

## Great Lakes Panel on Aquatic Nuisance Species Meeting Summary

Virtual | May 6-8, 2025

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Additional meeting information including a final agenda and presentations are available on the Great Lakes Panel website (<https://www.glpanel.org/meetings-admin/past-meetings/>)

### Welcome and introductory remarks

*Kelly Pennington, Great Lakes Panel (GLP) Chair, Minnesota Department of Natural Resources (DNR)*

- Pennington welcomed attendees and called the meeting to order
- Tank facilitated a roll call of Great Lakes Panel on Aquatic Nuisance Species (GLP) members
  - Quorum was reached
- Pennington reviewed the meeting agenda and no amendments were made

### GLP Business Items

*Kelly Pennington, GLP Chair, Minnesota DNR*

#### Approval of December 2024 meeting summary

- The December 2024 meeting summary was approved as presented

#### Review of December 2024 action items

- Tank reviewed action items from the December 2024 GLP meeting and their status toward completion
  - Ongoing action items include updating [the GLP 2025-2028 work plan](#) and defining a relationship with the Aquatic Nuisance Species Task Force (ANSTF)

#### Future of member updates

- Member updates have historically been delivered verbally or through written solicitation and compiled by GLP staff. While member updates are valuable but there is concern that the opportunity to provide member updates has not been fully utilized in recent years
- Member updates were not solicited for the spring 2025 meeting as the ExCom is reviewing the best methods of solicitation and delivery to maximize the utility of member updates for the GLP community
- Support was expressed for providing framing questions for member updates to solicit relevant content. GLP members expressed that focused questions would make providing updates more efficient

#### 2025 - 2028 GLP work plan

- The ExCom has dedicated time during this meeting to review priorities for the next iteration of the GLP work plan, which will serve to guide the work of the GLP from 2025 – 2028. Refinement of priorities will happen following the Spring GLP meeting
- A four-year update of the work plan maintains alignment with the Great Lakes Restoration Initiative (GLRI) Action Plan update schedule

- The [current 2021-2024 GLP work plan](#) consists of three priority issues (genetic biocontrol, recreational activities, and organisms in trade) and two priority projects (invasive aquatic plant control prioritization and needs assessment and redesigned GLP website)

## **Committee Reports**

### Committee Charge Update

*Sam Tank, GLP Coordinator, GLC*

- A standing committee charge template is under development. Prior to this development, only for ad hoc committees had charges
- Charges are being introduced to help guide committee work. Each standing committee has a draft charge that is anticipated to be finalized during the committee meetings happening May 6-8<sup>th</sup>. Charges are expected to be reviewed and updated every four years
- Oversight from the ExCom will ensure integration between standing committee charges and the overarching priorities of the GLP work plan

### Organisms in Trade (OIT) Ad Hoc Committee

*Greg Hitzroth, OIT Ad Hoc Co-chair, Illinois-Indiana Sea Grant; Francine MacDonald, OIT Ad Hoc Co-chair, Ontario Ministry of Natural Resources (OMNR)*

- GLRI interjurisdictional project funding has been awarded to support regional coordination and engage with the bait industry
- Pennsylvania Sea Grant has completed a review of bait guides that will be reviewed by industry representatives prior to finalization
- OIT Ad Hoc Committee members are participating on the Great Lakes Detector of Invasive Aquatics in Trade (GLDIATR) advisory committee and the OIT State and Tribal Programmatic Assessment project team

### Outreach Coordination Committee (OCC)

*Doug Jensen, OCC Chair, Minnesota DNR*

- Jensen provided an overview of what the Committee discussed at the preceding OCC meeting
  - Jensen provided a review of the past 30 years of aquatic invasive species and Stahlman overviewed the Pennsylvania AIS Field Guide app
  - They reviewed the nearly complete Committee charge
  - They brainstormed future interjurisdictional projects, including Landing Blitz, waterfowl hunting, and pathway outreach
- An ongoing committee priority is to assist in the priority setting process of the 2025-2028 GLP work plan

### Research Coordination Committee (RCC)

*Lindsay Chadderton, RCC Chair, The Nature Conservancy (TNC)*

- A manuscript [outlining the results of the invasive aquatic plant research agenda](#) was published

- The RCC has been primarily focused on the Control of Established Species project where they are working with managers to identify the next set of priority animals that need control tools developed and available for. The priority animal literature reviews are complete and have been drafted into manuscript with expert feedback
- The RCC will begin brainstorming new interjurisdictional projects

#### Management Coordination Committee (MCC)

*Ceci Weibert, MCC Chair, Michigan Department of Environment, Great Lakes, and Energy (EGLE)*

- The MCC adopted a name change (previously Policy Coordination) in fall 2024 and began defining Committee focus
- Weibert has been appointed to MCC Chair with Brook Schryer as Vice Chair
- Since the fall 2024 GLP meeting, the MCC has held scoping discussions to determine the work section of the Committee's charge

#### **Programmatic Updates**

##### Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS)

*Rochelle Sturtevant, GLANSIS Program Manager, Michigan Sea Grant Extension*

- Some notable changes have been made to the GLANSIS review and publishing process
  - GLANSIS worked with undergraduate students to conduct species literature reviews, helping with capacity to accelerate the pace of updating resources
  - A new external review process was launched to conduct updates on species more quickly by utilizing grand reviews. In a grand review, anyone with knowledge relating to the distribution, ecology, and/or management of the species listed for the current review cycle may participate in a live session to review risk assessments for updates to species already listed in GLANSIS, candidates for delisting, and new species proposed to be added to the system
- 55 new or updated species assessments are now [available online](#). The majority are updates with new literature incorporated
- There is a [new story map](#) available as part of the [GLANSIS Story Map series](#) on the top 10 invasive species with more lay language summaries and interactive features
- GLANSIS is continuing to work with researchers at George Mason University (GMU) on [mystery snails](#). Members are encouraged to have field crews [send mystery snail samples to the research team](#) at GMU for better samples from across the Great Lakes region
  - GLANSIS has discussed the place-based names of the Chinese and Japanese mystery snails, but as a federal database GLANSIS is required to follow the Integrated Taxonomic Information System for naming conventions
  - Name change from *Cipangopaludina japonica* to *Heterogen japonica* has been proposed in the scientific literature and there is a growing consensus (Saito and Kagawa 2020, Fowler et al. 2022) for this shift, though it has not yet been accepted by the North American Benthological Society, WoRMS, or ITIS. Of particular concern in separating

historic records of '*Cipangopaludina spp.*' into two genera is that spire angle - which was historically used as a field distinction for the two species, has recently been proven inconsistent for invasive populations, likely due to genetic drift or phenotypic plasticity

- The updates to GLANSIS are made on a rolling basis, with update announcements primarily occurring at the GLP meetings

#### Great Lakes Restoration Initiative (GLRI) Action Plan IV

*Matt Pawlowski, U.S. Environmental Protection Agency (EPA)*

- [GLRI Action Plan IV](#) was published in November 2024 and covers Fiscal Years (FY) 2025-2029, with the overall structure, scope, and goals remaining the same as previous action plans
- Focus Area 2 (covering invasive species) updates included reorganization of the structure, measures, and objectives of the Focus Area. The language of Action Plan IV was tailored to incorporate the desired outcomes into the objectives
- Public AIS outreach is not specifically called out in the current action plan but leaves opportunities for projects that incorporate public outreach
- Invasive carp investment is tracked separately from other invasives species initiatives funded under Focus Area 2, and can be found on the [Invasive Carp Regional Coordinating Committee website](#)
- For FY25, U.S. Fish and Wildlife Service (USFWS) received the largest portion of Focus Area 2 funding
- Very few pathway proposals were received from states. EPA would like to fund more pathway proposals in the future as it less costly in the long term
- State and Tribal governments can access Focus Area 2 funds through federal funding opportunities from EPA, USFWS, U.S. Forest Service, and U.S. Geological Survey
- Pawlowski will investigate the exclusion of *dreissenid* mussel management from Action Plan IV and the opportunity to open grants for mussel management

#### Brandon Road Interbasin Project

*Jason Smith, U.S. Army Corps of Engineers (USACE)*

- The invasion front for silver carp is currently being maintained at Dresden Pool on the Des Plaines River in Illinois. Some pioneer carp moved just south of the Brandon Road Lock and Dam and returned back to the Dresden Pool during summer 2024. These pioneer fish are associated with increased flow and flooding during that period
- Increment I-A of the project involves constructing the leading-edge deterrents. Contract is scheduled to be awarded in Fall 2025
- Increment I-B of the project is complete
- Increment II - Flushing Lock and Right Descending Bank contract is currently under design and is scheduled for award Spring of 2027

- Increment II and III – Engineered Channel installs the electric deterrents, acoustic arrays, engineered channel floor and walls and other features. This work will be designed by an AE firm and is scheduled for award in Fall 2028
- A recent notable event is the April 2025 Oval Office meeting between Governor Whitmer of Michigan and President Trump that resulted in a Presidential Memorandum expressing administrative support for the Brandon Road Project
- The Illinois DNR real estate closing scheduled for May, 2025 was successfully completed, which is allowing partners to move forward with the construction of Increment I-A. IL DNR is preparing for the second and final acquisition in the Fall 2025 timeframe. This activity is making good progress and all are optimistic

#### Ruffe Control Plan

*Lindsay Chadderton, TNC*

- GLP members formed a temporary work group to review the national Ruffe Control Program (Plan). Ultimately, the membership agreed with the USFWS recommendation to archive the plan
  - A memo was sent to the Aquatic Nuisance Species Task Force that captured the views of the GLP and identified Ruffe management and research needs that remain a priority
- The impacts of Ruffe are perceived to be less critical than other aquatic invasive species. There is concern that this perception is biased due to lack of accurate information on Ruffe distribution and impacts in the current range, and does not consider alternative impacts within a range expansion that has novel environmental conditions
- In follow up from the review, the GLP should communicate the remaining identified Ruffe management and research priorities to the relevant regional panels and fish committees across the basin
- There is uncertainty that needs to be addressed regarding how to define a major range expansion and how to identify high risk locations
  - The current assumption is that any expansion outside of the basin would be deemed a major expansion. This definition should also consider the movement or dispersal to points within the basin and define what extent is natural or major range expansion
- The Management and Research Coordination Committees may address the above action items through incorporation into their respective charges in consultation with the Outreach Coordination Committee

#### Aquatic Nuisance Species Task Force (ANSTF) Update

*Susan Pasko, U.S. Fish and Wildlife Service (USFWS)*

- The next ANSTF meeting has been rescheduled to a virtual meeting July 8-9
- Pasko reviewed the decisional items from the November 2024 ANSTF meeting
- Pasko reviewed the November 2024 ANSTF action items and their status towards completion
- The ANSTF 2020-2025 Strategic Plan encompasses six goals (coordination, prevention, early detection and rapid response, control and restoration, research, and outreach and education)

- The ANSTF supports subcommittees for each goal. The subcommittees develop annual work plans that outline activities to advance the objectives
- The Prevention subcommittee has formed two new working groups
  - The VIDA-ANS Risk Response Framework Workgroup is led by the U.S. Coast Guard and EPA to develop a framework for AIS introductions resulting from Ballast Water discharge
  - The other, the Invasive Coral Working Group, includes members of the ANSTF and the U.S. Coral Reef Task Force to work collaboratively to mitigate recent invasions of coral in the Caribbean
- In October, a National Outreach Workshop Report and Recommendations was held in conjunction with the North American Invasive Species Management Association conference. Outreach professionals had the opportunity to meet and discuss the outputs that were generated from recent assessments of state and national AIS campaigns to develop refined recommendations to help make these campaigns more consistent
- The Early Detection & Rapid Response (EDRR) and Research subcommittees are working together to expand and modernize an invasive species experts database
- The Moss Ball After Action Plan led by Oregon Sea Grant has transitioned to ANSTF ownership. Revising the plan will be an agenda item for review at July 2025 ANSTF meeting
- This year, the ANSTF is looking to update the [National AIS Research Priorities list](#), which was last updated in 2021
- The ANSTF will be developing priorities for the next iteration of their five-year strategic plan, which will cover 2026-2030
  - The strategic planning timeline will begin in fall 2025 and is expected to receive final approval in fall 2026
  - All the ANSTF standing subcommittees and working groups are open to anyone who would like to participate and could use more state representation from regional panel members. If interested, please reach out to Pasko to connect with a subcommittee chair

#### Framing for Day 3 engagement session

*Ceci Weibert, Michigan EGLE, Amy Kretlow, Wisconsin DNR*

- The ExCom is using a portion of the current meeting to hold discussions around regional AIS engagement. AIS convenings have seen less in-person (and increasingly less virtual) participation in recent years. The special session will be used to explore the barriers to participation and solutions to the identified barriers
- Weibert and Kretlow presented the membership with preliminary questions to prepare them for discussion later in the meeting
- Attendees were divided into brief breakout rooms based on their organizational affiliations (federal, state/Tribal/provincial, and academic/environmental user groups) and given time for preliminary discussions of the prompts

#### Emerging issues and announcements

### *GLP Members*

- The ANSTF AIS Community of Practice has a meeting May 28, 2025. Jake Vander Zanden, a professor from University of Wisconsin-Madison, is presenting AIS lessons over the past 25 years from the North Temperate Lakes Long-Term Ecological Research program

### Public Comment Period

- There were no public comments or final remarks

### Adjourn business session

- Pennington made a motion to adjourn the business session

## **Plenary Session: Great Lakes Panel Work Plan**

### Welcome and introductory remarks

#### *Lindsay Chadderton, The Nature Conservancy (TNC)*

- Chadderton introduced the goal and purpose of the Panel and how the work plan helps identify where Panel members, staff, and committees will spend time over the next four years to add value to the region
- The current Panel work plan ended in 2024. Thus, members need to determine which priority issues they wish to see are included in a 2025-2028 work plan
- Chadderton urged members to think about the power of cross boundary coordination, knowledge and resource sharing, and ultimately how the capacity of the Panel can help AIS management
- A retro board link was shared with meeting participants. This online platform allowed participants to add notes and identify priority AIS issues throughout the day. This virtual board will be used to guide discussion for the next phase of the Panel work plan later in the meeting

### GLP Website

#### *Theresa Gruninger, GLC*

- Gruninger reviewed the components of the GLP website (<https://www.glpanel.org/>), built under the previous 2021-2024 Great Lakes ANS Panel Work Plan
- Panel members were consulted throughout the creation of the website to select the content and resources included
- “Redesigned Great Lakes Panel website” was listed as a specific activity in the 2021-2024 Work Plan. This activity is now considered complete
  - Gruninger noted that while the GLP website is complete, if there are resources that are missing or pages that should be edited, please reach out Panel staff with suggestions
  - Committee chairs should regularly review their committee work page to ensure relevant documents are linked
- One member suggested that it would be useful for the website to link to commonly used external resources (e.g., the USFWS Clearing House, the EDRR web page, other regional panels)
  - The committee pages could also link to other relevant panel subcommittees

### IAP Research Agenda

#### *Ceci Weibert, Michigan Department of Environment, Great Lakes, and Energy*

- [The Invasive Aquatic Plant \(IAP\) Research Agenda](#) was a specific activity that was noted within the 2021-2024 Work Plan
- Weibert noted that “aquatic plant management” or APM was identified as a priority issue in the past iterations of the GLP work plan, which is where the idea for this specific activity originated from
  - The goal of the Research Agenda was to help fill the larger need for multijurisdictional collaboration that is necessary to effectively implement aquatic invasive species prevention and control strategies across jurisdictional boundaries. Additionally, to help improve coordination of IAP control methods, research, and prioritize regional needs. Lastly, the Research Agenda would help identify what IAP are established in the Great Lakes region and if we have the tools to manage those specific species
- The creation of the Research Agenda was led by the Panel’s Research Coordination Committee, with the assistance of additional topic experts contributing to content
- To initiate this Research Agenda, a list of priority IAP was created. This was guided by NOAA-GLANSIS risk assessments scores
  - The final list included 22 priority IAP
- Each species received [a comprehensive literature review](#) to document the current management control options. Next, surveys were sent out to Great Lakes AIS managers to understand management challenges, jurisdictional approaches, and priorities
  - Using the outcome of the survey to select a subset of species, the project team held a workshop to increase the baseline knowledge of each selected species and to dive deeper the “state of science” with experts in the field
- The final product of this project was the Research Agenda that summarized all the control and management needs for IAP via the literature review, the workshop, and expert elicitation sessions
  - The Research Agenda summarizes general research needs for IAP as a whole along with species specific research needs
- Weibert noted that Michigan is utilizing the Research Agenda to help make AIS state funding decisions

### Work Plan Discussion

Panel members were asked if on-the-ground AIS control/management is still a priority for the Great Lakes Panel, and therefore, something to include in the 2025-2028 Work Plan? Overall, there was not a clear consensus.

Campbell noted that as part of the Interjurisdictional Aquatic Plant Management Outreach project, being led by Wisconsin Sea Grant, they have pulled together literature reviews on the non-target impacts of IAP control, which might be something that can be incorporated with the next steps for the Research Agenda. Due to each state having their own grant funding, there may be a role for the Panel to keep tabs on IAP projects, which would be an easy way to let everyone know what is being funded. Members liked the idea of collating and highlighting current projects on APM, as it would assist with internal research grants and help put effort into projects that are not duplicative. To encourage updates, this could be a topic included in the revised Panel Member Updates. Members agreed that the Research Agenda should be more widely shared (e.g., with universities to encourage graduate projects) and that it is important to

think about how the Research Agenda priorities might already be in progress elsewhere (outside the Great Lakes basin) but still applicable.

Organisms in trade: Update on relevant work/ projects,

*Greg Hitzroth, Illinois-Indiana Sea Grant*

- Hitzroth shared the current charge for the GLP's Organisms in Trade (OIT) Ad Hoc Committee
- Hitzroth went through the individual OIT Ad Hoc Committee charge items and how/if the Committee has addressed them
- As the OIT Ad Hoc Committee has no immediate plans to initiate additional projects, the question was raised whether the Committee should continue or be sunset. Should the Committee continue, the Panel should identify the priorities to address
  - The Committee co-chairs noted that there are limits to what members are able to achieve and that the capacity to lead projects is limited. Once completed, the OIT Programmatic Assessment project results will be valuable to inform a Committee project
  - It was noted that many Great Lakes states have done a lot of work on OIT and maybe information sharing and leveraging the resources that already exist is what is needed
  - Given the breadth of work included in the committee charge, is there value in sunseting or moving OIT to a limbo status and reforming as a Bait Ad Hoc Committee? This may help give the committee clearer intention. The objectives currently listed on the charge will likely never be met
    - It was suggested that the Panel "pause" the full OIT committee (rather than a full dissolution) and focus effort on the more specific OIT sub-pathways. The committee has had difficulties trying to tackle OIT broadly because there is just too much included under that umbrella
  - Some members noted that they would like to see the committee stay as is, but perhaps have two work groups focused on priority topics (water garden and bait)
  - Members agreed that OIT is the biggest way invasive species are introduced and there is a lot of work that still needs to be done but the larger questions are how do we focus on topics and what is the value the Panel in having this Ad Hoc Committee?

Genetic biocontrol: Update on relevant work/ projects

*Nick Phelps, Minnesota Aquatic Invasive Species Research Center, University of Minnesota (MAISRC) & Content experts*

- Phelps introduced the topic and noted that for this discussion, "genetic biocontrol" includes all alterations of DNA, including gene drives and RNA interference (RNAi). There are very different risks, perceptions, and regulatory differences between these technologies but for the sake of discussion, they will be combined into the category of "genetic biocontrol"
- There has been a lot of research on genetic biocontrol within the Great Lakes basin (and around the world) and MAISRC has been investing in the realm of genetic biocontrol for AIS. A few researchers will give a brief overview of their work. These presentations are intended to generate ideas on how the GLP can be an acting force on this topic
  - Phelps noted that there are many others not presenting today that are working on AIS and genetic biocontrol, like Kurt Kowalski and others at USGS and the interjurisdictional project being led by Jason Delbourne of University of Wisconsin-Madison

- Mike Smanski, University of Minnesota, presented on genetic biocontrol for common carp, emphasizing that effective approaches may need to be either species-specific or watershed-specific, as even similar genetic control methods differ in implementation. For examples, techniques such as YY-Male brook trout, “daughterless” carp, and female-lethal carp manipulate population reproduction in different ways
  - MAISRC developed a Technology Readiness Level (TRL) scale to assess the readiness of genetic population control methods, considering technical, regulatory, financial, and social engagement factors, and the draft TRL document is available for review by AIS stakeholders
  - Smanski’s lab is advancing genetic biocontrol for common carp, leveraging its well-annotated genome and developing transgenic lines using surrogate host technology
    - A serendipitous finding showed that fathead minnow sperm can fertilize carp eggs, producing hybrids with low survivability and infertility, which could serve as a potential genetic biocontrol mechanism for common carp
- Jame Wamboldt, U.S. Geological survey, presented on genetic control of grass carp using RNA interference (RNAi), which is cost-effective, species-selective, and does not persist in the environment
  - RNAi for grass carp is being incorporated into algae bait, with multiple research teams collaborating to combine their separate efforts for tool development
  - Two promising gene targets have been identified and cloned into microalgae, and researchers are developing methods to mass-produce the algae and formulate it for consumption by grass carp
  - By the end of 2025, the team aims to test this technology, having already successfully inhibited two of the four target genes to induce mortality
  - Initial field trials of the bait delivery system (without RNAi microalgae) were conducted on the Sandusky River
- Daryl Gohl, University of Minnesota, presented on developing RNA interference (RNAi) for zebra mussels, leveraging the fully sequenced zebra mussel genome to identify potential gene targets
  - RNAi is being used to manipulate gene expression in bivalves, targeting genes critical to survival, though completing a full life cycle in the lab is challenging
  - In 2024, the team received a Department of Defense grant to engineer microbes (bacteria and algae) that express double-stranded RNA to induce death or fitness defects in zebra mussels, along with developing phenotypic assays such as byssal attachment
  - Another MAISRC project led by Mike McCartney uses genomics and genotyping-by-sequencing to track zebra mussel populations in the wild, identify source water bodies, and map invasion dynamics across the Upper Mississippi River basin
    - Gohl encouraged collaboration from anyone with access to zebra mussel samples in the region to support the research
- David Fulton, University of Minnesota, presented research on the human dimensions of fish and wildlife management, focusing on public perceptions and attitudes toward genetic biocontrol for zebra mussels and common carp

- Public and stakeholder approval is critical for advancing and implementing genetic biocontrol, and a study in Minnesota found that 72% of respondents generally support its use on AIS
- Providing additional information rarely shifts public attitudes, as people rely on heuristics, and perceptions vary depending on the target species
- Trust in scientists is a key factor influencing public opinion, and “benefit only” messaging is most effective for fostering support
- Understanding and incorporating public views, including attention to those in opposition, is essential for successful policy and implementation of genetic biocontrol

### Work Plan Discussion

The goal of the conversation was to think about what the Panel can do to advance genetic biocontrol in terms of research and decision making. Throughout the discussion, there was consensus that this topic is of high priority for Panel members and will continue to be highlighted in the 2025-2028 Work Plan. Members suggested a variety of activities that could take place under the Panel Work Plan to address this topic.

The GLP’s Research Coordination Committee (RCC) was suggested to think about what makes for a practical and usable genetic biocontrol tool (e.g., can the tool be turned off) and how additional factors (ethical and ecological criteria) would play into its usability. This would allow the Panel to help socialize these ideas with managers prior to actual tool deployment or testing. MAISRC staff agreed that it would be helpful for the RCC to take a leading role on what biocontrol might look like in terms of protecting the Great Lakes, as the opportunity of biotechnology is only going to keep increasing. To date, MAISRC’s work on genetic biocontrol has been project specific and there is not a current work plan that focuses on overarching goals.

GLP members noted that the science of genetic biocontrol is evolving but the policy surrounding it is not and perhaps, this is where there is a role for the GLP, as there seems to be no framework for guiding the release of biocontrol. The GLP submitted a recommendation to the ANS Task Force that requested a policy roadmap for genetic biocontrol, which has not yet been addressed. While there are many next steps needed to address the roadmap, it was noted that members of the ANS Task Force are not the content experts required to move this recommendation forward. If the ANS Task Force does set up a genetic biocontrol subgroup, members of the Panel should actively participate. It was suggested that the Panel look into genetic biocontrol frameworks by other countries and perhaps do an analysis of policy frameworks across the Great Lakes basin on how state, provinces and federal agencies regulate the development and release of a genetic biocontrol agent. Harmonization of genetic biocontrol efforts for invasive species is a priority topic in the Panel’s Management Coordination Committee charge.

It was suggested to consider if there is a role for the GLP around coordination and development of education and outreach materials to allow the public to make informed decisions, as simply providing new ideas and technologies visibility through time allows the public to acclimate to them, learn, form opinions, etc. The creation of these materials will support productive discussions as invasive species treatment technologies mature. It is important that the Panel is proactive and stays ahead of the “anti” genetic biocontrol rhetoric so support for the control method is not lost.

## **Special Session: Aquatic/terrestrial invasive species synergy**

### Welcome and introductory remarks

*Doug Jensen, Minnesota DNR*

- Jensen opened the session and provided background on the historic relationship between terrestrial and aquatic invasive species (TIS and AIS respectively) activities
- This session will review the benefits and challenges to combining AIS and TIS management programs

### Minnesota Combined State Management Plan

*Kelly Pennington & Laura Van Riper, Minnesota DNR*

- Minnesota's state management plan is authored by the Minnesota Invasive Species Advisory Council (MISAC) which was formed in 2001 following legislative encouragement for states to take action on invasive species
- MISAC is an expansive group that includes universities, extension programs, Sea Grant, state programs, federal agencies, local government, NGO's, native nations, and businesses. These partners collaborated to develop the Minnesota state invasive species plan that covers both TIS and AIS
- Between 2003-2009 a series of reviews, risk assessments, and workshops were facilitated by MISAC to finalize the 2009 Minnesota State Management Plan for Invasive Species
- In 2022, the Minnesota State Management for Invasive Species was updated to include new species rankings, increased description of various regulatory authorities and regulatory gaps, and a 10-year action plan
- The benefits of a combined TIS and AIS plan include a holistic viewpoint, an approach with similar foundational goals and actions, and increased opportunities to share lessons learned. It also brings TIS or AIS to the attention of those that might originally be focused on only one
- The drawbacks of a combined plan may include TIS issues getting less attention and action because they receive less funding than AIS, needs can differ between ecosystems, a lengthy plan may discourage people from reading and engaging with the plan, and details can get lost in the broad strategies
- The Minnesota State Management Plan for Invasive Species prioritizes taxa based on an invasive species rating process
- Much of the funding for AIS comes from user fees (e.g., boat registration) and TIS funding comes from state general funds and is less overall than the AIS funds available
- The first Upper Midwest Invasive Species Conference in 2008 was made possible because terrestrial and aquatic fields worked together to initiate the event

### Michigan Combined Invasive Species Program

*Ceci Weibert, MI EGLE; Katie Grzesiak, MI DNR*

- Michigan has separate AIS and TIS state management plans
  - Michigan's original AIS state management plan was released in 1996, first updated in 2002, and updated again in 2013 in response to legislative and funding changes

- Beginning in 2014, the invasive species program was funded through Michigan's state general fund
  - In 2017, a TIS state management plan was released which complimented the AIS plan
- The Michigan Invasive Species Program (MISP) is a collaboration between EGLE, DNR, and the Michigan Department of Agriculture and Rural Development (MDARD) with coordination among state, Tribal, and local partners, and governed by a MISP Charter
- Much of the invasive species work in Michigan is focused on pathways and impacts rather than taxonomic groups
- Strengths of MISP include collaborative approach to the MISP grant program which ensures critical work rises to the top and is prioritized, bipartisan support, and support for Cooperative Invasive Species Management Associations (CISMAs) that address both aquatic and terrestrial issues
- Challenges of the MISP include complex regulatory processes, uneven resource allocation favoring AIS over TIS, and stakeholder opposition based on agricultural or horticultural concerns
- The original MISP charter outlines shared goals and agreements for how AIS and TIS departments work together. Much of the state's invasive species work is linked and makes sense to work together on; Because of this, the decision was made to combine the TIS and AIS state management plans into a single combined plan
- GLRI is a main funding source which MISP relies on for both AIS and TIS work
- The Michigan Invasive Species Grant Program (MISGP) recently funded an outreach program aimed to educate on proper outdoor recreational vehicle (ORV) decontamination procedures ([#RideCleanRepeat - NORTH COUNTRY CISMA](#))

#### GLRI Focus Area II

*Matt Pawlowski, EPA*

- GLRI has always supported TIS work even though the allocation is small and has fluctuated over time
- Pawlowski ran through several species-specific examples of TIS projects that GLRI has supported including research and control of *Phragmites*, emerald ash borer, hemlock woolly adelgid, knotweed, purple loosestrife, spotted knapweed, garlic mustard, buckthorn, slender false brome, and feral swine
- 79.2% of GLRI invasive species funding goes to AIS and 5.8% to TIS. Of the remaining funding, 11.2% can be directed to either AIS or TIS and 3.8% to *Phragmites*
- A map of invasive species projects exists on the GLRI project page: [Projects | Great Lakes Restoration Initiative](#)

#### Discussion

*GLP Members*

- The nursery/horticulture industry may be a good pathway to gain funding to support TIS work
  - A survey from the Minnesota Department of Agriculture showed that states with the most robust noxious weed programs typically receive TIS funding from fees on pesticides

- Developing a nursery licensing fee could be used to increase TIS funding availability, but that process would need a clear strategy and communication plan to ensure it is additive to current funding
- When Minnesota was combining the state's AIS and TIS plans, it was important to communicate with the Aquatic Nuisance Species Task Force throughout
- Attendees agreed that more discussion on the intersection of AIS and TIS needs to be had at the national level with the regional panels pushing this conversation forward
  - Many GLP members work on both AIS and TIS, therefore it's relevant to talk about opportunities for joint work

#### Closing Remarks

- Jensen gave closing remarks
  - Plans are required in statute for Minnesota DNR and Minnesota Department of Agriculture. A single plan provided a common structure for coordinating and guiding state's response with shared goals
  - Nationally, while Minnesota had the first comprehensive AIS program within MNDNR, its plan was approved nearly 2 decades later.
  - A combined SP also created an opportunity to rally around common vocabulary (e.g., prevention, early detection, inspection, research, outreach). It still provides an opportunity in an on-going manner, a way to strengthen relationships and bring in new partners to collaboratively respond to invasive species
  - Because AIS and TIS approaches come from different places in time and space, we can learn from each other's perspectives. It provides an opportunity for sharing lessons learned from aquatics and terrestrial arenas, which has largely been done through quarterly meetings, formation of subcommittees (web, bylaws, advocacy), and through the biennial UMISC conferences.

#### **Plenary Session: Great Lakes Panel Work Plan Continued**

##### Welcome and Recap

*Lindsay Chadderton, TNC*

- Tank opened the session and ran through housekeeping materials
- Chadderton provided background on the session. Attendees were asked to think about the GLP's role(s) to reduce workload and increase efficiencies across jurisdictions as well as where the GLP can bring in additional capacity to topics of interest
- Chadderton reviewed the retroboard that was previously filled in by meeting attendees
  - The goal of the retroboard activity is to generate ideas for priority issues/projects that the GLP can coordinate over the next four years of the new work plan
  - A voting exercise was planned for the latter part of the session

##### Recreational activities

*Tim Campbell, WI Sea Grant (WISG)*

- The six recreational user groups defined by the ANSTF are anglers, motor boaters, scuba divers/snorkelers, seaplane pilots, waterfowl hunters, and non-motorized boaters
- The last GLP work plan had minimal inclusion of recreational users other than updates associated with the Great Lakes AIS Landing Blitz project and scoping a workshop related to recreational activities and targeted outreach
  - The Landing Blitz has been successful thus far and the recreational activities workshop has not been held but could be incorporated into the next work plan if there is value
- Other GLP work that has occurred related to recreational activities includes an interjurisdictional boater behavior project and the GLP OIT Ad Hoc Committee's work on the live bait pathway
- The Minnesota Aquatic Invasive Species Research Center (MAISRC) has conducted research on boater behavior, including studies on the ability of boaters to remove AIS, the effect of engaging signage on behavior, and risk forecasting through the AIS Explorer tool to support decision-making for the use of watercraft inspections
- Other related university work includes but is not limited to:
  - A driftless area wading trout angler survey from UW – La Crosse and WISG
  - A waterfowl hunting survey from Indiana-Illinois Sea Grant (IISG) and the Indiana Natural History Survey (INHS)
  - Work from Oakland University on the relationship between New Zealand mudsnail spread and angler movement
  - Work from the University of Illinois and the University of Wisconsin-Madison has looked into audience segmenting to improve outreach messaging efficacy and identify barriers to prevention
- Campbell described where there is potential for the GLP to go with this information including tracking research of the recreational water user pathway, identify gaps that would benefit from coordination, and incorporating social science into prevention and management programs
- Campbell reiterated the focus of the discussion should be what the GLP is able to do that would add value across jurisdictions related to the boater/recreational pathway
- Members discussed using ANSTF guidance to define the scope of recreational activities and clarify which types of recreators are included
- Some members suggested that the GLP lead a synthesis of existing work on AIS-related actions for the six recreational audiences to identify audience-specific outreach needs, though others noted this could be a large effort for less-studied groups
- Members agreed it is important to categorize user groups based on specific educational needs and to establish a unified voice to avoid confusion
- Hosting a symposium was suggested to document and discuss both published and unpublished work across different recreational pathways
- Members had interest in supporting work on the waterfowl hunting pathway
  - In Canada, waterfowl hunting licenses are federally regulated, while in the US they are state regulated
  - There is evidence of the movement of European frog-bit across the region associated with waterfowl hunter recreation
  - Local game wardens can help define waterfowl hunter behavior and risk

- Digital tools, such as angler tracking apps (e.g., Fishbrain) and digital marketing campaigns like the Landing Blitz, provide new opportunities for research and outreach, although privacy and cost concerns need to be addressed
  - Members indicated it would be helpful to understand how digital marketing works and how much it costs
- The Research Coordination Committee was suggested to help develop a research agenda for recreational activities

#### Work Plan Discussion

*Lindsay Chadderton, TNC*

The session focused on refining project ideas, identifying potential deliverables, and prioritizing actions for inclusion in the 2025-2028 GLP future work plan. Through a ranking exercise, GLP members identified genetic biocontrol, recreational activities, and species watchlist alignment and definition as the top three priorities.

Organisms in Trade (OIT) also remains a priority issue, with members emphasizing the ongoing Interjurisdictional (IJ) bait industry engagement project as a GLP priority project and recommending future consideration of wild-harvested bait retailers. Members proposed continued collaboration with the Great Lakes Law Enforcement Committee, creation of a regional OIT coordination forum with a focus on aquarium and water garden outreach, and a workshop to classify recreational user groups (particularly waterfowl hunters) while also exploring digital marketing and geofencing opportunities. Additional priority recommendations included developing a list of high-risk pathways, participating in the next Governors and Premiers Least Wanted List update, and maintaining focus on genetic biocontrol initiatives.

For future GLP meetings, members suggested sessions on the Invasive Aquatic Plant Research agenda, restoration approaches, and climate change—specifically addressing resilient prevention pathways and integration into state management plans. There was also interest in discussing the role of microbes and disease in invasive species work, possibly through collaboration with the Fish Health Committee, and in advancing data mobilization into the National Wildlife Disease Database and AquaDePTH repositories. While eDNA assay development will continue under the National Early Detection and Rapid Response Framework, members agreed to monitor mid-level topics for future elevation in priority.

GLP staff will compile the session outcomes and present them to the Executive Committee for incorporation into the upcoming work plan.

#### Closing Remarks

- Chadderton and Pennington thanked attendees for their participation and closed the session

#### **Special Session: Engagement post COVID hangover**

##### Welcome and introductory remarks

*Mike Langendorf, Chippewa Ottawa Resource Authority*

- Langendorf introduced the goal of this session to improve the level of engagement of the Panel as a whole and with the various Panel projects
- Participants joined breakout groups following their corresponding affiliation, Federal Agency Partners, State/Provincial/Tribal Partners, and Academic/Environmental User Groups
- Participants were instructed to discuss the following questions within their breakouts using a Retroboard:
  - What are your limitations to engagement?
  - What are some alternatives/solutions for meaningful engagement?
  - How and what do you prioritize for travel to in-person meetings?

### Notes on Discussion and Takeaways

#### *GLP Members*

Across all three breakout groups, members identified several shared limitations affecting participation and engagement. Multiple groups noted that work-life balance has shifted in recent years, with increased workloads and constraints tied to changes in funding and staffing. Capacity and time were cited as major challenges—while it was easier to take on new projects during COVID, this has since led to overcommitment. Members also expressed uncertainty about their ability to travel to external meetings due to agency policies, funding limitations, or shifting organizational expectations. Travel often requires explicit justification, such as demonstrating the relevance of the meeting agenda, the participation of key partners, or its priority over other work. Funding for travel remains a persistent barrier, as in-person meetings are valuable but not always financially feasible. While virtual meetings have provided a cost-effective alternative, engagement in these settings can suffer due to multitasking or competing work demands.

To address these challenges, members discussed several alternative approaches to promote meaningful engagement. Virtual meetings were acknowledged as accessible, low-cost, and essential under current limitations. However, improving their effectiveness requires strategic adjustments, such as keeping meetings concise and focused, incorporating interactive tools, and clearly defining expected outcomes and action items. Some meetings may still necessitate in-person attendance when collaboration and decision-making are critical, provided participants receive sufficient advance notice. Members emphasized that informal interactions surrounding in-person meetings, like conversations during breaks or social events, are equally valuable for relationship building and problem solving. For hybrid or virtual meetings, organizers could replicate this value by including intentional networking breaks or virtual social opportunities. Groups also expressed a preference for decision-oriented or working sessions over purely informational ones and proposed the idea of an annual “AIS Week,” where regional partners meet in person for collaborative decision-making and planning.

When prioritizing in-person engagement, members must weigh travel costs, time away from other responsibilities, and resource constraints against the benefits of networking, learning from experts, and achieving impactful outcomes. Attendance priorities vary by role—observers tend to value informational sessions, while GLP members prefer interactive and action-focused discussions. Federal and state

representatives indicated that personal or formal invitations increase the likelihood of receiving travel approval, as they emphasize the importance of specific representation. Providing financial travel assistance also helps justify participation, ensuring key stakeholders can be present for high-value, collaborative discussions.

#### Closing Remarks

- All groups acknowledged there is opportunity to build separate time for decision and action-based meetings for enhanced collaboration and effective use of time

#### **GLP Closing Session**

##### Fall 2025 meeting plans

##### *GLP Staff*

- The Research Coordination Committee Meeting is happening May 8<sup>th</sup> at 3 p.m. ET
- The fall GLP meeting is traditionally held in Ann Arbor at the NOAA GLERL office. GLP staff will determine if this is a viable option for fall 2025 and pivot if needed
- Dates to avoid for the fall meeting include:
  - North American Invasive Species Management Association conference: November 4-6;
  - Tentatively scheduled ANSTF meeting: December 8 – 12; and
  - Great Lakes Dredging Team Meeting: October 14-16

##### Final comments and meeting adjournment

##### *Kelly Pennington, GLP Chair, Minnesota DNR*

- Pennington requested that GLP members should share ideas for the fall agenda with the Executive Committee, including novel projects/initiatives within a jurisdiction that may be of interest across the basin
- Pennington remarked that the spring meeting went well and thanked GLC staff for their GLP meeting support
- Pennington adjourned the meeting