

Canada's Ballast Water Regulations

INVASIVES 2017, Vancouver, February 7-8, 2017

Invasive Species Council of BC's Annual Public Forum



Context



- Invasive Species in Ballast Water
- IMO: Ballast Water Management Convention entry into force in September 8, 2017

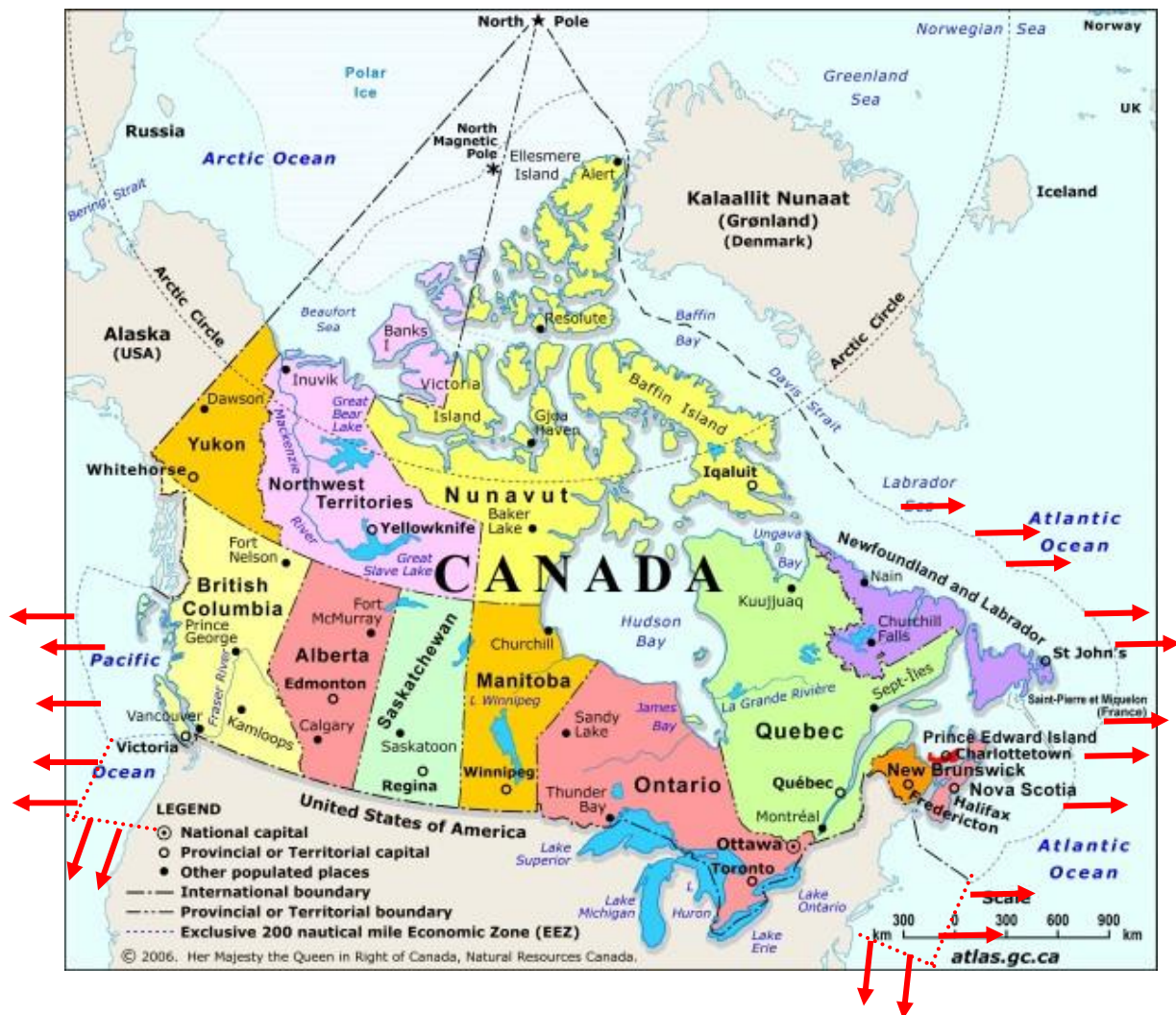
International shipping in Canada

- Foreign vessels move our trade with the world
- Some 12,000 port calls a year
- Port State Control regime enforces international conventions
- Canadian firms owning foreign registered ships, also subject to Port State Controls in Canada and around the world





Ballast Water Regulations apply to ships based on their origin



Ships from outside 200 nautical mile limit (EEZ) and waters near Canada-U.S. boarder, must manage their ballast water under Canadian Regulations

Alternative exchange zones available at sea, if ship is unable to comply

Canada's Regulatory Regime



- Harmonized with US Coast Guard under the Great Lakes Water Quality Agreement
- Current program based on science in U.S. and Canada
- Implements requirements of IMO Convention – but doesn't include treatment dates.
- *Ballast Water Control and Management Regulations* made in 2006 under *Canada Shipping Act, 2001*
 - Practices in 1989 guidelines made mandatory
- All ships from the high seas entering Canadian jurisdiction must manage ballast water by:
 1. exchange at sea or flushing,
 2. treat to IMO standards,
 3. retain onboard, or
 4. pump ashore.
- Ships must report how they managed their ballast water 96 hours in advance

Enforcement of Current Regulations



A simple density meter confirms salinity and verifies the ship carried out deep ocean exchange

Reading must show 30 parts per thousand

- Ships from outside Canada's Exclusive Economic Zone can be subject to sampling to confirm salinity
- Sampling determined by risk
- Corrective action taken if non compliant 3% - retention
- Fisheries and Oceans Canada Science advises Transport Canada

Exceptions to ballast water rules

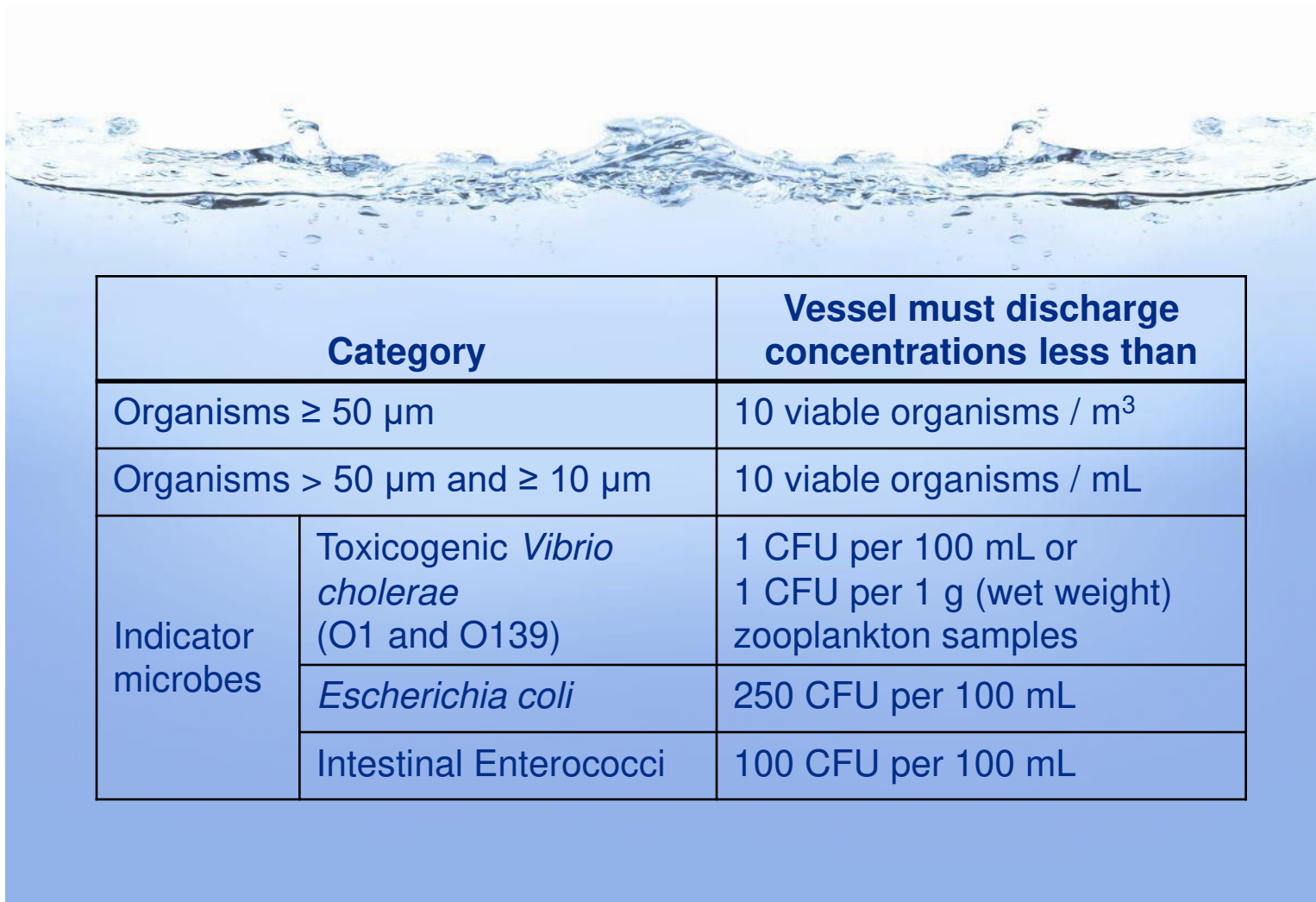
1. Bad weather: But alternate exchange zones available



2. Accidents: But, still need to minimize risks

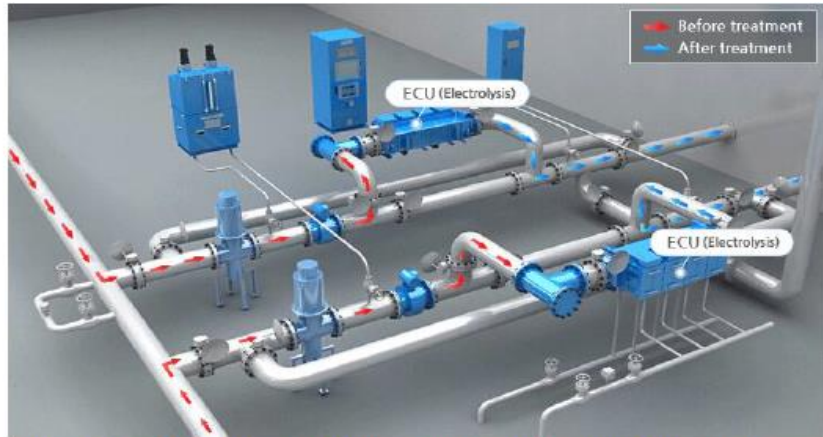


Treatment standards



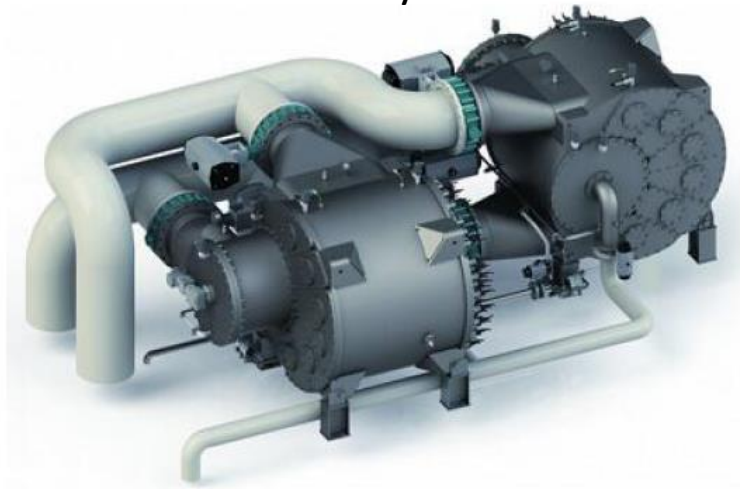
Category		Vessel must discharge concentrations less than
Organisms $\geq 50 \mu\text{m}$		10 viable organisms / m^3
Organisms $> 50 \mu\text{m}$ and $\geq 10 \mu\text{m}$		10 viable organisms / mL
Indicator microbes	Toxicogenic <i>Vibrio cholerae</i> (O1 and O139)	1 CFU per 100 mL or 1 CFU per 1 g (wet weight) zooplankton samples
	<i>Escherichia coli</i>	250 CFU per 100 mL
	Intestinal Enterococci	100 CFU per 100 mL

Ballast water treatment technology

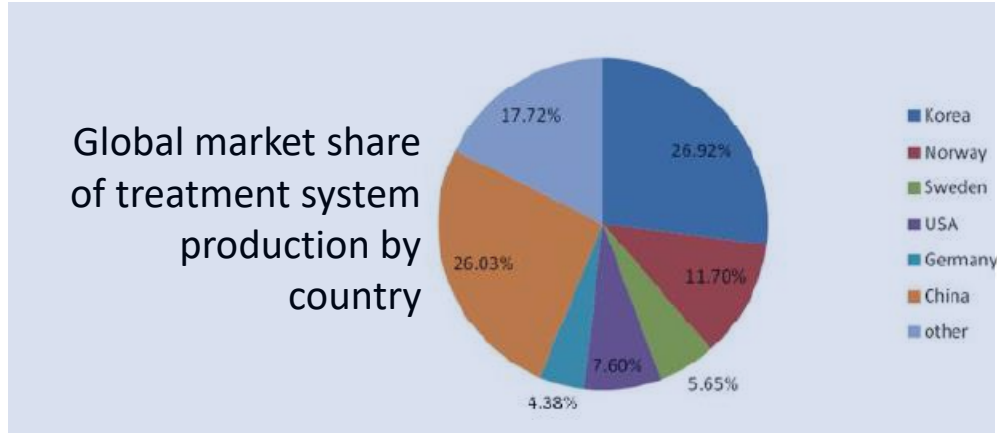


Source: Techcross, QY Research Ballast Water Treatment System Research Center, 2015.01

Electro-Chlorination System



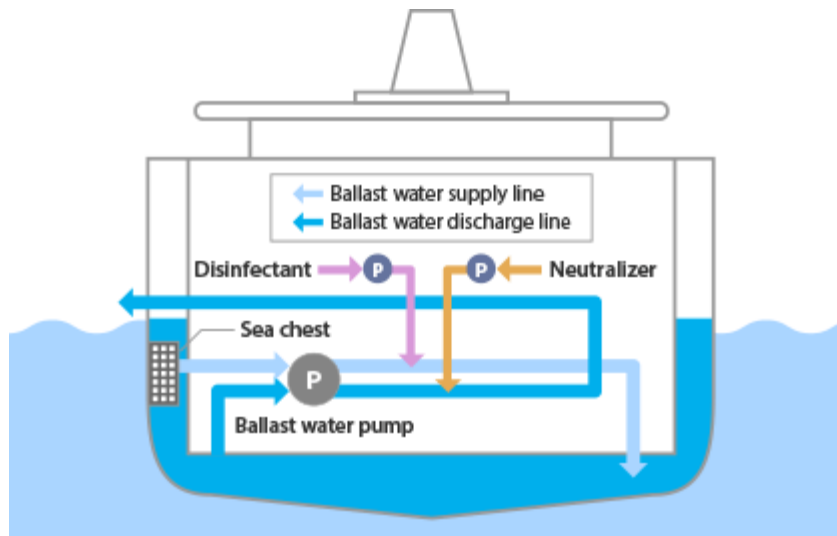
Filtration / UV System



Source: DESMI Ocean Guard, QY Research Ballast Water Treatment System Research Center, 2015.01

Filtration / Rapid Oxydizer system

Considerations for fitting ballast water treatment systems



- Vessel design
- Vessel operations
- Costs
- Regulatory environment
- Type of approval
- Track Record

Regulatory Process Status

- Amendments to the *Ballast Water Control and Management Regulations* are under development
- A consultation report later this year will outline the regulatory approach and form the basis the proposed changes.
- The proposed changes would be approved by Treasury Board and published in Part I of the *Canada Gazette* for a 75 day public comment period.
- After comment period, the changes in the form of final regulations would be approved by Treasury Board and published in Part II of the *Canada Gazette*.
- The final regulations would enter into force on the date they are approved by Treasury Board.



Interim advice: Non conformities

- Current regulations apply, allows 4 management options
 1. exchange at sea or flushing,
 2. treat to IMO standards,
 3. retain onboard, or
 4. pump ashore.
- Emergency onboard treatment could be considered (adding brine or chlorine) –matter of holding time

Enforcement action

- Canada to take into account experience building phase in early stages of the Convention
- Action would still to be taken if evidence points to deliberate action to evade compliance (e.g. concealing piping, altering documents)
- Action can include stopping or detaining the vessel, administrative monetary penalties, and prosecutions.

Questions?



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