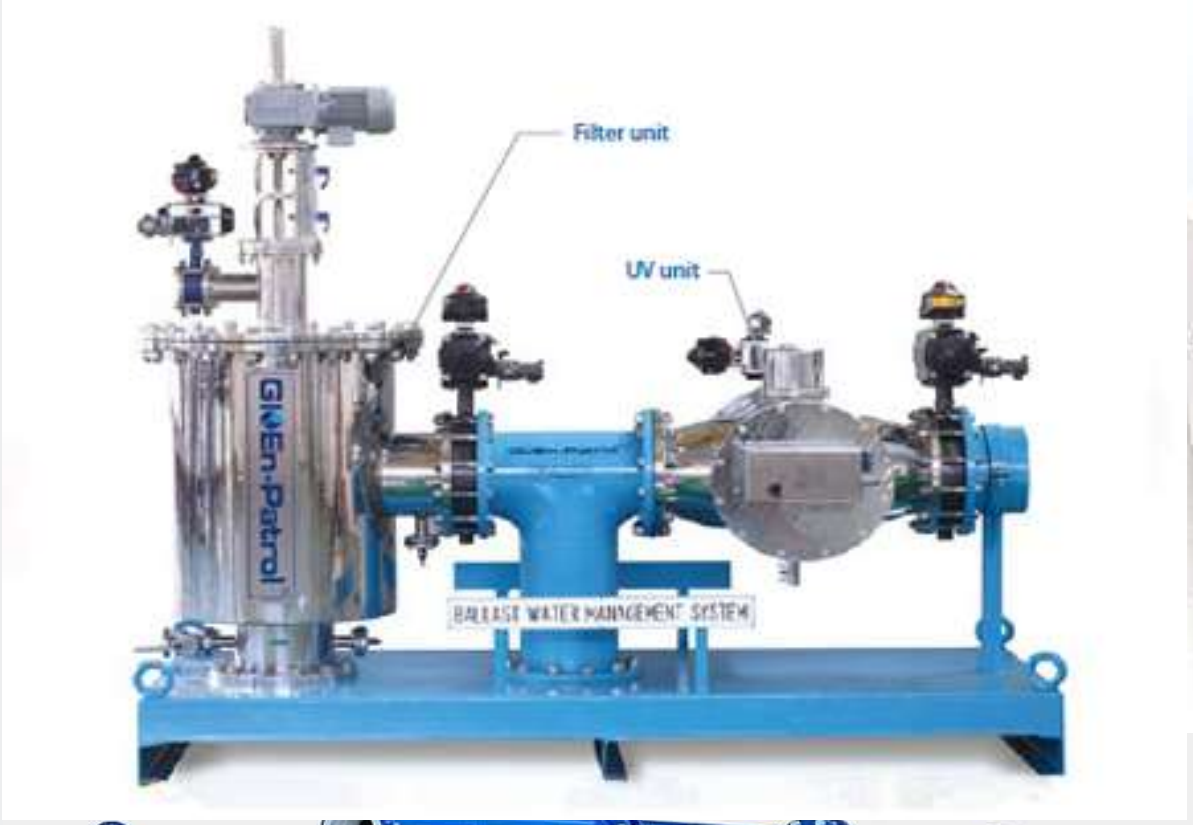
Sufficient Ballast Water Management Systems

- 50 have been granted IMO Basic Approval
- 36 have been granted IMO Final Approval
- **60 + systems have been granted Type Approval by their Administration**

  Dozens more are under development and in various stages of the approval process

  Sufficient BWMS are available on the International market

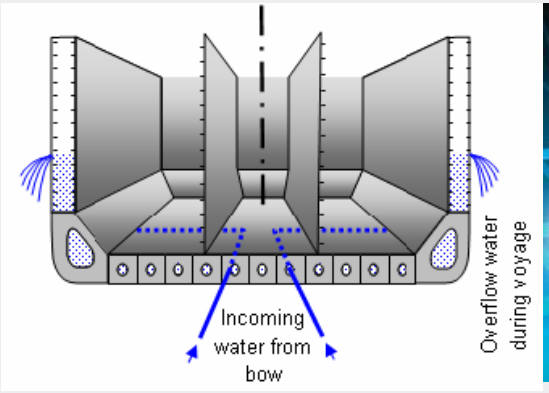


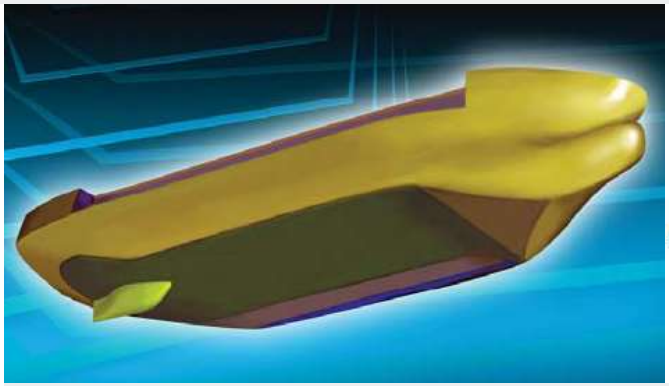

Filter unit
UV unit
GNEn-Patrol
BALLAST WATER MANAGEMENT SYSTEM

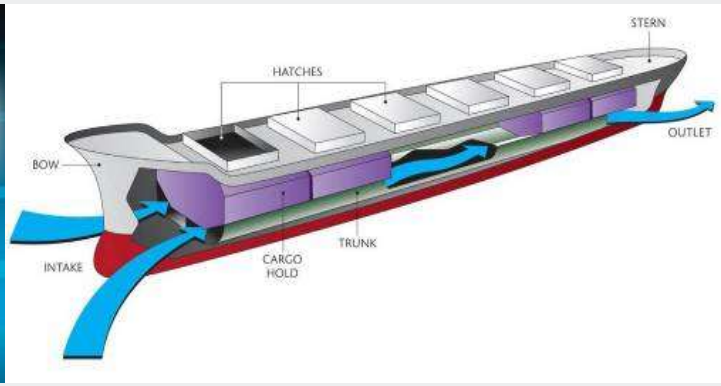

CLEANBALLAST

Potential Alternative Methods

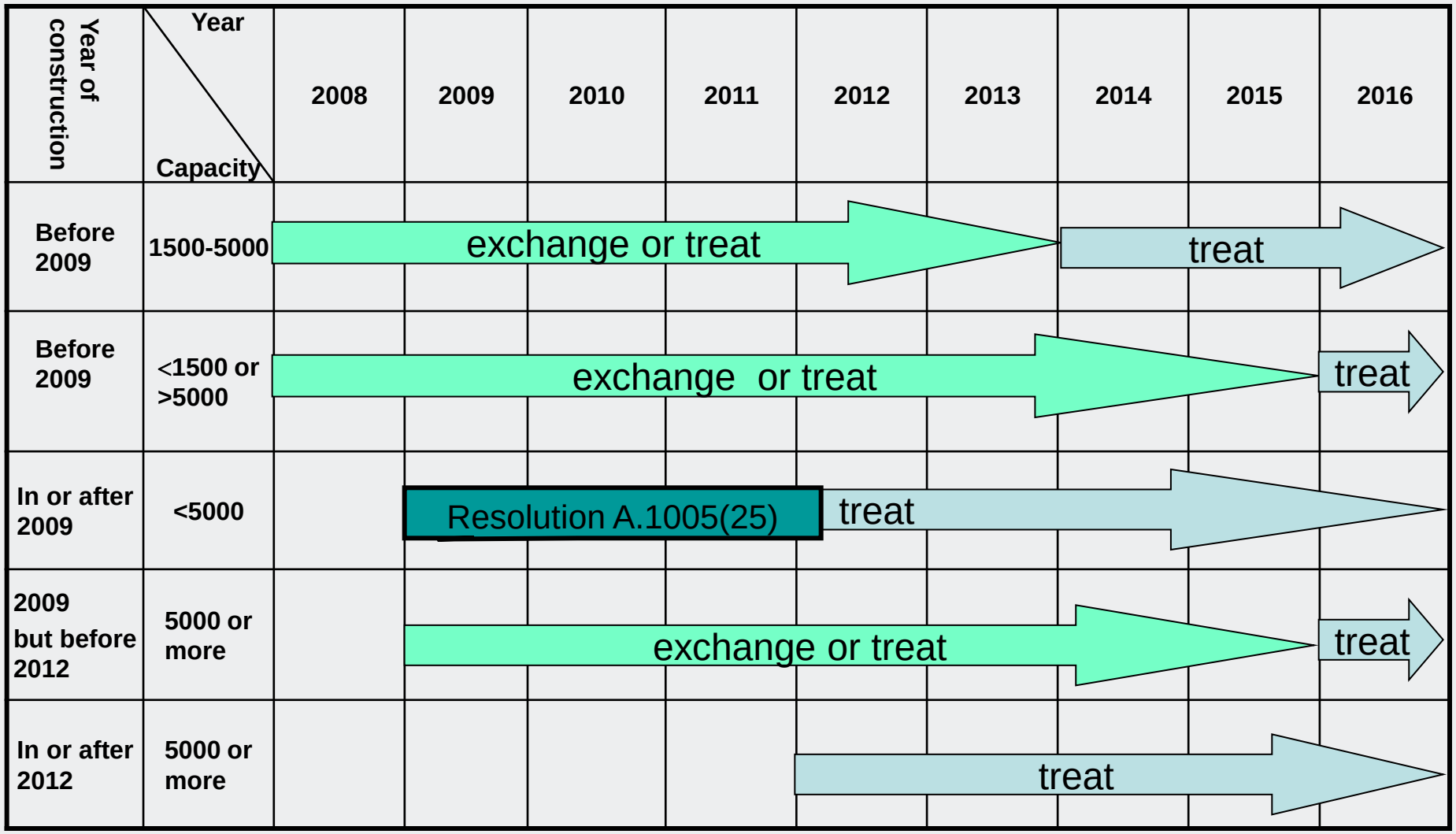
- **No Ballast / Zero Discharge Methods**
  - Zero Ballast Water Concepts
  - Storm Ballast Only Concept
  - Internal Ballast Concept
  - Potable Ballast Concepts
  - Discharge to port reception facilities or other vessels
- **Continuous Flow Methods**
  - Buoyancy Control Concepts
  - Enhanced Ballast Tank Exchange Concepts







Implementation Timeframes 2008



Clear and Practical Implementation Dates

- Assumption that BW Convention would be in force by 2009
- A number of work practical work arounds to get around text
- Most recently, use of International Oil Pollution Prevention Certificate as “renewal survey”
- Current reality – assumption Convention into force 2017

- Existing ships

  BW management to D-1 Standard on entry into force

  BW Management to D-2 Standard as of first IOPP Renewal Survey after entry into force of Convention
- New Ship

  BW Management to D-2 standard on delivery

Port State Control

- Unlike MARPOL Pollutant such as oil / sewage, organisms in Ballast Water are not visible
- Convention text allows sampling before “clear grounds”
- PSC Guidelines in place
- Based on typical PSC for other Conventions
- Sampling and analysis
  - Two to three year trial period to test / refine Sampling & Analysis technology and protocols
  - Agreement that Port States should refrain from applying criminal sanctions or detaining ships **based on sampling** during the trial period
  - Keep PSC Guidelines under review following trial period

Indirect Sampling for PSC

- Onboard device on BWTS to monitor efficacy
- Indirect measure
- Total UVT
- Residual Chlorine / Oxidant
- Electrolytic Voltage
- D-1 Salinity
- D-2 Current research into hand held go/no go devices

The Type Approval Conundrum

- Type approval process Guidance (G8) in place before ballast water technology had matured or experience from BW test facilities
- IMO Guidance – including G(8) high level, not intended to be specific
- Procedure for assessing active substance (G9) had been modified a number of times
- ETV protocol from US compatible with G8 – but very specific
- Viewed as competing and different
- BWMS type tested to G8 (as existing) have been fitted on newbuilds
- Decision to modernize G8

Action Plan to review Guidelines (G8)

- Testing in fresh , brackish and marine waters
- Operational effectiveness and environmental acceptability of temperature in cold and tropical waters
- Specification of standard test organisms
- Challenge levels set with respect to suspended solids
- Discounting test runs that do not meet D-2 or averaging test runs
- Testing at realistic Flow Rates
- Differences in type approved protocols of Member States
- Correspondence Group Report next MEPC

Certainty for Shipowners

- Many new builds fitted with BWMS type approved to existing G(8)
- Roadmap for implementation
- PSC Agreement
- Renewal of G8 - Existing Guidelines (G8) continue to be applied until application of "revised" (G8) following review
- Agreement that ship owners that have installed type approved ballast water management systems prior to the application of the "revised" G (8) should not be penalized – Grandfathering?

When BW Convention Does Enter into Force

Ballast Exchange

- Will be the predominant method for ballast water management for majority of existing ships
- Still effective at decreasing risk of AIS in ballast water
- Most effective in protecting fresh water environments
- Safety concerns still relevant