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## AQUATIC NUISANCE SPECIES TASK FORCE: MINUTES OF THE 2007 SPRING MEETING

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On May 8–10, 2006, the ANSTF met at the Tom Ridge Environmental Center at Presque Isle in Erie, PA. This document includes the following sections:

- Summary of the three-day ANSTF meeting
- Lists for acronyms used and species mentioned

### ANSTF SPRING MEETING MAY 8–10, 2007

#### Decisions

The ANSTF made the following decisions:

1. Approved the meeting agenda, as well as minutes for the November 2006 ANSTF meeting.
2. Approved the New Zealand mudsnail NMP.
3. Adopted recommendations from the ad hoc rapid response working group. These are below:  
The ANSTF adopts the National Incident Management System (based on the Incident Command System [ICS]) as the model for rapid response planning and operations.
  - As a first step in this process, federal ANSTF members will identify personnel for a unified command group and constitute a federal standby team to assist in responses.
  - Appropriate federal agencies will provide initial points of contact for scientific information that may be needed in responding to a developing threat. Among the scientific information needs are taxonomic identification, capacity to assess whether a specific species will cause serious problems, and available control methods. (This is not intended to be a list of the various individuals with expertise but a point of contact who could work within the agency to obtain the requested information.)
  - Federal ANSTF members will identify federal regulatory requirements that need to be considered by federal, state, tribal, and local authorities in planning for and responding to reports of ANS.

#### Action Items

1. (ANSTF) Create an ad hoc exploratory committee to work with Jonathan McKnight on a process for tracking and reporting on NMP implementation.
2. (Executive Secretary) Prepare a letter for co-chairs' signature to be used in recruiting Tier 2 experts for participation in the experts database.
3. (Regional Panels) Develop recommendations to the ANSTF regarding the following:
  - The usefulness of existing SMP guidelines and how they could be improved.
  - How the current process might be modified to improve interstate/regional cooperation (if that is even desired).
  - Alternative SMP funding approaches (or is the current "1 plan—1 slice of the pie" preferred?).
4. (ANSTF Members) Intersessionally review the revised Asian carps NMP, with comment due 30 days following delivery (anticipated for early July).

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## May 8 Welcome and Preliminary Business

Co-chair Tim Keeney, Deputy Assistant Secretary for Oceans and Atmosphere (NOAA), welcomed participants and thanked meeting organizers. Following introduction of ANSTF members and observers, he noted that the purpose of this spring meeting was to learn more about key Great Lakes issues and discuss several issues of national significance. On behalf of the Great Lakes Panel, Jim Grazio (Pennsylvania DEP) welcomed the ANSTF to Erie and Presque Isle and invited them to explore the Tom Ridge Environmental Center. In preliminary business, the agenda for this meeting and the minutes for the fall 2006 meeting were approved.

## Control Committee

The role of the Control Committee has been unclear to date. Earlier thoughts were that the committee would provide oversight and guidance in the development of new NMPs, monitor implementation of established plans, and coordinate with other ANSTF standing committees. The implementation working group for each plan would inform the Control Committee of research, monitoring, and public outreach needs, and these needs would be communicated to the ANSTF and respective committees for appropriate action. The Control Committee would also recommend a review and revision process for all ANSTF-approved plans so that they could evolve. This concept has not been realized yet.

Jonathan McKnight (Maryland DNR) reported on his efforts to determine the implementation status of the five ANSTF-approved management and control plans. Because the plans differed in format, he conducted surveys with those people coordinating plan implementation. McKnight distributed results of the surveys to ANSTF members and observers. The 12 questions addressed three themes: focus species, ANSTF roles, and implementation.

Overall, he learned that people are “maxed out,” field staff like the plans and ANSTF but feel somewhat neglected, benchmarks for progress are very different for each species plan, and all interviewees would write and lead another control plan. However, he found no effective means of tracking the progress of plan implementation, although two plans have specific tracking mechanisms under construction. McKnight emphasized that plan activities are being implemented, but the necessary communication is not necessarily occurring.

He recommended a standard format for tracking NMP implementation and staff dedicated to helping plan coordinators track and report implementation to the ANSTF and public. He also suggested that standing NMP work groups meet regularly and develop mechanisms for updating plans. These work groups would be responsible to their lead agencies. Finally, McKnight reported that the draft snakehead plan is published and undergoing federal review. The team for the nutria NMP has been assembled and is ready to begin work.

ANSTF members and observers spent considerable time discussing the Control Committee. The following main points were raised during that discussion:

- Current and potential reporting of NMP implementation activities
- Role of regional panels in coordinating with the Control Committee
- Identification and responsibilities of lead agencies
- Composition of the Control Committee
- Suggestions for NMP revisions

Following discussion, the ANSTF decided to create an ad hoc exploratory committee with representation from NOAA, USFWS, an NMP implementation team, and regional panels to work with McKnight on a process for tracking and reporting on NMP implementation.

## Panel Reports and Recommendations

In mid-March, regional panels were asked to present key issues and concerns at the regional level and associated recommendations to the ANSTF. Responses received from three of the panels were compiled and posted with other meeting documents on the ANSTF website for review prior to the meeting. Spokespeople from the panels introduced their issues and recommendations, after which ANSTF members discussed them.

### *Mid-Atlantic Regional Panel*

Fredrika Moser (Maryland Sea Grant) reported that database development and maintenance is a major issue for the MARP and probably other panels. This issue had also been raised at the regional panel chair meeting held prior to the November ANSTF meeting. The MARP recommended that the ANSTF “continue to strongly encourage federal participation in the development of a comprehensive aquatic invasive species database that would ultimately allow reliable searches for aquatic invasive species temporal and spatial data in the United States.” Moser noted that the Non-Indigenous Aquatic Species Database Working Group is working toward development, dialogue, and coordination among a number of databases. But more support is necessary if a comprehensive database that makes a meaningful contribution to preventing, controlling and managing aquatic invasive species is to be feasible. She appreciated that the Invasive Species Experts Database was moving forward with input from regional panels, but databases that mapped invasive species distributions were seen as generally outdated and in need of improvement.

### *Northeast Aquatic Nuisance Species Regional Panel*

Kevin Cute (Coastal Resources Management Council) said that he would likely be in a position to provide recommendations from the NEANS panel after its May 31–31 meeting.

### *Western Regional Panel*

Eileen Ryce (Montana Department of Fish, Wildlife, and Parks) said that the WRP submitted two emerging issues for consideration: viral hemorrhagic septicemia (VHS) and movement of equipment among waterbodies by federal agencies and their contractors. According to Ryce, many states within the WRP are evaluating fish transport and bait laws to help reduce the risk from that vector, which is likely the primary vector for transmitting the virus into the region. Additionally, many states with well-developed fish health programs do not involve their ANS programs or coordinators when evaluating the risks or control/prevention strategies for this pathogen. Therefore, the WRP encouraged member states to become familiar with this emerging pathogen and incorporate it into their ANS programs and SMPs. The panel also requests that the ANSTF recognize the pathogen as an ANS, encouraging states who are writing plans to include this virus as a pathogen and ANS.

Tina Proctor (USFWS Region 6 ANS Coordinator) said that federal, state, and regional entities and their contractors frequently move equipment between waterbodies as part of their activities. Without the implementation of proper decontamination protocols prior to equipment movement, ANS can be unknowingly and illegally transferred from infested to uninfested waters. The WRP recommended that the ANSTF recognize equipment mobilization as a significant vector and encourage member agencies to require decontamination of all equipment prior to movement. Decontamination could be accomplished through HACCP planning and special permit provisions for contractors. Proctor added that the WRP (in partnership with other regional panels) could draft decontamination procedures that ANSTF members could use in agency contracts.

### *Mississippi River Basin Panel*

Kim Bogenschutz (Iowa DNR) had two recommendations, one regarding common carp and the other regarding coordination with military bases. Although an NMP is impractical, given how well-

established the species is in inland waters of North America, the MRBP recommended national support to “develop the solid understanding of this species’ life history that will be required for effective control strategies.”

Concerning military bases, the MRBP requested designation of a Department of Defense representative with control over military bases as a member of the ANSTF. Many military bases have waterbodies (such as Base Lake at Offutt Air Force Base) providing recreational opportunities for base personnel and their families. As base personnel move around the country, these waterbodies are susceptible to infestation by ANS. Military bases are also required to have integrated natural resources management plans; efforts to prevent and control ANS should be integrated into these plans.

### ***Great Lakes Panel***

Kathe Glassner-Shwayder (Great Lakes Commission) referred participants to a January 19 letter to the ANSTF co-chairs concerning the urgent need for stand-alone legislation to immediately provide authority and funding to construct, operate, and maintain AIS dispersal barriers on the Chicago Sanitary and Ship Canal (CSSC). In that letter, Glassner-Shwayder recommended that the ANSTF support the advancement of fail-safe operation of the dispersal barrier system. The GLP recognized that neither the regional panels nor the ANSTF can lobby Congress, but they can encourage members to promote advancement of the dispersal barrier system within their agencies.

### ***Gulf and South Atlantic Regional Panel***

David Rice (Gulf States Marine Fisheries Commission) reported that the GSARP had met two weeks previously and discussed two recommendations: the experts database and rapid assessments. Tier 2 information, which is information not available to the public, is now being added. But population of this database is very important and even more information is necessary. Following Hurricane Katrina, it became apparent that research and development regarding rapid assessment was also crucial. Specifically, Rice mentioned the need to establish a baseline for detection, monitor movement of AIS after meteorological events, and assess effects of land development.

### ***Discussion***

After the regional panels presented their recommendations, ANSTF members discussed the various recommendations.

- **Coordination with the Department of Defense**—Al Cofrancesco (ACOE), as a member of the Armed Forces Pest Management Board, commented that, although much of the focus has been on terrestrial pests, a number of things are going on that could ease people’s concerns. For example, the military does provide information about invasives and criteria are being implemented regarding movement of all military equipment, within and between countries. He volunteered to give a presentation at the next meeting if desired. Integrated natural resource management plans—voluntary cooperative agreements between Department of Defense installations, the USFWS, and respective state fish and wildlife agencies—may also provide a framework for coordinating on ANS issues. ANS are generally a concern in plans pertaining to threatened or endangered species.
- **Movement of equipment by agencies and contractors**—Representatives from the federal agencies shared their requirements, if known, with the ANSTF. Most, if not all, recognize the potential for contamination and have HACCP or other requirements to reduce that potential. Federal representatives agreed to look into their agencies’ requirements and report that information to the Executive Secretary. Enforcement of such regulations is also a concern since protocols may be written into a contract but not implemented in the field.
- **Development and maintenance of databases**—Concerns about databases covered several points: 1) more effort went into creating databases than into maintaining them, 2) many databases don’t

“talk to each other” and are thus not able to be integrated into a “backbone” database, and 3) getting Tier 2 experts to agree to inclusion in the experts database is difficult without some letter of encouragement and description of the database and its purpose. Executive Secretary Scott Newsham will prepare a letter to Tier 2 experts, to be signed by the ANSTF co-chairs, encouraging their participation in the experts database. Regional panels were also encouraged to talk with state managements about the database and get their buy-in.

- **Common carp**—ANSTF members recognized that developing a regional or national management plan for common carp would be difficult to impossible, given that this introduced species has become an established component of the ecosystem and economy in so many places. They were not certain what the ANSTF could do besides supporting others’ efforts at local, state, or regional levels. Avenues for that support could be through regional research priorities and other organizations’ plans.

### New Zealand Mudsnail Management and Control Plan

Tina Proctor (USFWS) led efforts to develop the New Zealand mudsnails NMP. She updated participants on progress made since her last presentation at the spring 2006 meeting. The October 19, 2006, issue of the Federal Register notified the public of the plan’s availability and requested comments. The comment period ended December 4, 2006, and the final draft incorporated the 135 comments received. The map was updated to better reflect a new clone found in the Snake River. Proctor displayed a world map of the native range of the New Zealand mudsnail and areas invaded by various clones. The western clones (US 1 and US 3) are different from the Great Lakes clone (US 2), which probably came from Europe through ballast water.

Proctor also reported on two recent studies done in Boulder Creek, CO, and the Green River, UT. Results of Tom Saillelli’s (University of Colorado) work indicate that mudsnails in Boulder Creek haven’t increased their range in two years and their density is average. No snails are found beyond a water treatment plant where salinity is higher, nor are they moving upstream where winter shelter may be a limiting factor. Mark Vinson’s (Utah State University) looks at the trophic effects of mudsnails based on rainbow trout stomach contents, stable isotope samples, and predicted fish growth. Findings indicate that diets high in New Zealand mudsnails do not meet energy requirements of fish, resulting in reduced growth and weight loss.

After reviewing NMP objectives, implementation activities, and research needs, Proctor asked the ANSTF to approve the plan. After it was approved, she asked whether the chair of the working group continued as leader of the implementation group. Executive Secretary Newsham will research the answer to her question.

### MARAD Reserve Fleet Ships

Carolyn Junemann (MARAD) updated ANSTF participants on MARAD’s ship recycling program. Congress requires MARAD to dispose of all vessels in the National Defense Reserve Fleet that are not assigned to the Ready Reserve Force or otherwise designated for a specific purpose. MARAD believes that recycling these vessels remains the most responsible course of action, both environmentally and fiscally.

Ships awaiting recycling are moored at fleet sites in the James River, VA (46 ships); Beaumont, TX (22 ships); and Suisun Bay, CA (53 ships). Receiving facilities are located in Baltimore, MD; Chesapeake Bay, VA; New Orleans, LA; and Brownsville, TX. Junemann described the hull-cleaning (scamping) process used to clean these ships and displayed photographs of that process. She also explained differences between antifouling requirements for these, Navy, and commercial ships.

However, state officials in California and Texas, as well as NOAA Fisheries, have questioned hull-cleaning aspects of the recycling operation. Concerns include impacts of paint removed from the hulls as well as the uptake of metals into biota removed from the hulls. Following analysis of materials removed during the process, MARAD officials are meeting with representatives from five states where in-water hull cleaning occurs or where vessels are received. They are also working to understand conditions requiring pre-cleaning and developing best management practices to contain what comes off the hulls. In the meantime, the program has been suspended. Junemann added that two ships in Baltimore have been modified to verify ballast water technology.

Discussion focused on the economics of ship recycling, temperature and salinity of different waters, and potential use of dry docks used by commercial ships for hull cleaning. Karen McDowell (California Sea Grant Extension Program/San Francisco Estuary Project) read concerns of the California Regional Water Quality Control Board regarding the lack of controls to capture heavy metal pollution during the cleaning process. Failure to capture these pollutants violates the Clean Water Act and state regulations. ANSTF members then discussed the need for coordination among agencies regarding possible solutions.

### Quagga Mussel Response in the Colorado River

Quagga mussels have been confirmed in the lower Colorado River, impacting Arizona, California, and Nevada. An effective coordinated state and federal response is in place. The new ANS coordinator for the California/Nevada Operations Office of the USFWS, Denise Walther, provided background on the invasion and results of surveying done to better understand the status of quagga mussels in the lower Colorado. Bob Pitman (USFWS) then discussed the role of the 100th Meridian Initiative in response to zebra and quagga mussel spread.

Walther explained the invasion history of quagga mussels in Nevada and California, starting with their initial discovery in the Las Vegas boat harbor on January 6 to subsequent discoveries at other locations in Lake Mead and Lake Mohave. An analysis of size–age structures of Lake Mead and Lake Mohave quagga mussel distributions indicates that mussels have dispersed downstream more quickly than they have upstream. The presence of a 2005 cohort in shallow-water samples suggests that mussels are surviving in warm surface waters during the summer. In addition, a massive increase in the number of individuals recorded in 2006 cohorts over 2005 cohorts suggests that quagga mussel populations in both lakes are entering a stage of explosive growth. Dive surveys are also being conducted in Lake Mead to estimate mean densities and develop recruitment models.

She also reviewed coordination, survey and monitoring, and containment activities being carried out by local, state, and federal agencies to respond to the quagga mussel invasion. California has implemented an ICS for interagency coordination of response. Numerous surveys and monitoring activities are being implemented, as are containment efforts in all three states.

Pitman thanked the ANSTF for having the vision to support the 100th Meridian Initiative, a landscape-based program designed to prevent the westward spread of zebra mussels and other ANS. Because of the infrastructure developed under the 100th Meridian Initiative (including an interactive website and team network across the West), stakeholder agencies and organizations were able to respond immediately when mussels were discovered. Of special concern has been a possible link (via hatchery-stocked fish in northeastern Nevada's Wild Horse Reservoir) to the Columbia River Basin. A recently developed Columbia River Basin rapid response plan is being revised to address all *Dreissena* species, and Wild Horse Reservoir will be monitored for quagga mussels when it thaws. In addition, the 100th Meridian Initiative is changing its direction to new "meridians." Pitman reviewed a number of response tools available through the 100th Meridian Initiative and how they have been updated in light of recent quagga mussel discoveries.

Pitman and Tina Proctor (USFWS), co-chairs of the 100th Meridian Initiative, discussed written communications they have sent to some state and regional organizations, such as the Western Governors Association, to participate in a working group charged with developing policy-level recommendations for preventing continued spread. To show ANSTF support for creating this group, they will draft a letter to state and agency directors regarding the importance of state and federal coordination to address this threat and have the ANSTF co-chairs sign it. Proctor and Pitman also encouraged other organizations to send letters of support to their state directors. Other suggestions raised were to include tribes and request more participation from the U.S. Bureaus of Land Management and Reclamation. Also, people suggested having the GLC or Great Lakes governors send letters to western governors describing the impacts they have had to address due to this invasive species and recommending that they support and engage in cooperative work across the West to prevent further spread and impacts to water users.

### Rapid Response Management

Representatives of several federal agencies met intersessionally to follow up on the rapid response work started at the fall 2006 ANSTF meeting. Dean Wilkinson (NOAA) presented recommendations from this group for further discussion (provided in advance on the ANSTF website): 1) adoption of the Incident Command System (ICS), 2) designation of federal points of contact, and 3) identification of federal regulations to be considered in rapid response activities.

Adoption by the ANSTF of ICS as the response management system would be consistent with Homeland Security Presidential Direction 5 (Management of Domestic Incidents), which establishes a single, comprehensive national incident management system. Federal agencies would identify members for a unified command group and constitute a federal standby team to assist in responses. Agencies would also provide initial points of contact for scientific information needed in responding to a developing threat. These contacts would not be the experts but would know how to work within the agencies to obtain requested information. For the third recommendation, agencies could look to the USEPA's document *Overview of EPA's Authorities for Natural Resource Managers Developing Aquatic Invasive Species Rapid Response and Management Plans* for guidance.

Co-chair Mamie Parker, Assistant Director, Fisheries and Habitat Conservation (USFWS), asked that people read the memorandum from Executive Secretary Newsham containing the recommendations for discussion as the first item on the following day. At that time, Larry Riley (Arizona Game and Fish Department) and Tom Crane (GLC) shared their experiences with ICS adaptations used in their areas. Riley commented that the infrastructure in place through the 100th Meridian Initiative helped greatly. Participants acknowledged that ICS may not be necessary on small invasions contained within a state. But it provided a means for addressing interjurisdictional invasions. Following discussion, the ANSTF approved adopting the recommendations from the working group.

### May 9 Welcome and Great Lakes Regional Perspectives

Co-chair Parker welcomed people to the second day of the meeting. After finishing discussion of the rapid response recommendations (see above), she introduced Kathe Glassner-Shwayder (GLC) to talk about the National Sea Grant-funded project to promote a collaborative approach for SMPs aimed at preventing and controlling ANS in the Great Lakes region. Others who also welcomed participants and made introductory remarks included Jim Grazio (Pennsylvania DEP); Cathleen Curran Myers, Deputy Director for Water Management (Pennsylvania DEP); and Tim Eder, Executive Director (GLC).

Glassner-Shwayder opened the session by discussing the framework for developing state ANS plans, noting the associated challenges that the states are dealing with regarding the development and implementation of their plans. An overview was provided of the GLC's mission and related

institutional capacity for regional governance. In this role, the GLC conducted the regionally based SMP project in efforts to help the Great Lakes states create and advance SMPs for prevention and control of ANS. Under the project, state-specific workshops were conducted in the Great Lakes region, with the focus of each based on the status of that state's ANS management plan. The six states included Wisconsin, Minnesota, Pennsylvania, Michigan, Indiana, and Ohio.

The purpose of this SMP session was for participants to hear from the states on lessons learned from these workshops, including the benefits of taking a collaborative approach in development and implementation of the plans. Presentations were given by six state representatives who participated in the SMP project, each involved in leading state-specific workshops on ANS state management planning. These presentations provided the basis for afternoon breakout sessions regarding state and regional ANS management planning.

Before the state presentations, Glassner-Shwayder also mentioned the Great Lakes Regional Collaboration (GLRC) and recommended priorities on ANS prevention and control. She noted some of the GLRC recommendations as listed below:

- **Maritime commerce**—Elimination of ship- and barge-mediated introduction and spread of AIS in the Great Lakes
- **Canals and waterways**—Enactment of federal, state, and local measures to ensure that the region's canals and waterways are not vectors for AIS
- **Organisms in trade**—Prevention of introduction and spread through trade and potential release of live organisms
- **Evaluation**—Development and evaluation of cost-effective vector-specific O&E programs

Emphasized was the need for cooperation, coordination, and collaboration, given the realities of limited resources. People were also encouraged to build partnerships and brainstorm ideas to leverage action on ANS state management planning during the breakout sessions.

Erika Jensen (GLC Sea Grant Fellow) discussed the collaborative project in more detail. Workshops were held with the six states between October 2005 and April 2007. A briefing paper, originally drafted in 2005, is being updated and will be finished this summer. In addition, materials from the workshops are available at [www.glc.org/ans/initiatives#advance](http://www.glc.org/ans/initiatives#advance). Jensen encouraged people to read the final briefing paper when it becomes available. An executive summary was included in the conference packet that the GLC provided at the registration table.

## State Perspectives on the Collaborative Approach

### *Progress in Wisconsin on the State Aquatic Invasive Species Management Plan*

Phil Moy (Wisconsin Sea Grant) reported that the Wisconsin AIS management plan was finished in 2003. Lately, Wisconsin has focused on distribution of an AIS resource handbook. This handbook was developed by the Wisconsin DNR, in coordination with Wisconsin Sea Grant and the University of Wisconsin Extension. It lists AIS resources (people, websites, and other), includes information on management/control and educational programs, and empowers conservation district managers and lake association members.

Moy described several projects being implemented as part of Wisconsin's AIS program, including watercraft inspection; various signage; monitoring efforts for zebra mussels, Eurasian watermilfoil, spiny water fleas, rusty crayfish, and the toxic blue-green alga *Cylindrospermopsis*; purple loosestrife biocontrol; research (focusing on predictive models); and AIS grants pertaining to education, early detection and rapid response, and control of established populations.

### ***Progress Toward a Comprehensive Invasive Species State Management Plan for Minnesota***

Doug Jensen (Minnesota Sea Grant) explained that Minnesota has had an invasive species program established within the Minnesota DNR since 1991, but efforts to write the SMP have stalled several times. With leadership from the Minnesota Invasive Species Advisory Council (MISAC), funding from the GLC, and guidance at the SMP workshop, an effort to develop a comprehensive state plan is again underway.

Minnesota decided to develop a comprehensive plan for a number of reasons, including among others requirements in statute for the Minnesota DNR and Minnesota Department of Agriculture, a common structure for coordinating and guiding state responses, similar goals and strategies for all types of invasive species, a common vocabulary, strengthened relationships and new partners, and shared lessons in both the terrestrial and aquatic arenas. He added that the ad hoc drafting team of MISAC representatives developed a systematic approach for writing and reviewing the SMP. The draft plan includes four elements: prevention, early detection and rapid response, management, and leadership and coordination.

Jensen then discussed the workshop held October 24, 2005, in Roseville. Goals of this facilitated workshop included assisting development and implementation of a comprehensive statewide plan on invasive species, providing a forum for further review and comment on a framework for the draft plan, and determining which actions organizations could help with or what resources stakeholders could provide. Breakout sessions provided good forums for achieving the goals. Evaluations also suggested that the workshop was successful. Based on the Minnesota experience, he encouraged other states to develop plans to include terrestrial and aquatic invasives. He also suggested that looking at frameworks of other plans can help drafting teams understand the approach to invasive species management. After only a few more steps, Jensen believes that the final aquatic portion can be submitted to the ANSTF for approval later in 2007.

### ***Pennsylvania Aquatic Invasive Species SMP in the Context of a State Invasive Species Council***

Jim Grazio (Pennsylvania DEP) discussed a number of invasive species of concern in his state. To address these species, Executive Order 2004-1 created the Pennsylvania Invasive Species Council, made up of seven state agencies, academia, and industry. Because efforts to develop a comprehensive SMP had languished, interested parties thought a workshop could renew energy for developing Pennsylvania's SMP. This workshop was conducted October 26 and 27, 2005, for 65 participants. These participants broke into terrestrial, aquatic, and funding groups.

Grazio reviewed outcomes for the AIS management plan, including the goal, definition of AIS, objectives, and priority actions. Despite a lack of action in 2004, the aquatic section of the plan was finished in October 2006, thanks to help from the GLC and its collaborative approach. The plan was signed by Governor Rendell on November 3, 2006, and approved by the ANSTF in February 2007. The aquatic plan can also serve as a model for the terrestrial plan. Cathy Curran Myers (Pennsylvania DEP) commended John Booser (also of Pennsylvania DEP) for making things happen. Now that the plan is approved, she will make it a state and regional priority under the Growing Greener program.

### ***Invasive Species Regulation in Michigan: Stakeholders Workshop***

Carol Swinehart (Michigan Sea Grant) reported on invasive species regulation in Michigan, initiated about 10 years ago when the Michigan SMP was approved and bolstered by the Transgenic and Invasive Species Act of 2005, which included lists of prohibited and restricted species that legislators considered invasive. Among other requirements, this act created the Invasive Species Fund, supported by collection of fines for possession, as well as the Invasive Species Advisory Council (ISAC), covering both aquatic and terrestrial species. Members of ISAC are also members of the preexisting

ANS Council, although that group includes other entities as well. The ANS Council is responsible for overseeing implementation of Michigan's SMP. Swinehart said that these two groups have been meeting jointly since October 2006 and may be integrated at some point.

She then discussed the foci of the Michigan workshop, which was designed to elicit stakeholder perspectives on the development of a process for listing/delisting prohibited and restricted species, as part of a regulatory approach to invasive species management. This workshop was held September 21, 2006, in Bath. Feedback on the workshop was generally good, although some people were disappointed that the workshop discussion wasn't designed to actually draft the process. However, based on workshop outcomes, ISAC staff developed a draft process and information guide. Sea Grant also held a follow-up meeting and invited workshop participants to present comments on the draft documents to the ISAC staff. Only five sets of comments were submitted, indicating that not everyone who was initially interested carried through. ISAC staff will now consider comments and discuss the final process and information guide. These elements will likely be incorporated when the SMP is next updated.

### *Indiana Digs into the Aquatic Plant Trade*

Kristin TePas (Illinois-Indiana Sea Grant) and Doug Keller (Indiana DNR) talked about the workshop's role in helping Indiana develop strategies to manage organisms in trade. Indiana has had troublesome outbreaks of hydrilla and Brazilian elodea, so the workshop timing was perfect to address aquatic plants in trade. Several presentations were made at the workshop, which took place at the annual Indiana Green Expo, after which people participated in breakout sessions to discuss important components of a regulatory approach, voluntary best management practices that the plant industry could adopt, and helpful O&E strategies. TePas summarized results of these breakout sessions, which were consistent among the various groups, as well as next steps for the newly formed Indiana Invasive Aquatic Plant Working Group.

The Indiana SMP was approved in 2003, and to date, Keller has primary responsibility for tracking implementation. Although other states' plans are more general, Indiana focused its plan on the plant trade. He explained how the state has been implementing activities regarding rapid response, early detection and monitoring, control of established AIS, outreach, and regulation. Much of the AIS effort is focused on rapid response to new infestations of Brazilian elodea and hydrilla, and funding has "cannibalized" other state programs. Keller expressed his frustration that federal agencies provide little if any funding, even for a federally regulated plant such as hydrilla and especially when it is an outlier of established populations in the United States as the Indiana infestation is.

### *Development of Ohio's Rapid Response Plan for ANS*

Ohio's ANS state management plan was approved in 1997, and the state is now developing a rapid response plan as a component of an updated plan. John Navarro (Ohio DNR) provided a brief overview of the rapid response plan, while Eugene Braig (Ohio Sea Grant) provided an overview of the process for developing the plan. Funding for public input came from a National Sea Grant grant (via the GLC). The plenary session at the workshop included a number of ANS presentations, followed by breakout or nominal group sessions. Braig reviewed results from each nominal group. Following reports to the full group, six priorities were identified: 1) a "war chest" of designated funding, 2) a framework or flowchart for problem solution, 3) formalized monitoring programs, 4) continued prevention, 5) an approved set of tools for rapid response situations, and 6) species prioritization.

According to Navarro, information from the workshop will be used to draft a rapid response plan, after which it will be incorporated into Ohio's revised SMP. The ANS Advisory Committee will reconvene to review those documents.

### ***Common Themes from Great Lakes SMP Workshops in Building a Framework for Regional ANS Management***

Glassner-Shwayder thanked presenters for sharing lessons they had learned through respective state-specific workshops as part of the SMP collaboration project. Several issues were discussed in a spectrum of activities related to SMP development and implementation. As an example, she mentioned the rulemaking processes under development in Michigan for listing and delisting invasive species in the state. Also noted was a potential opportunity for regional panels to submit similar projects to Dorn Carlson (NOAA) as regional priorities for grant consideration and methods for reviewing aquatic portions of comprehensive state plans. To provide access to the workshop activities and outcomes, Glassner-Shwayder will post the session presentations to the GLC website with permission from presenters. She also plans to post the final project briefing paper when it is finalized.

She then summarized common themes from the Great Lakes SMP workshops in building a framework for regional ANS management. The benefits were numerous; the workshop...

- Advanced SMPs at various stages in the process.
- Accommodated differing priorities and contexts among the states.
- Provided a framework for further SMP-related activities.
- Raised awareness among stakeholders and promoted buy in.
- Strengthened partnerships among state agencies, Sea Grant programs, and regional entities.
- Streamlined sharing of resources among the lead organizations.
- Identified gaps and unmet needs to address in the future, such as vector-based analysis, a mechanism to measure progress under the SMP process, and enhanced relationships between the states to facilitate regional ANS management planning.

Two recommendations were forwarded to the ANSTF: encouraging the ANSTF to work with partners to obtain authorization for additional funding for regional panel and pursuing federal assistance (such as equipment and people) to implement state-led control and response strategies.

### **Breakout Session I**

ANSTF and audience members were invited to participate in two rounds of breakout sessions to brainstorm on the SMP process, with the first session focusing on state ANS management planning and the second on regional management potential. Breakout sessions were facilitated by Glassner-Shwayder (Group 1), Rochelle Sturtevant (Great Lakes Sea Grant Network, Group 2), and Frank Lichtkoppler (Ohio Sea Grant, Group 3). People were randomly assigned to groups by numbering off. In their groups, the following topics were provided to help guide discussion:

1. Strategies used by Great Lakes states contributing to success of SMPs.
2. Challenges in SMP development/implementation and strategies for addressing them.
3. Ways to use federal funding, if received.
4. Usefulness of ANSTF guidelines for SMP development and preferred apportionment of ANSTF funds for SMPs.

After each round of discussion, a spokesperson for each group reported back to the plenary. Below are the priority issues advanced by each group for round one:

#### ***Group 1***

- Regarding funding allocation, consideration should be given for a set number of years that a state can receive funding at a given amount (a new approach to funding with a sunset clause).

- Regional panels should have their members review the SMP guidelines and identify which priorities to keep. The reviewed guidelines should be forwarded to the Executive Secretary, who could then write a draft revision of the guidelines to send out to the ANSTF and regional panels for comment.
- Key guiding principles to help the states begin developing their plans are the following: dedicated funding (seed money), a dedicated person, stakeholder buy-in (through simple economical analyses of who will benefit or be harmed by ANS), and an expert from a neighboring state that has a completed or nearly completed plan.
- Economic analysis of invasive species will help gain political support.

### *Group 2*

- Use cost-sharing programs, which have been successful in some states.
- Go beyond environmental impacts and use economic impacts to sell the issue.
- Share success stories, such as situations where people successfully prevented zebra mussel introductions.
- Promote prevention through public education, watercraft inspections, early detection and monitoring, and enforcement.
- Find key constituencies to support SMPs, such as The Nature Conservancy, lake groups, and others who can influence legislators.
- Develop a structure that coordinates reporting among different levels “up and down the chain.”
- Revise guidelines to accept terrestrial as part of comprehensive plans, even though ANSTF funding could be used only for aquatic SMPs.

### *Group 3*

- Sharing experiences, such as through state-to-state mentoring, is key for guiding others.
- Groups could share their success stories for how they found creative funding solutions, leveraged funding, involved all stakeholders, and avoided “turf wars” among agencies.
- Apportionment of SMP funding must recognize that all stages of the process have real funding needs. Equal distribution is the fairest way to apportion existing funds. If more funding is available, rapid response might drive additional apportionment of funds.

After spokespeople shared group priorities, the floor was opened to discussion. Two main issues emerged: framing public outreach to leverage desired outcomes regarding ANS prevention and control and finding additional funding. It was noted that, to date, the approach taken for ANS outreach efforts has been “fear-based” in conveying information on ANS problems. Concern was expressed that a negative approach may not be most effective when asking people to invest and measuring success by the amount of money garnered. It was suggested that there be a shift to frame the discussion in terms of positive outcomes to stakeholders, whether they are regular taxpaying citizens or legislators: show them how they can benefit from an SMP and activities to prevent or control ANS.

People suggested a variety of ways to find additional funding. Some consultants work with environmental organizations to develop long-term funding strategies and financial management plans. Other federal grant programs can be potential sources of funds if it shows how they fit with an SMP. The regional panels have started to leverage private funding sources as well, a strategy that also gives corporations opportunities to advertise their environmental stewardship. The Sea Grant Program, which does have a lobbyist, can pursue more of its appropriation, so those having anything to do with Sea Grant should be talking to their directors.

## Breakout Session II

Groups reconvened to discuss ideas to address the following topics about regional ANS management:

1. Potential feasibility and benefits of coordinating ANS management plans on a regional basis to address broad-scale issues.
2. Potential ANSTF and federal agency roles in development/implementation of ANS management plans at state and regional level.
3. Ways for regional panels to interact with each other and the ANSTF to advance the SMP process.

Again, priority issues were shared in a plenary session and followed by open discussion.

### *Group 1*

- A listserv approach should be used for regional communication among ANS panels.
- Efficiencies in resource allocation are needed (such as pooling resources to address a regional priority). The following examples were offered as a regional approach to leveraging resources: the regional rapid response plan for zebra mussel invasions of the Columbia River Basin in the Pacific Northwest; species-specific plans developed by the Chesapeake Bay Foundation; and a regional monitoring program using a standardized approach.
- More voices from a regional ANS group are needed to leverage funding from federal agencies, Congress, and others.

### *Group 2*

- Develop a regional rapid response plan such as that for the Columbia River Basin.
- Use individual SMP strengths to identify ideas for a regional approach.
- Get federal agencies involved at the local level and discourage excessive representation from any one department.
- Have liaisons among the regional panels.

### *Group 3*

- People shouldn't jump into regional planning until state plans are all in place. If funding is diminished, it is better to stay with state plans. There is a need to strengthen consistency among state plans. Given that each of the plans are submitted separately, they are not reviewed for consistency collectively.
- The ANSTF needs to look at what the federal agencies can provide in in-kind contributions.
- Groups are sharing their experiences. Federal involvement in regional panels is important for knowing federal counterparts and maintaining lines of communication.

Discussion following spokespersons' reports focused on sunseting funding on SMPs (which would also lead to sunseting reporting to the ANSTF) and measuring results. The co-chairs commented that they would further discuss information garnered through these sessions and come back to the ANSTF with responses.

It was also decided that the regional panels develop recommendations for the ANSTF regarding SMP guidelines, regional approaches to management, and SMP funding approaches. Glassner-Shwayder reiterated that results of the breakout sessions will be posted to the GLC website along with the briefing paper and presentations.

### Day 3 Welcome and Asian Carps Management and Control Plan

Following the welcome by ANSTF co-chairs, Greg Conover (USFWS), chair of the Asian Carp Working Group (ACWG), provided an update on the draft Asian carps management and control plan. Conover presented a progress update, overview of public comments received, summary of revisions to the draft plan, discussion of unresolved issues within the ACWG, and timeline for submittal of the completed plan.

The draft plan has been revised based on ANSTF and public comments received. The ACWG was provided a final 4-week review of the revised draft. Following the ACWG review, which will be complete in late May, final comments will be addressed and the completed plan submitted. Comments were received from 29 members of the general public, ranging from general support to lengthy technical comments. Numerous revisions were made based on the comments received. Although most were minor, a few substantial revisions were made. Among the most substantial changes were the removal of pathway risk levels, the combining of two strategies addressing international import into a single strategy, and the addition of three new strategies and seven recommendations. Potentially of most interest is how the two unresolved issues within the ACWG are addressed in the revised plan. The two issues remain in the plan and are recognized as unresolved issues; however, the plan contains no recommendations regarding these issues. Instead, the detailed discussions regarding these issues have been placed in appendices and now include an objective overview of a range of potential alternatives. This approach conveys considerable information about these issues for consideration by policy and decision makers using the plan. Regardless of federal regulations, each state will need to address and resolve these two issues.

Conover suggested a timeline for completing the plan. He proposed to make revisions resulting from ACWG review in June/early July and then submit the plan to the ANSTF in July. By doing so, ANSTF concerns could be addressed before the fall meeting. Conover also requested that the ANSTF consider the revised plan for approval prior to the fall meeting, if possible, so that the ANSTF can begin to address implementation issues during the next meeting. Conover reviewed recommendations in the plan relative to cooperative implementation of the plan and called to the attention of ANSTF members the recommendation by the ACWG that the ANSTF develop an implementation team to oversee and drive coordinated implementation. The management plan does not recommend who should be on the implementation team, but it describes the need for a smaller group than the ACWG composed of key members familiar with and able to direct respective agency programs and resources. Following establishment of an implementation team, immediate actions include developing institutional arrangements, prioritizing plan recommendations, and developing budget initiatives to fund implementation.

Conover commented that, all in all, drafting the plan was the easy part; implementing it is going to be considerably more challenging. ANSTF members agreed with the timeline and process, deciding to review the plan intersessionally, with comments due 30 days after delivery. Implementation will be further discussed at the fall ANSTF meeting, but in the meantime, thought will be put into criteria for implementation team members.

### Canal Barriers

The GLP and MRBP submitted letters requesting that the ANSTF support legislation introduced earlier this year calling for completion and operation of the Chicago Sanitary & Ship Canal (CSSC) barriers by the federal government. In a responding letter, the ANSTF cited its continued support for a permanent barrier system and noted the Bush administration's support in the President's 2008 budget. Executive Secretary Newsham reviewed the panels' requests and ANSTF reply.

Chuck Shea (ACOE) updated participants on the operational, funding, and legislative picture of the CSSC barriers. The demonstration barrier is working well and will remain in operation at least until Barrier IIA is online. Current funding will allow operation of this barrier through the 2007 fiscal year. The second, more permanent barrier is being built in two phases: Barrier IIA and Barrier IIB. Shea discussed the status of the first phase and problems that are being addressed. To date, the electric field for Barrier IIA spreads farther than designed, resulting in safety concerns. Studies are being conducted to analyze potential for sparking between boats, potential for corrosion of metal hulls, and physiologic impacts on a person in the electrified water. A report on the most recent sparking and corrosion potential tests is currently being developed by the ACOE, after which it will go to the USCG and then to the public. An initial report from the Navy on the physiologic impacts is expected to be completed in July. Commanders of the ACOE and USCG will review these reports and determine next steps. Funding has not been available to start Barrier IIB yet. Shea listed some other outstanding issues, including necessary authorization and appropriations, demonstration barrier's role in the future, cost-sharing partners, and operation and maintenance responsibilities. All of these concerns are addressed in introduced legislation, but none have been resolved.

Bill Howland (Lake Champlain Program) expressed his concern with canals in his region and requested more input from regional panels on canals and the pathways they provide in other areas of the country and the approaches being taken to address them. Participants affirmed his concern and discussed the potential for barriers in other systems whether they are used for navigation or irrigation. In fact, the GLRC document includes a section on canals and waterways. One question concerning people has been about how to preclude movement of invasives but maintain movement of natives.

### **Viral Hemorrhagic Septicemia in the Great Lakes**

VHS is considered one of the primary and most serious diseases of fish worldwide. Federal and state actions are being taken to address VHS in the Great Lakes. The ANSTF wondered what role it could play in ensuring that a coordinated response continues. Ken Seeley (APHIS) spoke briefly about coordination occurring between the Veterinary Services and NEPA Compliance groups within APHIS to address different components of the problem. Veterinary Services issued an emergency order to ban movement of fish among eight states and three provinces. That order was followed up with two amendments allowing for some movement and angling. Efforts are now focused on completing an interim rule that will ultimately lead to a permanent or comprehensive rule regulating criteria for movement of fish and protocols for testing of fish. Section 7 consultation with NOAA and the USFWS is nearly complete, after which the NEPA analysis will begin. Although the emergency order didn't address frozen bait (and therefore the interim rule cannot either), the permanent rule will likely address this concern.

Lieutenant Heather St. Pierre reported on the USCG's response. The ballast water discharge standard on which the USCG has been working addresses a wide range of organisms including viruses and bacteria, and the USCG is working with APHIS on this specific issue. The draft programmatic environmental impact statement, which analyzes several standards, is scheduled for release this summer.

Bill Culligan (New York Department of Environmental Conservation) then reported on aggressive actions being taken in New York, as well as current regulations and proposed actions. Mass mortalities related to VHS were first reported in New York in 2006, after which various waterbodies were tested for the virus. Fortunately, the DEC is authorized to take aggressive action on epizootic diseases endangering the health and welfare of native fishes. Pathways were identified, and then courses of action were developed for the pathways of greatest risk. Culligan discussed several of these actions and emergency regulations implemented to control the spread of VHS within and beyond the state. These actions include limiting transfer of bait and fish between waterbodies, testing locations

throughout the state, and holding public information meetings. Current emergency regulations focus mostly on fish stocking, bait fish, and transport. Future actions entail reviewing and evaluating comments received on the proposed regulations, filing the final regulations, expanding the VHS surveillance program, training fish-sample collectors, learning more about the disease, and expanding O&E efforts.

ANSTF discussion focused on the range of response among Great Lakes states, especially among hatchery practices. New York's response has been strong, while other states have made less significant or few changes to their practices. Although responses will never be the same, they could be better coordinated. The regional panels and GLRC have been following the issue and could enhance communication among appropriate states. Earlier in the meeting, the WRP had recommended that VHS be recognized as an ANS as well as a fish pathogen to focus attention on the virus. Some western states have advanced fish health programs while others have no such programs. Including it as an ANS might elevate it as an issue of concern. USFWS staff agreed to discuss the issue and return with a statement.

### Great Lakes Regional Collaboration

Michael Hoff (USFWS) spoke about changes to the Great Lakes fisheries, background of the GLRC, development and implementation of the AIS strategic action plan, and lessons learned through this collaboration.

To address concerns about degraded fisheries and lack of agency coordination, Executive Order 13340, signed by President Bush in May 2004, established an interagency task force and a "regional collaboration of national significance," and the GLRC was born. One of eight teams in the GLRC focused on AIS and worked hard to develop the strategic action plan within the year allotted (December 2004 to December 2005). Hoff listed co-chairs and drafting team leaders and summarized the schedule for developing the plan.

He also discussed goals and recommendations included in the plan. Recommendations, each of which stipulate a number of specific actions, address maritime commerce; canals and waterways; organisms in trade; control, rapid response, management, and coordination; and O&E. Hoff reviewed priority actions in the plan and the status of their implementation, although most have not yet been accomplished. The GLRC also recommended working with Canada to develop shared objectives, harmonize regulations, and coordinate law enforcement.

According to Hoff, the strategic action plan can be used as a model for AIS prevention and control in other large ecosystems and the nation. The project was successful in that it accomplished the federal mandate, which had clear objectives and a timeline, it included a wide range of stakeholders and the public, and the leadership structure of the AIS team and drafting teams was effective. Of course, implementation of most recommendations will require additional authorizations and appropriations. He listed GLRC legislation that was introduced in 2007 and invited participants to view the complete strategic action plan at [www.glr.us](http://www.glr.us). Hoff added that, although the GLRC has not been disbanded, the executive committee, called the Regional Working Group, still meets.

### Closing Business and Adjournment

Executive Secretary Newsham reported that no one had signed up to make public comments. He then reviewed decisions and action items with participants. He encouraged regional panels to submit recommendations intersessionally, not just at the semi-annual ANSTF meetings. He commented that he and the co-chairs had taken notes on other administrative actions to address internally. Newsham also requested that people send him possible agenda items for the fall 2007 meeting in the Washington, DC, area (date to be determined) and noted several that had already been mentioned:

- Department of Defense (regulations and guidelines concerning ANS at military installations, role of the Armed Forces Pest Management Board, representation on regional panels)
- Climate change and its ramifications for invasive species
- Long-term funding strategies

Prior to adjourning the meeting, Co-chair Parker invited ANSTF members to comment on the meeting. Many thanked the GLP for hosting the event at the Tom Ridge Environmental Center and coordinating the *Victorian Princess* harbor cruise. The meeting was adjourned at 11:55 AM.

## ACRONYM LIST

ACOE	U.S. Army Corps of Engineers	MARAD	U.S. Maritime Administration
ACWG	Asian Carp Working Group	MARP	Mid-Atlantic Regional Aquatic Nuisance Species Panel
AIS	aquatic invasive species	MRBP	Mississippi River Basin Panel
ANS	aquatic nuisance species	NEANS	Northeast Aquatic Nuisance Species Regional Panel
ANSTF	Aquatic Nuisance Species Task Force	NEPA	National Environmental Policy Act
APHIS	Animal and Plant Health Inspection Service	NMP	national management plan
CSSC	Chicago Sanitary & Ship Canal	NOAA	National Oceanic and Atmospheric Administration
DEP	Department of Environmental Protection	O&E	outreach and education
DNR	Department of Natural Resources	SMP	state management plan
GLC	Great Lakes Commission	USCG	U.S. Coast Guard
GLP	Great Lakes Panel	USEPA	U.S. Environmental Protection Agency
GSARP	Gulf and South Atlantic Regional Panel	USFWS	U.S. Fish and Wildlife Service
HACCP	Hazard Analysis Critical Control Points	VHS	viral hemorrhagic septicemia
ICS	Incident Command System	WRP	Western Regional Panel
ISAC	Invasive Species Advisory Council (for Michigan)		

## SPECIES LIST

a blue-green alga	<i>Cylindrospermopsis raciborskii</i>
Brazilian elodea	<i>Egeria densa</i>
common carp	<i>Cyprinus carpio</i>
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
hydrilla	<i>Hydrilla verticillata</i>
New Zealand mudsnail	<i>Potamopyrgus antipodarum</i>
nutria	<i>Myocastor coypus</i>
purple loosestrife	<i>Lythrum salicaria</i>
quagga mussel	<i>Dreissena rostriformis bugensis</i>
rainbow trout	<i>Oncorhynchus mykiss</i>
rusty crayfish	<i>Orconectes rusticus</i>
snakehead	<i>Channa argus</i>
spiny waterfleas	<i>Bythotrephes longimanus</i>
zebra mussel	<i>Dreissena polymorpha</i>