



LEGISLATIVE DEVELOPMENTS WITH BALLAST WATER AND INVASIVE SPECIES

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Aquatic Invasive Species Program Coordinator

Ballast water regulation is:

Influenced by economic growth and global trade

Influenced by the irreversible harm caused by aquatic invasive species

Complicated

Evolving

The Vessel Incidental Discharge Act (VIDA)

Overhauls ballast water regulation in the US

Establishes a new part of the Clean Water Act

Preempts state authority to have state specific regulations

Establishes USEPA as Federal lead in establishing new standards for ballast water

Establishes the USCG as Federal lead on monitoring, inspection, and enforcement of standards

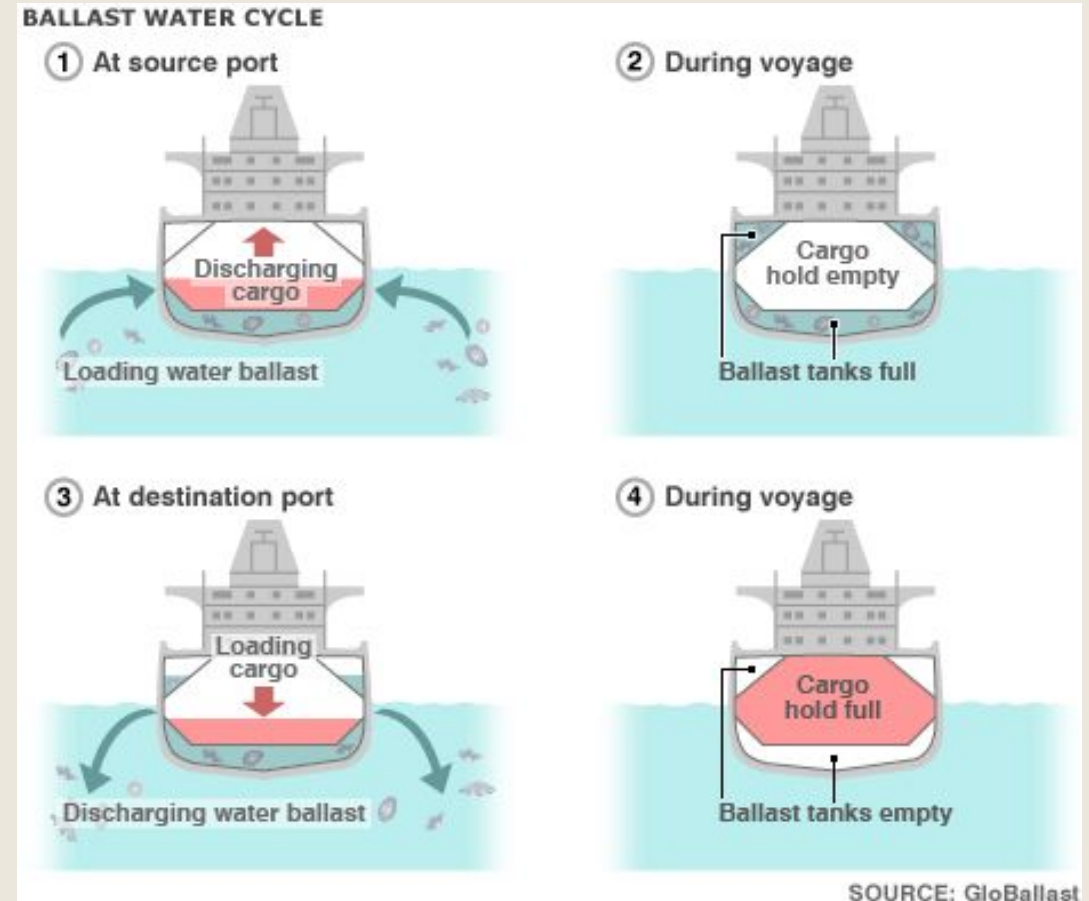
Authorizes \$50M for a Great Lakes and Lake Champlain Invasive Species Program

Ballast water pathway

Definition of ballast water

“Any water, suspended matter, and other materials taken on board a vessel

- *to control or maintain trim, draught, stability, or stresses of the vessel, regardless of the means by which any such water or suspended matter is carried or*
- *during cleaning maintenance or other operation of a ballast tank or ballast water management system of the vessel”*





Cougar Ace: How improper ballast water exchange can prove costly

“This, together with additional water ballast being pumped out for the adjustment of list, and the consumption of fuel from the ship’s double bottom tanks, resulted in the ship becoming unstable and developing an angle of loll to the port side of about 80°”

- 13 years, since the RoRo ‘Cougar Ace’, one of the biggest car carriers at its time was involved in an incident
- Entire cargo of almost 5,000 brand new Mazdas were scrapped.
- At the time of the incident, the ship was undergoing a ballast water exchange in compliance with the Canadian Shipping Act on a voyage from Singapore to Vancouver.
- Sequential exchange resulted in 4 of 9 ballast tanks empty.
- The incident highlighted issues related to the assignment of duties in a ship’s Safety Management System, within the context of ballast water exchange operations.
- No crew fatalities, one fatality member of the salvage team. No pollution events.

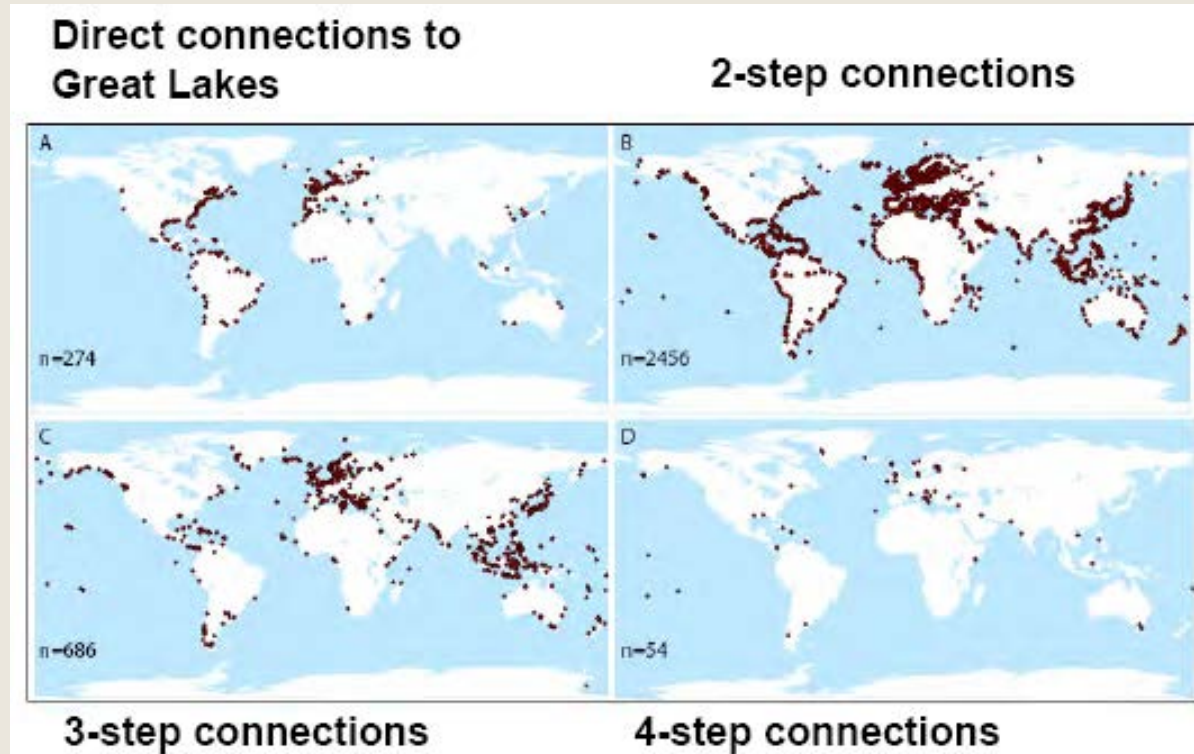


The 'unprecedented' wreck of a cargo ship that mysteriously capsized off the coast of Georgia in September will be sawed apart

- A cargo ship carrying about 4,000 Hyundai Motors and Kia Motors vehicles, which have likely been destroyed, capsized and caught fire off the coast of Georgia.
- There were 24 people on board, 23 crew members and one pilot. All rescued alive.
- The Golden Ray had been leaking an "unknown" amount of fuel. Oil sheens have been found in the surrounding waters on the beaches and marshes.
- Over 320,000 gallons of oil and water were removed.
- The Golden Ray will be sawed into eight pieces, and the sections will then be individually lifted out of the water and placed onto a barge to be taken away.
- The US Coast Guard called the wreck "unprecedented" and cause is still under investigation



Ballast water regulation is influenced by economic growth and global trade



(Keller, Drake, Drew, Lodge 2010 Div & Dist)



Cargo- Bulk Carrier- Flag Marshall Islands
Owner- Fednav
Dave Kenyon, MI DNR

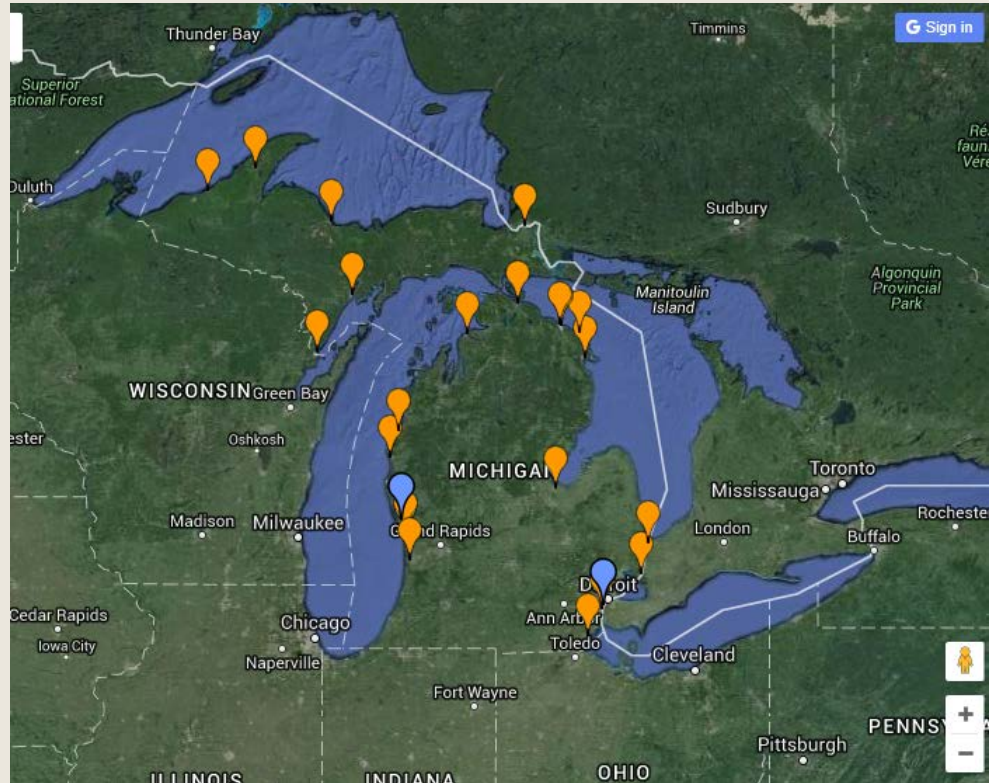


Marinetraffic.com

March 2, 2020

Federal Leda traveling from Montreal toward Quebec City

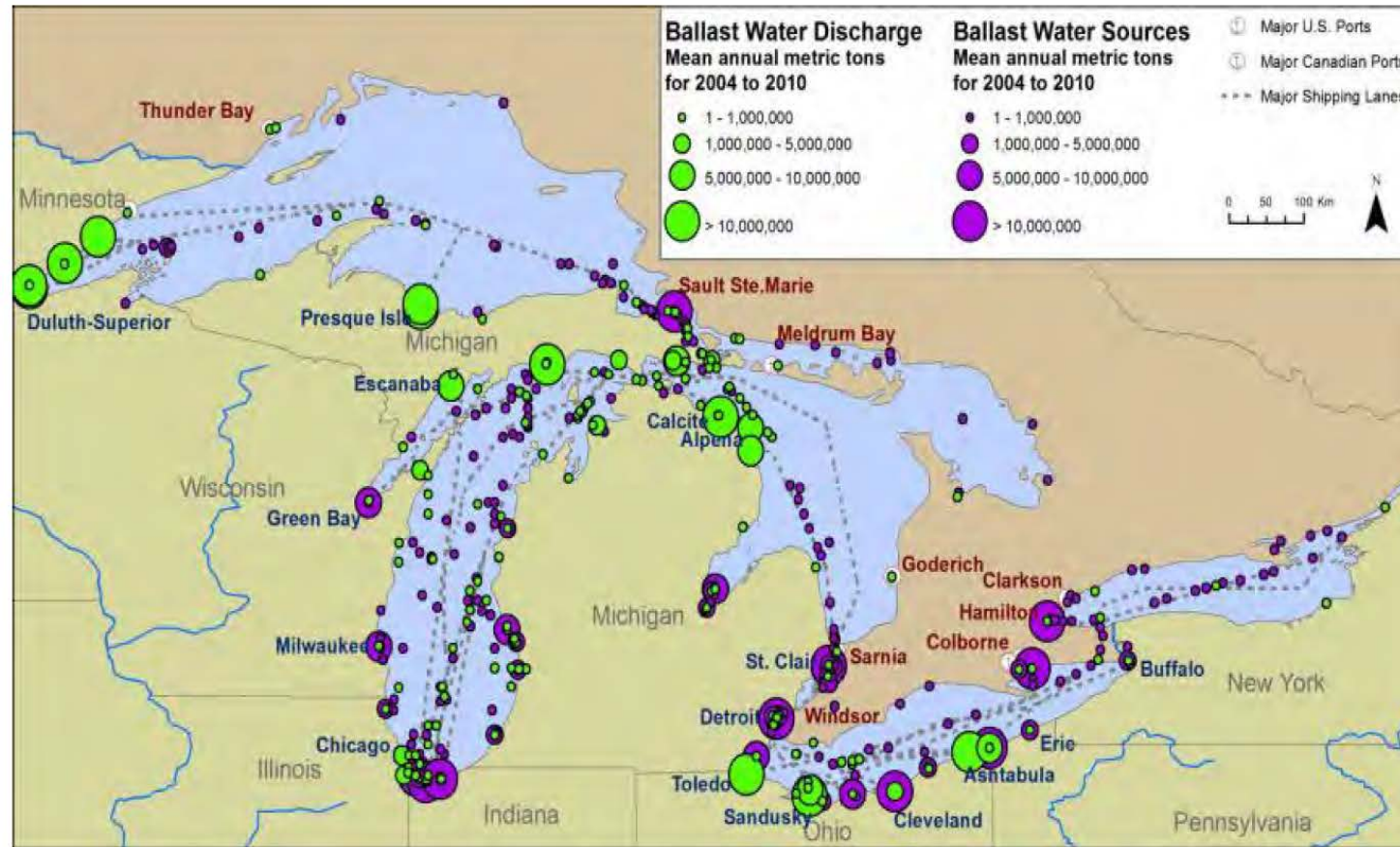
Michigan ports



22 ports, 2 medium- Detroit, and Muskegon
Michigan legal boundary includes almost 40,000 mi²
of Great Lakes surface area

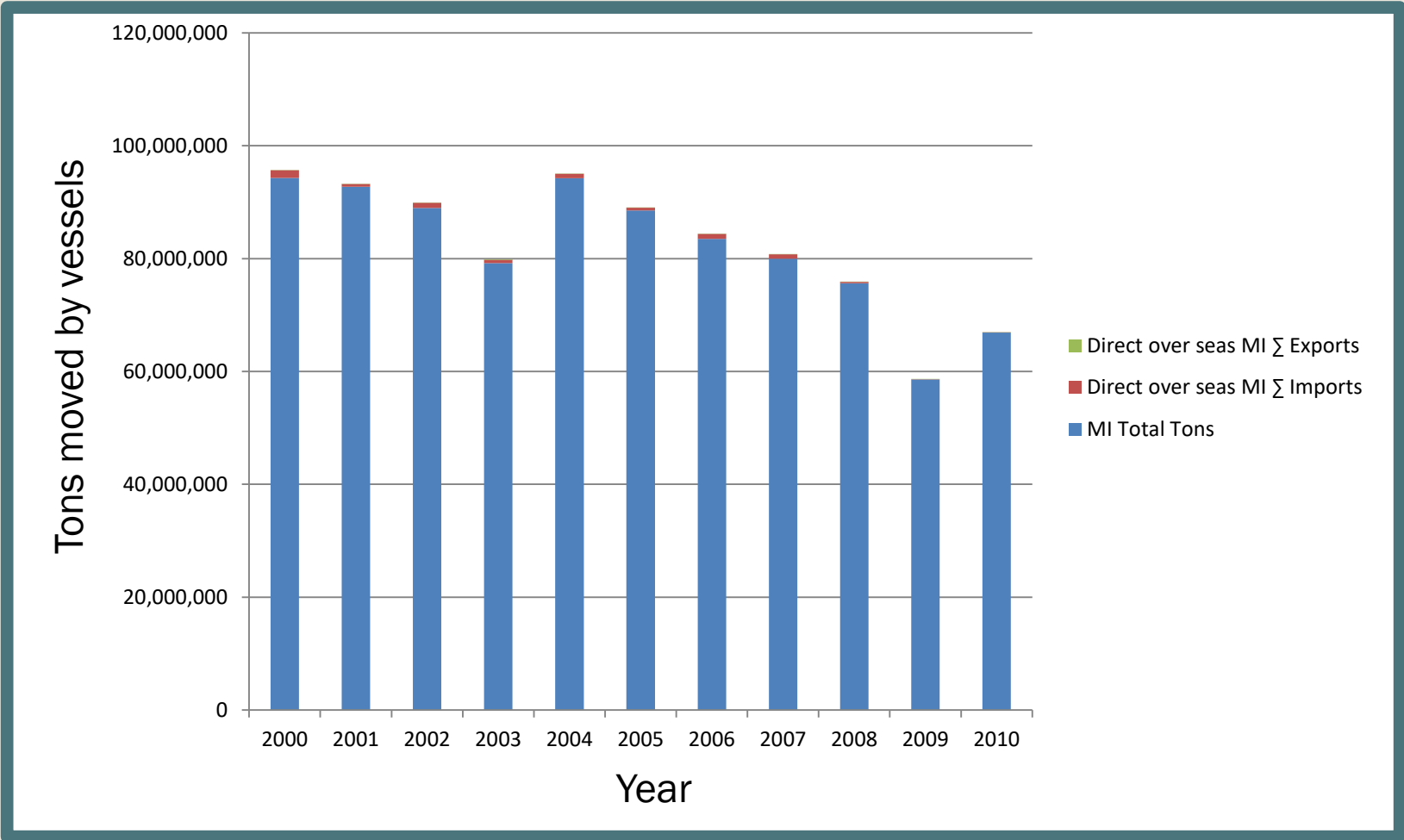


Ballast water sources and discharges

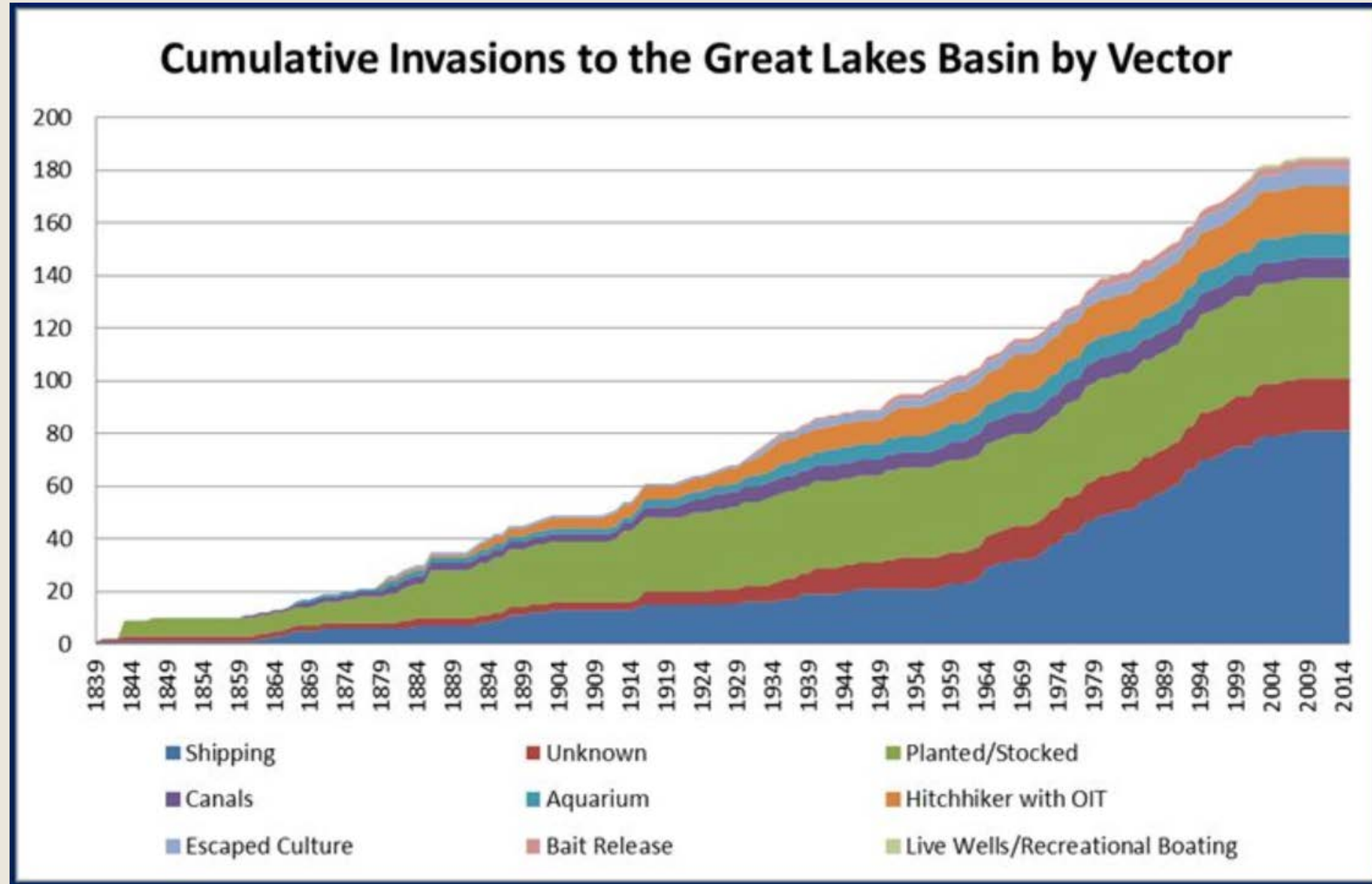


Sieracki, J. L., J. M. Bossenbroek, and M. Faisal. 2013. Modeling the secondary spread of viral hemorrhagic septicemia virus (VHSV) by commercial shipping in the Laurentian Great Lakes. *Biological Invasions*.

Tonnage by vessels to and from MI ports



Rate of Non-native species established in the Great Lakes



2018 *Mesocyclops pehpeiensis*

2018 *Diaphanosoma fluviatile*



2017 *Brachionus leydigii*

2016 *Thermocyclops crassus*

2006 *Hemimysis anomala*



Ballast water regulation is influenced by the irreversible harm caused by aquatic invasive species



An invasive species is one that is *not native* and whose introduction *causes harm*, or is likely to cause harm to Michigan's economy, environment, or human health

Dreissenid
invasion 1988

Nonindigenous
Aquatic Nuisance
Prevention and
Control Act of
1990

Authority for the
US Coast Guard to
regulate ballast
water

Current ballast water policy framework

Pre-VIDA

- International Maritime Organization
- Transport Canada
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- Great Lakes-St. Lawrence Seaway
- Illinois Environmental Protection Agency
(Clean Water Act 401 Certification)
- Indiana Dept. of Environmental Management
(Clean Water Act 401 Certification)
- Michigan Dept. of Environment, Great Lakes, and Energy
(Clean Water Act 401 Certification & State Permit)
- Minnesota Pollution Control Agency
(Clean Water Act 401 Certification & State Permit)
- New York Dept. of Environmental Conservation
(Clean Water Act 401 Certification)
- Ohio Environmental Protection Agency
(Clean Water Act 401 Certification)
- Wisconsin Dept. of Natural Resources
(Clean Water Act 401 Certification & State Permit)

Ballast water regulation is complicated



Criticism from the shipping industry

- “Too many layers- like an onion”
- “A patchwork of regulation”
- “Need to level the economic playing field”

Source: A. Pleus, Washington State Department of Fish and Wildlife and N. Dobroski, California State Lands Commission, presentation to ANS Task Force, May 8, 2019

Key Ballast water management (BWM) and exchange (BWE) milestones only

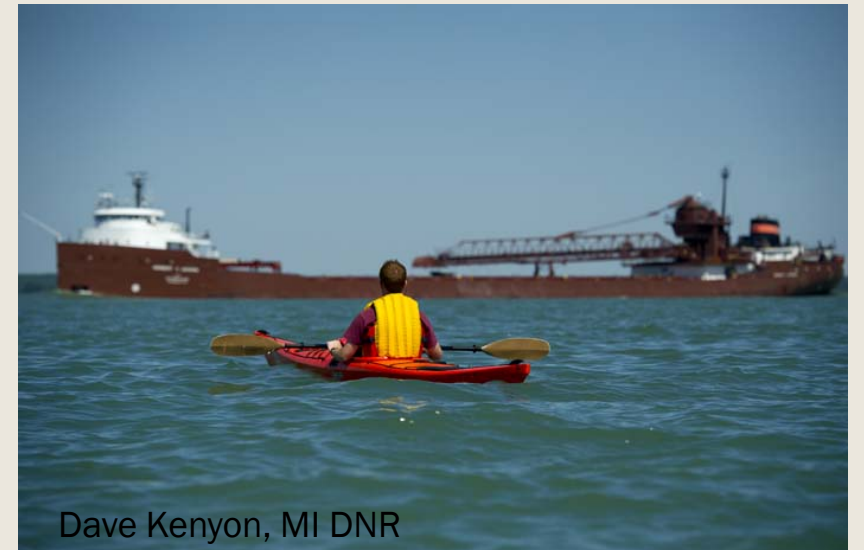
*DINOV = discharges incidental to normal operation of a vessel

Ballast water regulation: A Brief History

Year / Authority	1970-89	1990-94	1995-99	2000-04	2005-09
IMO		1991: IMO BW and sediment guidelines		2004: IMO BWM Convention adopted	
States				2001: MI BW Reporting Law	2005: MI BW Permit 2008: MN BW Program 2008: VGP 401 Certification 26 States, 2 Tribes; 11 w/BWM provisions; 3 > IMO BWDS
USCG		1993: BWE Great Lakes 1994: BWE Hudson R (voluntary)		2001: BWE National (voluntary) 2004: BWE National (mandatory)	2005: Great Lakes Policy for No Ballast On Board
EPA	1973: DINOV exempted from NPDES permits		1999: Incidental discharge petition to EPA	2003: Petition denied; Lawsuit filed	2008: DINOV Ruling & Appeal Denied 2008: VGP Issued – no BWDS/timeline
Congress	1988: Zebra Mussels in GL	1990: NANPCA 1991-92: Cholera in Gulf states	1996: NISA		2005: S.363 2007: S.1578; HR.2830

Michigan's ballast water permit

- Authority: Michigan legislation in 2005 amended the Natural Resources and Environmental Protection Act
- “...prevent the introduction of and minimize the spread of aquatic nuisance species...”
- State general permit for oceangoing vessels conducting port operations effective 2007
 - *Requires treatment of ballast water discharges using one of four approved treatments methods, certify no discharge, or request use of an alternative treatment (effectiveness demonstration) Hypochlorite, Chlorine Dioxide, Ultra Violet radiation, Deoxygenation*
- Meanwhile, Federal requirements rely on ballast water exchange and saltwater flushing
- Since last reissuance in 2017 191 New use certificates
 - *23 vessels have treatment installed*



Dave Kenyon, MI DNR

Ballast water regulation: A Brief History

Year / Authority	2010-14	2015-19
IMO	2011: Biofouling Guidelines Adopted	2016: IMO BWM Convention Ratified 2017: IMO BWM Convention In Effect
States	2013: VGP 401 Certification (25 States, 0 Tribes; 17 w/BWM provisions; 1 > IMO BWDS)	
USCG	2012: National BWDS/Timeline/Type Approval process implemented	2016 (Dec): First 3 BWMS type-approved by USCG (now @ 22)
EPA	2013: EPA VGP reissued – including BWDS/ Timeline, extensions for implement.	2018: sVGP moratorium expired; VGP “Administratively Continued”; sVGP repealed
Congress	2011: HR.2840; HR 2838 2012: S.3570; S.3332 2013: H.R.3464 (7) 2014: S.2094; HR.5609	2015: S.373; HR.980 2016: HR.4990 National Defense Authorization Act ; 7+ Amendment versions Obama veto threat 2017: S.168; H.R. 1154; S.1129; S.140 2018: S.1129 4+ Amendment versions; EPW 3+ versions; S.140 Passed (23+)

Vessel Incidental Discharge Act: VIDA

- “Frank LoBiondo Coast Guard Authorization Act of 2018” (S.140, Title IX)
 - *Passed Senate: Nov. 14, 2018 (94-6 vote)*
 - *Passed House: Nov. 27, 2018 (agreed to by voice vote without objection)*
 - *President Signed into Law: Dec. 4, 2018*

VIDA: Provisions

- EPA/USCG/States: No Discharges incidental to normal operation of a vessel changes/preemption until new federal standards/requirements “final, effective, and enforceable” EXCEPT
 - *Paragraphs 6(B) Empty Ballast Tanks, 10(C) Min. Pacific Region Req., and 10(D) Low Salinity Ballast Tanks*
 - *Differences in legal interpretation*
- EPA: Federal lead in establishing water quality standards under Sec. 312 of CWA (eliminates NPDES permit requirements under Sec. 402 of CWA)
- USCG: Federal lead on monitoring, inspection, and enforcement of standards
- State Preemption: Cannot have a more stringent standards/requirements

VIDA: Provisions

■ State Authorities:

- *Ability to enforce federal standards/requirements*
- *Key regional provisions*
- *Ability to collect management fees (with new cap)*
- *Regulation of small commercial (<79ft) and fishing vessels (except by NPDES permit)*
- *Consultation* required during EPA and USCG establishment of standards/requirements
- *Governor petition* for higher federal standards/requirements
- *Improved dissemination of NBIC ballast water reporting data and annual reports*
- *Working group formed to develop real-time ballast water data sharing*

VIDA: Provisions

■ Coastal AIS Mitigation Grant:

- *Administration – National Fish and Wildlife Foundation*
- *\$5M Subject to appropriation (25% match requirement)*
- *\$? Sec. 312(p) (VIDA) penalties*
- *AIS in coastal zone or EEZ*
- *Eligibility – States, local gov't, Tribes, NGOs, academia*
- *Use –*
 - Support ballast water and other AIS management program activities
 - Restore habitat impacted by AIS
 - Develop ballast water treatment technologies
 - Develop mitigation measures to protect natural and living cultural resources from AIS impacts
 - Develop infrastructure AIS mitigation measures

VIDA: Provisions

- '(E) **INTERGOVERNMENTAL RESPONSE FRAMEWORK.—**
 - *USCG in consultation with EPA and acting in coordination with, or through, the **Aquatic Nuisance Species Task Force** “shall establish a framework for Federal and intergovernmental response to aquatic nuisance species risks from discharges from vessels subject to ballast water and incidental discharge compliance requirements under this subsection, including the introduction, spread, and establishment of aquatic nuisance species populations.”*
 - *Establish a risk assessment framework using BW discharge data (NBIC) and ANS monitoring data to*
 - ID and track populations of AIS
 - Evaluate risk of AIS populations
 - Establishing emergency BMPs

VIDA: Great Lakes Provisions

((10) Additional Regional Requirements)

- **Ballast water exchange/saltwater flushing** for vessels entering the Seaway
- “(B) ENHANCED GREAT LAKES SYSTEM REQUIREMENTS.—
 - “(i) **PETITIONS BY GOVERNORS FOR PROPOSED ENHANCED STANDARDS AND REQUIREMENTS.**—
 - “(I) IN GENERAL.—The Governor of a Great Lakes State (or a State employee designee) may submit a petition in accordance with subclause (II) to propose that other Governors of Great Lakes States endorse an enhanced standard of performance or other requirement with respect to any discharge that—
 - “(aa) is subject to regulation under this subsection; and “(bb) occurs within the Great Lakes System.”

VIDA: Great Lakes Provisions

((10) Additional Regional Requirements)

- Petitions submitted to: GLC, other GL Governors, GLNPO
- Preliminary assessment by GLC “acting through the **Great Lakes Panel on Aquatic Nuisance Species**, to the maximum extent practicable”
- Petition, assessment published in FR for public comment
- **Development of proposed standard or requirement**
 - *“any interested Governor of a Great Lakes State may work in coordination with the Great Lakes Commission to develop a proposed standard of performance or other requirement applicable to a discharge referred to in the petition.”*
 - *In consultation with Canada (Federal and provincial)*
 - *Endorsed in writing by*
 - Each Great Lakes Governor if requires additional equipment on vessels
 - minimum 5 Great Lakes Governors if no additional equipment on vessel is required
- Submit proposed standard/requirement to EPA and USCG for review and approval
 - *Provides for withdraw of endorsement or dissenting opinions from GL Governors*
- \$5M authorization for GLC

VIDA: Great Lakes Provisions

- Great Lakes and Lake Champlain Invasive Species Program:
 - *Administration – EPA GLNPO in collaboration/consultation with:*
 - USFWS, NOAA, USGS, USCG, GLANSIS, GLERL
 - Federal, State, local and Tribal agencies; and other “research entities or stakeholders” as appropriate
 - *\$50M authorization*
 - *Purpose:*
 - to **monitor** for the introduction and spread of AIS
 - to **detect** newly introduced AIS
 - to inform, and assist with, **management and response actions** to prevent or stop the establishment or spread;
 - to establish a watch list of candidate AIS that may be introduced or spread, and that may survive and establish
 - to **monitor vectors** likely to be contributing to the introduction or spread of AIS, including ballast water operations;
 - to **work collaboratively** with the Federal, State, local, and Tribal agencies to develop criteria for prioritizing and distributing monitoring efforts;
 - to develop, achieve type approval for, and pilot shipboard or land-based ballast water management systems installed on, or available for use by, commercial **vessels operating solely within the Great Lakes** and Lake Champlain Systems to prevent the spread of AIS; and
 - to facilitate meaningful Federal and State implementation of the regulatory framework in this subsection, including monitoring, shipboard education, inspection, and compliance conducted by States.

Status

- Conference calls with USEPA and USCG
- Formal comments submitted by Michigan
- No draft regulations yet
- VIDA requires EPA to develop standards by December 2020
- Two years thereafter (~2022), the U.S. Coast Guard (USCG) is required to develop corresponding implementation, compliance, and enforcement regulations.
- No specific authorization for Great Lakes and Lake Champlain Invasive Species Program
 - *Program mentioned in FY2020 appropriation for GLRI that increased for \$300M to \$320M*

Acknowledgements

- *A. Pleus, Washington State Department of Fish and Wildlife and N. Dobroski, California State Lands Commission, presentation to ANS Task Force, May 8, 2019*
- *E. Jensen, Great Lakes Commission, presentation to Great Lakes Panel on ANS, May 15, 2019*



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Questions?

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