

**Great Lakes Panel on Aquatic Nuisance Species
Fall Meeting
Dec. 10-11, 2002
Ann Arbor, Michigan**

December 10, 2002

Welcome, Introductions and Meeting Review

Ron Martin, Wisconsin DNR, welcomed members and interested parties to the fall meeting of the Great Lakes Panel on Aquatic Nuisance Species and reviewed the agenda. The minutes were reviewed and Doug Jensen, MN Sea Grant, made several corrections. The minutes were accepted with these changes. Kathe Glassner-Shwayder, Great Lakes Commission, reviewed logistics for the meeting. Announced was a dinner meeting on Tuesday night to discuss rapid response; and a group meeting for lunch on Wednesday to discuss invasive species and the Lake Michigan LaMP; Great Lakes Panel members and interested parties were invited to participate in both events.

ANS Activity Reports

Administrative Actions, Kathe Glassner-Shwayder, Great Lakes Commission

Glassner-Shwayder introduced new Panel members and new Great Lakes Commission staff. Francine MacDonald, Ontario Federation of Anglers and Hunters, will finish the term of the at-large position previously held by Beth MacKay. Jim Weakley is the new president of the Lake Carriers' Association, following George Ryan's retirement, and will be the new transportation representative on the Panel. Kevin Walters has been hired by the Great Lakes Commission to work on invasive species issues and will begin officially on January 2, 2003. Mike Donahue, Great Lakes Commission, mentioned that the Commission's board of directors has new leadership in Chairman Sam Speck, Ohio DNR, and Vice Chair Tom Huntley, MN House of Representatives. The prevention and control of invasive species is a priority for Speck, and he wants to make sure that this remains a focus of the Commission.

Glassner-Shwayder outlined the framework for the upcoming annual report, which should be completed by the next GLP meeting. The annual report will include the Panel's mission statement, a summary of Panel activities, priorities and emerging issues of concern, Great Lakes Panel project summaries and accomplishments, Panel committee reports, ANS legislative developments, a membership list, and contact information and key websites. The appendices will include ANS Updates and other Great Lakes Panel products.

Glassner-Shwayder mentioned the Great Lakes Panel elections will be held this upcoming spring. She thanked Ron Martin (Chair), Pat Charlebois (Vice Chair), Gary Isbell (Policy and Legislation Committee Chair), Doug Jensen (Information and Education Committee Chair) and Phil Moy (Research Coordination Committee Chair) for their time, effort and hard work in these roles. Elections will be conducted via mail this spring for the chair, vice chair and the two at-large positions that expire in spring 2003.

Update on Selected Great Lakes Panel Products/Activities, Kathe Glassner-Shwayder and Sarah Whitney, Great Lakes Commission

Work on the *Model Rapid Response Plan for Great Lakes Aquatic Invasions* continues. Time has been allocated later in the meeting for a discussion among meeting participants on the scope of the project and the mid-project workshop.

An Evaluation of the National Invasive Species Act to Support its Reauthorization, the proceedings document from the symposium *Looking Forward, Looking Back: Assessing ANS Prevention and Control*, has been completed. Copies were distributed at the meeting and will be mailed to members and interested parties of the Great Lakes Panel as well as the symposium participants. The document includes the symposium presentations and the Great Lakes Panel's recommendations for NISA reauthorization. Funding for this project was provided by USEPA, Great Lakes National Program Office.

NIS Early Detection and Monitoring: A Pilot Project for the Lake Michigan Basin was recently funded by the USEPA, Great Lakes National Program Office. This project will develop a set of guidelines and recommendations for a coordinated system to detect new invasions of nonindigenous aquatic species in the Lake Michigan basin. The project will involve collaboration with both the Great Lakes Panel and the Lake Michigan Monitoring Coordination Council. Project tasks include project scoping, assessing the Lake Michigan monitoring inventory, conducting a monitoring survey and interviews, assessing monitoring coverage, developing guidelines and recommendations for early detection and monitoring of NIS in the Lake Michigan basin, and outreach and communication.

The Michigan Great Lakes Protection Fund recently funded the project *A Model GIS Assessment of Nonindigenous Aquatic Invasive Species in Michigan Waters*. This project will develop and implement an internet-based spatial database of NIS invasions within the state of Michigan. Project partners include the Great Lakes Panel, Michigan Lake and Stream Association, University of Michigan, U.S. Fish and Wildlife Service, Michigan Sea Grant, Great Lakes Fishery Commission, and NOAA, Great Lakes Environmental Research Laboratory.

The Commission recently submitted a proposal to the Sea Grant Aquatic Nuisance Species Outreach Program titled *A Collaborative Approach to Advance Implementation of State Management Plans for Prevention and Control of Aquatic Nuisance Species In the Great Lakes Region*. If funded, this project will provide opportunities for partnerships among the Great Lakes Panel, Great Lakes Sea Grant Network, and state ANS representatives. Proposed project tasks include project infrastructure and scoping, cooperator workshops to assess state ANS management plans, development of a model assessment process to monitor state ANS management plan progress and effectiveness, and a regional summit and proceedings document.

Federal Update: U.S. and Canadian

ANS Task Force, Mike Hoff, U.S. Fish and Wildlife Service

The fall 2002 meeting of the Aquatic Nuisance Species Task Force was held on November 13 - 15, in Honolulu, Hawaii. The meeting included the usual Task Force related topics such as ballast water, regional panel reports, and reports from its various committees and working groups. Other topics of discussion included NISA reauthorization, *Caulerpa taxifolia* activities, an update on the suminoe oyster (*Crassostrea ariakensis*), ship and sanitary canal activities, and an Injurious Wildlife update.

Several important accomplishments occurred at the Hawaii meeting. One was the approval of four Aquatic Nuisance Species State Management Plans for Alaska, Maine, Massachusetts, and Montana. Another accomplishment was the Task Force's approval of the formation of a Mississippi River Basin Regional Panel. After a presentation by the regional invasive species experts indicating the need for a regional panel, the Task Force invited Hawaii and the Pacific islands to submit a proposal for a Pacific Islands Regional Panel. The Hawaii meeting also included a session on Hawaii and its invasive species

issues and a panel on the brown tree snake. Other highlights of the meeting included an evening session hosted by the Waikiki Aquarium, an opportunity to attend a local grassroots CGAP meeting (Coordinating Group for Alien Pest Species), and several field trips.

The next Task Force meeting will be scheduled for the spring and will be announced soon. The minutes of the Hawaii meeting will be available on the Aquatic Nuisance Species Task Force web site (<http://www.anstaskforce.gov/>) at some point in the future.

Glassner-Shwayder added that she met with representatives from the other regional panels at the Task Force meeting. She hopes that future Task Force meetings will provide an opportunity for the regional panels to work towards strengthening coordination and communication between the ANS panels on a national scale.

National Aquatic Invasive Species Act, Jonathan Champion, Northeast-Midwest Institute

The National Aquatic Invasive Species Act was introduced in Congress during the fall session of 2002 to reauthorize the National Invasive Species Act while addressing gaps and unmet needs within the legislation. The legislation is organized into the following sections: program coordination; prevention of introduction of aquatic invasive species in waters of the U.S. by vessels; prevention of introduction of aquatic invasive species in waters of the U.S. by other pathways; early detection and monitoring; containment and control; information, education and outreach; and research. The next step in the reauthorization process is to incorporate stakeholder comments and make technical changes to the bill. NAISA will be reintroduced in early 2003, with a push to pass the legislation within the first 100 days of the 108th Congress. The House leadership has stated that they are committed to this goal.

U.S. EPA's Great Lakes Strategy, Marc Tuchman, US EPA, GLNPO

The Great Lakes Strategy identifies major Great Lake environmental issues and establishes common goals towards which federal, state and tribal agencies will strive. The strategy was created to help coordinate and streamline the efforts of the many agencies involved with protection of the Great Lakes, and to promote a national appreciation of the Great Lakes basin ecosystem. The strategy was created by the U.S. Policy Committee, a forum of senior-level representatives from federal, state, tribal, and environmental protection agencies in the Great Lakes. The scope of the strategy focuses on issues that affect multiple states, multiple lakes, or are basin wide in scale. The strategy frequently endorses previously established programs as the preferred way to address specific environmental problems.

With regards to invasive species, the strategy highlights the role of the Great Lakes Panel and the actions in *A Great Lakes Action Plan for the Prevention and Control of Nonindigenous Aquatic Nuisance Species*. A major objective of the strategy is to substantially reduce new introductions of aquatic and terrestrial species by 2010. Other goals include: development of a framework by 2003 for multi agency rapid response plans as soon as new species are discovered, and by 2006, coordinate and enhance the monitoring of high risk areas for the early detection of invasive species. EPA is now tracking the progress laid out in the strategy.

U.S. Coast Guard's Ballast Water Standards, Michael Gardiner, U.S. Coast Guard

The U.S. Coast Guard is currently reviewing the comments collected regarding the proposal for ballast water standards. The standard will probably take the form of a 95 percent volumetric reduction, with no detectable presence of organisms larger than a certain micron size. A Notice of Proposed Rulemaking is expected in Dec. 2003, with a final rule expected in the fall of 2004. The long time frame is necessary as

a number of analyses must be conducted, including an environmental impact statement, an economic study, and an endangered species impact statement. Until the standards are in place, ballast water exchange will remain a viable option.

Canadian National Plan on Invasive Alien Species, Beth MacKay, Ontario Ministry of Natural Resources

In September 2001, the joint meeting of resource ministers councils (Wildlife Ministers Council of Canada, Canadian Council of Forest Ministers, and the Canadian Council of Fisheries and Aquaculture Ministers) identified invasive alien species as one of four priorities for enhanced inter-jurisdictional collaboration under the Canadian Biodiversity Strategy. More specifically, ministers called for the development of a draft plan to address the threat of invasive alien species.

To initiate development of the draft plan, a multi-stakeholder National Workshop on Invasive Alien Species was held in November 2001. The workshop, co-chaired by Environment Canada and the Province of Ontario, was attended by nearly 140 participants from federal departments, provinces and territories, municipalities, aboriginal peoples, non-governmental organizations, industry, and universities.

Participants identified national leadership and coordination as the first priority for a “National Plan.” They also expect an approach that places a balance on environment and economy, and places a priority on the prevention of new invasions as well as the control of established invaders. The recommendations from the national workshop form the basis for a “blueprint for a national plan” (*Addressing the Threat of Invasive Alien Species: Toward a National Plan*) which has been developed.

The objectives of the blueprint are to: a) integrate into decision making consideration of the impacts of invasive alien species regarding biological diversity and environmental quality; across sectors, b) coordinate and integrate actions to address legislative, policy, and program gaps; and c) to respond effectively to new invasions and pathways of invasion; and d) strengthen programs to protect natural resources that are under pressure from increased global trade and travel.

The blueprint for a national plan was approved by resource ministers at their recent joint council meeting in September, 2002. In addition to Wildlife, Forests, and Fisheries and Aquaculture ministers, the meeting was also attended by the Nova Scotia Minister of Agriculture, in the Minister’s capacity as the Chair of the Canadian Council of Agriculture Ministers. At their meeting, the ministers further requested establishment of four thematic working groups to advance the blueprint on aquatic invasives, terrestrial plants, terrestrial animals, and leadership and coordination. Each working group will be tasked with identifying and assessing priority issues, invasive alien species, and pathways of invasion, and developing recommendations to address them.

The aquatic invasives thematic working group has been established under the auspices of the Canadian Council of Fisheries and Aquaculture Ministers. At its September 2002 meeting, the CCFAM established a new Aquatic Invasive Species Task Group, to be co-chaired by the federal Department of Fisheries and Oceans and the Province of Ontario. The task group will develop a national management framework and implementation plan to address the threat of aquatic invasive species.

Terms of reference for the remaining working groups are presently being developed, and it is anticipated that their work will begin mid-winter. Federal and provincial/territorial participation in the thematic working groups will be broad and include departments/M

ministries that are not currently represented at the ministerial level, including agriculture, parks, transportation, health, and others. Ministers will be provided with a progress report at their next meeting in September 2003. It is anticipated that this update will include the terms of reference and detailed workplans for each of the thematic working groups.

Ballast Water Discharge Issue, Gary Isbell, Ohio Dept. Of Natural Resources

On January 13, 1999, representatives of 16 organizations petitioned the U.S. Environmental Protection Agency to regulate the discharge of ballast water from ships under the National Pollution Discharge Elimination System (NPDES) permit program outlined in the Clean Water Act. There is currently a regulation that exempts ships from needing a NPDES permit to discharge ballast water. The petitioners argued that the introduction of invasive species through ballast water is well documented, and therefore ballast water should be considered a point-source pollutant and regulated as such.

The U.S. EPA responded to the petition later that spring by proposing to research a series of questions regarding ballast water and invasive species. The agency plan called for a report by September 1999 with final recommendations in the spring of 2000 and eventually, after consultation with the National Invasive Species Council, a decision on whether to revise its regulations if proven to be illegal. U.S. EPA turned its focus on examining the Clean Water Act and related policies and programs for tools to prevent the introduction of aquatic nuisance species (ANS) via ballast water discharge.

In January of 2001, the petitioners sent a letter to the U.S. EPA demanding a response to the petition to regulate ships' ballast water discharges under the Clean Water Act. The groups notified the U.S. EPA that legal action would be initiated if the agency did not issue a formal response to the petition by January 31, 2001. The U.S. EPA responded on February 7 by outlining its participation with several committees that are working to address the invasive species issue. The agency did not issue a date by which it would respond to their petition.

In April of 2001, the Northwest Environmental Advocates, the Center for Marine Conservation, and the San Francisco BayKeeper filed a lawsuit to require EPA to answer the petition. On September 27, 2001, US EPA published a notice of report availability in the Federal Register. Comments on the draft *Ballast Water Report, Aquatic Nuisance Species in Ballast Water Discharges: Issues and Options* were due by January 11, 2002. In January of 2002, and again in April, the U.S. District Court for the Northern District of California ordered U.S. EPA to respond to the original petition. The court found that U.S. EPA had violated the Administrative Procedures Act by failing to respond and ordered the agency to either grant or deny the petition within 30 days. U.S. EPA has appealed this decision. In November 2002, the Attorney Generals from four states (IL, MI, MN, NY) filed an amicus brief with the federal appellate court in San Francisco supporting the request that U.S. EPA answer the original petition. As of November 2002, US EPA has not released a final version of their *Ballast Water Report* and has not responded to the petition.

Marc Tuchman noted that U.S. EPA is working with a mediator and the petitioners to determine an acceptable date to respond to the petition. The U.S. EPA has determined that if the exemption is removed, then all liquids (not just ballast water) coming off ships would have to be regulated.

Regional Projects and Proposals

National Science Foundation Project, David Lodge, University of Notre Dame

In response to the need for interdisciplinary risk analysis, this project brings together experts from

invasion biology, mathematical modeling and economics. The main goal is to develop and apply a bio-economic modeling framework for nonindigenous species that integrates risk assessment and risk management, includes uncertainty distributions, and optimizes prevention and control strategies in a landscape context.

The applications will focus on freshwater nonindigenous species in the Great Lakes region. A preliminary application to zebra mussels suggested, for example, that society should be spending about \$324,000/yr to keep zebra mussels from invading each lake with a power plant (to prevent fouling of pipes). This is in sharp contrast to the \$825,000 that the Fish & Wildlife Service spent in FY2001 for prevention and control efforts for *all* aquatic nuisance species for *all* lakes. The analyses will be directly relevant to policymakers and natural resource managers. The project will focus on a number of species, including zebra mussel, rusty crayfish, sea lamprey, round goby, bythotrephes and Eurasian watermilfoil.

In addition, the investigators will partner with the Shedd Aquarium in Chicago to educate schoolchildren and the public about the general problem of nonindigenous species, about what individuals can do to reduce the problem, and about the role that science plays in public policy decisions. By partnering with an educational software firm, they will convert research models into user-friendly formats for use by schoolchildren, the public, policymakers, resource managers and stakeholders. In partnership with the Great Lakes Commission, research methods, results, and user-friendly products will be disseminated in workshops to policymakers, managers and stakeholders. Finally, they will develop international collaborations and a reciprocal exchange of information and techniques with top researchers in Australia, where NIS research is advanced relative to North America.

National Reports

U.S. General Accounting Office Report on Invasive Species, Ross Campbell, U.S. General Accounting Office

The U.S. General Accounting Office (GAO) recently released a report discussing the economic impacts of invasive species, implementation of the National Invasive Species Management Plan, and coordination of U.S. and Canadian efforts to control invasive species, including those introduced to the Great Lakes via the ballast water of ships. The objectives of the GAO review were to assess the management plan, including the extent to which it has been implemented; assess the usefulness to decision makers of the existing analyses of the economic impact of invasive species; provide expert views on the adequacy of U.S. and Canadian efforts to prevent invasive species entering the Great Lakes via ballast water; and describe how the U.S. and Canada are coordinating invasive species management efforts.

Based on its review, the GAO report makes several recommendations, including:

- ensure that the updated version of the National Invasive Species Management Plan, due in January 2003, contains performance-oriented goals and objectives, and specific measures of success;
- place a high priority to completing planned action number one, which calls for a transparent oversight mechanism for reporting on implementation of the management plan and Executive Order 13112; and
- include in the National Invasive Species Management Plan a goal of incorporating information on the economic impacts and relative risks of different invasive species or pathways when formulating its crosscutting invasive species management budget for the federal government.

Great Lakes Commission Initiatives, Jon MacDonagh-Dumler, Great Lakes Commission

The Great Lakes Commission has taken several steps recently to increase awareness among members of Congress and the Commission's membership about invasive species. In September 2002, the Commission sent letters to key members of Congress calling for passage of the National Aquatic Invasive Species Act. At the Commission's meeting in October, commissioners passed two resolutions regarding invasive species. The first resolution calls for the reauthorization of the National Invasive Species Act, and the second resolution proclaims the need to address the threat of Asian carp invasion to the Great Lakes.

Rapid Response: A Model Framework in Process, Sarah Whitney, Great Lakes Commission

The Panel discussion on the model rapid response plan project focused on the scope of the plan and questions that should be answered before the mid-project workshop. The Panel reached the conclusion that both a state and regional model plan will be useful, and will have a number of similar components. During the discussion, the point was raised that once the plan moves to the level of implementation, a mechanism will be needed to exert federal pressure motivating states to act in the event of an invasion (similar to the way federal highway funds are leveraged to encourage action). The model guidance document might be useful in this process. Questions surrounding the model plan for which the Panel would like answers include:

- Who has the authority to act?
- What emergency action tools already exist?
- What is legislatively/constitutionally feasible for states and feds to do?
- How to access resources?
- How does the pre-approval process work?

Glassner-Shwayder announced that the project advisory team would hold a conference call at the end of January to discuss further development of the rapid response plan and begin planning the mid-project workshop.

The plenary session of the Panel adjourned and members reconvened for committee meetings.

December 11, 2002

Committee Reports

I/E Committee:

Attendees: Doug Jensen (Committee Chair), Eric Obert, Beth MacKay, Mike Hoff, Rochelle Sturtevant, Kathe Glassner-Shwayder (staff), Emily Finnell, Kristin TePas, Francine MacDonald, Kirstin Wakefield..

1) *Information/Education Strategy for ANS Prevention and Control and associated Implementation*

Plan: A priority agreed upon by the committee was to advance implementation of the *Information/Education Strategy on ANS Prevention and Control*. Doug Jensen, Committee Chair, noted that a revision/update of the I/E Strategy was completed and later approved by the Panel almost 2 years ago. Since then, the committee has worked on updating the associated Implementation Plan. This past summer, July 17, the committee met via conference call and made significant progress on the implementation plan, collecting information for each I/E task in the following areas: lead responsible parties, cooperating agencies/entities, potential funding sources, and status reports on tasks. The committee plans to hold a conference call in the winter/spring to continue work on the I/E

implementation plan. Jensen volunteered to take the lead on advancing the I/E Implementation Plan and Glassner-Shwayder offered staff support for the initiative to the extent possible.

Committee members noted the importance to complete the plan so that members of the committee and the Panel could gain a comprehensive understanding of stakeholders' role regarding the implementation of information and education activities. Committee members also noted the need to complete the document to integrate as part of the comprehensive state management plans AND to leverage funding for implementation of the I/E Strategy. Glassner-Shwayder expressed concern to the committee that there was a need for additional funding to provide the staff support needed to conduct this Panel outreach initiative to the level called for by the committee. She committed staff time to pursue funding opportunities in this priority area regarding implementation of the I/E Strategy.

2) Recreational Activities Guidelines: Doug Jensen requested that the I/E committee consider extending the national voluntary recreational guidelines that were federally approved in 2000 to water recreationalists in the Great Lakes region. It was recommended by Jensen to modify the guidelines regarding disposal of leftover bait, specifically worms (also known as night crawlers or angleworms). Improper disposal of worms by anglers on land has been implicated in severe damage of forest ecosystems in northern Minnesota. Therefore, the need has been identified that a proper/consistent message is conveyed to anglers regarding the disposal of bait. To do this will require modification of the current guideline language. The current federally approved guidelines recommends: "Dispose of unwanted live bait on shore." A proposed modification of this action is: "Dispose of unwanted live bait in the trash."

The proposed modification language prompted much discussion among committee members. Several representatives identified that the language may not be applicable in respective states. As with previous guideline development, the goal is to provide simple, consistent standard language that can be used throughout the Great Lakes. Discussion emphasized the need for further discussion at the state level with fisheries managers and enforcement officers concerning this matter.

With this in mind, the committee decided to proceed in an effort to advance language modification in the guideline involving bait disposal. Jensen volunteered to send out the current approved guidelines and proposed language modification to committee members as well as state/provincial representatives. Comments are to be compiled and resubmitted for review. Based on this review process, the committee will seek consensus on wording. If consensus cannot be reached on a wording option, several wording options are to be sent out to the committee and state/provincial representatives. From these options, each representative will rank their preferred wording choice and the wording alternative that receives the highest number of votes will be submitted to the Panel for approval at the next meeting. Subsequently, the committee will request that the Panel recommend this change to the ANS Task Force so that this modification can be considered for the national voluntary guidelines.

3) ANS Update Newsletter Articles: The following topics were identified as feature article ideas for upcoming editions of the *ANS Update*:

- a) Five State ANS Boater Survey
- b) Great Lakes ANS Angler Survey
- c) Aquatic plant pathway identification from Internet and Catalogue orders
- d) Coordination of regional panels
- e) Pathway analysis of live seafood market

f) Success of watercraft inspection efforts in MN and WI to prevent the spread of ANS – identified for spring edition

4) **ANS WATCH ID Cards:** The committee discussed the coordination of efforts to produce three new ANS *WATCH ID* cards for spiny/fishhook waterfleas, European frogbit, and rusty crayfish. Committee members and Panel members who have been part of this effort in the past are requested to review the draft cards, provide contact agencies for their version of cards, and provide order numbers to Doug Jensen. The goal is to consolidate a print run of about 1 million cards by printing all three cards at once. Cards are expected to be shipped directly to collaborators at the end of March.

5) **NAISA Flyer:** The committee expressed appreciation to Glassner-Shwayder and Whitney for working on the NAISA flyer. Several committee members expressed concern over the length of the draft that ran nearly 3 pages. The committee also noted that the title was redundant and recommended that the title be modified to reflect the following: “NAISA Act of 2003: A Sound Investment in the Ecological and Economic Future of Our Nation’s Waters.”

It was recommended that each paragraph following the introduction be trimmed to one or two bulleted statements and that wording should reflect a desired outcome. Another suggestion was to include a few pictures be inserted to break up the text and emphasize points. It was also advised that text concerning recommendations should closely mirror the current language of NAISA.

Glassner-Shwayder acknowledged the value of the committee’s recommendations to strengthen the flyer and committed to incorporating them to the extent possible in the final revision process.

6) **Committee Priorities:** Finally, committee members expressed the need for the Panel and its committees to prioritize their efforts, complete current projects and do them well, before taking on additional activities and responsibilities. To prioritize I/E Committee activities, Jensen proposed that the committee meet via conference call in late March or early April 2003.

Research Committee:

Attendees: Phil Moy (Committee Chair), Dave Reid, Mark Burrows, Don Schloesser, Matt Colmer, Mike Gardiner, Marg Dochoda, Kevin Walters, Roger Eberhardt, Mark Dryer, Marc Tuchman, Tom Johengen, Rick Harkins, Sarah Whitney (staff)

The research committee focused its attention on the ANS research inventory for the Great Lakes region, research priorities, and the review of the NAISA flyer. The research inventory is maintained online (www.ijc.org/boards/cglr/) by Mark Burrows, International Joint Commission. Burrows requested feedback from the committee on improving the usefulness and applicability of the research inventory, and ways to increase researcher participation. Questions were raised regarding potential funders that are required to participate in the inventory as part of the grant contract (the Great Lakes Fishery Commission is looking to go to this format) . Interest was also expressed regarding the possibility of reorganizing the research categories in line with the topics under the National Invasive Species Council Management Plan (rapid response, early detection, etc.).

The committee identified a number of recent reports and documents that would be useful to draw upon in developing a list of research priorities for the region. Whitney committed to pull these documents

together and distribute to the committee for review. The committee plans to develop a list of priorities for research, based on these documents, during an upcoming conference call.

The committee reviewed the NAISA flyer, and has provided those comments to GLC staff for inclusion in the next review process.

Dave Reid mentioned that work has been initiated on the development of a life history database of existing invasive species in the Great Lakes. This work is being conducted with the Smithsonian Environmental Research Center and the USGS Gainsville lab.

Policy and Legislation Committee:

Attendees: Tom Crane, Gwen White, Mike Ripley, Steve Shults, Pat Charlebois, John Gannon, Jon MacDonagh-Dumler, Ron Martin, Marc Gagen, Dan Thomas, Gary Isbell, Jennifer Nalbone

The policy and legislation committee reviewed the NAISA flyer and provided comments to GLC staff, suggesting that the format outline the problem and the response. In regards to the legislation, concern was expressed that upon passage of NAISA, full funding would be provided by Congress. The discussion also identified the need to prepare for NAISA implementation in the following areas: identify different pathways of ANS introduction, take steps forward in establishing a better “black list” of aquatic nuisance species, continue efforts to prevent ANS introductions at the source.

The need was identified for an Asian Carp Advisory Committee that could take the lead in securing new authorization for the barrier, including funding for a back-up generator. Also discussed was the idea of a funding matrix that would reflect priorities identified by the Panel committees, including potential funding sources, stakeholders, cycles and timelines. It was also mentioned that in the national Sea Grant proposal process, the Panel should be given the opportunity to provide input by way of letters of support.

The committee also discussed the Clean Water Act/US EPA lawsuit, in particular to identify ways to improve coordination of state actions. The committee would like to see continued Panel interaction with the Council of Great Lakes Governors’ Ballast Water Task Force, with a goal of governor advocacy for NAISA. Future priorities for the committee include federal funding for ANS prevention and control, development of binational policy, listing of legislative tools, increased interaction of the committee between Panel meetings, and increased interaction/coordination with other Panels, especially the newly formed regional ANS panel for the Mississippi River Basin.

Great Lakes Regional Reports

Asian Carp: Prospective Role of Great Lakes Panel, Jerry Rasmussen, Mississippi Interstate Cooperative Resource Association

Asian carp were introduced in Arkansas in the 1960's and 70's by fish farmers to control vegetation, plankton, and snails in catfish rearing ponds. The flood of 1993 provided extensive spawning and rearing habitat, and it is suspected that this flood gave Asian carp the opportunity needed to attain high survival rates and become established in the Mississippi River basin.

Bighead carp, imported into the U.S. from China in 1972, consume phytoplankton and zooplankton. Silver carp were imported from China and eastern Siberia in 1973. Silver carp consume phytoplankton and zooplankton as well, but are more efficient than the bighead, straining suspended material as small as four microns in diameter from the water. Impacts of these fish include reproducing in large numbers and

the ability to grow to a large size quickly which takes them out of the range of native predators. Both species compete with all species of young native fish and mussels for food and space, and compete for food with adult paddlefish, bigmouth buffalo and gizzard shad. They also both disrupt commercial fisheries by displacing species and clogging nets with unwanted fish. Most Asian carp species tolerate or prefer cool water temperatures, some well into the range of salmon and trout. As their numbers increase, they are capable of tying up large amounts of biomass.

The Black carp was imported into the U.S. from China for use as a contaminant mechanism for grass carp stocks in the 1970's, and then intentionally in the 1980's. It consumes mollusks and crustaceans. Currently, black carp remain in captivity and are used to control snails in fish culture ponds in the south. Triploid stocking is used as safeguard to prevent future infestations, but it should be noted that triploid stocking has not proven effective for grass carp and will likely not prove effective for black carp. Black carp pose a major threat to native North American mollusks and crustaceans given its food habits, native range and large adult size.

Two bighead carp were reported in Lake Erie, and a third specimen was found in a fountain in downtown Toronto. It is thought that the source of these carp was interstate shipment of live Asian carp through the U.S. to Canada for use as food. A concern among Canadian scientists is the pathway of carp introduction involving the Asian religious custom of enhancing one's fortune or karma for the next life by releasing one live fish for every one eaten.

Recommended as the most effective ways to prevent an invasion is elimination of pathways for introduction, tightening importation and interstate transport regulations, maintaining clean lists, educating the public about the risks of releasing new species, increasing fines and penalties for intentional illegal releases, and destroying existing stocks in captivity. Also recommended was closure of all avenues of escape or transportation from infested areas by increasing regulation of the fish farming, bait fish and aquarium industries to control shipment between watersheds; increase regulation of baitfish collection by fishermen; and prevent escape through constructed waterway connections and canals by installing organism barriers, improving water and waste treatments, modifying the navigation system, and separating watersheds through hydraulic measures.

It was disclosed that no silver bullet exists for the prevention and dispersal of Asian carp. A combination of alternatives are needed to keep Asian carp out of the Great Lakes. Different approaches are needed to stop upstream and downstream movement of adult fish, versus downstream drift of microscopic organisms, versus international and interstate transport of aquatic nuisance species.

Dispersal Barrier Project: Progress Report, Phil Moy, Wisconsin Sea Grant

The dispersal barrier was energized on April 11, 2002. In June, a workshop on Asian carp was organized by the Great Lakes Protection Fund. In October, the Great Lakes Fishery Commission (GLFC) agreed to contribute funding to begin work for a second barrier in the canal. GLFC has also provided travel funds for staff from Fish Guidance, a British company that deals with fish barriers in Europe, to attend the upcoming January 2003 Dispersal Barrier Advisory Panel meeting. In November, a piece aired on ABC Evening News about Asian carp and the dispersal barrier. Also, GLFC, IJC, and U.S. EPA offered funds to purchase a back up generator. The Chicago Metro Water District has provided a temporary generator until the back up generator can be installed. The temporary generator was hooked up in December (with only five seconds of electric barrier downtime), and a permanent generator is expected in January. The U.S. Army Corps of Engineers is preparing a detailed project report for the second barrier.

Future needs that have been identified include federal funding for operation and improvements to first barrier (converting the cables to railroad ties), funding for the second barrier, and additions to the electric barrier approach (bubbles, infrasound, etc).

Council of Great Lakes Governors' Ballast Water Initiative, Ron Martin, Wisconsin Dept. Of Natural Resources

Several Panel members are working closely with the Council of Great Lakes Governors Ballast Water Task Force. The task force is developing a paper on ballast water treatment and standards. Governor Taft, chair of the Council, will send a letter on behalf of the Council in support of the passage of NAISA.

Panel Member Updates

Francine MacDonald, Ontario Federation of Anglers and Hunters: OFAH jointly hosted a reception in Ottawa with the IJC on invasives. OFAH continues to deal with aquatic exotic plants, and is developing a brochure.

Beth MacKay, Ontario MNR: OMNR is currently undertaking workplanning and associated budgeting related to its commitments under the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (this agreement is related to the binational Great Lakes Water Quality Agreement). It is anticipated that a total of \$50 million (Canadian dollars) will be allocated to the province with these dollars being split between the Ministry of Environment and the Ministry of Natural Resources. Information/education, research and monitoring on aquatic invasive species are considered a high priorities. OMNR is hosting the *12th International Conference on Aquatic Invasive Species* to be held June 9-12th in Windsor, Ontario. Abstracts are due mid-January. For more information visit www.aquatic-invasive-species-conference.org

Steve Shults, Illinois DNR: A one-year extension has been given to continue implementation of the state's management plan. The state is looking for funding to build a second dispersal barrier. A second round of testing of electric and bubble barriers was conducted for the bighead carp in the fishery raceways. An emergency administrative rule was passed in September prohibiting the possession of snakeheads.

Tom Johengen, CILER: The research team is beginning to get results from the NOBOB study. It was noted that due to difficulty in sampling multiple times during ship transit, there have been recent modifications in experimental design. The team is currently looking at the effectiveness of ballast water exchange when using low-salinity water. There will be a special session on the project at the IAGLR conference in June.

Marc Tuchman, GLNPO: The GLNPO RPF is expected to be released on Dec. 15th, with hopefully \$300,000 for invasive species projects. The International Association of Great Lakes Researchers (IAGLR) is holding its conference June 22-26 in Chicago. Deadline for abstracts is Dec. 13.

Eric Obert, PA Sea Grant: Botulism has been identified as a priority issue in Lake Erie. The quagga mussel may play a role in the process. More information is available on Sea Grant's website, and a workshop on this issues will be held in Buffalo in February.

Kirstin Wakefield, PA DEP: A committee has been established to begin work in developing an ANS management plan for the state. A boater survey has been conducted and a HAACP workshop held. A volunteer monitoring program for Lake Erie is being developed.

Gwen White, Indiana DNR: An increasing number of catch reports over the past few years has indicated that anglers and aquarium pet owners were releasing gizzard shad, white perch and piranha in state waters. In parallel with recent national efforts to control impacts of nuisance fish, Indiana issued an emergency rule adding bighead carp, black carp, silver carp, white perch, and all snakehead fish to the list of species illegal to possess live without an Aquaculture Permit. Permanent rules will be proposed. The state of Indiana is in the process of contracting with a private professional communications firm to facilitate public input and development of a state aquatic nuisance species management plan in 2003. Conditions addressing fish diseases in salmonids were updated to reflect guidance from the Fish Health Committee of the Great Lakes Fishery Commission.

Jennifer Nalbene, Great Lakes United: GLU has been awarded a challenge grant for 2003 for increased staffing to coordinate public advocacy on the ANS issue, and hopes to meet that challenge by mid-year. A postcard campaign will be held in mid-February to support passage of the National Aquatic Invasive Species Act. Postcards will be sent to Senators and Representatives from Great Lakes United's U.S. member organizations. GLU is finalizing a Great Lakes Action Agenda, which should be available for review in early 2003. In part, the Great Lakes Action Agenda was developed in response to numerous strategies, initiatives and plans recently released to restore the Great Lakes. The Great Lakes Action Agenda will articulate the environmental, labor and conservation communities' collective goals, timelines and strategies for the improvements needed to the Great Lakes ecosystem.

Gary Isbell, Ohio DNR: Through administrative rules, the snakehead had been added to the list of injurious species in Ohio.

Randy Sanders, Ohio DNR: Ohio is in the 6th year of its ANS management plan. The state is working closely with COSI to develop I/E activities for middle schools and providing small grants to help control invasive plants. The new poster "Aliens Among Us" is now available.

Phil Moy, WI Sea Grant: A HACCP workshop, sponsored by Sea Grant, was held in October. Ongoing outreach efforts include multi-media spots with Babe Winkleman. Work was recently completed on a brochure on Eurasian watermilfoil and purple loosestrife. In process is the development of a fisheries leadership institute to train local leaders on various Great Lakes issues. Work is also being conducted on developing CD of fish key for Wisconsin.

Mark Dryer, USFWS: On August 21st, the Fish and Wildlife Service captured one adult ruffe (146 mm TL), while conducting ruffe surveillance in Escanaba harbor. The ruffe was a female, age 3+, and weighed 31.6 grams, and her ovaries appeared spent. A follow-up survey was conducted in early October. On October 9th, one female ruffe (151 mm TL) with developing ovaries was captured in a bottom trawl from Escanaba harbor near the site of the first ruffe discovery. On October 10th, a juvenile male ruffe (83 mm TL) was also captured in a bottom trawl north of Gladstone, MI, 10 km north of the capture site in Escanaba harbor.

Mike Hoff, USFWS: Bill Hartwig, USFWS Region 3 Director, has highlighted invasive species as a priority issue for the region.

Dennis Schornak, IJC: IJC got the U.S. State Department to transfer money to the GLFC to help with the dispersal barrier. IJC's 11th Biannual Report identified ANS as the number one threat to the biological integrity of the Great Lakes. Schornak will travel to Australia in March to visit an area where two water bodies have been biologically separated.

Ron Martin, WI DNR: The state is close to submitting its ANS management plan. Two staff have been hired to work through Extension to implement purple loosestrife biocontrol and information/education activities, coordinating Sea Grant and DNR efforts. State now has an 8 x 12 foot display for fairs and shows, and is working with the tourism department to develop ANS displays for state parks.

Pat Charlebois, IL-IN Sea Grant: A grant has been received from the IL DNR to implement the state management plan. A review has been conducted of the state's legislation in comparison with the model guidance. Working on a preliminary rapid response plan for the state. An advisory team has been established to deal with the discovery of new species. An inventory of ANS monitoring efforts has been developed within the state, along with a reporting form for new and expanding invasions. Work has been initiated to develop brochures and outreach efforts that will target recreational users.

Mike Gardiner, USCG: The recent DOT report to Congress on the efficacy of the voluntary ballast water exchange reporting program found a 30 percent compliance rate. Because of the low compliance rate, the reporting program will now be made mandatory. The Coast Guard will transfer to the Department of Homeland Security in March. This should not impact funding or its commitment to the issue of invasive species. Marine Community Days will be held the end of January, and will include a breakout session on ANS issues.

Don Schloesser, USGS: It was noted that there have not been any ANS introductions detected in about a year. Research is examining how invasive species change the lake ecosystem.

Mike Klepinger, MI Sea Grant: Sea Grant is in the middle of a proposal process with \$5.8 million for ANS research and outreach. Final decisions are expected in late February/March.

Doug Jensen, MN Sea Grant: Status of ANS infestations: Only one lake in the state has been found to be infested with zebra mussels, located in southeast MN near Rochester. Eurasian watermilfoil spread continues to be slow, around 6-7 lakes this year. Evidence continues to suggest that a comprehensive program of watercraft inspection, monitoring, policy, and with an emphasis on public education is working to prevent and slow ANS spread in Minnesota. It is known that boaters are frequently moving watercraft between waters and pose a high risk. It is apparent that outreach efforts have prevented new introductions and the existing rate of infestations has been slowed.

MNDNR News Update: The 2001 Annual Report is available and the 2002 Annual Report expected to be available in early winter. The DNR conducted research on Eurasian watermilfoil control using sonar and will be summarized in the 2002 report. The DNR is working with a number of collaborators on earthworm poster and brochure. Also being developed is a water gardener brochure emphasizing proper use of ornamental plants and animals and regulations for possession and use (prohibited/regulated/unregulated). MN DNR is working with IL-IN Sea Grant and MICRA to update the field guide. The snakehead will soon be designated as an injurious species.

MN Sea Grant: A two part report is about to be released called *Assessing risks of importing aquatic plants to Minnesota: Survey of contamination in commercial sources and assays of low temperature tolerance* by Galatowitsch and Maki, U of MN. Studies were co-sponsored by MNDNR and MN Sea Grant. The last phase of the ANS WATCH card effort is now underway and new cards will be produced for European frogbit, spiny/fishhook waterflea combo card, and rusty crayfish. Minnesota and IL-IN Sea Grant produced in collaboration with Michigan and Ohio Sea Grant program a new CD, "Exotics to Go!", which contains presentations, movies, scripts, fact sheets, brochures, and cards for use to promote ANS outreach. MN Sea Grant worked with several Sea Grant programs nationally on an aquatic plant initiative. Produced by this initiative is a new field guide, produced by North Carolina Sea Grant, for the 21 top aquatic invasive plants in the U.S. Minnesota has taken fact sheets from the guide and is tailoring them for use by lake associations, shoreland restoration consultants and the like.

Emily Finnell, MI DEQ: The MI ANS Prevention Day for state legislators was held in October with a number of state and local agencies and organizations participating. At this time, the updated state management plan was released. There were also live demonstrations and a frozen bighead carp. This even will hopefully become an annual event, as well as an ANS Awareness Week. The ANS Handbook for Municipal Officials is being updated. There is a new ANS Council in Michigan based on an executive order from Gov. Engler. The ballast water reporting program now includes 200 ships in compliance. The 2003 reporting system is in place and available online. The 2002 Michigan Great Lakes Protection Fund included a section of ANS related grants.

Dave Reid, National Oceanic and Atmospheric Administration: NOAA will be releasing the 2003 RPF for ballast water projects in January. GLERL is continuing the NOBOB/Ballast exchange project, and has begun research on fluid dynamics and ballast tanks as well as the development of a central database for Great Lakes invasive species.

Marg Dochoda, Great Lakes Fishery Commission: GLFC has RFP for \$875,000 next year to fund fish health committees and lake committees.

Paul Marangela, The Nature Conservancy: TNC is evaluating how the organization can most effectively participate in the invasive species issue.

George Kuper, Great Lakes Industries: Noted the need to better clue-in other players and improve coordination. Water Quality Agreement is opportunity/vehicle by which to accomplish.

Other Issues

There was not time for a full discussion of other issues and future Panel priorities, so this discussion will occur at the next Panel meeting. Topics to discuss include the role of the Panel on emerging issues and coordination with other regional panels.