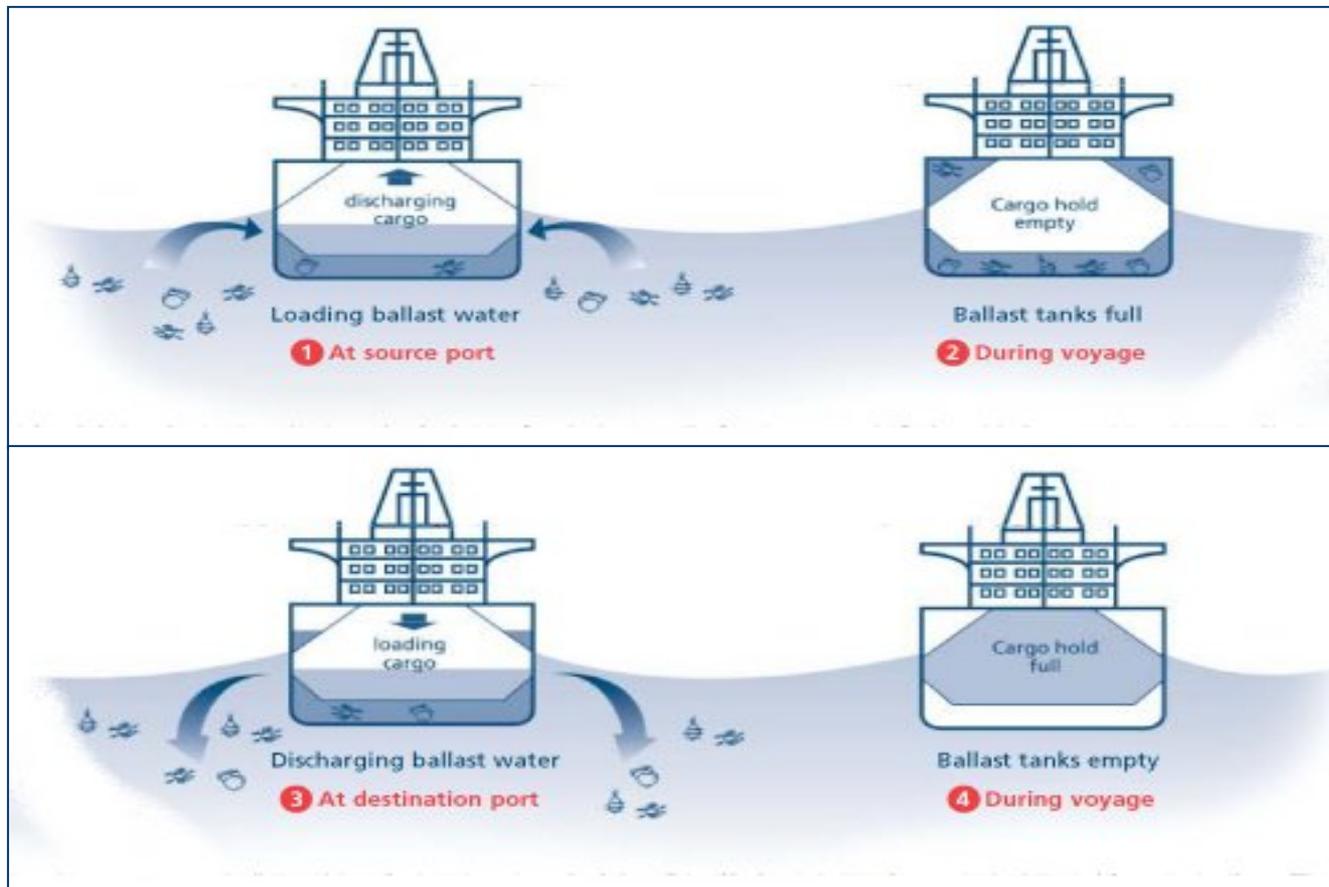


Unit 8 – Ballast Water

States' Rights vs.
International Commerce

The Ballast Water Problem



Cross section of ship showing ballast tanks and ballast water cycle

Graphic Credit
IMO

Ballast Water Exchange

- Replace lower-salinity coastal water with higher-salinity open-ocean water between ports of call.
- Reduces the number of potentially invasive species in the ballast tanks



Ship exchanging BW

Ballast Water Treatment

- Mechanical – Filtration and separation
- Physical - Sterilization by ultraviolet light, ozone, heat, electric current, or ultrasound
- Chemical – Biocides
- Drawbacks:
 - Costly
 - Retrofits Required
 - Additional Training



International Convention for the Control and Management of Ships' Ballast Water and Sediments

- Adopted on February 13, 2004 under the auspices of the IMO.
- Will enter into force 12 months after ratification by 30 nations, representing 35% of the world merchant shipping tonnage.
 - As of March 31, 2007, 8 signatories representing 3.21% of tonnage.

Federal Regulation



- Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 passed in response to zebra mussel invasion. (Reauthorized by NISA)
 - Authorized issuance of regulations “to prevent the introduction and spread of aquatic nuisance species into the Great Lakes through the ballast vessels.”
 - Authority delegated to Coast Guard
- Clean Water Act (EPA)



Coast Guard BWM Program

- Vessels carrying ballast water and operating in the Great Lakes or on the Hudson River must employ one of the following:
 - Open-ocean ballast water exchange;
 - Retain ballast water on board; or
 - Use an alternative environmentally sound method of BWM approved by the Coast Guard.

NOBOBs – Loophole?



Photo Credit: Great Lakes NOBOB Team

Residual water accumulated at lowest point of an upper wing tank.

- Ballast water reporting forms
- Voluntary best management practices
 - Mid-ocean exchange
 - Saltwater flushing of empty tanks

Clean Water Act

- Illegal to discharge pollutants from a point source into the navigable waters of the U.S. without a National Pollutant Discharge Elimination System (NPDES) permit.
 - Discharges “incidental to the normal operation of a vessel” exempt from NPDES program.
- In 2005, California district court ordered EPA to repeal exemption and regulate BW.

Michigan BWM Program

- Senate Bill 332
 - All ocean-going vessels engaging in port operations in Michigan after January 1, 2007 must obtain a permit from the MDEQ.
- Ballast Water Control General Permit
 - Four treatment methods identified: (1) hypochlorite; (2) chlorine dioxide; (3) ultraviolet (UV) light radiation; and (4) deoxygenation.

Shipping Company Challenge

- In March 2007, several international shipping companies filed suit challenging Michigan's program.
 - Argue that the law is preempted by federal regulation and violates the Commerce Clause.
- Congressional Action?