



The St. Lawrence
Seaway Management
Corporation

Corporation de Gestion
de la Voie Maritime
du Saint-Laurent

COLLABORATIVE EFFORTS TOWARDS BETTER BALLAST WATER MANAGEMENT

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ST. LAWRENCE SEAWAY
VOIE MARITIME DU SAINT-LAURENT



Outline

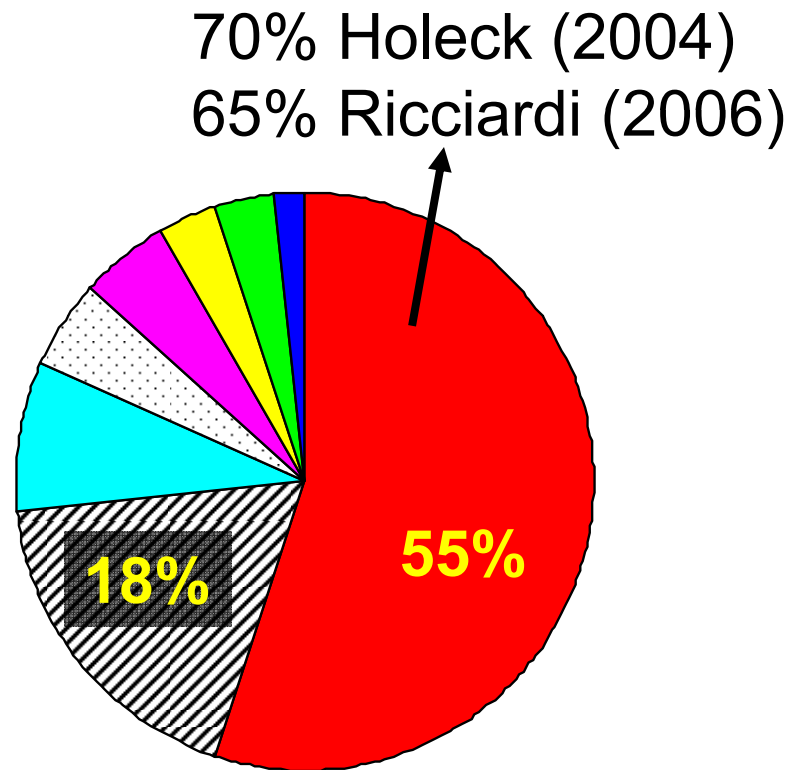
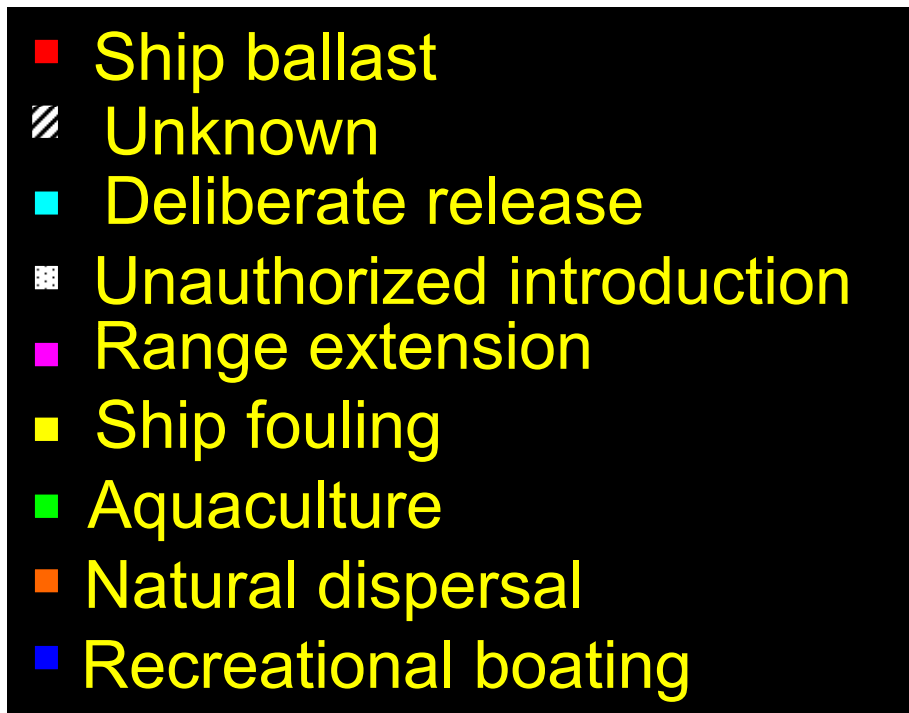
- Aquatic Invasive Species – A factual and historical understanding of the issue
- Recent Successful Seaway Efforts
 - Regulation
 - Enforcement
 - Compliance
- Other Efforts and Future Steps

Need for factual and historical understanding of Aquatic Invasive Species in the Great Lakes

- An often quoted statement is “180+ species have been introduced to the Great Lakes”.
- Few people realize that this is the number of species introduced since the early *1800s*.
- A large number of these are not aquatic species.

Diversity of vectors of introduction

Ship-mediated introductions are not the only vector



Assumes uniform introduction over time.

Hugh MacIsaac 2009 ICAIS

Kelly et al. (2009) in Lodge et al. *Bioeconomics of Invasive Species*

Ballast Water Exchange and Saltwater Flushing

Recent Successful Seaway Efforts

Current Seaway Regulations

- A coordinated bi-national 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.

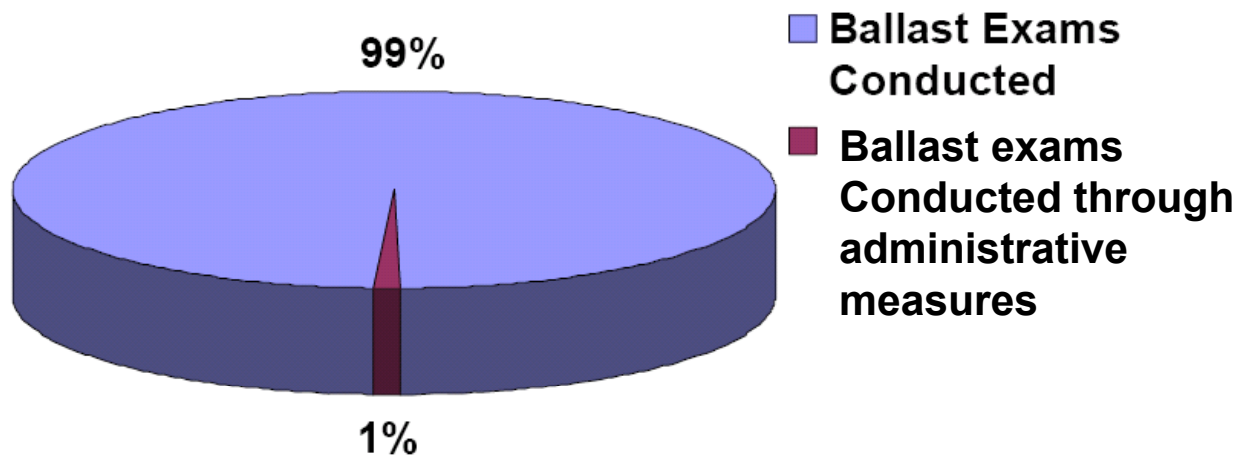
RESULT: No unmanaged ballast water entering the Great Lakes from ocean-going ships.

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.

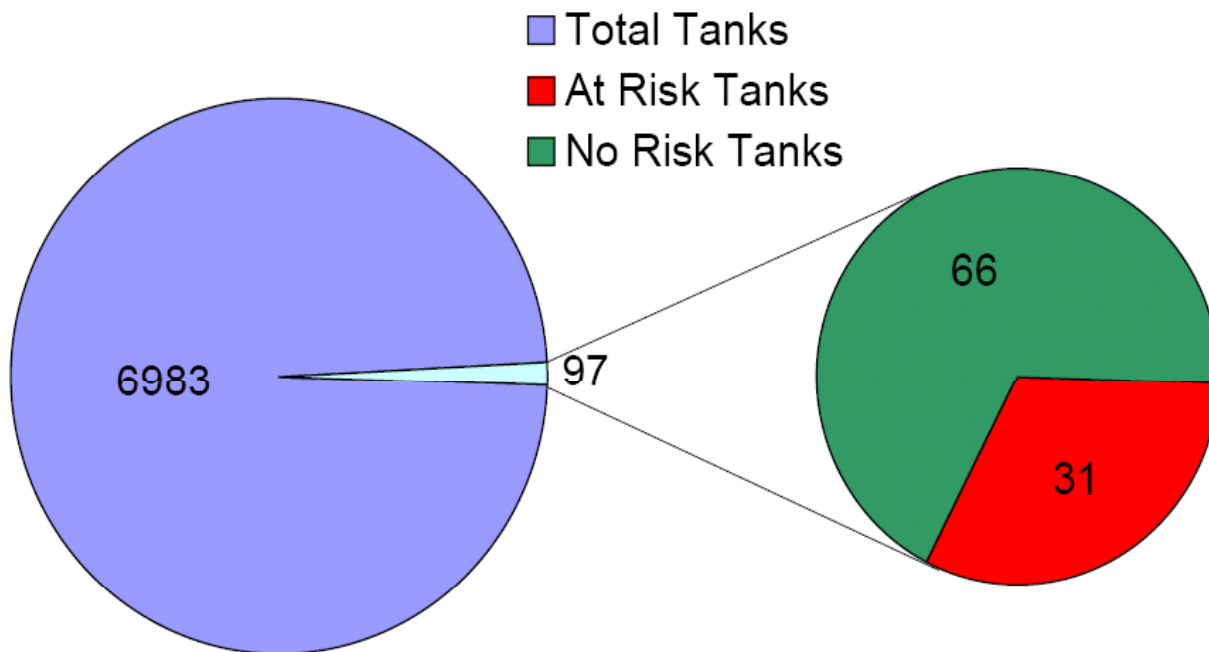
In 2008 – 99% of all ocean-going vessels were physically inspected

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.

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/>

Great Ships Initiative

(Superior WI)

- The only freshwater land-based ballast water treatment testing facility in North America.
- Consortium of U.S. and Canadian governments, non-profit organizations and industry, led by the Northeast Midwest Institute.
- Bench-scale research has been conducted on 5 systems: 2 sets of results have been posted to the website and results are being written-up for the remaining 3.
- Bench-scale research is currently being performed on 5 additional systems.
- Land-based research is currently being performed on one system.
- Website: <http://www.nemw.org/GSI/index.htm>

Summary

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