

Meeting of the Great Lakes Panel on Aquatic Nuisance Species

May 22-24, 2012
Rochester, New York

Meeting Summary

Tuesday, May 22, 2012: Great Lakes Panel Meeting

Welcoming Remarks and Call to Order

Phil Moy, Outgoing Great Lakes Panel (GLP) Chair, Wisconsin Sea Grant

Moy led roll call confirming that a quorum was present. He welcomed meeting attendees and reviewed the agenda, which was approved with no changes.

Great Lakes Panel (GLP) Business

Kathe Glassner-Shwayder, GLP Coordinator, Great Lakes Commission (GLC)

Shwayder first announced the results of GLP officer and at-large member elections, which were conducted electronically following the previous meeting of the GLP. The election results were as follows:

- Panel Chair: Luke Skinner, Minnesota Department of Natural Resources
- Panel Vice Chair: John Navarro, Ohio Department of Natural Resources - Division of Wildlife
- Research Coordination Committee Chair: Lindsay Chadderton, The Nature Conservancy
- Information/Education Committee Chair: Doug Jensen, Minnesota Sea Grant College Program
- Policy Coordination Committee Chair: Bob Wakeman, Wisconsin Dept. of Natural Resources
- At-large Members: Doug Jensen, Minnesota Sea Grant, and Pat Conzemius, Wildlife Forever

Shwayder also reviewed other new membership appointments that occurred since the last meeting:

- Indiana Department of Natural Resources: Eric Fischer
- Michigan Department of Environmental Quality: Sarah LeSage
- International Joint Commission: Dr. Li Wang
- Department of Fisheries and Oceans Canada: Becky Cudmore
- North Central Regional Aquaculture Center: Chris Weeks
- Ontario Federation of Anglers and Hunters: Sophie Bull
- Council of Great Lakes Industries: Kathryn Buckner

Next, several proposed changes to the GLP Guidance for Operations were presented for discussion. The first item was to add the U.S. Forest Service to the GLP as regular member agency given their continued dedication to and involvement in AIS issues. This change would require a request to and approval by the national Aquatic Nuisance Species Task Force (ANSTF). It was clarified during discussion that the authorizing legislation for the GLP identifies member categories of interest, but does not specify which federal agencies should be members. Following discussion, the GLP voted to approve sending the request to the ANSTF. The second proposed change was to add language to the Guidance for Operations that would allow committee chairs to appoint vice chairs to support committee work; the document is currently silent on this issue. It was clarified that the position would not be voted on, but would be appointed by the elected committee chair. In addition, the same requirements for membership that apply to committee chairs would apply to a vice chair. It was recommended that GLP staff work with the Executive Committee to develop proposed language that the GLP could consider and vote on at the next meeting. This recommendation was approved by the GLP. Finally, the GLP was asked to consider whether regular members should be allowed to appoint more than one alternate. This ability would help states get out of state travel approval for sending a representative to meetings if they are official designated. During discussion, concerns were expressed about necessity, a potential loss of continuity in people familiar with the GLP, and maintaining balanced representation, especially in committees. Following discussion, the GLP decided not to move forward with this change.

The GLP was made aware of emerging work on climate change and AIS underway by the Northeast Panel on ANS and by the U.S. Fish and Wildlife Service. This work is looking at identifying potential impacts based on species' location and climate tolerances with a goal of being able to predict climate niches under various climate change scenarios.

Committee Reports and Discussion

- Information/Education Committee
Doug Jensen, Information/Education Committee Chair, Minnesota Sea Grant

Jensen reported that the committee had good discussions on the Great Lakes Aquatic Invasions (GLAI) booklets, social media and Smartphone applications (“app”), potential webinars to showcase education-based initiatives, recreational activities, and Great Lakes Restoration Initiative projects. Approximately 900 GLAI booklets are left for distribution; interested GLP members can contact GLP staff for booklets. The committee decided to postpone previously propose webinars on education initiatives and focus instead on AIS mapping and Smartphone apps, specifically the iMapInvasives and EDDMapS initiatives. Jensen noted that U.S. Geological Survey is also considering development of a Smartphone app based on the NAS database. These types of apps can help raise awareness, promote sightings, improve identification, and help in mapping sightings of infestations. It was decided that the committee should move forward in scheduling webinars on the two currently available systems and then develop recommendations on how the GLP might be involved in or facilitate implementation of one or more of these systems for the Great Lakes region. The committee also discussed interest in engaging with the Northeast Panel on these initiative, as well as regulations on using crayfish as bait, engagement in national awareness campaigns specifically Stop Aquatic Hitchhikers!, Habitattitude, Nab the Aquatic Invaders youth education, and AIS-HACCP, and mechanisms for Panel member updates (e.g., blogs, wikis).

- Research Coordination Committee
Phil Moy, Outgoing GLP Chair

Moy, standing in for committee chair Lindsay Chadderton, provided the report out. The committee focused most of its discussion on reviewing the research priorities document and assigning drafting teams to revise the document. The committee will also work with GLP staff on this effort. There was also discussion on the priority species list regarding its relevancy given similar lists recently developed for NOAA’s Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS) and the Army Corps of Engineers Great Lakes and Mississippi River Interbasin Study (GLMRIS). Updates were also given on the Great Lakes Ballast Water Collaborative. A briefing paper on grass carp is in development by GLP staff and a small team has been assigned to review the document before distributing it to the committee. Finally, a need was identified to review the priorities documents of the three standing committees to identify relationships, areas of overlap and make sure the documents work together. It was suggested that this effort be undertaken by the committee chairs with the assistance of GLP staff.

- Policy Coordination Committee
Bob Wakeman, Policy Coordination Committee Chair, Wisconsin Dept. of Natural Resources

Wakeman reported that the committee will focus on completing its priorities document by the fall meeting. This will include communicating with the other committees on identifying appropriate audience and uses for the document. The committee also discussed opportunities for collaboration with the Northeast Panel and expressed interest in developing an inventory of states activities related to organisms in trade issues. The committee is interested in trying to work more with the other regional panels, rather than operate independently, including bringing more position papers and requests to the ANSTF. Prior to the next meeting, the committee will also review and update its work plan.

Other GLP Business

Luke Skinner, Incoming GLP Chair, Minnesota Dept. of Natural Resources

Several “housekeeping” items were reviewed with the GLP, including materials provided in the meeting folders. The summary of the November 2011 GLP meeting was approved with no changes. There was discussion on the GLP hosting the ANSTF for their meeting in the spring of 2013; meetings are rotated among the six regional panels and for 2013 it is the GLP’s turn. The GLP last hosted the ANSTF in Erie, Pennsylvania in 2007. Some members expressed support for this and noted it was a good opportunity to raise regional issues to the national level. Suggested locations for the meeting included Duluth and Minneapolis, Minnesota. Each city offers opportunities for learning and field trips such as the Great Ships Initiative in Duluth and Asian carp activities near Minneapolis. There will also be new eDNA data to share by the time of the meeting, which could be a topic

for the agenda. In closing, there was a brief update on recently produced AIS awareness tools in Minnesota, including a new DVD and a series of public service announcements.

Wednesday, May 23, 2012: Joint Meeting of Great Lakes and Northeast Panels on ANS

Introductions, overview of agenda and joint meeting objectives

Luke Skinner, GLP Chair, Minnesota Department of Natural Resources

Nancy Balcom, NEANS Panel Co-Chair, University of Connecticut Sea Grant

Ann Bove, NEANS Panel Co-Chair, Vermont Department of Environmental Conservation

Participants were welcomed to the meeting by the chairs of the two panels. They provided introductory remarks on the opportunities presented by convening a joint meeting, as well as the challenges of maintaining collaboration following the meeting. The agenda was also reviewed.

Ballast water management update

- U.S. Coast Guard Report on Ballast Water Discharge Standard Final Rule
Lorne Thomas, U.S. Coast Guard (USCG)

Thomas first spoke about the importance of the ballast water rule, which was published in March 2012, from the perspectives of protecting the environment, providing certainty for industry, and working with existing frameworks such as the International Maritime Organization (IMO) convention and the U.S. EPA vessel general permit. He noted that during the comment period on the rule, the three top issues were applicability, availability of technology and proving a uniform federal standard. In the absence of a ballast water standard, ballast water exchange has been required for ships arriving from outside the EEZ (exclusive economic zone). Thomas reviewed some of the drawbacks to this approach including structural and operational risks, as well as questions of effectiveness in protection against AIS. The new discharge standard is consistent with the IMO and well as the U.S. EPA permit. It defers a "phase two" standard and allows for a practicability review to inform setting of the phase two standard. The determination of the final standard was informed by independent studies such as those by the National Research Council and the EPA Science Advisory Board. The rule applies to those vessels currently required to conduct ballast water exchange, as well as ocean-going vessels operating within the EEZ and across "captain of the port zones." The standard does not apply to so-called U.S. and Canadian "lakers;" however they may be included in a future rule making. Thomas discussed the timetable for implementing the standard which begins in December 2013. He went on to review the process for approving ballast water treatment equipment, noting that private sector entities will play a key role in testing equipment, as well as plans for assessing compliance and enforcing the rule. USCG continues to coordinate with the U.S. EPA, including signing and MOU to cooperate on compliance with the EPA permit, although the USCG cannot enforce additional requirements imposed by states under their Section 401 certification of the permit. Thomas emphasized the challenges in enforcing standards higher than IMO because testing protocols and abilities currently don't exist for verifying that more stringent standards can be met.

When asked about eliminating the requirement for ballast water exchange once the new rule goes into effect, Thomas said that statutory requirements called for one or the other and that exchange was intended to be an interim solution. There is some indication that there could be some benefit to conducting exchange in addition to treatment, but this may place added costs on industry. It was clarified that both the USCG and USEPA have separate and distinct authorities to regulate ballast water and that the agencies are doing their best to avoid conflict. In terms of outreach, there are currently no plans for public meetings, although affected groups (e.g., shippers) are well informed. There was further discussion on compliance issues, including conducting assessments in other parts of the country. Thomas also said he expected that independent labs for testing treatment equipment should be up and running in the next year and a half but that the overall approval process is upwards of 32 months.

- U.S. Environmental Report on Vessel General Permit Status
Marcus Zobrist, U.S. Environmental Protection Agency (USEPA)

Zobrist first gave an overview of USEPA permitting authority under the Clean Water Act (CWA), specifically National Pollutant Discharge Elimination System (NPDES) permits. He explained how effluent limits are established under NPDES, both based on best available technology as well as compliance with water quality standards. The first permit for incidental discharges from vessels, including ballast under this authority was

established in 2008: the vessel general permit (VGP). The USEPA released a proposed revised VGP in 2011 with the expectation of finalizing the new permit in November 2012 (effective 2013). This permit is for non-recreational, non-military vessels greater than 79 feet in length; there is also a proposed small VGP (sVGP) that would cover non-recreational and non-military vessels less than 79 feet. Zobrist explained that ballast water discharges are covered regardless of vessel size and that military and recreational vessels are covered under Section 312 of the CWA. The VGP establishes effluent limits for ballast water, bilge water, deck runoff and washdown, and graywater, among others. While the current VGP does not establish numerical limitations – it requires a series of best management practices – this would change under the proposed new VGP. Like the USCG, USEPA used both the Science Advisory Board (SAB) and National Academy of Sciences (NAS) reports to inform the setting of those numerical standards. The SAB report was finalized in July 2011 and found that the IMO standard is achievable from technology and testing standpoint and that current technology does not support a more stringent standard at this time. The NAS study found a “profound lack of data” to adequately evaluate the risks of AIS introductions associated with ballast water discharges and concluded that the IMO standard represents a significant first step. Zobrist also discussed the comments that had been received on the proposed new VGP and sVGP, including the appropriateness of effluent limits and the implementation schedule. He noted that the VGP is a cooperative federal program and that the states have the authority to develop Section 401 certifications of the VGP (which could include more stringent requirements). He concluded with a more detailed overview of the sVGP, which has a slightly different structure than the VGP and includes commercial fishing vessels in case their current exemption from the existing VGP expires.

- Great Lakes Ballast Water Collaborative (GLBWC) Update
Marvourneen Dolor, Saint Lawrence Seaway Development Corporation

Dolor began by providing a brief history of how the GLBWC became established, starting in 2009, and its purpose, which is primarily to provide a focused forum to share relevant information, foster better communication, and partner to reduce risk of introduction and spread of AIS. The GLBWC is comprised of regulators, commercial maritime representatives, scientists and researchers, and non-government organizations. It is non-hierarchical and informal in nature, and meets relatively frequently to allow building relationships and develop substantial proposals. Most recently, they met in Toronto (January 2011) and Baltimore (September 2011) to discuss current tools and statistical approaches; establish working groups to develop measures for risk mitigation; and review of the NAS and SAB reports. They will meet next in Duluth in August 2012. Agenda topics for the meeting include the new USCG rule and type approval process; ballast water managements systems and challenges for the Great Lakes, including inviting representatives from independent labs. Dolor noted that meeting reports are available online at http://www.greatlakes-seaway.com/en/environment/ballast_collaborative.html.

- Questions and discussion on coordinating ballast water management policy

During discussion, it was clarified that the sVGP does not include numeric effluent limitations, but instead establishes best management practices. There was also a question about whether additional requirements for vessels coming into the Great Lakes under the proposed new VGP, i.e., requiring ballast water exchange in addition to treatment, will be retained. Zobrist responded that the EPA is seeking feedback on that issue. He also clarified that if exchange is retained as a federal requirement, the USCG can help enforce the requirement, but if it is only required through state 401 certifications then they cannot. Regarding enforcement of the sVGP, Zobrist said that because neither the USCG nor USEPA have a large presence for small vessels, they may be working with state agencies for inspections. USEPA will also need to develop mechanisms for transferring permits for small vessels if they change owners. Thomas clarified that regulations related to oil, hazardous materials, marine debris and other issues are pretty well enforced for small vessels by the USCG, but that things such as runoff or bait boxes are not. The sVGP will also include best management practices for commercial fishing vessels that use live bait. Charter vessels will be covered if they accommodate more than six people. There was some concern expressed about the seemingly very large scope of EPA’s program. Zobrist said the estimated cost per vessel owner is anywhere from \$12 to \$98 per vessel per year. He also clarified that state agency vessels that fall within the size categories would also be subject to the permit.

Organisms in trade experts panel

- Risk Assessment for Invasive Aquatic Species Arriving in the Great Lakes Through Trade
Reuben Keller, Loyola University

Keller first reviewed the known aquatic invasive species available in trade that were identified through a 2007 study. This included 18 plants, eight fish, one mollusk and one crayfish as known invasive species, as well as six plants, one fish and one amphibian as potential future invaders. He noted that the trades often contribute to the spread of many species that are already established in the environment, as opposed to new species. Next he showed the gaps in state and provincial regulations, i.e., states and provinces do not regulate the same list of species. He generalized three main approaches for regulation: a) allow everything into trade (current approach); b) allow nothing into trade; or c) conduct a risk assessment to identify high risk species and support prohibited and/or allowed lists. Further, from an economic perspective, an approach that allows as many species as safe into trade is preferable. The goal of a risk assessment for aquatic invasive species is to identify harmful species before they are permitted for trade and the main components are to gather data about species that have been previously introduced, look for traits associated with invasiveness and then identify patterns that can be used for prediction. Keller next described three tiers of risk assessment from “rapid screening” to a complete literature review. He gave examples of a “tier two” approach using statistical methodologies as well as a questionnaire approach. A statistical approach, for example, uses logistical regression to measure the probability of invasion against annual fecundity. A questionnaire approach lists questions in various categories and scores the answers; a higher score means a higher risk. Each of the approaches requires decision makers to choose the level of risk that they are willing to accept. Keller talked about some considerations for risk assessment, such as the number of species to assess. He also acknowledged that there will be mistakes but posited that risk assessment is still worthwhile despite those potential mistakes.

Following his overview of risk assessment, Keller describe a project that is underway with funding from the Great Lakes Restoration Initiative to develop risk assessment tools for various taxa and to use the tools to assess species that are currently in trade. The overall goal of the project is to provide government agencies in the Great Lakes with scientifically rigorous information and tools to support coordinated action(s) necessary to manage high risk aquatic species in trade. A website is currently in development to share project results. Keller also said that there is no reason the risk assessment tools would not work in other regions of the country. So far the project team has developed a tier two questionnaire risk assessment for aquatic plants; a tier two statistical and questionnaire assessment for mollusks; and a rapid assessment for fish. Keller was asked about accounting for micro-habitat situations that may not support the results of a risk assessment, e.g., low calcium concentrations in certain areas. He said that this is a challenge, but that it is ultimately a management questions about whether to allow that species or not. Keller also mentioned training workshops that are being set-up for managers and that the tools will be made publically available, but that it is has been difficult to figure out how to involve representatives from the trade industries. When asked about the questionnaire approach, Keller said that the questionnaires are developed with as much guidance as possible to get consistent answers, but that there is some unavoidable level of uncertainty and subjectivity. He also noted that it is hard to predict whether a species assessed as non-invasive may become invasive in the future.

- U.S. Fish and Wildlife Service Report on Outcomes of Organisms in Trade Risk Assessments
Mike Hoff, U.S. Fish and Wildlife Service (USFWS)

Hoff first reviewed the scope of problem these efforts are trying to address; there are 50,000 non-native species established in the U.S., of which 4,300 are considered invasive and up to 30,000 are imported to the U.S. annually. He emphasized that we don't know how many animal species are being imported into the U.S. – it is estimated that at least 4,000 freshwater fish species are traded worldwide – and said that more than one billion live animals were legally imported between 2005 and 2008. The volume of trade makes it a challenge to regulate. If the goal is to protect U.S. biosecurity and we want to prevent invasive species, then we need to use risk assessment to help support informed, science-based decision making. Hoff also provided background on the currently regulatory processes and reviewed definitions of risk analysis, assessment, management, and communication. He described a “screening tool” as a risk assessment system to rapidly evaluate the invasive potential of a non-native species; i.e., within a matter of hours as opposed to years. The outcome of screening can be used by both governments and industries to enhance U.S. biosecurity. The output from screening is a report that characterizes risk as: high, low or uncertain. If the result is uncertain, than a different risk assessment approach can be employed. A rapid risk analysis process has been developed with Mississippi River Basin Panel on ANS that a series of steps, of which the rapid screening process is one. Hoff next spoke about the best

predictors of species invasions which are history of invasiveness and climate/habitat match; these two predictors make-up the coarsest level of screening and other more complicated tools are available. He reviewed the USFWS screening process approach and gave several examples of species that have been assessed with this process. Funding has been made available through the Great Lakes Restoration Initiative (GLRI) to screen 1,400 species; 850 are completed in draft form and the final reports will be posted on the USFWS website. Species that are screened as uncertain risk may be assessed with an advanced risk assessment process and opportunities will be identified for non-regulatory risk management actions. Using the results of the screening reports, the agency will also be working to advance regulatory as well as self-regulatory approaches for risk management. This will include exploring opportunities to create partnerships with industry groups.

In response to a question, Hoff clarified that parasites and pathogens are covered under the screening process and that tools for assessing “uncertain” risk species are under development. It is still unclear how this work will influence activities under the Lacey Act as there are parallel efforts to “make the Lacey Act a tool for 21st century.” GLP members also noted the availability of a variety of materials (e.g., fact sheets) supporting the improvement of USFWS authorities and anticipated federal legislation addressing these issues.

- Organisms in Trade Pathways in the Great Lakes
Becky Cudmore, Fisheries and Oceans Canada, Center for Expertise on Aquatic Risk Assessment (CEARA)

Cudmore began her presentation by sharing the results of a 2010 effort that identified 69 non-native fish as introduced into the binational Great Lakes of which: 35 are established, 29 failed to establish, and five are of uncertain status. She focused her presentation on describing the live trade pathway, by which species are imported, are not intended for wild release, kept live to point of sale or use, and provides source of individual species specimens for unauthorized release. Data is being collected by CEARA and its partners on several of the live trades, although the data relies on importers for correct identifications, accurate record keeping and market visits. They have also conducted end user surveys of aquarists and water gardeners on their preferred species. CEARA has found approximately 2,000 fishes are imported into Canada for the aquarium trade and that approximately one percent of release fish into the wild. In the water garden trade, there are approximately 75 species, including, fish, plants and invertebrates, of which many can survive through the winter. It's estimated that one percent of water garden owners release organisms into the wild. In the live food trade, there are approximately 30 fish species; many are temperate species and this includes snakehead fish. The demand for live food fish is expected to increase as the human population increases. CEARA has also conducted a study of fish introduction to the Great Lakes, specifically looking at pathways and success of invasions over time. Cudmore noted that stocking has leveled off in recent decades and that while ballast water was tagged as the ‘worst’ pathway, it has also leveled off somewhat for freshwater fishes. In contrast, there has been a steady increase in the live organism trade over the last several decades and it is also one of the earliest pathways of introduction; 19 species have been introduced through this pathway and five have been successful. Next she briefly discussed federal regulations for the live trade, noting that in Canada there are currently no regulations that prohibit the importation of species based on invasiveness. Cudmore concluded her presentation by talking about preventing future invasions and the need for risk assessment to support these efforts. The region has demonstrated with ballast water that focus and resources toward a given pathway can reduce risk; now this attention needs to be shifted to other pathways.

Following her presentation, Cudmore clarified that their assessments included “by-catch,” e.g., silver carp has been identified with bighead carp in live markets. In addition, a paper has recently been completed on by-catch in the bait trade. It was noted that the results of their end user surveys compare favorably to similar surveys conducted by Minnesota Sea Grant and that, while it is important to ensure that those releases are not occurring often, it is also important not to alienate those groups. Cudmore also explained that impacts of established non-native populations were not assessed, but should be taken into account. The role of spiritual/cultural releases and episodic weather events were also noted.

ANS Task Force update

Mike Goehle, U.S. Fish and Wildlife Service

Over lunch, Goehle provided a brief update on ANSTF activities, which included letters on the movement of infested boats and the importance of the USGS run NAS database to the ANSTF and panels; approval of the ANSTF 2013-17 Strategic Plan; development of management plans for snakehead and invasive lionfish; potential participation on the National Invasive Species Awareness Week; work with Landscape Conservation Cooperatives; opportunities for ICS training; and establishing a New Zealand mud snail ad-hoc committee.

Update on the binational rapid response plan

Li Wang, International Joint Commission (IJC)

Wang briefly discussed and provided handouts on a project funded through the GLRI to develop a binational rapid response plan. The purpose of the plan is to facilitate U.S. and Canadian collaboration in binational waters. It has three primary components, a jurisdiction analysis, a review existing plans, and a pilot exercise. A workshop on the project will be held in the near future and the IJC will be looking for feedback on the plan.

Organisms in trade joint work group sessions

- Prevention, Detection and Monitoring

The group discussed state efforts to prohibit or restrict species and thought it would be interesting to compare species lists across the two regions. They also identified a need for enhanced site visits for monitoring/inspection of different pathways and active field monitoring in particular. It would also be helpful to know what work is being carried out by which groups or agencies and focused on which industry sectors (e.g., pet shops). One suggestion is to develop a matrix of prevention, detection and monitoring efforts to increase awareness of all of these activities and help strengthen efforts regionally. Further, the need for compatible definitions among different jurisdictions for what is meant when a species is “prohibited” or “restricted” was noted. The work group proposed a vision for the future that included greater coordination and integration of regulations. There was some discussion of best practices for transporting organisms from one country to another (e.g., aquaculture specimens) as well as risk assessment work that is underway. Also noted were efforts in Minnesota where officers carry out inspections and a few citations have been issued for organisms in trade.

- Information, Education, and Outreach

A number of outreach activities were discussed during this session, including species specific activities as well as pathway specific activities such as working with industry groups to promote the use of native species. There are also ongoing efforts to promote international codes/practices for transporting live seafood. A number of Great Lakes campaigns efforts promoting Habitattitude, *Nab the Aquatic Invader* and AIS-HACCP were identified for possible adoption in the Northeast region. An opportunity was identified for both Panels to use the national *Stop Aquatic Hitchhikers* campaign to focus on preventing the release of crayfish or other specific species of concern. The group also noted the need to gain a greater understanding of cultural releases of live organisms. Additional opportunities exist for multiple agencies or groups to participate in joint print runs of educational materials and to share graphics for cost savings purposes. Use of emerging technologies for information sharing such as Smartphone applications and QR codes were discussed. Finally, members of both panels shared their experiences in using different mechanisms to provide panel member updates, including blogs and wikis.

- Policy, Regulation, and Coordination

The work group discussed how lessons learned from working on the ballast water pathway can be applied to moving forward on organisms in trade. Noted was the importance of collaboration and incentives as opposed to just regulation and enforcement. There is also a need to continue putting pressure on at the federal level to act on this issue. The group defined a shared vision that included strengthening policies at the federal level; increasing resources to implement effective monitoring and enforcement; increasing consistent policies among states/regions; and using the regional panels as a “sounding board” for state action, e.g., reviewing state regulations and providing feedback to facilitate consistency. They recommended that the two panels work together, possibly through an ad-hoc committee, to identify the most important pathway for organisms in trade and then develop a strategy to address it. In addition, participants each shared what their agency/organization was doing to address organisms in trade issues including trying to influence federal legislation, facilitating regulatory consistency, and developing risk assessment tools.

- Research

The research work group discussed research goals of limiting the trade of live organisms while allowing species that will not have adverse impacts. They identified a need for a database of risk assessment results that could potentially be incorporated into the USGS nonindigenous aquatic species database. In addition, the group

recommended that the pathways of organisms in trade be prioritized by number of species, impacts and ease of management. Water gardening was identified as a potentially high risk pathway as species are pre-selected to be able to grow outdoors. There was interest in conducting research into cultural motivations/drivers for releasing live organisms and if it is possible to use native alternatives for these purposes. Options for sustainable funding are needed to continue and expand risk assessment work. The ANSTF's interests in organisms in trade are unclear and the panels could make a recommendation on how the ANSTF could direct their efforts on this vector. Other research needs that were identified including improving understanding of the amount of propagule pressure that is needed to cause an invasion; analyzing pathways spatial and temporally; identifying geographical areas that are more/less compatible with U.S. regions and species that exist in those areas; modeling for climate change impacts on invasion; and socioeconomic assessments of species. There was interest in learning more about non-native species availability through biological supply houses. In summary, the research work group thought the panels could work together to advocate for sustained funding for ongoing risk assessments; prioritize potential vectors; and consider long-term funding options such as taxes on organisms in trade to fund future research efforts.

Next steps for joint work groups to continue collaboration

Following reports from the work group sessions, there was discussion to identify next steps for the two panels to build on this joint session. It was decided that the notes from each work group would be transcribed by the panel staff and then reviewed by a volunteer from each group. The volunteers to review the notes were Sarah LeSage for the prevention work group, Doug Jensen for the information work group, Kevin Cute for the policy work group and Leslie Suprenaut for the research group. Following finalization of the notes, additional Volunteers from each panel would then be solicited to use the notes to identify a list of priorities/recommendations for joint action. This list would then be vetted by the panel chairs for a possible recommendation to the ANSTF to support the joint work that is proposed. It was also suggested that in developing this recommendation, the ANSTF Strategic Plan be reviewed for direction on organisms in trade.

Other Items

The group was updated on National Park Service efforts to test a new ballast emergency system. The state of Rhode Island is working on marine AIS regulations and Kevin Cute solicited the panel members to review the regulations. Last, the Upper Midwest Invasive Species Conference will be held in LaCrosse, Wisconsin on October 29-31, 2012.