

Great Lakes and Lake Champlain Invasive Species Program (GLLISP) Update

Great Lakes ANS Panel Meeting
November 18, 2020

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US EPA – Great Lakes National Program Office (GLNPO)

The numbers show the total non-native invasive species known to be present in each waterway as of December 2019.

GREAT LAKES: 188

ST. LAWRENCE RIVER: 87

LAKE CHAMPLAIN: 51

HUDSON RIVER: 122

NOTE: All the waterways contain some overlap of species.
DATA SOURCES: UVM, LCBP, Lake Champlain Sea Grant, Great Lakes Environmental Research Laboratory, GLLISP, and GLNPO, and Costan 2002, Strayer 2012, and Egan 2017. Lake Champlain data current as of September 2018.





Bottom Line Up- Front (BLUF)

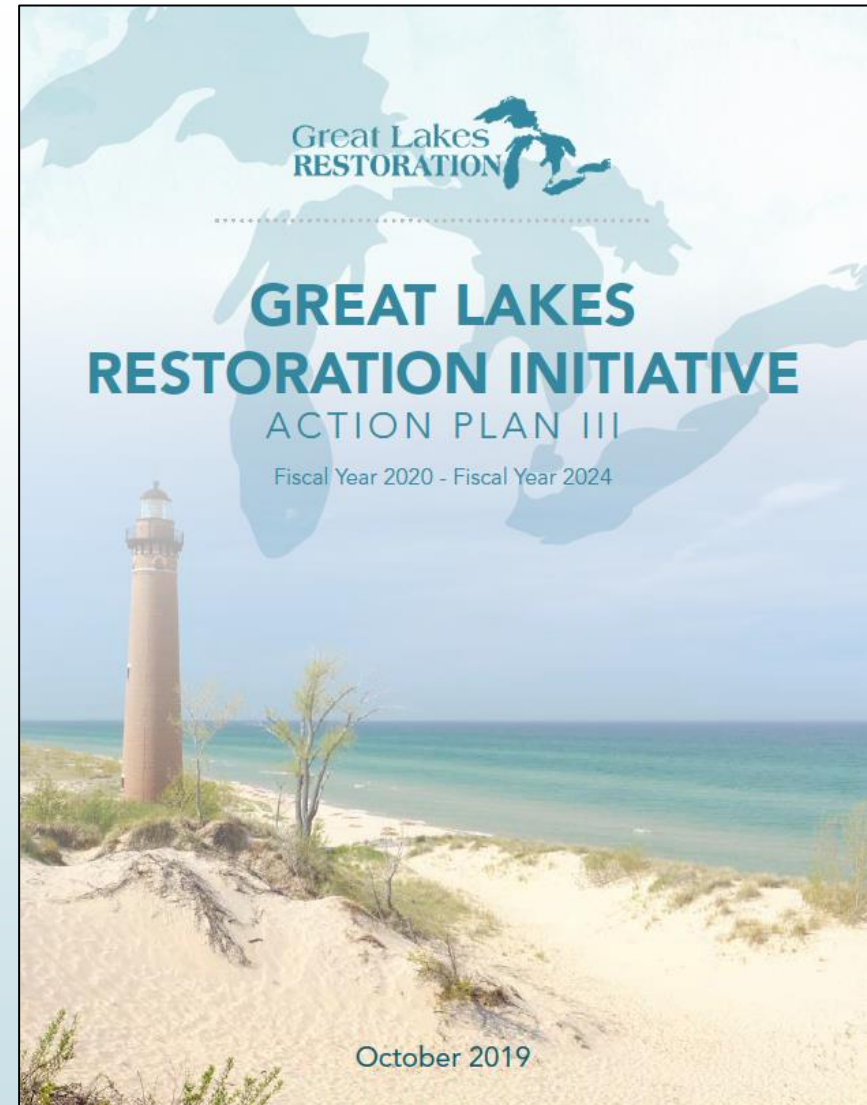
- The GLLCISP is a notable, congressionally-authorized and regional-based invasive species program.
- No federal appropriation for GLLCISP implementation has occurred since authorization in 2018.
- GLLCISP so far has provided a useful framework to synthesize existing Great Lakes and Lake Champlain AIS activities and develop recommendations for future efforts.

In the Beginning...

- GLLCISP authorized through the 2018 Vessel Incidental Discharge Act (VIDA) Section 903(g)
 - Senate Passage of VIDA in **November** 2018
 - No appropriation for GLLCISP since passage
- EPA-GLNPO became aware of potential passage of VIDA **with inclusion of GLLCISP** just prior to passage

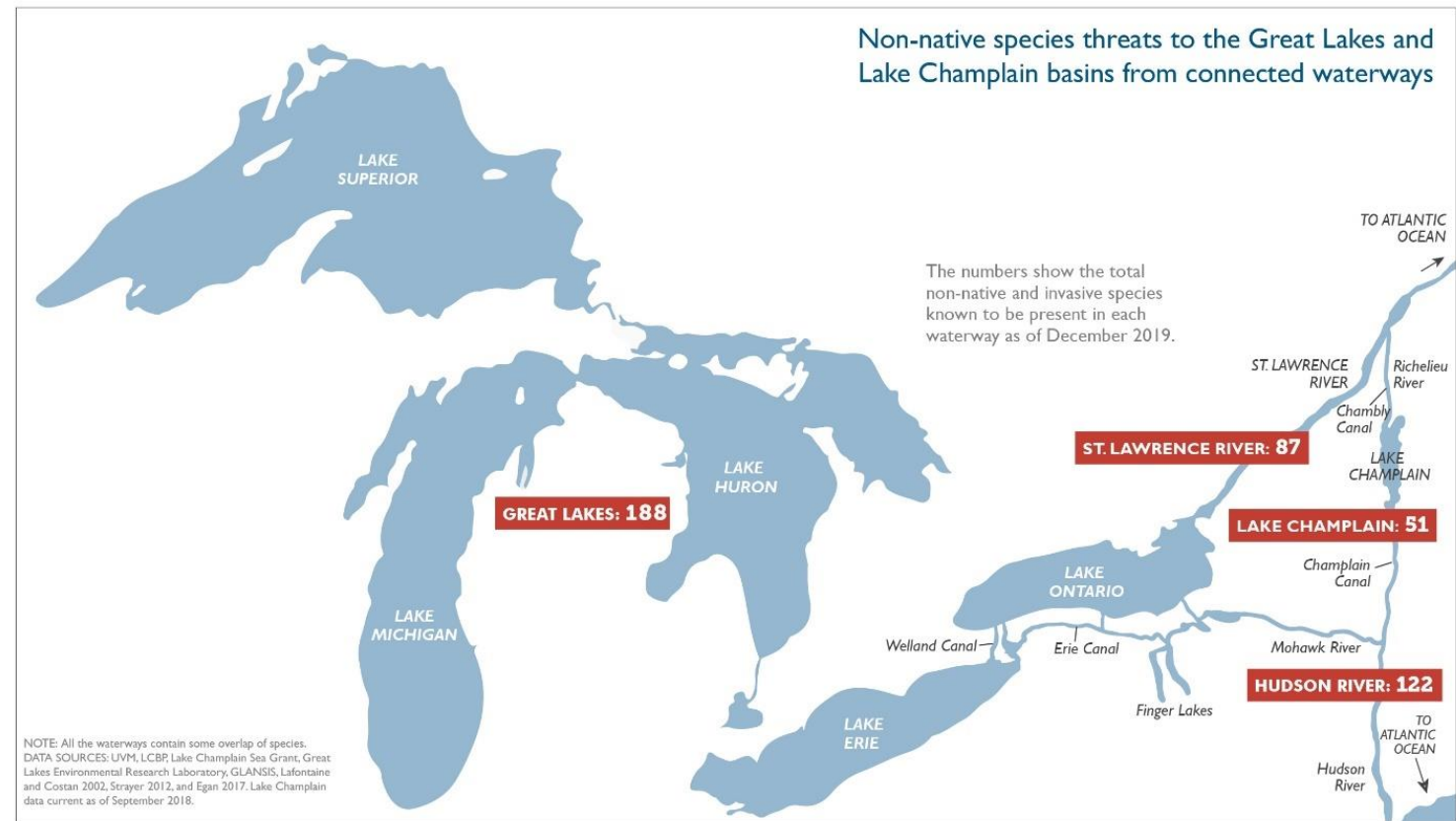
EPA-GLNPO Now Administers GLLCISP (& Great Lakes Restoration Initiative)

- 2018 VIDA authorization establishes GLLCISP within EPA-GLNPO
- During 2019, EPA-GLNPO is implementing the Great Lakes Restoration Initiative (GLRI), finalizing GLRI Action Plan III, and preparing for the third, 5-year period of GLRI.



2018 GLLCISP Authorization Required Report to Congress

- Description of activities
- Multidisciplinary efforts
- Recommendations to more fully achieve GLLCISP Purposes
- Recommendations to achieve efficiency



GLLCISP Report to Congress – Due December 2019

- ▶ Spring-Summer 2019: Select Great Lakes and Lake Champlain federal agencies and regional entities begin coordination and sharing of information.
- ▶ Summer 2019: AIS program information is synthesized from readily available sources.
- ▶ Fall 2019: Additional information solicited from states and tribes. Report to Congress is drafted.

THE GREAT LAKES AND LAKE CHAMPLAIN INVASIVE SPECIES PROGRAM

2019 Report to Congress



A summary of existing federal, state, and tribal invasive species activities aligned with the listed purposes of Great Lakes and Lake Champlain Invasive Species Program as set forth under the Vessel Incidental Discharge Act of 2018 and currently supported through the Great Lakes Restoration Initiative, the Lake Champlain Basin Program, state, and other appropriations.



U.S. Environmental Protection Agency
Great Lakes National Program Office

2018 GLLCISP Authorization Identifies Eight Purposes of Program

- to monitor for the introduction and spread of ANS species...
- to detect newly introduced ANS prior to the establishment ...
- to inform, and assist with, management and response actions...
- to establish a watch list of candidate ANS...
- to monitor vectors...
- ...to develop criteria for prioritizing and distributing monitoring effort
- to develop, achieve type approval for, and pilot shipboard or land-based ballast water management system.... for use by, commercial vessels operating solely within the Great Lakes and Lake Champlain
- to facilitate meaningful Federal and State implementation of the [ballast water] regulatory framework

Examples of Aquatic Invasive Species in the Great Lakes and Lake Champlain

	Present		Not Present (Focus of Prevention)
The Great Lakes	Grass Carp Sea Lamprey <i>Thermocyclops crassus</i> Hydrilla Round goby Quagga mussels		European water chestnut Killer shrimp Northern snakehead Golden mussel
The Great Lakes & Lake Champlain	Spiny water flea Fishhook water flea Zebra mussel		Bighead carp Silver carp Black Carp <i>Hydrilla</i> (prevent further spread in Great Lakes)
Lake Champlain	Alewife Water chestnut Eurasian watermilfoil		Hydrilla Quagga mussel Round goby

DATA SOURCES: GLANSIS (<https://www.glerl.noaa.gov/glansis/nisListGen.php>), Governors and Premiers "Least Wanted" List (<https://www.blueaccounting.org/print/pdf/node/5099>) and Lake Champlain Basin Program 2018 State of the Lake and Ecosystem Indicators Report (<https://sol.lcbp.org/en/>).

Format of GLLCISP Report to Congress

- By Purpose (8) and associated Key Activities (20)
- Comparison and contrast between Great Lakes and Lake Champlain

Purpose 2: Programs that “detect newly introduced aquatic nuisance species prior to the establishment”

Key Activity	Great Lakes	Lake Champlain
3. “Hotspot” early detection activities	Basin-wide program in place to monitor “hotspot” locations along with supplementary activities by partners	No established early detection monitoring efforts present at boat launches and marinas and other opportunistic areas
4. Species-specific activities or collaboratives (i.e., focus efforts on critical species)	Collaboratives exist for Asian carp, crayfish, Hydrilla, invasive mussels, Phragmites, New Zealand mud snail	Collaboratives exist for water chestnut and Asian clam, but directed efforts for other high concern species are lacking
5. Innovative technology development and deployment	Monitoring and intercepting vectors of bighead and silver carp using eDNA tools while building genomic libraries and techniques for additional species	Piloted development of genomic tools for early detection of quagga mussel, Asian clam, and Zebra mussel

Programmatic Federal Funding for Great Lakes and Lake Champlain AIS Activities*



\$<1 million per year for AIS activities



\$50 million per year for AIS/TIS activities

* Comparison between EPA Geographic Programs federal appropriation only. Fuller comparison would include additional federal, state, tribal, and other funding sources.

GLLCISP Report to Congress Recommendations

- Establish a more robust Lake Champlain AIS Program
- Enhance ballast water research and development of technologies
- Increase state and tribal AIS program support
- Increase research to support surveillance and early detection approaches

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U.S. Environmental Protection Agency
Great Lakes National Program Office

epa.gov/greatlakes/great-lakes-and-lake-champlain-invasive-species-program-report

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Great Lakes and Lake Champlain Invasive Species Program Report

In October of 2020, EPA delivered a Report to Congress summarizing the outcomes of activities carried out under the Program, as well as recommendations for both achieving the purposes of the Program and for improving it. The Report by EPA's Great Lakes National Program is a synthesis of readily-available information from many partners, including federal, state, and tribal entities, to "inventory" the degree to which the eight stated purposes of the Program are currently being met. This inventory was done in collaboration with Great Lakes states and tribes, EPA Regions 1 and 2, and the Lake Champlain Basin Program.

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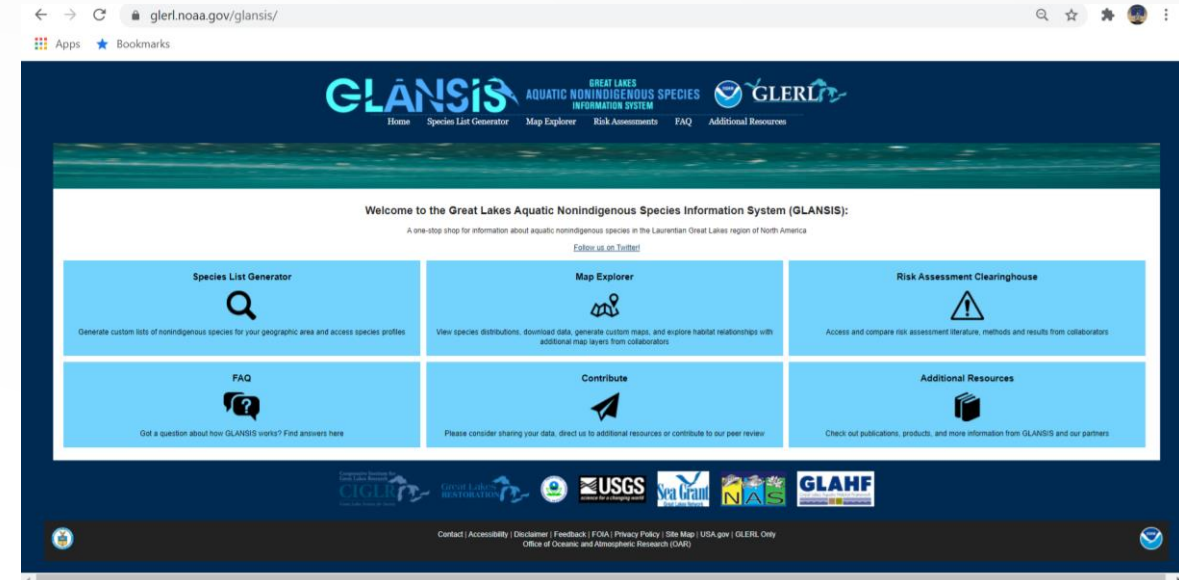
- [The Great Lakes and Lake Champlain Invasive Species Program Report \(PDF\)](#)
(37 pp, 2 MB, November 2020)

[Contact Us](#) to ask a question, provide feedback, or report a problem.

Possible Next Steps for Great Lakes and Lake Champlain*

- Sharing lessons learned, technology transfer, and making more connections
 - Development of AIS data delivery system for Lake Champlain
 - Considering initial steps for developing a Lake Champlain AIS early detection program

* Does not consider next steps for ballast water research and development and regulatory framework. Also does not consider if federal appropriations for GLLCISP are made.



Thank you to GLLCISP Report to Congress Contributors!

Federal Agencies, States, Tribes, and Regional Entities

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