

Great Lakes Panel Member Updates

Spring 2022

Meeting of the Great Lakes Panel on Aquatic Nuisance Species
June 1-3, 2022 | Virtual Meeting

U.S. Federal

U.S. Fish and Wildlife Service

No update provided.

Contact: Amy McGovern, U.S. Fish and Wildlife Service, 612-713-5109, amy_mcgovern@fws.gov

National Oceanic and Atmospheric Administration

No update provided.

Contact: Felix Martinez, National Oceanic and Atmospheric Administration, 734-741-2254, felix.martinez@noaa.gov

National Park Service

AIS prevention

- Boat washing stations to be deployed near Apostle Islands, Isle Royale, Pictured Rocks, and Voyageurs.
- At 10 national parks, NPS will employ AIS prevention educators to prevent spread and introduction.

Invasive species early detection and monitoring

- NPS and academic partners will be conducting snorkel- and/or scuba-based surveys for invasive mussels in marina settings at Voyageurs National Park and Grand Portage National Monument, and scuba-based surveys of reef, dock, and nearshore habitats at Apostle Islands and Isle Royale.
- NPS will deploy passive samplers and conduct veliger sampling for invasive mussels at Isle Royale, Pictured Rocks, and Voyageurs. At Apostle Islands, three types of passive samplers will be deployed; rock bags and artificial substrate samplers will be deployed by NPS at docks, and mesh banners will be deployed by EPA-Duluth at nearshore sites. Partners from Red Cliff Band will deploy rock bag and artificial substrate samplers at local marina near Apostle Islands.
- NPS will facilitate volunteer-based AIS early detection efforts on nine inland lakes at Sleeping Bear Dunes, targeting 17 invasive species from the State of Michigan aquatic invasive species watch list. NPS staff also conducted aquatic vegetation surveys in two additional lakes, four total.

Invasive mussel removal

- NPS, state, and academic partners will continue follow-up monitoring at invasive mussel removal sites at Sleeping Bear Dunes' Good Harbor Reef, including sites of the 2016 manual removal experiment, the 2019 Invasive Mussel Collaborative-sponsored Zequanox experiment, and the latest barrier-only experiment.

Round goby research

- NPS and UWM partners will conduct follow-up monitoring at sites of larger scale goby exclusion experiments at Sleeping Bear Dunes' Good Harbor Reef.

Invasive mussel rapid response

- Voyageurs National Park will be ramping up veliger sampling, artificial substrate sampler deployments, and dive-based early detection efforts at Black Bay of Rainy Lake, following veliger detections in late 2021. Voyageurs will also be staffing boat cleaning stations at key control points and increasing veliger and artificial substrate sampling in other park lakes at high risk of invasion.

Invasive mussel outreach

- Three videos (one related to Apostles, one related to Isle Royale, and a more general version for use in other parks) were released and are available at Videos: Research and Science in Great Lakes National Parks - Great Lakes Research and Education Center (U.S. National Park Service) (nps.gov).

Ongoing invasive species control efforts at multiple parks with GLRI funding:

- Additional high priority areas at 7 national park sites are targeted for aquatic and terrestrial invasive species treatments.

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U.S. Army Corps of Engineers

No update provided.

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U.S. Coast Guard

Ballast Water Regulation

The Coast Guard published its ballast water discharge standard regulation in the Spring of 2012. The standard aligns with the IMO D-2 standard and require the installation of type-approved ballast water management systems (BWMS) on "salties". The use of type approved ballast water management methods are required on those new ships constructed after 1 DEC 2013 and will be implemented on existing ships during the vessel's first scheduled drydock after 2014 or 2016 depending on the vessel's BW tank capacity and availability of type approved systems.

The Coast Guard anticipates that more than 3,000 United States domestic vessels in various classes will be required to install an approved ballast water management system (BWMS). In addition, about 9,000 foreign vessels that enter U.S. waters each year will be subject to the rule. The IMO estimates that more than 60,000 vessels worldwide will need to comply with the Ballast Water Management Convention when it enters into force.

CG Type Approval

The multi-faceted type approval process consists of land-based and shipboard-based testing (by independent labs) focused on the biological efficacy of the BWMS. For those systems whose performance could be affected by the cold and pure fresh water of the Great Lakes, additional testing may be necessary. Assessment of the BWMS' ability to properly operate in the harsh marine environment is also undertaken and all of the system's components are examined to ensure compliance with marine engineering, electrical, and mechanical standards. This testing and certification is usually conducted by vessel classification societies. The Coast Guard has certified five Independent Labs (IL) that are involved in the type approval process. Duluth-Superior's Great Ship Initiative is part of a certified IL.

Since 2013, the Coast Guard Marine Safety Center has received **59** of Letters of Intent from BW treatment system manufacturers stating they intend to pursue type approval for their ballast water treatment system. The Coast Guard's Marine Safety Center has type approved **46** BW treatment systems.

Ballast Water Working Group (BWWG)

The Ballast Water Working Group has completed the 2021 annual report and it is posted on this website; [2021 Summary of Great Lakes Ballast Water Management \(greatlakes-seaway.com\)](#)

In 2021, 100% of vessels bound for the Great Lakes Seaway from outside the Exclusive Economic Zone (EEZ) received ballast management exams on each Seaway transit. In total, all 9470 ballast tanks were assessed during the 490 vessel transits. Vessels that did not exchange their ballast water or flush their ballast tanks were required to either retain the ballast water and residuals on board, treat the ballast water in an environmentally sound and approved manner, or return to sea to conduct a ballast water exchange.

In 2021, there were 324 ships with a working Ballast Water Management System (BWMS) onboard (148 on first transit, 176 on subsequent transit). Vessels that were unable to exchange their ballast water/residuals and that were required to retain them onboard received a verification exam during their outbound transit prior to exiting the Seaway. In addition, 100% of ballast water reporting forms were screened to assess ballast water history, compliance, voyage information and proposed discharge location. BWWG verification efforts indicated that there was no non-compliant ballast water discharged in the Great Lakes Seaway system.

Vessel Incidental Discharge Act (VIDA)

On December 4th, 2018, the Vessel Incidental Discharge Act was signed into law as part of the Coast Guard Authorization Act. The title provides for a uniform, national standard to govern discharges that are incidental to vessel operations, such as ballast water discharges. It makes the Environmental Protection Agency the lead for establishing these standards, and it makes the Coast Guard the lead for monitoring and enforcing the standards. The Coast Guard and the EPA are working on their respective regulatory mandates.

On Monday, October 26th, 2020 the EPA published its "[Vessel Incidental Discharge National Standards of Performance](#)" proposed rule in the *Federal Register*. This proposed rule would establish national standards of performance for discharges incidental to the normal operation of a vessel that will apply primarily to commercial vessels 79 feet in length and above that discharge into waters of the United States or waters of the contiguous zone. The proposed rule also includes procedures for states to petition EPA for additional requirements as provided for under the VIDA. Public comments on the proposed rule were accepted for 30 days and the EPA is currently reviewing the comments from the docket. The EPA seeks to publish the Final Rule at the end of 2022.

VIDA requires the USCG to promulgate implementation, compliance, and enforcement requirements for EPA's national performance standards:

- The USCG program will be no less stringent than the EPA's current VGP, to ensure, monitor, and enforce compliance with the EPA's national performance standards.
- Implementing regulations will include vessel management practices, design and construction, testing, approval, installation, and use of marine pollution control devices.
- VIDA includes additional requirements such as developing an intergovernmental workgroup with Federal and State agency cooperation, submitting annual invasive species reports to congress, and developing an invasive species contingency plan.

The Coast Guard established a working group in December 2019 to help implement several of state coordination requirements. The Ballast Water Reporting and Enforcement Data Working Group with interested State partners, the CG's Navigation Center, EPA, and members of the Smithsonian's National Ballast Water Information Clearinghouse (NBIC) continues their work virtually. This workgroup's current focus has been on ensuring States have access to the Marine Traffic Automatic Identification System, as well as information on how to receive commercial vessel BW reporting information from NBIC. The participating states now have direct access to the NBIC data.

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U.S. Forest Service

No update provided.

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U.S. Department of Agriculture-APHIS

No update provided.

Contact: Vacant

U.S. Department of State

No update provided.

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U.S. Environmental Protection Agency

No update provided.

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U.S. Geological Survey

No update provided.

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State/Provincial

Illinois

No update provided.

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Indiana

No update provided.

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Michigan

No update provided.

Contact: Sarah LeSage, Michigan DEQ, 517-243-4735, lesages@michigan.gov

Minnesota

- In 2021, Minnesota DNR Invasive Species Program staff completed 66,574 watercraft inspections, and trained 811 local government watercraft inspectors who accomplished an additional 472,189 watercraft inspections.
- In 2021, the DNR Invasive Species Program issued 388 permits to control invasive aquatic plants.
- Minnesota DNR Conservation Officers completed 14,464 hours of invasive species education and enforcement in 2021.
- The Minnesota DNR completed permit training for 560 Lake Service Provider (LSP) business owners and managers, issuing 541 permits while 1,011 LSP employees completed online employee certificate training.
- The Minnesota DNR continued to work with local groups who had received \$60,000 in grants to support their work in behavior change around AIS prevention.
- The DNR's trade pathways work, supported by the Great Lakes Restoration Initiative (GLRI) administered by the U.S. Fish and Wildlife Service since June 2019, continued: the DNR shared recent work on trade pathways for invasive species to a wide range of partners and stakeholders, including sellers and buyers involved in live organism trades; a contractor completed an assessment of the availability of invasive species at pet stores and seafood markets in Minnesota; and the DNR invasive species program also conducted a survey of aquarium and water garden hobbyists to better understand the risks associated with specific hobbies and how best to serve hobbyists.
- The Minnesota DNR, in partnership with Wisconsin DNR, U.S. Geological Survey, and U.S. Fish and Wildlife Service, led two Modified-Unified Method (MUM) events in Pool 8 of the Mississippi River in 2021, and a third MUM event in April 2022. These events use a technique adapted from traditional fishing methods in China to divide a waterbody into cells with large block nets, and slowly herd invasive carp from one cell to another. Thirty-seven silver carp were removed during these three MUM events. The DNR trawls annually to monitor for invasive carp reproduction and no reproduction has been observed yet in Minnesota waters.
- The Minnesota DNR continued a statewide nonnative Phragmites control effort; in 2021, the DNR used GLRI funding to support treatment of 141 nonnative Phragmites sites in 24 counties.

Contact: Kelly Pennington, Minnesota DNR, 651-259-5131, kelly.pennington@state.mn.us

New York

No update provided.

Contact: Catherine McGlynn, New York State Department of Environmental Conservation, 518-408-0436, catherine.mcglynn@dec.ny.gov

Ohio

- Continued following the Lake Erie Grass Carp Response Strategy (2019-2023) with the deployment of multiple Grass Carp Strike Teams through the University of Toledo dedicated to the eradication of Grass Carp from the western basin of Lake Erie. Over 430 adult Grass Carp have been removed to date. We continue to track tagged Grass Carp with the GLATOS system and real-time receivers, and we are working through the University of Toledo to determine Grass Carp catchability and population size. Partners also include Michigan DNR, GLFC, USFWS, and USGS.
- Working with the GLFC, Michigan DNR, USACE, and USGS to develop a seasonal Grass Carp behavioral barrier on the Sandusky River to prevent their movement to spawning habitat. We are working through the USACE Great Lakes Fishery and Ecosystem Restoration program on design and construction funding.
- Continue closure for the three of the four Great Lakes Mississippi River Interbasin Study connections in Ohio at the Ohio Erie Canal, Little Killbuck Creek, and Grand Lake St Marys: 1) The USACE completed the closure of the Ohio Erie Canal connection in March 2020; 2) We completed the appraisals for the Little Killbuck Creek have agreement with the two landowner to proceed with the project and HDR was hired to complete the final design; 3) The preliminary design for the final phase to close the connection at Grand Lake St Marys has been completed and final design will be completed in 2022.
- Continue the surveillance of Ohio's bait supply chain to determine if AIS, including Bighead and Silver Carp, are being transported through the bait trade. To date, no high risk AIS have been detected.

- Continue the AIS outreach campaign through Wildlife Forever to target anglers moving bait. This outreach program includes billboards, print media, and items for distribution at events with the slogan “Trash Unused Bait”.
- Participated in the following groups: Great Lakes Panel, Ohio Aquatic Invasive Species Committee, and Invasive Carp Regional Coordinating Committee.

Contact: John Navarro, Ohio DNR Division of Wildlife, 614-265-6346, john.navarro@dnr.state.oh.us

Ontario

No update provided.

Contact: Francine MacDonald, Ontario Ministry of Natural Resources, 705-755-5136, Francine.macdonald@ontario.ca

Pennsylvania

- The Pennsylvania Invasive Species Council has been very active since the last Panel meeting. Highlights include an initiative to develop and fund Partnerships for Regional Invasive Species Management (PRISMs) in the Commonwealth; increased media outreach related to National Invasive Species Awareness Week; advocacy leading to the addition of five new plant species to the state’s official [Controlled Plant and Noxious Weed lists](#); the creation of a non-regulatory Invasive Species “Watch List” containing dozens of aquatic plants, animals, and pathogens; and updates to the AIS Rapid Response Plan.
- In April 2022 a temporary electrical barrier was installed on Conneaut Creek south of Conneautville in Crawford County for evaluation as a means of preventing Sea Lamprey spawning runs. The creek is currently treated with the lampricide TFM as part of the Great Lakes Fishery Commission’s Sea Lamprey control program. The barrier was the result of a collaborative effort between GLFC, USACOE, USFWS, PAFBC, and PADEP. Lamprey monitoring was conducted concurrently as part of the project. The agencies are also evaluating the potential for a future physical barrier to supplant TFM treatments in the stream
- On Saturday May 21, 2022, Pennsylvania Sea Grant in partnership with the Herps Alive Foundation and the Erie Humane Society hosted the second “Erie Pet Amnesty Day”. With the second most popular hobby in the United States being aquariums, the goal of this effort was to offer a safe and environmentally friendly alternative to releasing unwanted aquarium pets into the environment. This event brought in 17 surrendered pets, including multiple species of turtles, tortoises, and fish. The owners expressed sighs of relief in having an option for pets that were either too large to care for, became too much of a commitment for them, or belonged to children who have since grown and went off to school. The Herps Alive foundation, a non-profit public charity dedicated to saving, rehabilitating, and caring for unwanted reptiles and amphibians, was set up to accept the surrender of these animals, and will work to rehome them, or provide care for them at the sanctuary indefinitely.
- On Saturday May 7, 2022, Pennsylvania Sea Grant in partnership with Penn State Erie, the Behrend College, Erie Brewing Company, and the Lake Erie Ale Trail held the “Unwanted, Dead or Alive” beer festival. This unique collaboration integrated aquatic invasive species outreach with a social activity that brings large groups of people together and supports the local economy: drinking beer! Through this draft series, four invasive-themed beers were created that focus on AIS with a significant impact to the region. Over 150 people came out to sample Sea Lamprey Lager, Hazy Hydrilla, Zebra Mussel Maibock, and Rusty Crayfish Red Ale. This project engaged members of the public and drew the connection between impacts to water quality and the need for clean water to brew delicious beers.

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Québec

No update provided.

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Wisconsin

No update provided.

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Regional/Binational International Joint Commission

No update provided.

Contact: Mark Burrows, International Joint Commission, 519-257-6709, burrowsm@windsor.ijc.org

Great Lakes Fishery Commission

No update provided.

Marc Gaden, Great Lakes Fishery Commission, 734-662-3209 x14, marc@glfc.org

Great Lakes Commission

Invasive Mussel Collaborative

Overview: The Invasive Mussel Collaborative (IMC) is working to advance scientifically sound technology for invasive mussel control to produce measurable ecological and economic benefits. The IMC provides a framework for communication and coordination and is identifying the needs and objectives of resource managers; prioritizing the supporting science; implementing communication strategies; and aligning science and management goals into a common agenda for invasive mussel control.

Recent and Upcoming Activities:

- Continued to support three work groups focused on dreissenid toxicity testing, research, and coastal site prioritization for future management.
- Developed a manuscript outlining recommendations and best practices for testing new controls in lab settings.
- Finalized development of an interactive geographic site prioritization tool to identify critical coastal habitats that would most benefit from zebra and quagga mussel control efforts.
- Maintained an active communication network, including a comprehensive website, email listserv with over 400 subscribers, twitter account, and released an updated quarterly newsletter.
- Co-hosting a booth and session at the Joint Aquatic Science Meeting in May 2022 with the Great Lakes Phragmites Collaborative.
- Ongoing and upcoming work includes establishing a new implementation and planning work group to inform future applied research and management activities in the Great Lakes basin and releasing a research and applied control coordination mapper that utilizes Survey123 and ArcGIS

Lead Staff: Samantha Tank, sam@glc.org

Great Lakes *Phragmites* Collaborative

Overview: The GLC and U.S. Geological Survey are jointly leading a regional partnership – the Great Lakes *Phragmites* Collaborative (GLPC) – to improve communication and collaboration leading to more coordinated, efficient and strategic approaches to non-native *Phragmites* across the Great Lakes basin. The GLPC provides educational resources tailored to diverse interest groups, connects invasive species managers with the latest research and technology, encourages the use of adaptive management, and facilitates alignment of partner efforts across jurisdictional barriers.

Recent and Upcoming Activities:

- Regularly convened an Advisory Committee to guide the work of the GLPC and foster inter-jurisdictional partnerships.
- Hosted an ongoing webinar series where guest speakers shared successful models for *Phragmites* management and provided timely research updates.
- Convened the *Phragmites* Symbiosis Collaborative, a forum for researchers to share and collaborate on their microbial or genetic research.
- Established four work groups comprised of Advisory Committee members and external advisors, tasked with advancing member strategies outlined in the common agenda through the development of a comprehensive *Phragmites* guidance document.
- Updated the GLPC website (www.greatlakesphragmites.net) to meet the needs to our stakeholders.
- Distributing a biweekly newsletter that shares news, upcoming events, and relevant information to *Phragmites* management.
- Expanded the GLPC social media presence through Twitter, Facebook, and Instagram.

- Developed audience-specific outreach materials across various multi-media formats.
- Co-hosting a booth and session at the Joint Aquatic Science Meeting in May 2022 with the Invasive Mussel Collaborative.

Lead Staff: Samantha Tank, sam@glc.org

Phragmites Adaptive Management Framework (PAMF)

Overview: The GLC works with the U.S. Geological Survey (USGS) and University of Georgia to promote effective *Phragmites* management across the Great Lakes basin and track the effectiveness and resource efficiency of those management activities through the PAMF model. PAMF is available to *Phragmites* managers across the basin, from state and federal employees to private citizens, in a strategic attempt to engage, learn from, and assist all levels of *Phragmites* managers.

Recent and Upcoming Activities:

- Maintained ongoing communication with program partners from USGS and the University of Georgia to effectively coordinate program efforts.
- Completed the fourth annual model run and delivered *Phragmites* management guidance to 110 active management units.
- Assessed progress on year one of the 2020-2026 PAMF Strategic Plan and made fitting programmatic adjustments.
- Prepared abstracts for presentations at upcoming conferences.
- Distributed PAMF newsletters featuring a blog post and upcoming events.
- Developed a remote training course for PAMF participants with lessons that include recorded presentations, targeted readings, helpful guides, and quizzes designed to be a comprehensive participant learning experience (<https://pamf.moodlecloud.com/>).
- Developed code with USGS partners that automates many data summarization processes that were previously manually quantified, improving resource efficiency.
- Assembling a PAMF program manual to streamline program coordination and document annual outreach activities.
- Ongoing and upcoming work includes enrolling new management units for the 2022/2023 PAMF cycle year and planning a combination of virtual and in-person PAMF training opportunities for spring-summer 2022.

Lead Staff: Samantha Tank, sam@glc.org

Interstate Aquatic Invasive Species Prevention, Early Detection, and Response (Phase IV)

Overview: The GLC is supporting the eight Great Lakes states in their efforts to plan and coordinate interstate aquatic invasive species (AIS) prevention, early detection, and response activities. During the fourth phase of this effort, the GLC will work with the interstate team to expand and improve the existing regional surveillance framework and to develop best practice guidance for aquatic plant surveillance. The GLC will also be coordinating the development of an enhanced web interface to support regional prevention, early detection, and response activities.

Recent and Upcoming Activities:

- Assisted The Nature Conservancy in continuing development of the Great Lakes surveillance site prioritization system.
- Initiated the development of a standalone website for this program and its products.
- Additional upcoming activities include planning for a series of workshops to refine the site prioritization system.

Lead Staff: Ceci Weibert, cweibert@glc.org

Great Lakes Detector of Invasive Aquatics in Trade

Overview: GLC developed the web-based software tool Great Lakes Detector of Invasive Aquatics in Trade (GLDIATR), which collects, analyzes and allows users to access information about how many and what types of Great Lakes AIS are available for sale on the Internet. This information is being used by invasive species managers to inform and help target a variety of activities, including outreach and education, risk assessment, monitoring and surveillance, and enforcement.

Recent and Upcoming Activities:

- Provided sale information at the request of managers and other partners.

- Investigating functionality of novel web tools in the marketplace and potential role in assisting collection, analysis, and dissemination of Great Lakes AIS information.
- Identified third-party web scraping tools that may be used to support GLDIATR and contracted with those companies to support project activities.

Lead Staff: Erika Jensen, ejensen@glc.org.

Blue Accounting – Aquatic Invasive Species

Overview: The GLC is leading work on aquatic invasive species under Blue Accounting. This work focused on providing regional data and information on efforts to: stop species introduction and spread through priority pathways including live trade and recreational boating; Implement a targeted, binational program to detect new species; and control populations of harmful invasive species across the region.

Recent and Upcoming Activities:

- Contributed to management of the overall Blue Accounting initiative
- Finalized design of a metric exploring the harmonization of species regulations.
- Participated in refining the prototype web platform for Blue Accounting 2.0
- Upcoming activities include scoping development of data visualizations to track progress on the control of established species.

Lead Staff: Ceci Weibert, cweibert@glc.org

Great Lakes Aquatic Invasive Species Landing Blitz

Overview: The GLC is supporting the eight Great Lakes states in their efforts to prevent the spread of AIS via the recreational boating pathway. Boaters and other recreators learn about the risks of spreading AIS at public and private boating access sites across the Great Lakes region every summer. The Great Lakes AIS Landing Blitz events take place over a two-week period, emphasizing the need to Clean, Drain, Dry boats whenever they come out of the water, and Dispose of any unwanted bait in the trash.

Recent and Upcoming Activities:

- Developed and distributed a Request for Proposal (RFP) to support local outreach events related to recreational boating.
- Initiated 12 contracts through the RFP to support events in Michigan, Illinois, Indiana, Wisconsin, New York, and Ohio.
- Developed and distributed “starter kits” of materials to each contract recipient.
- Developed and filmed a public service announcement encouraging boaters to Clean, Drain, and Dry their boats.
- Additional upcoming activities include hosting online trainings for contract recipients and digital marketing for the 2022 event.

Lead Staff: Ceci Weibert, cweibert@glc.org

Contact: Tom Crane, Great Lakes Commission, 734-971-9135, tcrane@glc.org

**Canadian Federal
Fisheries and Oceans Canada**
No update provided.

Contact: Becky Cudmore, Fisheries and Oceans Canada, 905-336-4474, becky.cudmore@dfo-mpo.gc.ca

Transport Canada
No update provided.

Contact: Vacant

LOCAL COMMUNITIES

United States

No update provided.

Contact: Vacant

Canada

No update provided.

Contact: Vacant

Environmental/User Groups**Ontario Federation of Anglers and Hunters**

No update provided.

Contact: Sophie Monfette, Ontario Federation of Anglers and Hunters, 705-748-6324 ext. 274, sophie_monfette@ofah.org

The Nature Conservancy

No update provided.

Contact: Lindsay Chadderton, The Nature Conservancy, 574-217-0262, Ichadderton@tnc.org

National Wildlife Federation

No update provided.

Contact: Marc Smith, National Wildlife Federation, 734-887-7116, msmith@nwf.org

Tribal Authorities**Great Lakes Indian Fish & Wildlife Commission**

No update provided.

Contact: Miles Falck, Great Lakes Indian Fish & Wildlife Commission, 715-682-2124, miles@glifwc.org

Chippewa Ottawa Resource Authority

No update provided.

Contact: Mike Ripley, Chippewa Ottawa Resource Authority, 906-632-0043, mripley1@chippewaottawa.org

PRIVATE/COMMERCIAL**Lake Carriers' Association**

No update provided.

Contact: Tom Rayburn, Lake Carriers' Association, 440-333-9994, rayburn@lcaships.com

University/Research**Great Lakes Sea Grant Network-Research and Extension**

No update provided.

Contact: Rochelle Sturtevant, NOAA Great Lakes Sea Grant Network, 734-741-2287, Rochelle.Sturtevant@noaa.gov

Minnesota Aquatic Invasive Species Research Center

No update provided.

Contact: Nick Phelps Minnesota Aquatic Invasive Species Research Center, 612-624-7450 phelp083@umn.edu

Invasive Species Centre

Since the last meeting, the ISC has continued to work on education and outreach work surrounding Asian carps. We completed influencer marketing campaigns, an e-mail marketing campaign, and ran advertisements on fishing forums and magazines. We created a Grass Carp ID and reporting video that we advertised on Facebook, Instagram and YouTube. We hosted information sessions and workshops, and sent out a survey to anglers to get a better understanding of their level of knowledge and learn where they like to get their angling information so we can use this to run more targeted campaigns in the future.

The ISC is also continuing our zooplankton diagnostics work where we analyze water samples for presence or absence of invasive mussel veligers and spiny water flea in in-land lakes across Ontario. In addition to this work, we have launched a volunteer-based sampling program, IsampleON, where Lake Associations collect samples that they will then send to our lab to be tested for presence or absence of veligers. This sampling program also had volunteers collect eDNA samples to be analyzed.

The ISC also supported work on the new regulations surrounding the boating pathway and will work with Ontario partners to raise awareness about this new initiative in the province.

The ISC also completed a Don't Let It Loose campaign focusing on raising awareness about the impacts of releasing pets. This campaign utilized influencer marketing through social media and podcasts.

The ISC is also working with many partners to develop a Phragmites framework for Ontario through our Green Shovels program

Contact: Rebecca Schroeder, Invasive Species Centre, rschroeder@invasivespeciescentre.ca

At-Large

DAJ Consulting

As of April 1st, Doug Jensen left the University of Minnesota Sea Grant Program to seek other opportunities. He plans to continue to lead and support efforts by the ANSTF's AIS Community of Practice along with Tim Campbell, WI Sea Grant and USFWS/Sea Grant AIS Liaison, the Great Lakes Panel's I/E Committee, and as a member of a couple local boards of directors. On behalf of the Boundary Waters Canoe Area Wilderness Coalition, a new AIS prevention sign has been produced for canoers and kayakers. Recreational watercraft, mainly canoes and kayaks, pose the greatest risk for spread of harmful AIS into the BWCAW. Surveys have shown that signs at watercraft access points are the top source for information for recreationists. The BWCAW Coalition determined that a new sign is needed to encourage preventive actions by visitors. With funding from the Lake County AIS program, the Coalition and community focus groups reviewed prototype signs, selected the final design, and identified over 120 locations at trailheads and public water accesses.

Contact: Doug Jensen, DAI Consulting, 218-590-7164, djensen1@umn.edu

Great Lakes Saint Lawrence Seaway Development Corporation

GLS is pleased to report on the Ballast Water Working Group Joint Ballast Management Exam Results for 2021.

Background

Since 2006, ballast water management regulations in the Great Lakes and St. Lawrence Seaway system have been the most stringent in the world, requiring ballast water exchange, saltwater flushing of ballast tanks that have only residual amounts of ballast water (fully implemented in 2008), detailed documentation, and increased inspections.

The Great Lakes Ballast Water Working Group was formed in January 2006, with the mission to harmonize ballast water management efforts between Canada and the United States. The Joint Ballast Management Exam Program was established as a comprehensive approach, requiring detailed vessel inspections of all vessels entering the Seaway from outside the exclusive economic zone (EEZ) of both countries. Inspections include both administrative reviews of ships' records and personnel, and comprehensive ballast tank sampling for the required minimum salinity (30 ppt) or the presence of mud, which would suggest that a satisfactory management practice was not employed.

Effectiveness

A recently published 2022 peer-reviewed scientific article (*Ricciardi, A. & MacIsaac, H. J. (2022). Vector control reduces the rate of species invasion in the world's largest freshwater ecosystem. Conservation Letters, e12866. <https://doi.org/10.1111/conl.12866>*), concluded that the management regulations implemented in 2006/2008 (by Canada and the St. Lawrence Seaway binational management administrations, respectively) are the primary (but possibly not the only), reason for a documented dramatic reduction in the apparent invasion rate for the Great Lakes-St. Lawrence River basin. Among their findings and conclusions:

- The overall rate of discovery of new non-native aquatic species declined by ~85% from 2007-2019 compared to the period of partial regulation (no regulation of NOBOBs), 1994-2006. *“No other equivalent period of time in the documented history of the Great Lakes basin since 1835 has had fewer invaders discovered than the period of 2007-2019, and not since the Second World War has there been as few ballast water invasions recorded over a 13-year period.”*
- *“To our knowledge, the 2006/2008 regulation is the only case of a policy intervention that is linked to a massive reduction of the invasion rate of a large aquatic ecosystem.”*
- While the Great Lakes remain at some risk of future ship-mediated invasions in spite of open ocean exchange and saltwater flushing, they recommend the procedures established by the 2006/2008 regulation be maintained for ships entering the Great Lakes, even if performance standards (i.e., use of treatment systems) are imposed on all inbound ships in the future.
- *“This case is an encouraging example of binational response to a transboundary problem, whose apparent success was achieved through rigorous application of an evidence-based, operationally feasible management solution involving participation by governments, the shipping industry, and academia from both countries.”*

Summary of 2021 Ballast Water Working Group Results

The complete report, “**2021 Summary of Great Lakes Seaway Ballast Water Working Group**,” was released in February 2022 and is available at:

https://greatlakes-seaway.com/en/2021_bw_rpt_en-pdf/

- 100% of vessels bound for the Great Lakes/Seaway system from outside the EEZ received a ballast management exam on each of the 490 vessel transits.
- 100% of ballast water reporting forms were screened to assess ballast water history, compliance, and intentions.
- 100% of ballast tanks were assessed via sampling or administrative review*.
- Total tanks capable of carrying ballast water – 9470
 - ✦ Total out of 9470 tanks physically sampled – 9369 (98.9%)
 - ✦ Total out of 9470 tanks evaluated by administrative review* – 101 (1.1 %)
 - 15 of these tanks could not be physically tested on 6 vessels, because the sounding tubes were in the vessels’ accommodation spaces (COVID-19 protocol).
 - ✦ Total out of 9470 tanks with a satisfactory ballast water exchange – 9222
 - ✦ Total out of 9470 tanks issued a Letter of Retention (LOR) – 248
 - Vessels that choose to retain the contents of their ballast water tanks, in lieu of another management option, are issued an LOR. When the vessel departs the Seaway system, outbound compliance is verified, and the letter is rescinded, if the identified ballast water tanks are found in compliance with the issued LOR.
 - LORs were Issued for 61 vessel transits involving 248 tanks: 42 tanks were due to low salinity; 206 tanks due to improper reporting, carriage of liquids (other than ballast water) or were not accessible for testing.

* Administrative review means an evaluation of a tank where sampling could not be performed, or the tank was not being used as a ballast tank at the time of the review. This review includes an examination of vessel documents and interviews with vessel officers.

In addition, in many areas of the Great Lakes Basin, vessels are now restricted from discharging sewage, causing vessel operators to temporarily use ballast tanks as holding tanks. These tanks are issued a Letter of Retention. Vessels that carry technical water (i.e., fresh water NOT intended for ballasting, drinking, washing, bathing, showering, use in the vessel’s hospital, handling, preparing, or cooking food, and cleaning food storage and preparation areas, utensils, and equipment) must keep records on water consumption. These records must be made available to inspectors during the vessel’s outbound voyage

The aggressive enforcement of current regulations combined with comprehensive ballast tank review procedures, have produced a high compliance rate within industry and have proven an effective means of managing ballast on the Great Lakes Seaway system.

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No update provided

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