

# Great Lakes Panel Meeting Summary

December 13-14, 2006

Ann Arbor, Mich.

**Final Draft: April 27, 2007**

*For a complete list of Action Items from this meeting, please refer to Appendix A.*

Wednesday, December 13, 2006

## **Call to Order**

Kathe Glassner-Shwayder, *Great Lakes Commission*

Mike Conlin, *Panel Chair, Illinois Department of Natural Resources*

## **Welcome/Opening Remarks**

Tim Eder, *Executive Director, Great Lakes Commission*

Mike Conlin, *Panel Chair, Illinois Department of Natural Resources*

## **Introduction**

During the introductory session of the Panel meeting, roll was called and the agenda was reviewed and approved (see *Appendix B for list of attendees*). Minutes from the May 2006 meeting were approved, with amendments submitted by Jennifer Nalbone, Great Lakes United, and Doug Jensen, University of Minnesota Sea Grant.

## **Great Lakes Panel Updates**

### **Report on Panel Activities**

Kathe Glassner-Shwayder, *Great Lakes Commission*

Shwayder provided an update on Panel activities which included:

- introducing new Panel and Commission staff members;
- presenting the Panel Annual Report which will be integrated into the Task Force report;
- Information and Education committee work on the *Great Lakes Aquatic Invasions* publication;
- Research Coordination committee work on a priorities document and priority species list;
- Policy Coordination committee work on a mission statement and operating guidelines;
- progress on the Operational Guidance document;
- national ANS Task Force meetings;
- progress on action items from the May 2006 Panel meeting;
- Commission submitted comments to the USFWS to list Asian carp under the Lacey Act; and
- Announcement of the next Panel meeting May 7-10, 2007 at the Tom Ridge Center in Erie, Penn.

### **Featured At-Large Member**

John Anderson, *The Nature Conservancy*

Anderson provided two handouts on the work of The Nature Conservancy (TNC) on invasive species which includes assessing threats and developing strategies to address those threats. He expressed several TNC priorities including funding for the dispersal barrier on the Chicago Sanitary and Ship Canal; recreational activities and the transfer of aquatic plants; and state management plans for invasive species. He explained a new relationship between TNC and the University of Notre Dame to engage in work on place-based strategies and David Lodge's research on new genetic technologies to detect AIS in ballast water. He highlighted another project that is underway regarding recreational boating and testing prevention strategies (e.g., boat and equipment washing) as well as determining the ecological and economic impacts of recreational patterns. Anderson described some work the TNC is also doing on policy and answered several questions from the Panel.

## **Federal and Regional Program Activities on Early Detection & Monitoring**

Moderator: Mike Conlin, *Panel Chair, Illinois Department of Natural Resources*

### **National Framework for Early Detection & Monitoring**

Annie Simpson, *U.S. Geological Survey*

Simpson provided a description of an ongoing, inter-agency project to develop a national framework for early detection, rapid assessment and rapid response (EDRR). Their goal is to identify and portray existing EDRR efforts and gaps in coverage (geographic, taxonomic, and thematic) in an online format that will present the results of a needs assessment survey and provide access to existing information. She emphasized that it was important to determine the gaps for future funding priorities, to avoid duplication of effort, and to enable more effective rapid response to new invasions. The project team developed a needs assessment survey and she described the results of the needs assessment survey, including a 35% response rate representing five federal agencies. She indicated that the results were detailed on the website "National Framework for Early Detection, Rapid Assessment, and Rapid Response to Invasive Species" (<http://edrr.nbj.gov>). She also explained some of the conclusions they had reached as a result of the survey, as follows:

- Differing EDRR perspectives and interpretations
- Increasing incorporation and representation of EDRR model into activities and websites
- People are important to the process – the website will not do EDRR for us
- Decision trees are needed to outline the process of response and direct people to resources

Simpson emphasized that organizations can enter the EDRR process at any time and as a result, it is necessary to define decision trees outlining a step-by-step process for response and the importance of engaging people to carry this process forward.

### **Aquatic Nuisance Species Task Force Expert Database**

Rochelle Sturtevant, *Sea Grant Extension-Great Lakes Environmental Research Lab*

Sturtevant introduced a new invasive species resource to the Panel: the ANS Task Force Experts Database. She explained that the database, <http://www.anstaskforce.gov/experts>, is a resource designed to direct users to invasive species experts in the following areas: taxonomic expertise; control; ecology; pathways; and physiology.

She said that the database is currently "empty" and not linked to any other websites. Therefore, her charge to the Panel was to gather information on regional experts to go into the database. Sturtevant explained the two-tiered system of the database in which tier one experts are accessible to anyone and tier two experts are accessible only by a password which will be given only to experts in the database. The idea behind this arrangement is that tier one experts are willing to answer questions from the general public and have access to the tier two experts, in the case that they can not adequately respond to an inquiry. Once experts have been divided in the database by tier, they will then be divided by discipline, and finally by taxonomic group. Conducting data entry and editing the information in the database is a third tier of "gate-keepers." Sturtevant emphasized that the Task Force was looking to the Panels for help in populating the database as well as for one or two people from each Panel to help manage the system.

- **Action Item:** Great Lakes Panel members, as appropriate, should formally play a role populating the ANSTF Expert Data Base.

## **Federal and Regional Program Activities for Rapid Response Planning**

Moderator: Mike Conlin, *Panel Chair, Illinois Department of Natural Resources*

### **Incident Command System as a Framework for ANS Response**

Lt. Regan Bloomshield, *U.S. Coast Guard, District 9*

Bloomshield's presentation provided an overview of the Incident Command System (ICS) as a potential tool for rapid response to new aquatic invasions. She explained that ICS has been in use at the federal level since the 1970s and could be used for any type of event, planned or unplanned (e.g., fire fighting, oil

spills). She listed the features of ICS, including: unity of command to solve a problem; management by objectives; scalable organization; span-of-control; and common technology. **Bloomshield cited the benefits of a unified command under ICS, explaining that all agencies involved are able to work together towards a common goal so that there is no overlap, there are no gaps, and no one's authority is compromised because ICS represents both jurisdictional and functional authority.** She explained ICS organization and detailed the pre-incident planning and exercises necessary to run ICS effectively. Bloomshield gave a detailed description of ICS in practice using the 2004 Delaware River oil spill as an example, noting that the port involved in the incident was able to re-open more quickly due to the effectiveness of ICS in that situation. Bloomshield highlighted that ICS is a system in which everyone involved can have the same qualification (i.e., has had the same training) and that those interested in ICS certification could complete training online. ICS works best when a group is aware of network and associated resources such as scenarios involving integration of a diverse ecosystem management. She mentioned that there is a need for more training on the ICS system and that training is important because how you practice a response reflects how it will be executed when an incident occurs.

Comments and questions from Panel members highlighted the importance of case studies to learning the process and adapting it to future situations, as well as the value and ability of the ICS to bring entities together to build relationships and identify resources prior to an incident occurring.

### **GLRC Interagency Task Force: Rapid Response Planning in the Great Lakes Region**

James Schardt, U.S. EPA, Great Lakes National Program Office

Schardt first provided a brief background on the 2004 Executive Order which prompted the Great Lakes Regional Collaboration (GLRC) and the formation of a Regional Working Group (RWG) and the Great Lakes Interagency Task Force (GLITF) at the federal level. The resulting strategy was published in December 2005 highlighting eight focus areas, including invasive species. **Schardt explained some of the components of the AIS strategy recommendations included establishing rapid response capabilities through creating a revolving fund for rapid response actions and creating a federal rapid response team responsible for federal lands and others with state, tribal and local cooperation.** After the release of the strategy, the EPA claimed responsibility for an invasive species rapid response document that would serve "as a tool for states and local natural resource managers preparing Aquatic Invasive Species rapid response and management plans". In addition to this and several other efforts by various federal agencies, **the federal GLITF committed to exploring the creation of a Rapid Response Subcommittee under the Regional Working Group, "to serve as a central point of contact for information and activities related to invasive species rapid response efforts."** Schardt affirmed that this subcommittee has since been established and is working to develop "Points of Contact" within each Federal Agency to coordinate rapid response efforts. He concluded his presentation asking for guidance from the Panel on next steps for the GLITF and the GLRC to streamline rapid response planning. Schardt expressed the need to integrate federal agency representatives (as point of contacts) into a broader rapid response operation to include the following issues, among others:

- coordination protocols;
- state analysis of authority;
- permitting bottlenecks;
- Great Lakes Watch List;
- mock rapid response exercise;
- NEPA review: categorical exclusions, programmatic exclusions;
- working through state level authority for chemical application; and
- other stream lining necessary to respond to new invasions rapidly.

**Panel member comments included interest in efforts toward securing a categorical exclusion under NEPA (National Environmental Policy Act) to remove permitting obstacles that could delay implementation of a rapid response plan; the progress of developing a revolving fund for rapid response; and the involvement of states and tribes in rapid response planning.**

**Panel Member Updates** (please see Appendix C)

### **Viral Hemorrhagic Septicemia (VHS) in the Great Lakes**

Rochelle Sturtevant, *Sea Grant Extension-Great Lakes Environmental Research Lab*

Sturtevant's presentation was a brief overview of the emerging issue of viral hemorrhagic septicemia's (VHS) current and potential impacts in the Great Lakes. She explained the symptoms of VHS, including chronic hemorrhaging and varying, but normally high rates of mortality. She outlined the areas in which VHS has been detected in various fish species, including Lake Ontario, Lake Erie, Lake St. Clair, Lake Huron and the St. Lawrence River as well as Conesus Lake in NY. She said that it had not yet reached Lakes Michigan or Superior. She explained that there are four recognized strains of VHS: European, Japanese, N. American and Korean, but that the VHS found in the Great Lakes is a distinct mutation of the N. American strain. The current hypothesis, she said, was that it originated in the north Atlantic and was carried via ballast water into the East coast and the Great Lakes, mutating only recently. Regarding VHS management efforts, Sturtevant said that the Great Lakes Fish Health Committee (GLFHC) convened a special session to exchange information about VHS and formulate recommendations to minimize the spread of VHS in the Great Lakes. The GLFHC recommendations, however, were preempted by a U.S. Department of Agriculture – Animal and Plant Health Inspection Service (APHIS) federal order prohibiting all interstate movement of VHS susceptible fish. APHIS later amended the rule for certain exemptions: movement to slaughter or testing facilities and transit through a state.

### **Project Tools for Early Detection & Monitoring and Rapid Response Planning**

Moderator: James Schardt, *U.S. EPA Great Lakes National Program Office*

#### **AIS Early Detection & Monitoring: A Pilot Project for the Lake Michigan Basin**

John Hummer, *Great Lakes Commission*

Hummer presented on an early detection & monitoring (EDM) project, funded by the Great Lakes National Program Office of the EPA, which began in the fall of 2004. Project staff includes John Hummer, representing the Lake Michigan Monitoring Coordination Council (LMMCC), and Kathe Glassner-Shwayder, representation the Great Lakes Commission, with contributions from Kevin Walters, Sarah Whitney, Ric Lawson and others. Hummer first gave a brief background on the LMMCC which was formed in 1999 as a regional forum to coordinate and support consistent and credible monitoring methods and strategies. The goal of this particular project, he said, was develop a set of guidelines and recommendations for a coordinated system to detect and monitor new invasions of aquatic invasive species in the Lake Michigan basin. The primary tool used in the project was a survey to evaluate the degree of monitoring for AIS currently being conducted in the Lake Michigan basin and determine the potential for existing monitoring programs to detect, report, and monitor AIS invasions. The survey was targeted towards programs thought to have AIS detection and monitoring capabilities. Of the 127 recipients, 46 surveys were returned, yielding a response rate of 36%. He explained that coupled with outcomes of an EDM workshop and literature review, the data obtained from the survey responses provided a basis from which a set of recommendations were developed. Hummer then reviewed these recommendations which are available online at [http://www.glc.org/ans/pdf/LakeMI-EDM\\_final-Dec06.pdf](http://www.glc.org/ans/pdf/LakeMI-EDM_final-Dec06.pdf). Finally, he outlined the other outcomes of the project, including increased regional awareness, cooperation, and collaboration of efforts, and a foundation for moving coordinated AIS detection and monitoring efforts forward.

Questions and comments from Panel members concerned identifying the lag time between taking a sample and analyzing a sample; the need for archiving samples to provide baseline data; noting that about 20% of the monitoring programs surveyed had active AIS programs; potential interest of the ANS Task Force in this project; the need to establish a reporting system; and the need to increase and direct more resources for dedicated monitoring for specific aquatic invasive species.

#### **Environmental Protection Agency-Office of Research and Development: Great Lakes Invasive Species Initiative: Monitoring and Modeling**

Jack Kelly and Russell Kreis, *USEPA-Office of Research and Development*

Kelly and Kreis gave a multi-part presentation on an EPA Office of Research and Development (ORD) invasive species initiative. The initiative involves three groups within EPA-ORD: the National Center for

Environmental Assessment (NCEA) in Washington, D.C.; the National Health and Environmental Effects Research Laboratory (NHEERL) in Duluth, MN and Grosse Ile, MI; and the National Exposure Research Laboratory (NERL) in Cincinnati, OH. Kreis explained the three objectives of the initiative: forecast and prioritize invasive species; develop monitoring protocols; and predict potential ecosystem effects of existing and potential invasive species in the Great Lakes. He explained the conceptual framework and methods being used in the initiative, such as sampling, monitoring in high risk areas, and DNA typing; as well as the ecosystem effects model they are using. ***Kreis outlined the expected outcomes, which is the development of a tiered, interactive screening tool for prioritization of potentially invasive species that includes:***

- Determination of species that are likely to become established and spread;
- Monitoring protocols for invasive invertebrates and vertebrates;
- Application of DNA identification methods; and
- Prediction of ecosystem impacts on large lakes by the most probable and/or harmful invasive species.

To identify potential aquatic invasive species in the Great Lakes, Kreis described the “GARP”, a Genetic Algorithm for Rule-set Predictions, which is the first application of this type of modeling to the Great Lakes. It combines various eco-type characteristics and tools as well as GIS visualization. He explained that it is also an intelligent design or “Expert” system that learns. Example model inputs he provided were environmental variables such as temperature, chlorophyll a, and productivity; example model outputs included suitability predictions for various species to establish in the Great Lakes. Kreis also gave some examples of products from this work including maps, datasets, references, and requests for additional work. The final report will be released in 2007.

Kelly then presented on early detection monitoring (EDM) research on model approaches. He explained the EDM model approach objective to develop a model approach for vulnerable embayment's using a field case study on the Duluth-Superior Harbor / St. Louis River, chosen for its role as a “hot-spot” for invasions. They explored three components: sampling; taxonomic and sample sorting methods; and GIS spatial information on variables such as vectors, habitat and species distribution expectations. The end goals were to:

- identify the efficiency/economy/feasibility of the approach;
- the ability to offer a menu of resource- dependent options; and
- development of communication lines.

***Kelly presented a “spectrum of invasiveness”; from “no threat of invasion” to “irreparable harm” and explained that detection falls some place in the middle of the spectrum when a species has been introduced but is not producing a sustaining population.*** He explained the inefficiencies in current methods of detection and that their project was attempting to increase the efficiency of approaches and strategies to detecting potentially invasive species. Kelly described their methodology and the progress made to date on the project, which has yielded new information on the Asiatic clam, the New Zealand mud snail and the Quagga mussel. He indicated that they are still collecting their results and working towards analysis, which will hopefully bring them to the end goals he previously described.

To conclude their presentation, Kreis described and gave a progress report on their “Development of an Ecosystem Model for Investigation of Ecological Impacts of Aquatic Invasive Species in Lake Michigan” project. The overall objectives of the project are to:

- Incorporate invasive species and vulnerable species into the Lake Michigan Eutrophication / Productivity Model
- Calibrate the model and forecast the effects of existing invasive species
- Simulate and forecast the possible effects of potential invasive species on the lower food web versus the relative effects of nutrient loads, temperature, and other factors

He explained the conceptual overview of the model as the relative effects and forecasting of phosphorus loading and invasive species on Lake Michigan. He said that to date, they had done most of the work on zooplankton and showed some of the model results. Kreis described their current conclusions and future

directions of the project, which included forecast trends associated with the invasive species *Bythotrephes longimanus* using a projection of the 1994/1995 time period. He said they would like to incorporate several species in the model to predict what might happen.

Questions and comments from the Panel members clarified that two species found only once in the EDM research, but suspected to be widespread in the harbor, exemplify the reason for the research and that they may come up with more using different strategies. In addition, that using a Lake Michigan dataset for the models described is an excellent choice due to the availability of a wide variety of background data not available for other lakes; and that interactions between species occur in the GARP model, but they are not certain how explicit this is, although it is one of the algorithms in the model.

### **Model Rapid Response Plan for Great Lakes Aquatic Invasions**

Kathe Glassner-Shwayder, *Great Lakes Commission*

Shwayder gave a presentation describing a model rapid response plan that was developed to enhance capacity to anticipate, prevent and respond to new ANS invasions in the Great Lakes-St. Lawrence region and capitalize on the window of opportunity to stop the establishment of new harmful species shortly after introduction, when control/eradication is feasible. She acknowledged additional staff that worked on the project including, Kevin Walters, Sarah Whitney, Carol Swinehart, and Roger Eberhardt. Shwayder encouraged participants to continue raising awareness of the costs associated with AIS and helping the public to understand the sacrifices (e.g. chemical treatment) and necessary trade-offs to preventing a larger invasion. She outlined the components of a rapid response plan including the organizational structure and communication needed for a functional plan. Other important components Shwayder described included outreach; early detection and monitoring; decision support and rapid scientific assessment; management options for eradication/control; implementation; adaptive management; funding; and a species-specific case study. Shwayder emphasized that a species-specific case study is necessary to test the functionality of the model rapid response in the capacity to respond to an invasion. As an example of a species-specific case study, she highlighted Michigan's effort to develop a rapid response plan for the plant hydrilla, which was based on the model rapid response plan described in her presentation.

Questions and comments from the Panel members included the need to identify and track how rapid "rapid" responses actually are; the importance of identifying the tools available for response (e.g. chemicals, harvesting); the need to work harder at public awareness and acceptance; and funding, political will, and technical feasibility as obstacles. For further details on the rapid response project and the fully developed plan, *Model Rapid Response for Great Lakes Aquatic Invasions* (December 2006), refer to the project website: <http://glc.org/ans/initiatives.html#rapid>.

### **Hydrilla Case Study for AIS Rapid Response in Michigan**

Roger Eberhardt, *Michigan Department of Environmental Quality Office of the Great Lakes*

Eberhardt presented on the hydrilla rapid response plan he helped to develop for Michigan. He first described the characteristics of hydrilla that make it a "perfect" invader given the high reproductive capacity of this invasive aquatic plant. He said that Michigan has been concerned about hydrilla as a potential invader for several years as it has been found as far north as the state of Maine and many southern states have spent millions of dollars a year trying to manage the plant. Eberhardt explained that a Hydrilla Task Force was created with two committees working on outreach and rapid response. The Outreach committee was responsible for implementation of an early detection program and produced extraordinarily useful materials (e.g., Hydrilla Hunt cards) while the Rapid Response committee worked on producing a draft document for rapid response planning. There was a number of awareness activities conducted, including publications, events, presentations, mailings, news releases, websites, posters etc. The hydrilla rapid response plan was developed to operational the eight components of the model rapid response plan discussed by Kathe Glassner-Shwayder. Eberhardt indicated that throughout the process, the team learned about agency communications and utilizing communication networks that were already in place. In terms of outreach, he said they learned the cost of long term management is always greater than a "quick" eradication. Eberhardt noted that rapid response decisions are based on biological information as well as socioeconomic analysis. Other needs identified during the process Eberhardt

described included the importance of monitoring programs and training for identification; good information for managers; specific control measures based on species characteristics; identifying legal authorities required for a rapid response action (e.g., quarantine authority on bottom lands which is considered riparian private property); an evaluation component to facilitate adaptive management; and identifying funding for a rapid response action. He emphasized the funding issue as important because there is a current lack of funding available to implement a rapid response and this will need to be resolved in order to finalize a rapid response plan, suggesting a standing fund to be matched by federal funding. Eberhardt outlined the next steps for Michigan in this process such as establishing the funding mechanism and plan review and approval by Michigan's ANS Council.

### **Rapid Response Planning for Hydrilla**

Doug Keller, *Indiana Department of Natural Resources*

Keller's presentation described Indiana's rapid response to the discovery of hydrilla in an inland Indiana lake. He first briefly discussed the initial discovery of hydrilla by a fishery biologist in a north-central Indiana lake, Lake Manitou. Hydrilla was found in approximately 50 acres of the 100 acre lake, which is surrounded by 400 acres of wetlands. Keller indicated there was some initial confusion about whether the plant was elodea which was already known to be present in the lake, or whether it was in fact hydrilla. He said that based on the distribution of the plant (it has almost created a monoculture in certain areas) it is estimated the hydrilla has been present in the lake for at least two years. He then discussed the rapid response actions that have taken place so far and those planned for the future. Keller said first, there were quickly organized boat inspection for weed removals, as well as related media coverage and information postings around the lake encouraging boaters to remove plants from their boats and equipment, all within four days of confirming the presence of hydrilla. Other activities followed, including

- intensive surveys;
- Komeen (chemical) treatment on 20 acres of the most heavily infested area to prevent fragmentation and tuber production;
- surveying of lakes with public access within a half hour driving distance;
- public meeting describing the situation and resulting access restrictions;
- restricting use of all access points;
- closing of all ramps in early fall; and
- development of compliance agreements to avoid resistance from those needing to use the lake.

Keller said the weed treatment (herbicide) needed to eradicate/control the hydrilla infestation will cost \$0.5 million per year for three consecutive years before they can decrease treatment; however, it will take at least five or six years to eradicate the plant. Keller explained that the funding is not only for treatments, but for sampling the lake and surrounding lakes, as well as developing outreach materials. He further explained the funding issues related to hydrilla eradication and control which are a significant concern for the state and still needs to be resolved. Keller mentioned that a funding request was made to APHIS, which regulates the plant as a federal noxious weed, based on the rationale that hydrilla containment/eradication was critical to keeping hydrilla out of the Midwest.

Questions and comments from Panel members established that Indiana's goal for hydrilla is eradication (not control) and that they would be working on an education outreach campaign in the coming year using materials like Michigan's Hydrilla Hung and the *Stop Aquatic Hitchhikers!*<sup>TM</sup> campaign; emphasized the need to clarify that rapid response is meant for eradication and not control; and highlighted that Indiana feed new stories to the media which helped to get information out to the public.

### **Concurrent Break-Out Sessions of Panel Committees**

Discussion focused on Early Detection & Monitoring (EDM) and Rapid Response (RR) Planning. The following discussion questions were addressed during this session:

*How to apply what we know on rapid response and where we want to go in the Great Lakes region?*

1) *What elements of a Great Lakes rapid response protocol should be a priority for taking action given limited resource and the urgency for the Great Lakes region to be prepared for future aquatic invasions?*

2) a) *What significant challenges need to be addressed to advance rapid response planning?*

b) *What specific obstacles need to be overcome to ensure collaboration and promote action?*

3) *Would there be value in developing an MOU between jurisdictions to serve as a regional foundation for a rapid response protocol?*

- *If yes, which entities and parties?*
- *What guiding principles should be included in an MOU?*
- *How can agencies be encouraged to participate in a rapid response MOU?*

4) *What types of tools are needed to implement rapid response and how can these tools be packaged for regional application (examples include watch list, expert list, coordination protocol)?*

Committees reported to the full Panel on discussion outcomes during a Thursday morning session.

Thursday, December 14, 2006

### **Welcome and Agenda Review**

Tom Crane, *Senior Program Manager, Great Lakes Commission*

### **Great Lakes Panel Operational Guidance Document**

Tom Crane, *Senior Program Manager, Great Lakes Commission*

Crane began by reminding the participants that the Operational Guidance Document has been under development and revision for the last couple of years. He explained that comments from the 2006 Spring Panel meeting had been incorporated into the document, as well as comments from a review and discussion conference call in October 2006 with the Executive Committee. Approval of the document had been planned for the meeting; however, Crane explained that the comment period had been extended until January 15, 2007 as a result of some recent discussions of the Policy Coordination Committee which proposed amendments that require further attention from Panel members. Crane proposed that at the end of the comment period, the Executive Committee and Panel staff would incorporate comments and finalize the document. He then highlighted the major revisions and work from the last comment period. This included significant discussion on the process for adding new members to the Panel, an introduction and description of the role of the nominating committee, clarification of meeting conduct and decision-making, and revisions to the process of communication with the national ANS Task Force. The more significant revisions made to this draft of the operational guidance include:

- Regular membership will be maintained as consistent with original legislation with additional membership requests to be handled through the mechanism provided by At-Large membership
- A nominating committee was integrated as part of the process to elect Panel officers, committee chairs and at-large members
- Clarification that the Panel will strive for consensus in decision-making as based on the intent of the original legislation (NANPCA) and Robert's Rules of Order will be used as the guiding principles for meeting conduct and simple decision-making
- Discussion in the process of dispute resolution will be extended at the discretion of the Chair
- Quorum for the full Panel will be 15 members, with at least 5 members representing state/provincial government
- Process of communication with the ANS Task Force will be influenced by FACA requirements, but was reworked to provide greater freedom on how the Panel communicates information and stresses the legislative mandate for this communication

Following Crane's description of the revisions, there were questions and discussion regarding the guidance document. During the discussion, it was determined unlikely that the quorum requirement to conduct Panel business would limit the ability of Committees to do work (committees generally have less than 15 members), but that it would be necessary to investigate and verify the definition of "official business" and how committee's complete their work under Robert's Rules of Order.

In addition to these revisions, the Policy Coordination Committee proposed further changes to the making recommendations to the national ANS Task Force section as developed in their draft operating guidelines. The committee proposed that recommendations to the ANS Task Force regarding policy would be transmitted formally to the ANS Task Force Co-chairs as well as being CC-ed to a standing list of other important decision-makers. This new strategy for communication would also allow certain Panel members the ability to recuse themselves from a recommendation as necessary and would be noted on the official communication. There were suggested amendments to the process for communicating policy recommendations, as follows:

- do not limit Panel members ability to recuse themselves to only Federal agency representatives;
- develop a process that incorporates a 30-day period for Panel members to determine their organization's position on and an issue before voting on a related recommendation, but make an exception for time-sensitive issues;
- use a minimalist approach to providing detail in the guidance, as it can be amended in the future;
- communication to the Task Force that is educational in nature would allow Congress to be added to the CC list; however, something that is obviously policy related, should be communicated individually by Panel members to their respective agencies and not directly to Congress;
- Committee Chairs have the ability to vote as long as they are not "interested parties"; and
- Panel Operational Guidance will provide for an Appendix containing operational guidance for each of the standing committees, allowing them to be developed after the main document is finalized.

Crane went over next steps regarding the Operational Guidance Document. He recommended that the first step be to finalize the morning's comments with the Executive Committee and asked that the broader Panel trust the Executive Committee and the Panel staff to accurately reflect in the document what has come out of the discussion and any further comments gathered during the final comment period. If the Panel agreed, the Executive Committee will meet via conference call to finalize the document by January 31, 2007. Crane reminded Panel members that the document could be amended in the future and that it was important to finalize the document as soon as possible. A motion was made and seconded to accept the proposed procedure for finalizing the Operation Guidance Document.

**Publication Announcement: *Overview of EPA Authorities for Natural Resource Managers Developing AIS Rapid Response Management Plans***

Marilyn Katz, *U.S. EPA Office of Wetlands, Oceans and Watersheds Coastal Management*

Katz introduced a newly published U.S. Environmental Protection Agency (EPA) report regarding EPA authorities that impact rapid response planning. Katz explained that the document provided information only on EPA authorities and did not include the National Environmental Protection Act (NEPA) review which is required of all federal agencies. It was decided NEPA should be left out of the document only after careful consideration by agency and legal staff.. Participants were informed that they could order additional hard copies of the document from an EPA central repository in Cincinnati, OH. Katz indicated that the ANSTF is moving ahead to focus on rapid response and is discussing the possibility of having other federal agencies examine their own regulations related to rapid response planning as a special effort and using the EPA document as a model for documents produced by other agencies.

**Concurrent Break-Out Sessions of Panel Committees**

*Committee business*

## VHS Discussion (cont'd)

At this point in the meeting, the VHS discussion which had began the previous day was continued. A Panel member highlighted a published report that had been cited during Sturtevant's presentation and in her handouts which is the only published literature on the pathogen. It was also further explained how the National Aquaculture Association had petitioned APHIS to look at the VHS issue a couple years ago to avoid their current situation of being implicated in the press as a potential source of VHS, even though the pathogen has not been found within the industry. It was advocated that there needs to be further research to identify sources of VHS.

There were concerns regarding the list of recommendations to manage VHS which was another handout of Sturtevant's. It was clarified that the Great Lakes Fish Health Committee (GLFHC), made up of state and provincial representation, had developed the recommendations prior to APHIS action on the issue. The recommendations document was the product of a discussion about the issue, including some ideas regarding the role of agencies serving on the GLFHC in addressing VHS issues, and represented a consensus among the members of the Committee that was likely reported to the Council of Lake Committees. The recommendations involved several agencies, but no one could say whether they had been communicated to those agencies. As a result, it was suggested that the VHS issue could be a test case for the ICS protocol that had been presented on the previous day. The protocol calls for interagency communication and collaboration and could be an avenue through which properly researched and vetted recommendations could reach the pertinent agencies.

The GLFHC recommendations had identified ballast water as a potential vector for VHS and the participants further discussed the plausibility of this. While APHIS has indicated that ballast water is a potential vector and has the authority to regulate interstate transport because VHS is a reportable disease, it was unclear among the participants whether VHS is likely to be taken up by ballast ships. It was pointed out that there is no unequivocal evidence that ballast water is how VHS arrived in the Great Lakes and that the state of Michigan has gone on record for not supporting a ban on ships from outside the Great Lakes into the lakes. The current lack of information and a need for further research regarding the pathogen was emphasized by participants. Hope was voiced for a chance to amend the APHIS rule in the future as a result of further research. It was indicated that there are several questions regarding VHS that have not been answered because the disease was previously not looked for in the lakes, including how ubiquitous and widespread it is. ***A participant pointed out that there was and still remains a widespread dissatisfaction among partner agencies in the basin on how the VHS issue was handled and that agencies would have benefited much more if the proper consultation had been done prior to issuing the rule. It was recommended that the Panel attempt to engage someone APHIS and the GLFHC in an upcoming meeting.***

## Committee Reports

### Information and Education Committee

Chair: Rochelle Sturtevant. *Sea Grant Extension, NOAA-GLERL*

Sturtevant reported out on the Information and Education (I/E) Committee rapid response discussions, including the following:

- Building public support for communication and actions related to rapid response;
- Pre-invasion education of the public which is important to rapid response and early detection efforts (examples included Michigan's efforts for hydrilla, and the failure in the VHS situation);
- Contingency funding set up through federal legislation as a possibility for funding rapid response;
- ICS as important to relationship and communication building, a high priority for rapid response;
- Getting rapid response into state management plans and identifying who has the final say in terms of decision making authority (state or federal) well in advance of an actual incident; and
- Memorandums of understanding as beneficial to the rapid response process.

The committee's discussions regarding their work plan for the upcoming year included:

- The expert database and proposing a Panel Ad hoc committee be formed to help with population;

- Dissemination of the *Great Lakes Aquatic Invasions* booklet and the I/E priorities document approved by the Panel will be addressed via conference call;
  - Deciding to hold off the survey of inactive membership to give the Panel time to implement the new membership strategies in the Operational Guidance document (e.g. proxy process);
  - The outreach database pre-proposal submitted by the Illinois-Indiana Sea Grant (IISG) and writing a letter establishing collaboration between the IISG and the committee on this database;
  - Working on the implementation plan and aligning it with their priorities document;
  - National campaigns *Stop Aquatic Hitchhikers!*<sup>TM</sup>, *Habitattitude*<sup>TM</sup>; and HACCP as useful resources; and
  - Adding a Panel meeting agenda item on “Emerging Issues” (e.g. VHS) for future meetings.
- **Action Item: Great Lakes Panel will establish an ad hoc committee, with state members holding a primary role, to engage Panel membership in populating the ANSTF Expert Database.**

Marcia Woodburn, a member of the Panel staff at the Great Lakes Commission, presented on the *Great Lakes Aquatic Invasions* booklet as part of the I/E committee’s report. Overall, the booklet provides a general update of AIS issues since the previous brochure which was printed in 1996. Woodburn next highlighted a number of revisions to the draft booklet that have occurred since the last Panel meeting. Next steps related to the booklet include establishing a dissemination strategy via conference call and receiving further changes/comments by email. The deadline for comments is January 2, 2007 and the staff hopes to print the booklets shortly thereafter.

It was noted that 10,000 copies of the booklet would be printed initially with project funding. A portion of the supply will be offered on a complimentary basis to Panel members and interested parties. The remaining supply of booklets will be disseminated to a target audience (e.g., state and federal legislators) to help advance AIS legislation through an educational, non-advocacy approach. This publication will be used as an educational resource, providing information on the AIS problem to the growing number of interested parties that will serve as the basis for decision making on AIS prevention and control policy.

### **Research Coordination Committee**

Chair: Phil Moy, *Wisconsin Sea Grant*

Moy first reported out on the rapid response break-out session of the previous day, which included:

- identifying funding as a primary limitation, as well as the need for detection and monitoring;
- clarifying that rapid response would not be carried out in the Great Lakes proper, but on lakes and tributaries within the Great Lakes basin;
- agreement that the ICS model presented the previous day would be useful in developing a rapid response effort and in rapid response planning as a useful exercise;
  - part of usefulness would be in determining if a rapid response is appropriate and will be effective
  - would be important to involve researchers early on in the determination process – need to start population of the ANS Task Force expert database to bring those researchers together
  - decision about appropriateness would be made based on known biology and the network of experts would be particularly useful in pulling together this information
- the need to provide disincentives and incentives, such as funding, for researchers not keep discoveries secret and let people know if they find these species during their research, respectively;
- rapid response planning should also include determining or estimating costs, recognizing limitations on tools available for rapid response actions, and recognized limitations of scope;
- options for a rapid response might include the decision not to act (e.g., to have no response); and
- challenges to rapid response planning efforts, such as NEPA and NPDES permitting and limitations regarding registered uses of chemicals
  - Federal agencies could work on these challenges to pave the way for rapid response.

Moy next went over outcomes from the committee business discussions, including:

- Priority Species List:
  - Addition of a justification column to elaborate on the reasoning behind listing, helping to expand the purpose and use of the list;
  - Proposals to add snakehead, VHS and phragmites, and to de-list purple loosestrife;
  - Consideration of adding hybrid cattails;
  - Developing criteria for listing and de-listing; and
  - Trying to reduce the number of species on the priority list from 26 to 18
  - Using the list to help in work on organisms in trade
  
- Operating guidance for the committee:
  - Core members; regular meetings at Panel meetings and via email or conference call

### **Policy Coordination Committee**

Chair: Jennifer Nalbone, *Great Lakes United*

Nalbone's report focused on work and discussion regarding the Policy Coordination Committee's operating guidelines and work plan. She disseminated draft copies of both documents to the Panel members for their approval. Once the Panel members reviewed the documents, there was clarification on several issues and friendly amendments were made to the draft committee operating guidelines. It was suggested and agreed that the draft document be cleaned up and sent out with the Operational Guidance Document for approval and endorsement. Nalbone explained and reviewed the committee's 2007 draft work plan. The policy work plan included three priority actions for the year, as follows:

- Address the federal ANS Task Force recommendation on rapid response to explore the ICS applicability to rapid response through establishment of a Panel ad hoc rapid response committee;
- Communicate a recommendation to pass comprehensive AIS legislation as it pertains to the reauthorization of NISA by the summer of 2007; and
- Communicate a recommendation to pass authorization for construction, operation and maintenance of the invasive species dispersal barrier on the Chicago Sanitary and Ship Canal within the first few days of the new Congress.

Friendly amendments were made to the proposed plan, and accepting these amendments, the Panel approved the 2007 priority work plan for the policy committee. Volunteers were taken for the new ad hoc Rapid Response committee that would be formed as a result of the committee's recommendation and volunteers or other interested members were asked to follow-up with a formal request via email to Kathe Glassner-Shwayder. It was suggested that the Panel might want to consider asking the ANSTF for additional funding for the ad hoc committee as the suggested work plan is a result of an ANSTF request.

- **Action Item: Great Lakes Panel will establish an ad hoc committee to explore the ICS applicability to rapid response at a regional and state level.**

Due to a lack of time, outcomes of the rapid response discussion other than the ad hoc Rapid Response Committee recommendation were not reported during the meeting. A summary of the Policy Coordination Committee's discussion and recommendations on rapid response is provided here, however, as follows:

- Need to identify what parties should be at the table; which parties can and should do what; and what resources are available;
- Need to develop a mechanism for accountability (e.g., polluter pays) and use it to provide resources for rapid response;
- Meet regulatory requirements now, at the state and federal level, such as obtaining a NEPA exclusion;
- Work with agencies to develop a guidance document detailing regulatory requirements at the state and federal levels;

- Make a recommendation to the ANS Task Force to establish a Great Lakes Rapid Response team (comprised of multiple federal and state agencies) to explore applicability of the U.S. Coast Guard's ICS protocol to multijurisdictional rapid response;
  - Chair should have ICS expertise
  - Unified command should be based on a state/federal partnership
  - Training should occur in process of protocol development
- The Panel should move forward with the ANS Task Force's request that the regional Panel's explore the applicability of the ICS protocol at a regional and/or state level
- Rapid response plan would be jurisdictionally driven based on several scenarios (coastal, inland lake, local, state and federal, among others);
- Combine MOU with ISC structure to create a rapid response team under the Great Lakes Panel in cooperation with the Great Lakes Regional Collaboration Executive Committee to ensure ongoing communication;
- A significant challenge that needs to be addressed is establishing political will for implementation of rapid response
  - Use outreach committee and NGO groups to cultivate political will
  - Assign a public information officers

### **Public Comment**

None.

### **Panel Business**

Kathe Glassner Shawyder, *Great Lakes Commission*

Shawyder gave a reminder on the upcoming Panel meeting scheduled for May 7-10, 2007 in Erie, Pennsylvania in conjunction with the ANS Task Force meeting and a symposium on the state management planning project as funded by NOAA's National Sea Grant Program. She also reviewed the action items identified during the meeting (*see Appendix A*).

## **APPENDIX A: Action Items**

1. The Great Lakes Panel will establish an Ad hoc Committee to populate the ANSTF Expert Database: <http://www.anstaskforce.gov/experts>
  - Communication will be initiated by staff inviting volunteers to be considered as members whereby selection of members will be made by the Panel Chair with guidance from the Executive Committee with the intent to establish balanced membership.
2. The Panel Chair will communicate with ANSTF regarding a standing CC (copy) list for communicating Panel approved recommendations in an effort to broaden the scope of communication for Panel recommendations to a targeted audience.
3. Approval of Operational Guidance Document along with endorsement of Policy Coordination Committee Guidelines will occur in January of 2007. A final draft of the document is available online at <http://glc.org/ans/panel.html#guide>. Please send any final comments to Tom Crane (tcrane@glc.org) and copy Kathe Glassner-Shwayder (shwayder@glc.org) by January 15, 2007.
4. VHS discussion will be planned for the for next Panel meeting with an effort to bring representatives from the ANS Task Force, U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS).
5. For future Panel meetings, a time slot on the agenda will be reserved for discussion of emerging AIS issues to help ensure that the meeting stays on schedule.
6. The minutes from the May (9-10) 2006 meeting will be posted as an approved document on the Panel website when amended based on comments offered at the December meeting.
7. The booklet publication, Great Lakes Aquatic Invasions will be going to press at the end of January, 2007.
8. The Panel approved the 2007 work plan of the Policy Coordination Committee as noted below. The Committee will call upon Panel member involvement in work plan implementation as appropriate.
  - The Great Lakes Panel will establish an Ad hoc Rapid Response Committee based on the recommendations of the Policy Coordination Committee
    - Communication will be initiated by staff inviting volunteers to be considered as members whereby selection of members will be made by the Panel Chair with guidance from the Executive Committee.
  - Develop for Panel consideration communications on the need for comprehensive AIS legislation
  - Develop for Panel consideration communications on the need for stand-alone Asian Carp barrier legislation.

## **APPENDIX B: Attendee List**

John Andersen, Jr., *Great Lakes Director, The Nature Conservancy*  
Ted Batterson, *Director, North Central Regional Aquaculture Center*  
LT. Regan Blomshield, *U.S. Coast Guard, District Nine*  
Beth Brownson, *Ontario Ministry of Natural Resources*  
Mark Burrows, *International Joint Commission*  
Mike Conlin, *Director, Office of Resource Conservation, Illinois Department of Natural Resources*  
Tom Crane, *Senior Program Manager, Great Lakes Commission*  
Mary Ellen Cromwell, *Assistant Resource Management Deputy, Michigan Dept. of Natural Resources*  
Craig Czarnecki, *U.S. Fish and Wildlife Service*  
Margaret Dochoda, *American Fisheries Society*  
Roger Eberhardt, *Michigan Department of Environmental Quality*  
Tim Eder, *Executive Director, Great Lakes Commission*  
Emily Finnell, *Michigan Department of Environmental Quality*  
Marc Gaden, *Communications Officer and Legislative Liaison, Great Lakes Fishery Commission*  
Jim Galloway, *U.S. Army Corps of Engineers*  
John Gannon, *Limnologist, International Joint Commission*  
Kathe Glassner-Shwayder, *Senior Project Manager, Great Lakes Commission*  
Jim Grazio, *Great Lakes Biologist, Pennsylvania Department of Environmental Protection*  
Phyllis Green, *National Park Service*  
Sara Grise, *Pennsylvania Sea Grant*  
Rick Harkins, *Lake Carriers' Association*  
Doug Jensen, *Aquatic Invasive Species Coordinator, Minnesota Sea Grant College Program*  
Erika Jensen, *Sea Grant Fellow, Great Lakes Commission*  
Doug Keller, *Aquatic Invasive Species Coordinator, Indiana Department of Natural Resources*  
John Kelly, *U.S. Environmental Protection Agency*  
Dave Knight, *Program Manager, Great Lakes Commission*  
Russell G. Kries, Jr., *U.S. Environmental Protection Agency*  
Francine MacDonald, *Invading Species Technologist, Ontario Federation of Anglers and Hunters*  
Ron Martin, *Wisconsin Department of Natural Resources*  
Phil Moy, *Fisheries Specialist, Wisconsin Sea Grant*  
Mike Murray, *Staff Scientist, National Wildlife Federation*  
Jennifer Nalbone, *Great Lakes United*  
John Navarro, *ANS Program Administrator, Ohio Department of Natural Resources*  
John Nevin, *International Joint Commission*  
CDR Karen Phillips, *U.S. Coast Guard, District Nine*  
Leah Quiring, *DFO/Transport Canada*  
Mike Ripley, *Environmental Coordinator, Chippewa Ottawa Resource Authority*  
James Schardt, *U.S. Environmental Protection Agency*  
Don Schloesser, *U.S. Geological Survey*  
Nick Schmal, *Fish and Aquatic Ecology Program Leader, USDA. Forest Service*  
Dennis Schornack, *International Joint Commission*  
Isabelle Simard, *Quebec Ministry of Sustainable Development, Environment and Parks*  
Annie Simpson, *National Biological Information Infrastructure (NBII) and U.S. Geological Survey*  
Rochelle Sturtevant, *Sea Grant Extension Agent, NOAA-GLERL/Sea Grant/NCRAIS*  
Carol Swinehart, *Communications Manager, Michigan Sea Grant*  
Kristin TePas, *Illinois Natural History Survey and IL-IN Sea Grant*  
Gary Vequist, *Associate Regional Director, Natural Resources, National Park Service*  
Jim Weakley, *President, Lake Carriers' Association*  
Sarah N. Whitney, *Coastal Outreach Specialist, Pennsylvania Sea Grant*  
Chris Wiley, *Transport Canada/DFO*  
Lisa Wojnarowski, *Council of Great Lakes Governors*  
Marcia Woodburn, *Project Specialist, Great Lakes Commission*

## **APPENDIX C: Panel Member Updates**

### **Doug Keller, *Indiana Department of Natural Resources***

Brazilian elodea was treated at Griffy Lake in 2006. The lake had approximately 200 days with Sonar levels at 6ppb or higher in 2006. The plant is extremely hard to find now and may or may not be eradicated. Knowing that detection of just a few remaining plants may be extremely difficult and seeing plants that appear dead to mysteriously spring back to life, our plan for 2007 is to do another whole lake Sonar application and hopefully achieve complete elimination. Even if there is no Brazilian elodea to be killed in 2007, the treatment will also achieve a second consecutive year of control on Eurasian watermilfoil and curlyleaf pondweed. This project is funded through our Lake and River Enhancement Program (LARE). Brazilian elodea reports on private waters continue to mount. We now know of 10 ponds and 15 and 42 acre lakes with active invasions. We treated six private ponds using LARE funds in 2006. With increased acreage now discovered, we are strategizing how to handle these private waters due to limited funding available.

A workshop organized by IL/IN Sea Grant, the Great Lakes Commission, and Indiana DNR will gather water garden folks together to begin dialog on some of the threatening plants that are in trade and to develop strategies to keep these organisms from escaping to the wild. The workshop will be on January 10 in Indianapolis during the Green Expo. Also in regards to aquatic organisms in trade, the Division of Fish and Wildlife is beginning to develop a baitfish white/black list. New baitfish regulations will require changes to code and rule.

Hydrilla was detected in 734 acre Lake Manitou in August of 2006. Manitou lies in the Mississippi drainage, but just a half hour boat trailer ride to the Great Lakes basin. Rapid response actions taken include: (1) immediately organized boat inspections on Labor Day weekend and the following weekend, (2) used media outlets to advise users of the steps they should take to prevent the spread, (3) posted signs at the lake warning users of moving plant material, (4) intensive surveys throughout the lake to determine the extent of the invasion, (5) Komeen treatment of 20 acres of the most heavily infested areas within 2 weeks of confirmation, (6) Surveyed approximately 20 lakes with public access within a half hour of Manitou in an effort to detect hydrilla (none found), (7) Public meeting to describe the situation and advise the public on upcoming access restrictions, (8) locked all public and private boat ramps, (9) Developed compliance agreements with those who work on the lake and those who will get resident boats on and off the lake, (10) Search for funding to support this approximately \$2 million eradication. We may have to commit nearly the entire LARE plant control budget to this one lake if other funding sources are not found. If this has to happen, the 70 lakes that have shared the funding over the last few years will not receive funding until hydrilla is eradicated. We will lose the headway we made in controlling milfoil and curlyleaf if these waters are not funded. There will be enough funding to continue the Brazilian elodea eradication certainly at Griffy Lake and possibly the private waters.

### **Isabelle Simard, *Quebec Ministry of Sustainable Development, Environment and Parks***

An inter-ministerial committee on exotic invasive species will soon be formed. The Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP) of Quebec is developing a database on exotic invasive species regrouping all the data available in the province. An invasion of *Didymosphenia geminata* occurred in one salmon river of Gaspésie during summer 2006. An action plan is being developed by the MDDEP and the Ministère des Ressources naturelles et de la faune (MRNF) in order to limit the propagation of the alga and to inform the population about the methods that should be used to stop the spread of this invader.

### **Ted Batterson, *North Central Regional Aquaculture Center***

Since the last meeting of the Panel the original federal order from the U.S. Department of Agriculture's Animal and Health Inspection Service (APHIS) on October 14, 2007 concerning viral hemorrhagic septicemia (VHS) has generated much concern and discussion. That federal order had far-reaching implications to both the public and private sectors dealing with live fish, whether captured or cultured. The ramifications of that federal order were enormous and subsequently APHIS amended their order on November 14, 2006 ([http://www.aphis.usda.gov/vs/aqua/pdf/vhs-fed-order\\_ogc-changes.pdf](http://www.aphis.usda.gov/vs/aqua/pdf/vhs-fed-order_ogc-changes.pdf)) to allow the importation or interstate movement of VHS-susceptible live species of fish under certain conditions, while

continuing to prevent the spread of VHS. While the revised order is viewed by many natural resource agencies and private aquaculturists as an improvement over the original order, there are still significant challenges to be faced in dealing with this disease. Many groups are working together in formulating plans on how to best address this problem and APHIS hopes to have an interim role in place by spring 2007. Batterson has submitted a request to the Panel's Research Coordination Committee for the addition of VHS to the priority species list.

**Kathe Glassner-Shwayder, Great Lakes Commission**

AIS activities the Great Lakes Commission has been involved in include the *Great Lakes Aquatic Invasions* booklet; the state management planning project and it's upcoming regional summit being held in conjunction with the spring Panel meeting and the spring meeting of the national ANS Task Force; and the upcoming issue of the *ANS Update* which will feature an article on VHS.

***The following updates were not submitted for inclusion in this summary\*:***

Doug Jensen, *Minnesota Sea Grant College Program*

Jim Grazio, *Pennsylvania Department of Environmental Protection*

CDR Karen Phillips, *U.S. Coast Guard, District Nine*

Phil Moy, *Wisconsin Sea Grant*

Emily Finnell, *Michigan Department of Environmental Quality, Office of the Great Lakes*

Mark Burrows, *International Joint Commission, Great Lakes Regional Office*

Ron Martin, *Wisconsin Department of Natural Resources*

Beth Brownson, *Ontario Ministry of Natural Resources*

Jen Nalbone, *Great Lakes United*

John Navarro, *Ohio Department of Natural Resources*

Roger Eberhardt, *Michigan Department of Environmental Quality, Office of the Great Lakes*

Marc Gaden, *Great Lakes Fishery Commission*

Francine MacDonald, *Ontario Federal of Anglers and Hunters*

Jim Galloway, *U.S. Army Corps of Engineers*

Gary Vequist, *National Park Service*

Lisa Wojnarowski, *Council of Great Lakes Governors*

Leah Quiring, *DFO/Transport Canada*

Mike Murray, *National Wildlife Federation*

Rochelle Sturtevant, *Sea Grant Extension-Great Lakes Environmental Research Lab*

Mike Ripley, *Chippewa Ottawa Resource Authority*

Dave Reid, *National Oceanic and Atmospheric Association – Great Lakes Environmental Research Lab*

James Schardt, *U.S. Environmental Protection Agency – Great Lakes National Program Office*

Mike Conlin, *Illinois Department of Natural Resources*

Kristin TePas, *Illinois-Indiana Sea Grant*

**\* Great Lakes Panel staff will accept written updates for this summary through May 31, 2007.**