

# Meeting of the Great Lakes Panel on Aquatic Nuisance Species

December 10-11, 2009  
Courtyard Marriott  
Ann Arbor, Mich.

## ***Meeting Summary***

Final: April 27, 2010

Thursday, December 10, 2009

### **Welcome**

*Tim Eder, Executive Director, Great Lakes Commission (GLC)*

Tim Eder provided the opening remarks, welcoming everyone to Ann Arbor. In his remarks he recognized the strong representation of the shipping industry, which has not been as strong at previous meetings.

### **Call to Order**

*Jim Grazio, Pennsylvania Department of Environmental Protection; Chair, Great Lakes Panel*

Jim Grazio thanked the meeting participants for attending. He reviewed the meeting agenda and took roll call. The June 2009 meeting summary was approved without amendments.

### **Great Lakes Panel Update**

- GLP Report on Action Items  
*Kathe Glassner-Shwayder, Great Lakes Commission; GLP Coordinator*

Kathe Glassner-Shwayder reviewed action items from the Panel's spring meeting. The first items were those that staff worked on primarily with the Executive Committee and included a position statement on ballast water, distribution of the committee priorities documents, developing a Panel funding request, investigating potential Panel projects under the new Great Lakes Restoration Initiative (GLRI), and developing a remote participation policy for Panel member participation in meetings.

In discussing the development of the Panel's new position statement on ballast water regulation, she noted that it is intended to be a general statement that will be submitted to the national Aquatic Nuisance Species Task Force (ANSTF), and that it is not specific to any agency regulations (e.g., the U.S. Coast Guard's proposed rulemaking). The status of the position statement is a topic of discussion at the current meeting, with the intent to move towards approval by the full Panel. Shwayder reported that the priorities documents that have been developed by the Panel's Information/Education and Research Coordination Committees were submitted to the U.S. Environmental Protection Agency as the agency works to refine the Great GLRI Action Plan. Panel staff worked with the Executive Committee to identify priority areas for increased Panel funding and submitted a draft request to the ANSTF. The request reflected both what is being accomplished with existing funding and what could be accomplished with additional funding. In addition, a set of project ideas that should be pursued on a regional basis were developed for consideration by the Panel as potential projects under the GLRI. Finally, an amendment to the Panel's *Guidance for Operations* document was drafted to formalize policies and procedures to allow remote participation of members in Panel meetings.

Next, Glassner-Shwayder reported on action items of the Panel's three standing Committees. For the Information/Education Committee this included ongoing distribution of the Committee's priorities document; an update on development and use of the Great Lakes Panel Wiki; dissemination of the *Great Lakes Aquatic Invasions* booklet and opportunities for increased distribution; and working to get Panel endorsement of the *National Guidelines to Prevent the Spread of Aquatic Invasive Species* for recreational users. Research Coordination Committee action items included Committee review of a professional responsibility statement on reporting AIS discoveries; updating the Committee's priorities document; and formally transmitting the Prohibited Species List to the Policy Coordination Committee. The Policy Coordination Committee worked on development of its priorities document as well as position statements on a number of topic including pre-import screening of species; renegotiation of the Great Lakes Water Quality Agreement; and ballast water regulation

In discussion after the presentation, it was noted that setting “policy” is not one of the mandates of the Great Lakes Panel. Instead, the Panel should be providing “recommendations.” It was also thought appropriate that the Panel could develop regional “position statements.” The title of the proposed ballast water recommendation was modified to reflect this (i.e. the word “policy” was removed from the title).

The history of the development of the national guidelines for recreational users was also reviewed. The guidelines received federal approval in December 2000 and have been incorporated into the *Stop Aquatic Hitchhikers!* campaign. Minor modifications were made to the guidelines in 2008 to account for VHS and the New Zealand mud snail, however, these modifications were not approved by the ANSTF. The modifications were made to temperature and disposal of fish parts recommendations. The guidelines are intended as suggestions that can be further modified for use by different entities. It was suggested that the guidelines be discussed further in committee and then brought back before the Panel. In addition, it was recommended that the ANSTF be made aware that a review of the guidelines is needed to help reinvigorate the ANSTF Recreational Activities Committee.

- Proposed Remote Participation Amendment to the GLP Guidance for Operations  
*Erika Jensen, Great Lakes Commission; GLP Staff*

Erika Jensen presented a proposed amendment to the Panel's *Guidance for Operations* document that was developed with guidance and input from the Executive Commission. Specifically the amendment proposed changes to the guidance document that would allow explicitly for the participation of Panel members in Panel meetings via remote conferencing, as well as proposing a set of operational guidelines for that participation. In particular the amendment would provide a mechanism to allow remotely participating Panel members to be counted towards quorum if quorum is not met under conventional means (those members physically present). The Panel membership discussed the amendment and proposed some modifications to the document that provided further clarity. It was decided that the changes would be made and presented to the Panel for a final vote the following day.

- ANSTF Meeting Report  
*Jim Grazio, GLP Chair*

Jim Grazio reported out on the recent meeting of the national ANSTF, which he and Kathe Glassner-Shwayder attended, specifically reviewing the topics of most interest to the Panel. The ANSTF identified priority areas to address based on the goals and objectives of the existing Strategic Plan, including risk assessment, research facilitation and increasing public understanding, among others. Of particular interest was a discussion on funding needs of the regional panels. Grazio felt that the ANSTF has “never been more receptive” to listening to the needs of the panels and trying to find ways to address this significant need. Prior to the meeting, each of the regional panels submitted a summary of funding needs to address panel priorities on invasive species prevention and control. This exercise yielded several categories of funding and a range of responses across the panels. It showed that there are different operational models among the panels, as well as different visions regarding the scope and type of work the panels should be doing. As a result, this will be an ongoing discussion between the ANSTF and the panels. Grazio said there was also good discussion at the meeting on ballast water regulations, involving both the U.S. EPA and the U.S. Coast Guard regulations. The Quagga-Zebra Mussel Action Plan (QZAP), state management plans (SMPs), Asian carp and rapid response were additional topics of discussion. Grazio reviewed the decision and action items that came out of the meeting, including:

- Approval of Federal ANS Research Risk Analysis Protocol for publishing in the Federal Register
- Conditional approval of QZAP, pending suggested changes;
- Approval of several SMPs, including Minnesota;
- Follow-up to Strategic Planning effort;
- Clarify the status of the national guidelines for recreational users;
- Coordination of ANSTF presence at National Invasive Species Awareness Week in Jan. 2010;

Finally, Grazio presented the potential discussion topics for the next meeting of the ANSTF, including roles of ANSTF and regional panels; effectiveness of outreach campaigns; success of citizen science efforts; and re-energizing of ANSTF committees.

Glassner-Shwayder encouraged the Panel to continue to try and elevate the profile of the national recreational guidelines as an important national and regional tool. There was additional discussion on the research risk analysis protocol which is an update of the 1993 protocol that is a condition for research that is funded under NANPCA. The protocol is in place to help the research community to assess the potential risk that their research could result in the introduction of a species. It does not address the reporting of new discoveries that may be made during the course of research. Related to the panel funding discussion, it was noted that the operational structures of the regional panels varied (e.g., a designated "Administrator" versus a U.S. Fish and Wildlife Service employee). The ANSTF is aware of this issue and the pros and cons of the different structures. Unfortunately the ANSTF does not have a pot of money that can be used, however, some of the federal members have committed to increasing funding to the panels as well as to states for SMPs.

### **Ballast Water Update and Discussion**

*Moderator: Jim Grazio, GLP Chair*

- International Joint Commission Update  
*Mark Burrows, International Joint Commission (IJC)*

Mark Burrows spoke briefly on the IJC's ongoing involvement in the ballast water issue. Most recently, IJC, in coordination with the St. Lawrence Seaway Development Corporation (SLSDC), convened a forum in Detroit. The participants in the forum included primarily regulatory agency, fleet and academic representatives. The goals of the forum were to introduce regulators to scientists and industry experts; create a common body of knowledge; and discuss ways to reduce risk and enable voluntary measures that can be implemented in the near-term. In terms of outcomes, Burrows said it was felt that communication was improved; a common understanding was reached, including an understanding of market and technology challenges. In addition, they found a willingness of industry to cooperate; a desire to harmonize the regulatory regime; and a willingness to improve communications and collaborate. All of the materials from the forum are available on the SLSDC website. He indicated the IJC's willingness to continue to contribute to future meetings of this sort and that an informal group of volunteers have joined together toward this end. He also noted that the IJC has gone on record for adopting the International Maritime Organization (IMO) standard and a regional, science-based standard for ballast water treatment.

In discussion it was noted that although the Detroit meeting had to address a lot of misunderstandings and identify information gaps, it also facilitated good dialogue, indicating that all parties (including the Great Lakes states, industry, U.S. Coast Guard, U.S. EPA) would like to start working together more collaboratively. There is still a lot of work that needs to be done, but that can be done over the next five to 10 years (if not sooner). Although the groups represented had fundamentally different positions, they were able to identify issues that need to be addressed to move forward, including reconciling the EPA Vessel General Permit, USCG ballast water discharge standard and state requirements. Toward this end, the industry groups presented a list of research priorities for consideration by the Research Coordination Committee. The sense of urgency in taking action on the ballast water issue was also emphasized. Finally it was noted that NGOs were not involved in the meeting, but were briefed regarding the outcomes.

- U.S. Coast Guard Update  
*CDR Gary Croot, U.S. Coast Guard (USCG)*

CDR Croot began his presentation by recognizing that we are all focused on the same goal, but we may have different ideas about how to get there and how quickly. All of the federal agencies are in agreement that there needs to be a program to eliminate all AIS. He then spoke about common misunderstandings like that ballasting operations, including ballast water exchange (BWE) are simple operations: they are not. In fact, it can be extremely hazardous and can have catastrophic events. In addition, he addressed the misunderstanding that ballast tanks are just big open spaces. In reality, there are many bulkheads, frames, and other things that impact flow of water. Finally, the term "NOBOB" is a misnomer as there is actually often residual water in the bottom of the tanks.

CDR Croot emphasized the reasons behind establishing a discharge standard: over 60 percent of vessels cannot exchange ballast water appropriately due to their routes; and BWE effectiveness can vary based on vessel type, and the type of exchange. BWE will always only be able to meet a percent reduction in organisms introduced (unlike a standard). The USCG has proposed a phased approach for their rule-making. The two phases of the standard are the IMO standard followed by 1,000 times the IMO. Through

the comment period, the USCG is looking for input on what should be included in a practicability review to determine if the phase two standard can be met (e.g., damage to environment, cost to install, etc.). CDR Croot noted that if the practicability review determines that 1000 times is not feasible, it will consider intermediary standards by single orders of magnitude (e.g., 10 or 100 times IMO, not eight). The USCG has also incorporated a type approval process to ensure compliance with the discharge standard.

CDR Croot next discussed the USCG rationale for not requiring the stronger phase two standard immediately (without the interim phase one standard). He showed that the phase one standard would be a significant improvement over BWE in terms of eliminating organisms. In comparison, the difference between the phase one and phase two standards is not as significant. The USCG is concerned that potential delay in implementation of the stronger standard if it is determined to not be practical would prevent the elimination of organisms that could have been achieved under the phase one standard. The IMO standard is reflective of tremendously small numbers of organisms and it is difficult to identify those small concentrations to ensure technology is working. CDR Croot also reviewed the implementation schedule for the proposed phase one and two standards. He emphasized the importance of the type approval process and noted that USCG is working with other agencies to review existing guidelines, towards releases a protocol by the end of March 2010. He discussed the critical role of independent labs in the certification process and noted that three independent labs have expressed interest in becoming a USCG certified lab that could do the treatment technology testing. Significant funding and a period of one to two years will be needed for the labs to achieve certification. Finally CDR Croot indicated that USCG had received over 1,200 comments on the rule-making and the USCG plans to respond to all comments.

In discussion, the issue of treatment system maintenance was brought up in terms of decreasing the effectiveness of a system and the need for a mechanism to ensure proper maintenance is conducted. CDR said that the USCG is considering a requirement similar to what is in place for firefighting equipment that would include the ship owner needing to provide documentation. In terms of testing protocols, USCG is looking at the G-8 guidelines that were an addendum to the IMO convention, however, they are not sure that those protocols are adequate. The USCG is working to identify what is an appropriate refinement of those guidelines, but there are differences of opinion on transparency of verification, independence of labs and other issues.

- GLP Ballast Statement (2009)  
*Phil Moy, GLP Vice Chair, University of Wisconsin Sea Grant*

Moy discussed the newly developed Panel ballast water statement. The Panel originally developed a statement in 2001. In addition to updating this statement, the Research Coordination Committee is documenting progress that is being made in terms of research in this area. He noted that the regulatory process has been slow at the federal level and the states have filled this vacuum with their own regulations that are not necessarily uniform and complicate industry compliance. In development of the Panel statement, Moy noted that it is consensus based and all members of the Panel have had an opportunity to comment. Moy reviewed the main components of the new statement:

- Harmonized standards between the states, the U.S. and Canada
- Recognition of the differences between ocean-going and lake-only vessels
- Collaboration among interested parties in order to move forward
- Effective evaluation and verification protocols
- Recognition of the differences in fresh and marine environments
- Keeping BWE in addition to new treatment standards
- Quick implementation of a federal standard

In discussion, it was recommended that the statement be referred to as a “position” statement, as opposed to a “policy” statement. This suggestion was made recognizing that the Panel's role is not necessarily to make “policy.” It was decided that the statement would be amended accordingly and put in front of the Panel for a vote the following day.

### **Recognition of Outstanding Service to the Great Lakes**

*Phil Moy, GLP Vice Chair*

Moy gave a brief presentation in recognition of David Reid (NOAA Great Lakes Environmental Research Laboratory) and his service to the Panel and the Great Lakes.

## **Featured State Update: Lake Superior AIS Complete Prevention Plan**

*Roger Eberhardt, Michigan Department of Environmental Quality*

Eberhardt began his presentation by showing the multitude of parties involved in developing the Lake Superior AIS Complete Prevention Plan, which was representative of both the U.S. and Canada. He noted that who is involved is almost as important as what they are doing. The genesis of the plan was the Lake Superior Lakewide Management Plan (LaMP). Relative to the other Great Lakes, Lake Superior is unique and not subject to as many impairments. Despite this, the lake is still under threat from invasive species, including those that are in the other lakes but not yet in Lake Superior. Thus, the AIS Complete Prevention Plan is meant to be a plan to prevent the introduction of any new species into the lake. Eberhardt stressed that the focus is on prevention and not management of species. He described the objectives, process and timeline for developing the plan. The primary organizing entity is the firm Battelle. A draft plan is in place and plans are underway for a broad stakeholder review in 2010.

Eberhardt noted that the plan is unique in that it is binational, multijurisdictional; initiated under the LaMP process; and takes pathway closure approach (as opposed to an agency or species approach). Related to the pathway closure approach, Eberhardt showed a vector/pathway concept map (on a Lake Superior scale) that was assembled as a basis for the prevention plan. Based on concept map, the project team identified actions and existing plans and/or strategies for interrupting pathways. Eberhardt provided some examples of the types of recommendations included in the plan. In terms of stakeholder input, Eberhardt said the plan and opportunities for input would be communicated out via a variety of electronic means including email lists, a webcast, a series of conference calls (vector specific), and a summary webcast. The plan will then be finalized and the focus will shift to implementation. Implementation will be initiated by a series of workshops around the lake basin and through agencies as well as local participants.

In discussion, it was noted that the zero chemical discharge standard (for nine toxic pollutants) for Lake Superior set the precedent that the lake was “unique,” relative to the other lakes. It was also clarified that funding opportunities identified in the plan are reflective of historic funding mechanisms and not the new Great Lakes Restoration Initiative. Related to implementation, the Lake Superior Task Force will first need to approve the plan, as part of the LaMP process, and then the agencies that chair the Task Force – U.S. EPA and Environment Canada – will be responsible for leading implementation. A question was posed regarding the potential for this plan to serve as a model for other lakes. In response it was pointed out that a prevention only approach may not be sufficient for the other lakes (e.g., management may also be needed), however, there has been some outreach to the Lake Michigan LaMP group. Eberhardt mentioned that the pathway approach used is also “scalable,” so it could be applied as a management strategy regionally, on a watershed basis, and/or nationally.

## **Great Lakes Restoration Initiative (GLRI) Update and Discussion**

*Moderator: Jim Grazio, GLP Chair*

Jim Grazio reviewed the agenda for this session to include an update from EPA and then discussion among Panel on the potential role of the Panel. In addition, the Executive Committee and Panel staff prepared a set of possible projects the Panel could pursue under the GLRI. He also let Panel members know that federal agencies, particularly the EPA, could not discuss project ideas in detail as it could compromise their ability to review the proposal or have it declared ineligible for funding.

- Update from USEPA  
*Bill Bolen, EPA Great Lakes National Program Office*  
*Jamie Schardt, EPA Great Lakes National Program Office*

Bolen gave an overview of the GLRI, including the five primary focus areas with particular emphasis on invasive species.. The EPA is making a large portion of the GLRI money available through an RFP that was released in November (2009). In addition, the agency is working out interagency agreements with other federal agencies to distribute some of the funding. He noted that the emphasis is on funding projects that will show progress and outcomes and that they would be minimizing the focus on research (under the GLRI).

Schardt spoke in more detail about the portion of the EPA RFP that is focused on AIS projects. Overall, the GLRI provides about \$60 million for AIS work, and about half of it is for enhancing existing federal

agency AIS programs. Specifically the RFP is targeting four key areas for AIS: ballast water technology; general “prevention and control”; surveillance work; and ecological forecasting and modeling. The EPA and the U.S. Fish and Wildlife Service (FWS) are both providing funds for the ballast water and prevention and control project categories. Schardt said that the RFP should be the primary reference point for questions, in addition the EPA is developing an FAQ document as a complement to the RFP. He highlighted several key issues including eligibility; distinctions between sub-grantees and sub-contractors; letters of support; and how a project fits in with existing Great Lakes plans and strategies. In addition, it was noted that although this RFP reflects EPA and some FWS money, other agencies may be issuing their own RFP’s to augment existing grant programs. All funding opportunities will be compiled and listed on the EPA GLRI website. Also mentioned was the importance of Office of Management and Budget performance measures in grant reporting and that recording templates to track these new measures will be required.

In discussion, it was clarified that some funding would be provided to each of the eight Great Lakes states through a non-competitive process for implementation of state management plans (SMP). However, state match has previously been required for SMP funds and those details have not yet been worked out. The EPA and FWS are working with the Office of Management and Budget on these and other details, including tracking progress, regarding the SMP funding. Further, it was noted that SMP funding would not affect the state’s ability to apply for competitive funds.

Schardt mentioned the recently updated Great Lakes Multi-Year Action Plan that has been put in place to identify performance measures and progress achieved through GLRI funding. Further clarification was provided on the eligibility of Canadian entities: although eligible to apply, the proposed project needs to address the U.S. developed priorities for the GLRI. It was unclear if proposed projects could include travel support funding for project partners that may provide an advisory role. There was significant discussion regarding the size and scale of projects and relationships between projects, for example small projects that might feed into a larger strategy.

In terms of Panel endorsement of specific projects, it was noted that EPA (and possibly other federal Panel members) would not be able to sign-on to or provide letters of support because of a potential conflict of interest. It was suggested that GLRI applicants could be referred to Panel committee priorities documents as a reference. It was noted that federal agencies could still help identify priorities, just not how to address them. Specifically related to federal involvement in a project, Schardt noted that the agencies have different approaches for handling these requests and projects should be clearly led by a non-federal entity. Further, any federal person listed as a collaborator on a project will not be able to review the project for making funding decisions. Finally, on the issue of potential Panel projects under the GLRI, it was suggested that the discussion move forward to see where the Panel might have a role, for example as a coordinating body, or as a forum to discuss issues and share results.

- Role of the GLP / GLP Project Ideas for the GLRI  
*Jim Grazio, GLP Chair and Lindsay Chadderton, Research Committee Coordination Chair*

Prior to the start of this session, the federal agency members of the Panel excused themselves from the discussion to avoid conflict of interest issues in their role in the GLRI grant making process. Grazio then reviewed several potential project ideas in which the Panel might have a role, include developing and administering a small grants program. It was mentioned that decisions for the selection of project funding for the small grants program would be based on the GLP committee priority documents, which would facilitate upfront definition of priorities as well as grant selection. Also noted was that the GLP could add a regional perspective in the conduct of the small grants program.

As discussion proceeded, however, it became apparent that it was unclear if the Panel was eligible to apply/compete for GLRI funding and many felt it was inappropriate. There was a general level of discomfort with the possibility of the Panel competing against its member entities, and with the situation that federal members of the Panel could not participate in project specific discussions. The discussion also reflected that the Panel was not in a position to endorse specific projects (given the role of federal members). It was noted, however, that the Great Lakes Panel positions statements, committee priority documents, and recommendations to the ANS Task Force should be utilized in the endorsement of projects. It was expressed that there is a potentially significant role for the Panel to play in terms of setting priorities and as a coordinating body. Also noted was that the Panel should play a role in framing overarching proposals and sub modules that feed into the proposal. In terms of funding, discussion

indicated that the Panel should pursue other opportunities to receive funding through non-competitive avenues. Also mentioned was that other Panels (e.g. Mississippi River Basin Panel) have developed a role as an implementer of projects. Regarding the small grant program proposal, there was uncertainty as to how such a program would work, what the role of the Panel would be and there was also disagreement over the value of such a project.

Another project idea being develop was related to coordination of monitoring for AIS. It seemed likely that the Panel could be used as a forum to report findings, vet a standardized sampling protocol (if needed), or host workshops. The project will likely move forward, but will be applied for by individual entities (i.e. states and Sea Grant programs) that are eligible to apply for funding and not by the Panel itself. Noted was the value of networking in the coordination of monitoring and to use a team approach in the implementation of a regional monitoring regime. There was general agreement about the value of such a project in terms of a standardized sampling protocol to facilitate consistency of results, sharing and standardizing data, establishing baseline information, and supporting rapid response through monitoring efforts, etc. Some examples of similar work were shared, including efforts by the Northeast ANS Panel, Minnesota Sea Grant and others.

Friday, December 11, 2009

### **Featured Federal Update: U.S. Forest Service AIS Activities**

*John Rothlisberger, U.S. Forest Service*

Rothlisberger gave an overview of the U.S. Forest Service (USFS), specifically the Eastern Region, and relevant AIS activities the agency is involved in. He highlighted a recent emphasis by the agency on ecosystem restoration, specifically towards protecting water resources which are prevalent in the national forests. Work is underway to identify and address priority threats and stressors in national forests, including invasive species. In the Great Lakes region, the USFS has been tasked with invasive species outreach and education under the Great Lakes Restoration Initiative. This work will include:

- Regional mass media campaign
- Conservation education TV show
- Aquarium/museum exhibits
- Recreational boat cleaning and inspection pilot project

Rothlisberger discussed each of these efforts a little more detail, noting that a large percentage of species that escaped or were released into the Great Lakes were spread by recreational users. In closing, he mentioned the interest of the USFS in maintaining and potentially increasing involvement in the Panel.

### **Asian Carp Update and Discussion**

*Moderator: Phil Moy, GLP Vice Chair*

Moy gave some introductory remarks to the session, highlighting major milestones in efforts to track and stop Asian carp from entering the Great Lakes. The recent use of environmental DNA (eDNA) indicates the potential for Asian carp to be migrating through “side doors” and closer through the “front door” of the AIS dispersal barrier system. Moy also mentioned that the need for regular maintenance of barrier IIA for effective operation, poses risks of allowing the Asian carp through the barrier system.

- Asian Carp Monitoring and eDNA Testing  
*Lindsay Chadderton, The Nature Conservancy and University of Notre Dame*

Chadderton gave a presentation describing the efforts being undertaken to monitor for Asian carp, specifically the use of environmental DNA (eDNA) monitoring techniques. To begin with, researchers looked at the migration patterns of the carp throughout the early 2000’s and then developed models to predict potential future spread. The models that were developed indicated that carp could have migrated all the way up to the dispersal barrier system in the Chicago Sanitary and Ship Canal. Thus, monitoring was undertaken closer to and around the barrier system. Chadderton acknowledged the limits of the models that were developed, including inherent uncertainty regarding whether the data being used to develop the model represented the body of the invasion or the small number of fish at the front line of the invasion. The eDNA samples were compared to dust of a DNA plume indicating the presence of specific species but cannot be used to determine specific numbers. However, these uncertainties would only

result in Asian carp reaching the barrier earlier than the dispersal model suggests. Prior to using eDNA techniques, monitoring was limited to electro-fishing and netting. In an effort to identify the front of the invasion, it was decided that eDNA monitoring would be employed to identify Asian carp cells that are shed and suspended in water. This technique is based on species specific markers in water samples that are compared to gene bank samples of the species. Chadderton described their eDNA method and previous instances of using eDNA monitoring techniques. Those techniques were adapted and tested for Asian carp surveillance. Chadderton discussed the practices employed by the research team to ensure reliable and accurate results and the system employed to avoid contamination. He also talked about the time it takes to analyze samples and indicated that because of limited capacity, there was a backlog of samples that have not been analyzed. Chadderton reviewed the sampling areas, number of samples taken and relative confidence in the samples that have been analyzed. There have been two observations below the electric barrier that would verify the eDNA results, however, further work is needed to develop a relationship between rates of detection and fish abundance. Initial experiments with regards to the viability of DNA in environment (i.e. rate of deterioration), indicate that the DNA only lasts for 1-2 days.

- Asian Carp Prevention, Rapid Response and Barrier Maintenance Plan  
*Bill Bolen, U.S. EPA Great Lakes National Program Office*

Bolen gave a presentation on recent activities related to Asian carp prevention, specifically the recent response operation that took place while the AIS dispersal barrier in Chicago was shut down for maintenance. He acknowledged all those present at the meeting who were involved in the operation. He said that despite some initial disorganization at the beginning of the operation, as activities got underway it ended up being very successful. More than 500 people were involved in the operation, from local, state, federal, Canadian and binational entities. Noted was that eDNA positive sampling for Asian carp provided the impetus for rotenone treatment during the maintenance period temporarily shutting down barrier IIA. It was the first time that a boom had been used to apply rotenone (the fish poison) and Bolen said it would be a new requirement for future rotenone applications. Before rotenone was applied, it was projected that 200,000 lbs of fish would be recovered during the operation. However, with only 85,000 lbs of fish extracted afterwards, it is thought that a great deal of dead fish sunk to the bottom of the canal. It was decided not to go after those fish in favor of being able to re-open the canal to industry. Bolen gave a more detailed description of the operation, including the timeline and specific activities that were undertaken. He noted some of the challenges that were faced during the operation, such as last minute funding, preventing fish carcasses from entering the intake pipes of local industries, difficulties with nighttime operations, implementation of the Incident Command System (ICS)/Unified Command system with lack of training, and dealing with media and other inquiries. He also made some recommendations to improve the process in the future such as ICS training and more upfront communication. In closing, Bolen discussed some overarching lessons from the operation, including the value and importance of utilizing ICS.

During discussion, it was mentioned that more familiarity with ICS is needed. In regards to cost, Bolen indicated that the entire operation cost approximately \$3.2 million. Because of this significant cost, it is unlikely that an operation of this scale would occur again. In regards to communication, it was felt that agencies needed to have a more unified voice and more communication should occur with communities outside the immediate vicinity of the operation. It was speculated that cold water temperatures were what caused the dead fish to sink and that they may rise to the top when water temperatures go up in the spring. The issue was raised that information on the fish that were collected should have been tracked. Also mentioned was the need for scientific study on the recovery of the dead fish.

- USACE Update on ANS Dispersal Barrier  
*Chuck Shea, U.S. Army Corps of Engineers*

Shea gave an update on activities of the U.S. Army Corps of Engineers related to Asian carp and the AIS dispersal barrier system in the Chicago Sanitary and Ship Canal. Shea first noted that the parts of the barrier system, barrier I and barrier IIA, are both in continuous operation, with the notable exception of the recent maintenance shutdown of IIA. He said the operating parameters of barrier IIA were increased in August (2009) and there is ongoing research to determine what the optimal operating parameters are (e.g. strength and frequency of electrical pulse). Shea also noted that the reason the operational parameters of barrier I were not increased was because that equipment does not have the necessary capacity. The reason for the ongoing investigation of the operating parameters is a concern with deterring

smaller sized fish. He explained that although some amount of concern is justified regarding the maintenance shut downs, these shutdowns are required because of the sophistication of the equipment, requiring lubrication to minimize vibration which could cause short circuiting. In addition, there is concern over potential incremental movement of fish between the barriers as they are each shut down for maintenance. The increased operating parameters (i.e. voltage) also put more stress on the equipment, increasing the need for regular maintenance. Shea said that overall the barriers seem to be in good shape and no major problems have been identified. The Corps is still determining when the next maintenance shutdown will be needed; the agency is hoping to extend the schedule to every 8 months (as opposed to the originally recommended 6 months). Regarding barrier IIB, preliminary work has been completed, although the final design work is still ongoing. The Corps hopes to have barrier IIB ready to operate in October 2010, to be followed by safety testing.

In addition the dispersal barrier system, the Corps has the authority to conduct an efficacy study looking what could go wrong around the system that would cause the fish to bypass the barriers. For example, the adjacent Des Plaines River could flow into the Chicago Sanitary and Ship Canal as a result of flood events. In addition, significant flooding of the Illinois and Michigan Canal could also provide a means for bypassing the barrier. In the recently passed Energy and Water appropriations bill for FY 2009, the Corps received additional emergency authority, providing a one year window, to take interim actions to prevent these bypasses while the agency continues to work on the efficacy study. The Corps released an interim report in November (2009) outlining temporary solutions to these problems. After the public comment period, the final report will be provided to the Assistant Secretary of the Army in January and construction of those temporary solutions will begin soon after. Lastly, the Corps has authorization to conduct a larger feasibility study to prevent the overall transfer of AIS between the Great Lakes and Mississippi River basins. These types of studies typically take three to five years, but the Corps is actively looking on how to compress this schedule. Shea indicated the agency might release an interim report focused on just the Chicago area and Asian carp, followed by future reports on other connections and species.

#### **Committee Reports by Committee Chairs**

- Information/Education Committee  
*Rochelle Sturtevant, NOAA Great Lakes Environmental Research Laboratory*

Sturtevant provided a report on the discussion of the Information/Education Committee. The committee is working on distribution of the *Great Lakes Aquatic Invasions* booklet based on the results of a survey that Panel members were asked to fill out after the last meeting. In addition, the committee will be distributing the priorities document of the Research Coordination and Information/Education committees to funding entities, prior to the next meeting. The committee also discussed the GLP wiki, which is currently being used as a forum to provide Panel member updates prior to each meeting and to house the committee priorities documents. The committee would like to look at further developing the wiki as an evaluative tool after the spring 2010 meeting. For example, Sturtevant suggested synthesizing the information provided through the Panel member updates to get a picture of progress being made in relation to committee priorities. The committee discussed the ANSTF Experts Database and ways of encouraging its use when conducting rapid response activities. Lastly, the committee worked on the previously approved document providing guidelines for recreational users on reducing AIS. The Panel was asked to vote to endorse the guidelines after the last meeting, but a quorum was not met for the vote. Providing additional background, Doug Jensen (Minnesota Sea Grant) discussed the genesis of the document and changes that had been made since it was first developed. It was decided that the committee would make additional modifications to the document and then present to the Panel for additional discussion and another vote.

- Research Coordination Committee  
*Lindsay Chadderton, The Nature Conservancy*

Chadderton reported out on the work of the Research Coordination Committee. This included updates to the committee priorities document and work on a statement on professional responsibility. Chadderton described the rationale for the professional responsibility statement, specifically focused on encouraging researchers and other scientists to report new discoveries of AIS as soon as possible. In regards to disseminating the statement once it is approved, the committee thought it should be transmitted to the ANSTF, posted on the GLP website and submitted to key funding entities and other research groups. The committee would also like to see agencies providing a link to the statement on their website. It was noted that the statement is not a "legal document," but a position statement that reflects the opinion of the

Panel, and therefore has no legal authority behind it. It was agreed that following the Panel meeting, the statement would be circulated for review by Panel members with additional input to be incorporated. Next, Chadderton reviewed the proposed amendments to the committee priorities document, specifically related to research needs for maritime commerce and ballast water. The recommended changes directly reflect the outcomes of the ballast water group that met in September (2009). The amendments were accepted as relatively minor additions to an already approved priorities document.

- Policy Coordination Committee  
*Mike Murray, National Wildlife Federation*

Murray provided the report out from the discussion of the Policy Coordination Committee. The committee discussed the appropriateness of the committee name, based on its mission and the legislation that originally authorized the Panel. It was thought that although the committee does not write policy or rules, it is responsible for making recommendations to the ANSTF, along with other activities. It was noted that if the ANSTF was concerned with the name of the Policy Coordination Committee, a formal communication would be necessary. The committee also conducts important work that is consistent with the broader Panel mandate. It was decided that the committee would look into this issue and the function of the committee further. In addition, the committee will be reviewing and finalizing the work plan; developing a committee priorities document; and working on a recommendation regarding organisms in trade and screening policy to reduce the risk of AIS associated with organisms in trade.

### **Panel Business**

*Jim Grazio, GLP Chair*

The Panel approved both the ballast water position statement and the remote participation amendment to the Panel's operational guidance document. In regards to the next meeting of the Panel, a timeframe of April was suggested. In addition, Panel officer elections will occur prior to the spring meeting. Finally it was decided that the action and decision items from the meeting would be sent out after the meeting.

### **Emerging Issues and Additional Discussion**

*Moderator: Kathe Glassner-Shwayder*

Glassner-Shwayder presented a couple topics to the Panel: one was on a new technology to manage invasive mussels and the other was on a project related to monitoring for harmful microbial organisms. It was suggested that those working on the new mussel control technology would be invited to present at the spring Panel meeting as part of a session on innovative control technology. Several other technologies were suggested as topics as well, including the development of "bio bullets" and U.S. Geological Research on biological control technologies.

A brief update was given on agency activities of NOAA: NOAA ecologists have been monitoring Lake Michigan and have observed that quagga mussel expansion has resulted in the absence of spring diatom bloom. It was noted that there are now more quagga than zebra mussels and that the quagga mussels have a greater capacity to filter water than zebra mussels, as well as having no depth limits.

It was suggested that it might be appropriate for the Panel to start looking at the connection between AIS and climate change, which will be a priority identified in the Policy Coordination Committee's priorities document. Finally, some upcoming conferences were announced included the 17<sup>th</sup> International Conference on Aquatic Invasive Species, scheduled for August 29-September 2, 2010 in San Diego, CA; as well as a Minnesota Sea Grant sponsored International Symposium on Genetic Biocontrol of Invasive Fish, scheduled for June 21-24, 2010 in Minneapolis, MN.

### **Public Comment**

A couple members of the public participated in the meeting. Those that were interested submitted written comments that will be made available by the Panel staff following the meeting. The comments are available on the Panel Wiki at: <http://wiki.glin.net/pages/viewpageattachments.action?pageId=18743723>.