



Ballast Water Exchange and Saltwater Flushing Recent Successful Seaway Efforts

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ST. LAWRENCE SEAWAY
VOIE MARITIME DU SAINT-LAURENT





Current Seaway Regulations

- A coordinated bi-national, multi-agency effort to protect the Great Lakes.
- Require saltwater flushing on ocean-going ships - every ballast tank containing residual amounts of ballast water and/or sediment.
- Require all ocean-going ships to exchange their ballast tanks at sea.
- Ballast tanks must maintain salinity level of 30 ppt.

RESULT: No unmanaged ballast water entering the Great Lakes from ocean-going ships.



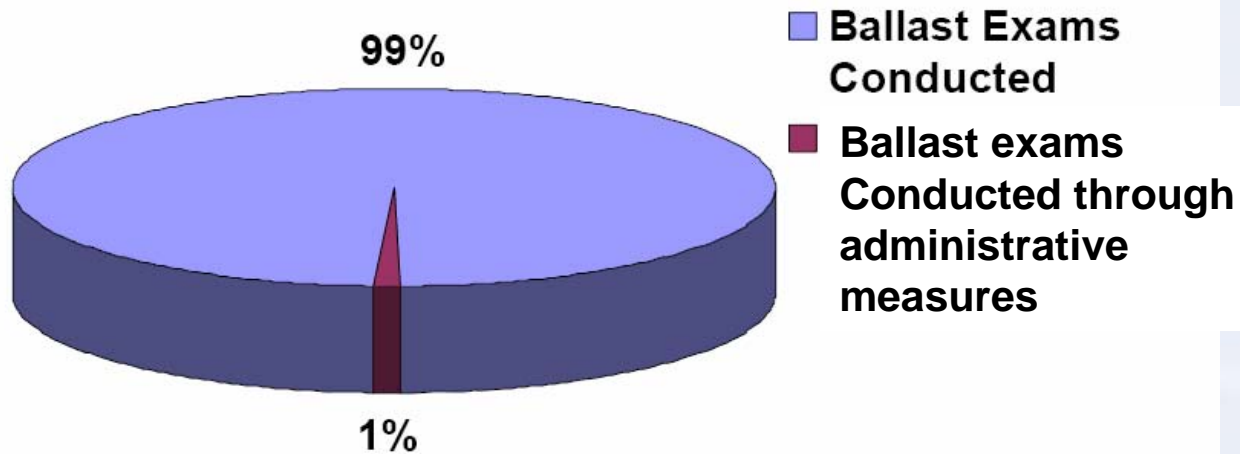
Enforcement and Compliance

- In 2008 no ballast water with salinity less than 30 ppt was discharged in the Great Lakes Seaway System from ocean-going vessels.
- 100% of all tanks on every ocean-going vessel are targeted for inspection.
- Transport Canada, U.S.C.G., SLSDC and SLSMC perform these inspections.
- Authority to enforce these regulations through letters of retention, letters of warning, notices of violation or fines, up to \$36,625.



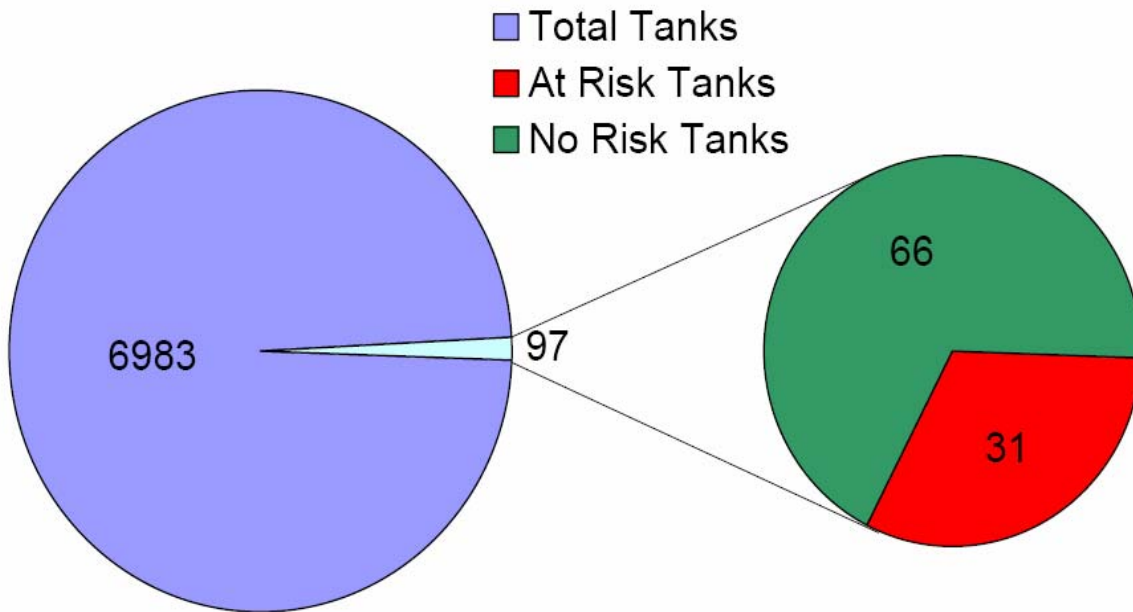
In 2008 – 100% of all ocean-going vessels had their tanks or records inspected.

2008 Ballast Exams Completed



Compliance Rate – 98.6%

2008 Ballast Tank Summary




- For the 31 at-risk tanks found, either a Letter of Retention or a Letter of Warning was issued.
- The non-compliant tanks were NOT discharged in the Great Lakes Seaway System.



Current regulations were developed from sound policy based on hard science.

- 2006 Canadian regulations and 2008 U.S. regulations were based on published research on the efficacy of salt-water flushing.
 - Bailey et al. (2006) Does saltwater flushing reduce viability of diapausing eggs in ship ballast sediment?
 - Duggan et al. (2005) Invertebrates associated with residual ballast water and sediments of cargo-carrying ships entering the Great Lakes.



Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS)

- GLANSIS indicates that no new species established since 2006 in the Great Lakes.
- This is a tentative sign that current measures are performing well.
- However, we are actively supporting the development of new ballast water management systems.

GLANSIS Website: <http://www.glerl.noaa.gov/>



Summary

The ballast water requirements for the Great Lakes Seaway System are among the most stringent in the world and are highly effective in protecting the Great Lakes.