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## AQUATIC NUISANCE SPECIES TASK FORCE: MINUTES OF THE 2012 FALL MEETING NOVEMBER 14–15, 2012

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On November 14–15, 2012, the Aquatic Nuisance Species Task Force (ANSTF) met at the U.S. Fish and Wildlife Service (FWS) in Arlington, Virginia. Decisions and action items are listed below, followed by a summary of the two-day meeting.

### Decisions

The ANSTF made the following decisions:

- Approved minutes from the spring 2012 meeting
- Approved Ohio State Aquatic Nuisance Species Management Plan pending changes
- Approved Water Garden Guidelines
- Approved Recreational Guidelines
- Approved ANSTF Strategic Plan Reporting Matrix and timeframe
- Approved U.S. Forest Service membership on Great Lakes Panel

### New Action Items

The ANSTF assigned the following action items:

- (Executive Secretary) Update ANSTF on opportunities to work with landscape conservation cooperatives (LCCs) at next meeting
- (Prevention Committee) Provide guidance for pathway management plans and a list of pathways to be considered for plan development
- (Executive Secretary) Schedule an eDNA session for the next ANSTF meeting in consultation with ANSTF members
- (Executive Secretary) Provide a link on the ANSTF website to the National Oceanic and Atmospheric Administration (NOAA) Lionfish Plan
- (ANSTF and Panels) Provide Laura Norcutt with Snakehead Plan comments by December 21, 2012
- (Executive Secretary) Hold a members call to discuss agency processes for populating reporting matrix for the ANSTF Strategic Plan
- (Executive Secretary) Establish an ad-hoc committee to define federal roles and responsibilities of all federal ANSTF and the National Invasive Species Council (NISC) member agencies associated with the management of *Dreissena* mussels.
- (Outreach Committee) Incorporate evaluation measures into the outreach efforts of the newly revised Recreational Guidelines to assess their impact on public behavior
- (ANSTF) Review the top 40 priorities for the National Asian Carp Plan
- (Classroom Guidelines Ad-hoc Committee) Address concerns about the Classroom Guidelines and have them ready for approval at the May meeting.
- Develop a FY13 ANSTF Report to Congress
- Crosswalk 40 priorities from the National Asian Carp Plan with the Framework by the end of December to seek collaboration opportunities.

## 1. Welcome and Preliminary Business

Peg Brady, Acting NOAA ANSTF, welcomed participants to the meeting. Brady attended on behalf of NOAA Co-Chair Eric Schwaab, Acting Assistant Secretary for Conservation and Management, who could not participate. Brady thanked Executive Secretary Susan Mangin, FWS, and FWS staff for organizing the meeting. Mike Weimer, Acting FWS co-chair, extended apologies for Jeff Underwood, Acting Assistant Director for Fisheries and Habitat Conservation, who could not attend. Mangin reviewed meeting logistics.

### ***Self Introductions***

ANSTF members and audience members introduced themselves.

## 2. Adoption of Agenda/Approval of Minutes/Review of Previous Action Items

Following introductions, the ANSTF approved the agenda for this meeting and the meeting minutes for the spring 2012 meeting in Annapolis, Maryland.

Mangin reviewed action items from the spring meeting:

- Disseminate GAO audit letter to ANSTF members—Completed
- Explore opportunities for ANSTF and Panels to assist with planning National Invasive Species Awareness Week (NISAW) activities—Session 22
- Establish an ad-hoc committee to develop an operation plan supporting the ANSTF Strategic Plan—Session 13
- Resend draft recreational guidelines to ANSTF and panels for review—Session 12
- ANSTF co-chairs, NISC, and Doug Asten meet to discuss opportunities to work with LLCs—A meeting with Doug Asten was held and 22 LCCs have been identified with the main goal of addressing landscape issues through public and private partnerships. Stas Burgiel, NISC, will report at the spring meeting.
- Develop a scoping committee to explore whether an invasive crayfish ad-hoc committee should be established—To date, this committee has not been established. Whitman Miller recommended developing a management plan for the pathway rather than individual bait species and recommended reviewing the report prepared from a 2009 workshop on pathway analysis where live bait was a theme. The Smithsonian Environmental Research Center (SERC) has been pursuing at least one project that examines how bait is transported into the country. Lisa Moss, FWS, recommended consulting the proceedings from the 2010 Maryland Sea Grant conference. The ANSTF agreed to have the Prevention Committee scope out pathways guidance and develop a list of pathways for prioritization with the help of the Regional Panels.

## 3. Discussion: Status of Nonindigenous Aquatic Species Database

Sharon Gross, U.S. Geological Survey (USGS), thanked the ANSTF for writing a letter highlighting the importance and critical nature of the Nonindigenous Aquatic Species (NAS) database after funding cuts in Fiscal Year 2011 (FY11) affected the NAS database. Although they were able to backfill the cut sustained 2 years ago, an additional \$50,000–60,000 is needed annually to cover basic operation. Therefore, special requests from database users cannot be honored at this time. Any USGS budget increases have been targeted to Asian carp efforts and are committed before even obtained. Pam Fuller, USGS, commented that users have expressed concern that plants are no longer included in the database. Unfortunately, returning plants to the database would cost about \$100,000. However, the USGS has no plans to discontinue the database. The USGS also runs the Biodiversity Information Serving our Nation (BISON) database, which is much larger and into which the NAS database will

feed. John Darling, U.S. Environmental Protection Agency (EPA), suggested using support for the BISON database to leverage support for the NAS database.

#### **4. Discussion: Addressing Aquatic Invasive Species Issues at Federally Managed Water Bodies**

Mangin reported that the FWS is drafting a letter to Lori Williams, NISC, who will elevate the issue of regulating ANS movement onto and off of federally managed lands to the NISC policy liaisons. Mangin and AIS staff met with FWS refuges personnel about this issue. Craig Martin, FWS, added that a workshop held in Phoenix, Arizona, produced an action item for federal partners to develop regulations for federally managed and nonfederal properties. The FWS met with the National Park Service (NPS) and Bureau of Land Management (BLM) to review and clarify existing regulations. The FWS appears to have the authority to limit movement of ANS onto and off of refuges, and the NPS has the authority to regulate movement onto the lands they manage. However, the BLM does not appear to have the authority to control movement onto or off of BLM-managed lands. At this time, pursuing BLM regulations to prevent movement onto and off of BLM-managed lands seemed to be the most efficient approach. Williams agreed that the overall message is applicable to pathway and regulation issues, and that NISC can work across agencies to ensure that federal regulations provide the appropriate authority. In addition, several States are determined and willing to help stop the movement of zebra (*Dreissena polymorpha*) and quagga (*Dreissena rostriformis bugensis*) mussels.

#### **5. Informational: Lake Meade Update**

Mangin reported that in FY12, \$1 million was earmarked for law enforcement efforts in the lower Colorado River. If this funding is available in FY13, it could support decontamination stations, specialists, Level 2 decontamination training, outreach efforts for Nevada and Arizona, development of a database of boats moored at Lake Meade and boat movements, inspection and decontamination of boats at nearby waterbodies, and law enforcement activities in six states.

#### **6. Informational: Canada's New Aquatic Animal Importation Regulations**

Joel Bader, FWS, discussed new Canadian aquatic animal import and export regulations and their potential impacts to U.S. fisheries. These regulations, enforced as of December 10, 2012, stem from concern about how animals are moved across the border. Three U.S. agencies are cooperating under the aquatic animal health plan and will serve as "Competent Authorities," each with its own role. Animal and Plant Health Inspection Service (APHIS) will oversee import and export of farmed animals, exports, and reportable pathogens; NOAA Fisheries, wild marine animals and aquaculture in the exclusive economic zone (EEZ); and the FWS, freshwater fish and salmonid imports (per the Lacey Act).

Bader summarized the Canadian regulations, which lay out new import requirements for 405 aquatic species, 24 different end uses, and 35 diseases. The new regulations will affect the FWS's enforcement of Title 50 salmonid fish regulations, including import of life fish and whole, unviscerated carcasses. Only officials with the Canadian Food Inspection Agency (CFIA) can issue the export certification forms (similar to Form 3-177), although Title 50 certifying officials can certify exports in collaboration with the CFIA. Veterinarians from the agency will be trained to certify salmonids for import to the United States and be granted Title 50 Certifying Official status. Canadian labs can continue inspections, but only certified labs can issue health certificates. They will also continue testing for existing pathogens of concern for the United States. U.S. importers need to contact the CFIA for proper health inspections and certificates before shipments leave Canada.

Christa Speekmann, APHIS, addressed changes to other species. Of the 405 species, most were not subject to any import controls before, except for the salmonids. For salmonids, the changes are minor.

Implementation is in a staged approach, starting with health certificates to address U.S. exporters' needs. The second stage is developing alternatives equivalent to a certification program that meets Canada's import regulations and are consistent with business needs. They're also looking at regionalization concerning different disease statuses between countries. If conditions are the same in Canada and the United States, then those commodities should be able to move freely.

The APHIS website provides a link to Canada's website with information on new aquatic animal import regulations. These regulations address three health certificates: aquatic animals and germplasm intended for culture (the most stringent); live ornamental aquatic animals intended for commercial aquarium use in closed premises (the least restrictive, which allows U.S. exporters to ship without testing, but animals must be held for seven days and visually inspected); and live aquatic animals and germplasm intended for research and education (similar to those for germplasm for culture). A "closed" facility in Canada is one that treats effluent water or disposes of it into municipal waste.

## 7. Informational: Water Hyacinth Update

Martin described water hyacinth (*Eichhornia crassipes*), a nonrooted flowering plant and one of the world's worst weeds. It is the most traded plant species for water gardens and very important economically in the water garden industry; however, several states prohibit possession of water hyacinth and interstate transport is prohibited under Federal law. Martin also listed its many negative environmental and economic impacts.

A map of its distribution worldwide showed strong presence in Central America, southeastern United States, and the West Coast. South America, parts of Asia and the Australian East Coast also show a considerable presence. The aquatic plant is considered an invasive species in most countries.

Recently, Florida prohibited the interstate transport of water hyacinth, but state nursery growers, recognizing that this plant could be imported from Canada and is widely available on the Internet, requested the ability to export in certain circumstances. The rules were then changed to allow export to other states where the plant may be legally possessed. At this time, it was discovered that interstate transport has been prohibited since 1956, even though it is not listed as a federal noxious weed or included under the Lacey Act (which lists only injurious wildlife, not plants).

Martin covered over 100 years of history, starting when water hyacinth became an issue of national significance in the late 1890s. Navigation in the Atlantic South and Gulf States was increasingly challenging as the plant clogged waterways, hindering commerce and damaging local ecosystems. In 1956, Senator Willis (Louisiana) sponsored the bill that prohibited interstate transport (PL 84-874).

During the early stage of introduction, the cost of prevention is lower and efficiency is higher. The subsequent stages of invasion—survival, establishment, and spread—require early detection/rapid response, containment, and control/restoration or human adaptation, respectively, with the cost and efficiency scale sliding toward higher costs and lower efficiency. Regarding water hyacinth, Congress recognized in 1956 that we were at the containment phase associated with an established invasive. A map of the United States showed established populations throughout the Southeast, with movement north and west. Another map showed results of an ecological risk screening based on climate information from where it occurs worldwide.

A press release from August 2012 reported that although all water hyacinth plants, thought to have been introduced by a citizen, were removed by hand and destroyed near Buffalo City, Wisconsin, another infestation found in 2012 suggested that the plants survived the winter. Yet another infestation occurred in a geothermally influenced section of the Snake River in Idaho.

Federal prohibitions have largely not been enforced up to this point. Next steps could include outreach to industry and State counterparts. The Invasive Species Advisory Council (ISAC) just completed an

eCommerce white paper, which could be an opportunity for the ANSTF to work with ISAC to identify invasives that are traded through the Internet. The paper reviews regulations and provides specific recommendations to federal agencies. Listing processes, postal and delivery services, technologies, and what various federal agencies can do are still being considered.

After the presentation, Erika Jensen discussed Great Lakes Commission (GLC) activities regarding eCommerce and trade. The GLC received funding via the Great Lakes Restoration Initiative to assess sales of invasive species over the Internet. The GLC is developing a web-crawling and analysis system to find sites selling species of concern. It will host a webinar in December to gather additional input on how to best develop the system, which would focus on many species.

Al Cofrancesco noted that the U.S. Army Corps of Engineers (ACOE) still struggles with its charge to remove water hyacinth from waterways. The costs of control on an ongoing basis by the ACOE are a significant annual expenditure. Cofrancesco would like to see definitive statements made to enforce current laws.

## 8. Decisional: Revised Ohio ANS Management Plan

John Navarro, Ohio Department of Natural Resources, summarized the update to Ohio's management plan for aquatic invasives. Given that the plan was completed in 1999 and was among the first such plans developed in the nation, much of the content was outdated. The Ohio Aquatic Invasive Species (AIS) Committee, with broad representation, assembled in 2008 to discuss the update. In 2010, they contracted with Ohio Sea Grant to help revise the plan. In 2012, the state went from a guarded level of concern for Asian carp to a high level because of the first live capture of silver carp (*Hypophthalmichthys molitrix*) in the rivers of Ohio. DNA was also found in the state's portions of Lake Erie. Ohio must now battle Asian carp on two fronts. This crisis pushed them to finish the update.

Navarro detailed changes to the plan. Although it's not a completely new plan, some parts have been reorganized, while others were updated or added. One new section includes priorities for action and highlights important parts of the plan. Those priorities include developing a rapid response plan, assessing the effectiveness of existing tools, formalizing the Ohio AIS Committee, improving early detection, evaluating control strategies, and raising public awareness.

Navarro then detailed the rapid response plan in development. As part of that effort, they met with top officials from Ohio and Indiana at Eagle Marsh on June 1, 2012, to discuss how to stop Asian carp from crossing the marsh and to conduct a rapid response exercise. During Incident Command System training and a continued rapid response exercise in late August, they discovered snakeheads (*Channidae* spp) at Eagle Marsh. During ANSTF discussion, Navarro noted that the plan does not include discussion of climate change or federally managed lands in Ohio. He would like to connect with those federal managers. Following discussion, the ANSTF approved Ohio's revised *State Management Plan for Aquatic Species*, pending changes.

## 9. Discussion: Asian Carp Session

Since 2010, the Obama Administration has invested more than \$150 million to protect the Great Lakes from Asian carp. According to Paul Angelone, FWS, on behalf of the Council on Environmental Quality (CEQ), that investment is unprecedented. The Asian Carp Regional Coordinating Committee (ACRCC), with support from federal, State and local agencies and private stakeholders and citizens, is creating a sustainable Asian carp control program to prevent the establishment of an Asian carp population in the Great Lakes. He noted the unique regional bond between the Great Lakes states that has led to many successes.

The framework for the Asian carp control strategy includes an effective electric barrier system, extensive monitoring and response, development of new control strategies, and development of a long-term solution. Angelone displayed a structure of the ACRCC, with leadership by the CEQ and EPA. Accomplishments include a partnership with Canada, redundant and effective electric barriers, and new gear and sampling techniques for Asian carp. Ongoing actions include environmental DNA (eDNA) and other testing techniques and Asian carp harvest in the Illinois River system, where the harvested fish are used for food and fertilizer. Extensive monitoring below the barrier has found no Asian carp since 2010.

The second front is the Great Lakes. The FWS and State partners are monitoring hot spots. In the summer, supported by funding from the University of Notre Dame, they collected samples from several bays, which tested positive for silver carp. Because no Asian carp were found in the area, they do not believe that a population is established there.

The USGS is working on a number of new tools and strategies, such as using waterguns (sound energy waves) to deter Asian carp, identifying potential spawning locations in rivers, examining food availability in the Great Lakes, using pheromones to attract and capture fish, and developing toxic microparticles to control Asian carp and minimize harm to nontarget species.

The ACOE is leading the Great Lakes and Mississippi River Interbasin Study (GLMRIS), an effort to study a full range of options and technologies to prevent ANS spread. They are evaluating the Chicago Area Waterway System (CAWS) and 18 other pathways along the 1,500-mile Great Lakes and Mississippi River basin divide for 38 species. Long-term potential solutions stemming from GLMRIS will be provided by the ACOE in 2013 for the CAWS. These include full hydrological separation, one-way or partial separation, treatment zones, water quality alteration, ANS removal/harvesting, biocides, and other controls. They will also identify funding and long-term operation and maintenance of the solutions presented. Outside of the CAWS, currently, the Eagle Marsh pathway has the highest risk rating due more to the viral hemorrhagic septicemia virus than to Asian carp.

As mentioned at the beginning of his presentation, over \$150 million have been spent in the last 3 years on Asian carp prevention and management and over half of this came from the EPA Great Lake Restoration Initiative (GLRI). The remaining came from federal Agency budgets. The Great Lakes are a priority of the President and GLRI has spent over \$1 billion since 2009 on the Great Lakes ecosystem to improve the health and environment of the area's 30 million Americans. The national Asian carp control plan has a number of goals: preventing new introductions and continued spread, controlling the population, minimizing adverse effects, and promoting research, outreach, and implementation.

Ensuing discussion focused on the new and emerging technology of eDNA detection. Despite its helpfulness in detection, positive results do not necessarily mean presence. Members requested a session on eDNA at a future meeting and an advisory paper from NISC.

## **10. Informational: National Invasive Lionfish Prevention and Management Plan Update**

James Ballard, Gulf States Marine Fisheries Commission (GSMFC), briefed the ANSTF on progress of the *National Invasive Lionfish Prevention and Management Plan*. Ballard chairs this workgroup and holds conference calls every 6 weeks. Most of the sections have been drafted and reviewed by the workgroup. The goal is to complete a draft document for review by the ANSTF at the spring 2013 meeting.

*Invasive Lionfish: A Guide to Control and Management* was recently released that will guide development of local plans, including the ANSTF plan. This document was funded by the Department of State and coordinated through the Gulf and Caribbean Fisheries Institute, so it has a Caribbean

focus. Although Department of State funding was only available for writing the document, some capacity funds may be available.

Ballard also reported that eDNA will be used in contexts other than lionfish (*Pterois* spp) detection. While eDNA is sensitive, it is not reliable because of a huge gap between detection and presence. Ballard strongly encouraged the ANSTF to work closely with the Western Regional Panel (WRP) who had a half-day lionfish session at their panel meeting.

## **11. Informational: Snakehead Management and Control Plan**

Laura Norcutt, FWS, reported on the *Snakehead Management and Control Plan*, the development of which was requested by the Mississippi River Basin Panel. The committee had 26 members and each member served on a subcommittee to write one of the chapters. The effort began February 2012 and a first draft was presented in May 2012. The committee has refined the plan but still wants to correlate action items with objectives. Although the plan was originally designed to include only 10 species, the committee included all 28 that are listed by the Lacey Act. The plan includes biology for the three species that have information available. Norcutt requested comments from the ANSTF by December 2012.

## **12. Decisional: ANSTF Recreational, Water Garden, and Classroom Guidelines**

### ***Recreational Guidelines***

Norcutt reported that the committee has addressed all concerns raised during the spring 2011 meeting when the *Voluntary Guidelines to Prevent the Spread of Aquatic Invasive Species through Recreational Activities* were originally brought before the ANSTF for approval. Norcutt acknowledged David Britton, FWS, for the new diagrams. In addition to new diagrams (developed by Britton) the revised guidelines are organized according to the clean, drain, dry message. A new appendix, developed by Jay Rendell of the Minnesota Department of Natural Resources, includes treatment options. Once approved, the guidelines will be posted in the Federal Register for public comment.

The ANSTF approved the revised guidelines with the new appendix. The appendix will be posted on the Internet for easy updating.

### ***Water Gardens Guidelines***

Norcutt reminded participants that the one-page *Water Gardening Guidelines for Preventing the Introduction and Spread of Aquatic Invasive Species* was located in the briefing books. These guidelines were developed in tandem with the recreational guidelines. Distribution will be the same as the recreational guidelines.

The ANSTF approved the water gardening guidelines.

### ***Classroom Guidelines***

The *Classroom Guidelines for Preventing the Introduction and Spread of Aquatic Invasive Species* were developed by a separate committee associated with the Recreational Guidelines Committee. The classroom guidelines have two sections: one to use when obtaining a classroom animal and one to use when disposing of a classroom animal. The guidelines pledge form, includes a care sheet that students must sign when adopting a classroom animal.

- The ANSTF provided the following recommendations:
- Recommend adding “to your region” to the first bullet that states “Select species that are native or noninvasive”

- Add plants to the pledge form
- Make the document bilingual
- Include a link to the Experts Database, so that they can contact local experts
- Reach out to National Association of Science Teachers
- Add a reference to the Regional Panels as a source of information

### 13. Decisional: ANSTF Strategic Plan Reporting

Susan Pasko, NOAA, reported on the operational plan as referenced in the ANSTF strategic plan. At this time, the committee has decided the best approach would be a reporting matrix rather than an operational plan since the term “operational plan” has a specific meaning that differs from the intended purpose within the strategic plan. The matrix was distributed to ANSTF members and the Regional Panels in August 2012 to complete. The reporting matrix is intended to capture activities that support the current strategic plan, focusing on high-level activities (e.g., restoration projects, control efforts). The matrix will include federal and Regional projects, yet exclude specific State efforts that may trickle down from federal agency or Regional Panel funding. As of November 2012, all Regional Panels and six federal agencies had completed the matrix request.

The committee has recommended the matrix be updated annually and will need to determine the best approach to develop a report to supplement the matrix and highlight success stories. Pasko agreed to hold a conference call to discuss agency clearance that may be required for including projects in the matrix and reminded the ANSTF that the matrix is for reporting accomplishments not planned activities. P. Brady confirmed that this tool is for tracking purposes only and would not be sent to the Office of Management and Budget or used for tracking accountability.

The ANSTF agreed to update the reporting matrix annually. Panels and ANSTF members agreed to submit information by November 1 of each year.

### 14. Informational Marine Debris Update

#### ***Response Protocols for Biofouled Marine Debris Generated by the 2011 Japan Tsunami***

Brady reported on marine debris generated by the 2011 Japanese tsunami, which occurred on March 11, 2011. The tsunami inundated 217 square miles of coastal Japan and caused widespread destruction. By March 13, debris fields were easily detected through aerial surveys. Most debris likely sank immediately, and as the remaining debris dispersed and migrated towards North America; satellites lost the ability to track it by April 14. Tracking the debris is especially difficult since no accurate estimates of debris type or volume exist, the debris will sink or break apart over time, the ocean is very large and forecasting dispersal is difficult, and this event is unprecedented.

NOAA developed a model for planning that has been repurposed for tracking the debris. This model has simulated where the highest percentage of debris may be found and a larger area that contains 95% of all simulated particles. However, determining exactly where the debris is located has been very difficult. Other challenges include removing debris, communicating with the public, and predicting the potential species that could be found on the debris. Brady reported on a few specific sightings of biofouled debris, including the Misawa Floating Dock #1 that washed ashore in Oregon and the Misawa Floating Dock #2 that was sighted off the coast of Hawaii.

A workshop was held July 21–August 1, 2012, at Portland State University to develop the *Response Protocols for Biofouled Debris and Invasive Species Generated by the 2011 Japan Tsunami*. The goal of these protocols is to provide an effective and consistent response to Japanese tsunami marine debris that includes a communication outreach and engagement framework, reporting guidance, science-based protocols for species identification and risk assessment, and management responses. Workshop

participants recommended holding a regional workshop to develop and implement recommendations from the larger workshop, including a regional reporting system, a system for identifying large marine origin debris, and public educational materials.

Pasko added that the response protocols were developed using feedback from the workshop. These protocols were finalized 2 weeks ago and have been widely distributed. Pasko provided a brief overview of the document, which is meant to be a technical guidance document.

### ***Misawa Floating Dock #1***

On June 5, 2012, Misawa Floating Dock #1 from Misawa, Honshu, Japan washed ashore on Agate Beach, Oregon. Four of these docks were torn away during the tsunami. Dock # 2 was spotted off the coast of Hawaii but has not been recovered. At least 100 living Japanese species were aboard Dock #1; other species were acquired as the dock travelled across the ocean. Evidence indicates the dock stayed in Japanese waters for several months before moving across the ocean. The Oregon Department of Fish and Wildlife worked quickly to remove biofouling from the dock. Removal methods included scraping and burning, and much of the removed material was buried in the beach. Two months later, the dock was cut into 4 pieces and removed from the beach.

Two categories of Japanese tsunami marine debris (JTMD) exist: terrestrial origin debris (TOD; e.g., trees, lumber, industrial materials) and marine origin debris (MOD; e.g., floats, piers, vessels). TOD acquires marine debris after it falls into the ocean as can MOD. Typically, MOD is covered in oceanic biofouling not Japanese-origin biofouling, perhaps because typical MOD from the western Pacific carried on ocean currents to the eastern Pacific does not originate from harbors, ports, and estuaries. Rafting of coastal Asian species to North America was previously unknown. Ballast water and ship hull fouling also differ from JTMD because modern ship hulls tend to be clean and ballast water is managed.

The present scenario introduces a rare natural disaster that interfaces with extensive 21<sup>st</sup> century infrastructure in highly urbanized–industrial settings, thus launching potentially large amounts of already biofouled marine material into the sea for potential residency on distant coasts.

A National Science Foundation RAPID grant has been awarded to test the invasion process. Objectives of the grant are to study biofouling biodiversity, biotic attrition, and genetic characterization.

After Brady's presentation, the following items were discussed:

- JTMD estimates are largely based on lumber from homes or trees that fell in the ocean; Japanese officials have not included MOD in these estimates. Projections suggest that debris fields will start landing on North American shores this winter during stormier weather.
- Some information has been obtained from satellite imagery.
- Debris has not been tagged with telemetry.
- As debris washes ashore, organisms on the bottom are being torn off and dispersed.
- Japanese species were identified on the Misawa #1 Dock that are not native to the Misawa area. Even the bumper (which is above water) contained Japanese species.

## **15. Member Updates**

**Great Lakes Commission (GLC)**—Erica Jensen reported the GLC continues to explore the hydrologic separation of the Great Lakes and Mississippi River basin and has obtained funding to work towards a preferred solution and less expensive interim solutions. The Policy and Advocacy Program has been involved with reforming the Lacey Act. Other work includes reviewing U.S. Coast Guard regulations that would preempt States' authority to regulate ballast water, initiating a new

partnership with the USGS to develop and lead a regional communication strategy to target *Phragmites*, and developing an interactive website and other communication tools

**Department of Transportation, Maritime Administration (MARAD)**—Dr. Carolyn Junemann reported that MARAD has been given authority to develop and demonstrate technologies for ballast water treatment. As MARAD tests technologies for vendors who are interested in International Maritime Organization certification, they also test for U.S. Coast Guard certification. MARAD has approved testing facilities in Baltimore, Maryland, and the Port of Superior in Wisconsin. When approved, the third facility will be in Vallejo, California. MARAD will be meeting with the manufacturers of ballast tank coatings to determine how ballast water treatments will affect these coatings. MARAD is also working with the University of Maryland and SERC to quantify the abundance of biofouling on hulls after hull husbandry.

**National Association of State Aquaculture Coordinators (NASAC)**—Ron Johnson, University of Wisconsin, reported on an invasive species workshop that included two aquaculture sessions. The aquaculture industry has been very proactive and pushed for third-party certification of HACCP plans. NASAC is now reviewing the feasibility of requiring that biosecurity plans also be certified by an independent third party. Ideas include comprising a team to review the plans that are in place and also review a facility's records annually.

**Mississippi Interstate Cooperative Resource Association (MICRA)**—Ron Benjamin, Wisconsin Department of Natural Resources, reported that MICRA is working to get the *Management and Control Plan for Bighead, Black, Grass, and Silver Carps in the United States* endorsed by Congress and funded. An invasive panel funded by MICRA has received funding for triploid grass carp research. Many State fisheries chiefs are worried about sterility of these grass carp and want an independent contractor to verify FWS certification. MICRA is supported by dues paid by State and federal agencies and since more States have joined, funding is also growing. MICRA will participate in NISAW again this year.

**Bureau of Reclamation (BOR)**—Joe DiVittorio discussed budget forecasts and reported that the BOR finished a multi-year research project on antifouling coats, updated the inspection and cleaning manual, completed testing and data analysis for Zequanox<sup>®</sup>, and continues to monitor and sample western waterbodies. The BOR is using eDNA analysis as one of the tools for detecting zebra and quagga mussels. If eDNA is detected, the BOR continues to search that waterbody for more definitive signs of presence. Refining eDNA protocol would be helpful since the BOR manages a lot of land and cannot harden all structures. The BOR could concentrate on those areas where eDNA or actual mussels have been detected.

**U.S. Geological Survey (USGS)**—Sharon Gross reported the FY12 budget was flat but the USGS did see an increase in Asian carp funding (\$2.5 million). Most of that funding was dedicated to Asian carp activities in the Great Lakes. In 2013, the USGS proposed funding increases for brown tree snake control, Everglades restoration, and Asian carp activities in the Great Lakes and upper Mississippi River basin. Asian carp activities will probably be the only funding increase granted. Asian carp control includes several projects that began in 2010 or 2011: developing taxonomic-specific fish poisons that target bighead and silver carp, continuing eDNA calibration studies, and using sonic waves to direct the movements of Asian carp. Finally, work has begun on eDNA studies using the DNA from microbes that inhabit the gut of Asian carp. Presence of this DNA is more conclusive evidence that live fish are present. The USGS recently reorganized so Cindy Kolar, USGS, will be the primary ANSTF contact.

**Gulf States Marine Fisheries Commission (GSMFC)**—James Ballard reported that the GSMFC has secured outside funding to launch the lionfish response unit. The GSMFC is establishing a lionfish monitoring effort using divers to collect baseline data. These data will be used to calculate impacts

from lionfish. The divers will also be removing any lionfish they find. Monitoring will include an outreach component through the States asking the public to report sightings.

**Smithsonian Environmental Research Center (SERC)**—Whitman Miller reported on the National Ballast Information Clearinghouse, which is a collaborative effort between the USGS and SERC to track ballast water discharge and treatment information. Ballast water will also be sampled and compared to ballast water data collected before the new federal regulations to test the effectiveness of the regulations. Other ballast water research includes an experimental ballast water treatment platform to simulate the natural variability of temperature and salinity and expose organisms to those conditions. The results will provide data regarding the physical tolerance of organisms that are travelling across the ocean on the outside of hulls. SERC also received funding for invasive species monitoring and modeling of a third canal that is planned for the Panama Canal.

**Bureau of Land Management (BLM)**—Stephanie Cartman reported the BLM is continuing efforts to place outreach information into hunting and fishing regulations and magazines in the West. The BLM is considering boating magazines as well. They continue to help the States implement their invasive species management plans and are working towards a holistic invasive species policy with a focus on prevention. Finally, the BLM is considering adding clauses to permits for using BLM-managed lands and waters that require cleaning gear and reviewing BLM's regulations that can be used to draft policy.

**Department of the Interior (DOI)**—Mike Weimer, FWS, reported the DOI is developing a strategic plan that will provide direction on invasive species management. The plan will be a high-level document that will inform the bureaus and departments. The plan is due by January 15. The DOI is also reviewing policy and resource needs other than funding.

**National Park Service (NPS)**—Alan Ellsworth reported that none of the funding for any of the 398 National Park units is specifically earmarked for ANS; however, the NPS has been discussing a fee structure for boats that would be used for zebra and quagga mussel prevention and containment. Other projects include educating the public about invasive species and developing the lionfish management plan. An adult Asian carp was recently found in St. Croix and didymo has been a concern in the Delaware River (a workshop will be held soon to discuss the issue). Finally, Ellsworth reported the American Sport Fishing Association wants to be more involved with the Asian carp issue.

**U.S. Coast Guard (USCG)**—John Morris reported the USCG will publish the final ballast water regulations tomorrow and are now busy working on policy and guidance documents. Budgets are flat and the USCG does not have a specific line item for ANS but does have a statutory role. Scott Newsham, USCG, estimates that \$3–4 million funds contract arrangements with research partners.

**Lake Champlain Basin Program (LCBP)**—Meg Modley reported the LCBP has several top priorities, including water chestnut control in Lake Champlain and technical support for expanding long-term biological water monitoring to include ANS detection. The LCBP has received several research proposals related to eDNA studies and has to decide if those studies will be useful. This summer, the LCBP responded to two spiny water flea (*Bythotrephes longimanus*) invasions. Eradicating spiny water flea does not appear feasible; therefore, they are exploring a barrier on the Lake Champlain canal to prevent its spread. Asian calm control efforts continue in Lake George: four new infestations have been located and matted. Lake George is considering a mandatory boat inspection program similar to the Lake Tahoe program and has already started a cooperative boat washing program at businesses that can accommodate vehicles with trailers. The LCBP is also pursuing round goby and hydrilla monitoring and is interested in coordinating a field trip before the International Conference of Aquatic Invasive Species, which will be held at Niagara Falls on April 21–24, 2013.

**U.S. Forest Service (USFS)**—Mike Ielmini reported the USFS invasive program budget has increased slightly. The USFS has adopted an integrated resource restoration approach based on 12 indicators that measure watershed conditions: 2 of the 12 indicators involve invasive species. Ielmini encouraged State and federal agencies to work with local Forests to establish watershed priorities. If a watershed needs attention because of invasives, the USFS will seek funding for improving that watershed. The USFS is developing an operational handbook that will include prevention and control of invasives. When drafted, the handbook will go through the tribal consultation and public review processes. One issue of concern is supplementing risk assessments to ensure pesticides are used according to label requirements. Using pesticides on and near the waters of the United States involves an NPDES permit. The USFS is also working to increase awareness and education, increase work with the panels, and helping to implement State ANS plans.

**San Francisco Estuary Partnership (SFEP)**—Since Karen McDowell last reported on ANS control efforts for the America's Cup, the size of the event has decreased considerably. Best Management Practices were included in all permits for this event; however, most participants will likely be noncompliant with these permits. The Partnership is reviewing draft biofouling regulations developed by the California Lands Commission. California is interested in exempting States from the federal regulations if State regulations are more stringent than federal or IMO standards. The California Department of Fish and Wildlife is working on invasive mussels and involved with tsunami debris. The state management plan is undergoing a 5-year review and may be revised.

**National Oceanic and Atmospheric Administration (NOAA)**—Peg Brady acknowledged that NOAA is exploring different scenarios for various budget cuts and has not been able to disperse grant funds because of the Continuing Resolution. This Administration is exploring the option of restructuring the Department of Commerce with a focus on commerce as an economic engine. Such a restructure could organize NOAA under the DOI or combine NOAA with the FWS. Brady has been spending much of her time on Japanese tsunami work.

**Environmental Protection Agency (EPA)**—John Darling reported the EPA is finalizing the revised Vessel General Permit and recently held a research strategies workshop. Signing of the Great Lakes Water Quality Agreement amendment is already making a difference for the EPA. The amendment specifies invasive species duties for the EPA, including developing an early detection and monitoring network in the Great Lakes by 2015. The EPA has released a draft rule on biofuels stocks that included giant reed (*Arundo donax*). This plant was invasive to Florida and should not be added to the list of possible biofuels. Bill Bolen, EPA, reported that the International Joint Commission has released a draft report of who might have jurisdiction in the *Great Lakes Water Quality Agreement*. The Great Lakes Restoration Initiative is passing on information learned, such as eDNA.

**U.S. Army Corps of Engineers (ACOE)**—Al Cofrancesco reported the FY12 budget had \$130 million devoted to ANS. Most funding was devoted to operations and maintenance and included Asian carp and zebra and quagga mussels. The Great Lakes Initiative also funded research on barrier technologies and Asian carp swim speeds and for retrofitting Barrier 1. The ACOE hosted a hydrilla (*Hydrilla verticillata*) identification workshop for Lake Cayuga in New York. Other projects include analyzing Zequanox, researching *Phragmites* biocontrols, removing invasives and reestablishing native communities during restoration projects, and exploring innovative ways to use military GIS to monitor vegetative invasives.

**U.S. Fish and Wildlife Service (FWS)**—Mike Weimer acknowledged that although funding will remain flat, opportunities exist to fund Asian carp surveillance outside of the Great Lakes. The FWS will provide \$1 million for the lower Colorado River basin and additional money for implementing State management plans and funding the Regional Panels. Comprehensive management planning is on hold as part of an organizational review that includes the Aquatic Invasive Species branch. Recommendations from the review will be given to the new Assistant Director. The FWS is working

to identify representative aquatic and invasive species for focusing on-the-ground restoration efforts. The guidance can be found on the FWS website, and the FWS has asked for comment from all State directors. The FWS continues to work with industries that import live animals to develop a voluntary agreement to not import animals not already in trade. They are also reviewing the list of injurious species rulemaking.

#### **16. Public Comments**

No public comments were submitted.

#### **17. Wrap Up**

No closing comments were made.

#### **Adjourn**

The meeting adjourned at 5:00 PM.

## DAY 2

### 18. Discussion: Rapid Screening

Michael Hoff, FWS, reported on the status of the FWS ecological risk screening for nonnative species that was supported by the ANSTF/NISC prevention committee and led by Hoff. The *National Invasive Species Management Plan* is being revised to emphasize prevention as the first line of defense and calls for preventing the introduction and establishment of invasive species to reduce their impact on the environment, economy, and health of the United States. Implementation tasks to accomplish this goal include developing a fair and practical screening process and encouraging agencies to modify and incorporate the process into their programs. The FWS has been tasked as the lead agency to develop a screening process to evaluate the invasiveness of terrestrial and aquatic nonnative wildlife, develop a process to identify high-priority invasives, and support efforts by nonfederal stakeholders to develop and enhance codes of conduct and best management practices. A risk assessment can support informed, science-based decision making.

Because developing a risk assessment can take up to 2 years, the FWS developed a rapid risk analysis process that follows a flowchart of questions and actions. This new risk analysis includes a screening tool to rapidly evaluate the invasiveness potential of a nonnative species. If a species impact is uncertain, additional risk assessment is necessary. If the impact is high, trading of the species would be stopped or regulated.

The best predictors of establishment include propagule pressure, climate match, history of establishment elsewhere, and membership in a taxonomic group with high establishment success. Best predictors of invasiveness are a history of invasiveness and climate match between locations where established and target locations. Climatch software is the only tool currently used to match climates of user-selected regionals around the world; however, future climate change projections are not possible so the FWS is developing a climate-matching tool. Other tools available include databases and scientific publications that document prior invasiveness. After the rapid screen, only species with a high risk of establishment and impact undergo habitat matching.

A summary Standard Operating Procedure is available online. Each risk assessment is formatted into a template and reviewed internally. Once finalized, the assessments are posted online. The FWS has completed 1,400 draft assessments; comments are being accepted on these draft assessments.

The following points were discussed in response to Hoff's presentation:

- Plants have not been widely included because the FWS does not have regulatory authority for plants and funding is for aquatics via the Great Lakes Restoration Initiative.
- Water temperature data are not considered in the climate match; however, air temperatures correlate well with water temperature.
- The focus has been on species that are traded worldwide.

## **19: Informational: Ballast Water Issues, Including the Ballast Water Workshop, National Park Service Efforts in Lake Superior, and U.S. Coast Guard Ballast Water Discharge Standard**

### ***U.S. Coast Guard Ballast Water Discharge Standard Final Rule***

John Morris, USCG, summarized the USCG's ballast water discharge final rule. Until now, only two of the three possible ballast water practices were available: mid-ocean ballast water exchange (BWE) or obtaining ballast water onboard. However, BWE is not a desirable long-term approach to reducing or preventing ANS introductions.

The ballast water rule was proposed in August 2009, the public comment period ended December 2009, and the final rule was published March 2012. The top three issues identified during the public comment period were applicability, availability of technology, and the preference of a unified federal standard. The final rule extends jurisdiction to the U.S. territorial sea, which is 12 nautical miles offshore. It applies to sea-going vessels previously required to conduct BWE and coastwise vessels that do not operate outside the EEZ but are >1,600 gross tonnage (GT) and transit between Captain of the Port Zones. The rule will be phased in for existing vessels; new vessels must comply by December 1, 2013. In the Great Lakes, the rule applies to vessels that depart the Great Lakes, transit beyond the EEZ, and return and pass upstream of Snell Lock. The rule also includes ballast water discharge standards, which are the same as the International Maritime Organization (IMO) convention.

Options for complying with ballast water management requirements include using an alternative, foreign-approved management system, using water from a public water supply, discharging to a reception facility for treatment, or not discharging ballast water. The USCG has a program for type approval of ballast water management systems that incorporates the EPA's Environmental Technology Verification Program land-based test protocols. Type approval testing can use data from a foreign administration or an independent laboratory approved by the USCG. The rule also provides for compliance and enforcement; ballast water inspections will become part of regular vessel inspections. Inspectors will review documents for the onboard system, test crew knowledge, and test equipment conditions. Since the rule was published, the USCG has developed several policy and guidance documents.

The USCG and EPA have worked together to ensure this rule is compatible with the EPA Vessel General Permit (VGP).

### ***Ballast Water Workshop***

Darling reported on the ballast water workshop. The discharge standard in the USCG final rule and the EPA VGP will be the same as the IMO standards. Some have questioned if this standard is stringent enough. In response, the EPA contacted the National Research Council (NRC) to develop a scientifically defensible, environmentally protective standard. The NRC could not develop a standard because of existing information gaps. Darling has been working on the ANSTF ad hoc committee to develop a long-term research strategy to fill these gaps. A workshop was held in September in Washington, DC, to bring together experts from the United States and Canada to develop a joint North American research strategy. In addition to several specific research needs, existing, past, and future research needs to be coordinated.

Workshop participants concluded that insufficient information exists to choose the most promising models to move forward: a combination of mechanistic and statistical models is needed. Discussions between participants led to support for a long-term surveillance program that would be aimed at propagule pressure and establishment rate. However, this unprecedented option will be quite expensive, so workshop participants agreed on support for a coordinated funding source and the need for mining existing data and extracting relevant information.

Darling is compiling a workshop report. Although participants weren't able to develop clear recommendations in many parts of the workshop, Darling is hoping to get clarity about those recommendations. A draft report should be complete by mid-March. Darling would like to present it to the ANSTF at the spring 2013 meeting.

### ***National Park Service Efforts in Lake Superior***

Alan Ellsworth, NPS, reported that the NPS has parks in 25 coastal states with more than 5,100 miles of beaches, coral reefs, kelp forests, freshwater reserves, and cultural artifacts. Invasive species can have ecological, cultural, recreational, and infrastructural impacts. Ballast management goals are to prevent ANS transfer via commercial or NPS vessels, prevent ballast releases associated with ship groundings or other emergencies, prevent interbasin transfer via the freshwater fleet, and support rules and treatment methods that eliminate the introduction and establishment of ANS. Once species are introduced, they colonize rapidly if given a favorable environment. The NPS is looking at rules from other agencies, including the USCG and EPA, to regulate ballast water coming into National Parks.

Ellsworth used the Ranger III, a vessel used to transport visitors to Isle Royale, as an example of NPS efforts. This vessel is the largest piece of moving equipment owned by the NPS. The Superintendent has been working on a chemical-free ballast treatment method that includes UV treatment. The Superintendent is interested in obtaining approval for this treatment system. Additional treatment methods explored by the NPS include sodium hydroxide that raises the pH and neutralization with CO<sub>2</sub>.

## **20. Informational and Decisional: Attorneys General Workshop Results**

Leah Elwell, Invasive Species Action Network, and Paula Cotter, National Association of Attorneys General (NAAG), spoke about a workshop held August 22–23, in Phoenix, Arizona, on legal and regulatory efforts to minimize expansion of invasive mussels via trailered boats. According to Cotter, this workshop evolved from a 2011 workshop she led for assistant attorneys general in Washington, DC, which was geared toward folks in Chesapeake Bay. From that workshop, the WRP on ANS became interested in convening a similar collaborative workshop focused on zebra and quagga mussels on trailered boats.

Goals of the workshop were to facilitate collaborative learning, explore the clear legal and regulatory approaches and opportunities for invasive mussel abatement, and reform and improve communication among western managers on high-risk boat movement. Their approach was to clarify the laws and roles and develop template legislation.

To successfully minimize mussel expansion, stakeholders must develop a common understanding and shared strategy, especially considering the many trailered boats that move across the nation. To enhance that understanding, participants visited Lake Pleasant north of Phoenix. Other presentations at the August conference focused on the biology, history, and transport of dreissenid mussels and decontamination procedures.

Policy and legal regimes are in place; including the Lacey Act and various state laws. The Lacey Act allows the federal government to prosecute if a state law is violated. But because State and federal laws are organized differently, prosecuting under the Lacey Act can be difficult.

Explaining the economic impacts of invasive mussels to regulators and industry is important in the process to develop adequate legislation. Cotter suggested that state entities draw on existing state laws and resources to address regulatory or legislative needs. At the workshop, participants broke into randomly selected groups that were charged with developing a shared strategy: discussing necessary elements of an effective program, identifying possible legal and regulatory gaps in existing state programs and other barriers, and recommending changes. All participants addressed the same issues,

and all of their results were compiled into a draft action plan, which included 26 points that need to be addressed. Several white papers also came out of the workshop and will be published in a legal journal. Conference highlights, the action plan, and key commitments are available at [seagrant.oregonstate.edu/invasive-species/2012-boat-mussels-law-workshop](http://seagrant.oregonstate.edu/invasive-species/2012-boat-mussels-law-workshop).

Next steps include better defining roles and responsibilities of State and federal entities; adding *Dreissena* mussels to the FWS injurious wildlife list; developing a collaborative boat tracking system; drafting template legislation; developing standard definitions and criteria for monitoring, listing, and delisting waters affected by mussels; and assembling a boat-design team to address AIS issues. A distilled workshop aimed at policy, enforcement, and legal staff is planned for March 6, 2013 during NISAW in Washington, DC.

After the presentation, the ANSTF/NISC approved establishing an ad-hoc committee to define federal roles and responsibilities of federal ANSTF and NISC member agencies associated with the management of *Dreissena* mussels. Because considerable interest in dreissenids exists, the process of developing a comprehensive approach to them could serve as model for other invasive species. Stephanie Carman, Martin, Morris, and Ellsworth volunteered to serve on the committee.

## 21. Informational: Zequanox Use for Controlling Zebra and Quagga Mussels

Dave Roberts, Marrone Bio Innovations, presented on the use of Zequanox<sup>®</sup> to treat water bodies infested with invasive mussels. Marrone Bio Innovations' mission is to discover, develop, and market effective and environmentally responsible natural products (biopesticides) that fill unmet needs for weed, plant disease, pest, and water resource management. He listed numerous benefits of using biopesticides rather than chemical products.

Zequanox<sup>®</sup> is the industry's only biopesticide for invasive mussel control. The active ingredient is dead *Pseudomonas fluorescens* cells, a soil microbe. The product controls mussels, especially zebra and quagga mussels, in all life stages by destroying the digestive system. It's effective in a range of water conditions, and it's also noncorrosive and nonvolatile. A number of ecotoxicology studies are completed or near completion for effects on various fish, other mollusks, insects and crustaceans, and plants and algae. Upcoming studies will cover other plants and turf.

As of July 2011, the end product and technical grade active ingredient of Zequanox<sup>®</sup> are approved under the Federal Insecticide Fungicide and Rodenticide Act. In addition, the EPA approved the commercial formulation for enclosed and semienclosed systems in March 2012. As recently as November 6, Zequanox<sup>®</sup> was approved in Canada for the hydropower system only, although expansion of its use is in progress. Open-water registration is also in progress and anticipated for 2013.

Roberts explained power, energy, and industrial treatments of Zequanox<sup>®</sup>. Relative to chlorination and ammonium compounds (which require 24-hour treatments for days and raise a number of health and environmental concerns), Zequanox<sup>®</sup> treatments take about 6 hours and constitute little or no harm to public health and safety or the environment and water quality. The product, applied with standard equipment, is safe for employees in the surrounding area. Mussel mortality occurs over time, reducing damage to application equipment from shell debris. Treatments can be periodic or preventative. More rigorous annual or biannual treatments are designed for facilities that can tolerate moderate-to-large shell sizes (>4 millimeters [mm]). Preventative treatments limit the number of mussels that exceed 4 mm, making this option ideal for sensitive systems and equipment. These treatments are performed approximately every 4 to 6 weeks. Though the product is powdered, it is applied as a slurry and limited to those areas with the most need. Treating full lakes would be problematic and cost prohibitive. Zequanox<sup>®</sup> is generally a tool for control, not eradication.

One treatment, at Deep Quarry Lake in Illinois, had the dual goals of demonstrating the product and studying its efficacy. This project included three paired treated/control sites set up using barriers. Zequanox<sup>®</sup> was applied to the treatment sites, while nothing was applied to the control sites. Fish were swimming in the treatment sites 24 hours after application, with no mortality observed. Water quality and mussel mortality were monitored for 14 days after treatment. An independent analysis of treatment showed over 97% mortality of the targeted mussels at the three treated sites. Sampling before and after the treatment also showed no effect to water quality parameters. Some turbidity resulted from the treatment, but it returned to background levels within 15 minutes of barrier removal.

## **22. Informational: National Invasive Species Awareness Week Update**

Williams provided an update on NISAW, which will be held March 3–8, 2013. This date was chosen to take advantage of other events in town, including Great Lake Days, to maximize the number of participants. The ISAC meeting is planned for this week as well. As in past years, NISAW will rely heavily on partner activity. All event information, registration fee information, and updates will be posted on the NISAW website ([www.nisaw.org](http://www.nisaw.org)).

The week will begin on Sunday, March 3 with a Kids Day event at the U.S. Botanical Gardens. Approximately 800 people attended this event last year, and booths will be available. Norcott and Pasko are organizing a reception on the evening of Tuesday, March 5 at the National Aquarium. The menu will feature Asian carp and 3–4 other invasive species. If you are interested in attending or helping, please email Norcott. The Congressional Reception on Wednesday, March 6 will be a joint session between NISAW and the Association of Fish and Wildlife Agencies.

Daytime event topics include a legal workshop regarding containment issues; economics of invasive species (States are leading this effort); and invasive species impacts to manufacturing, transportation, and corporate land ownership. A legal workshop on Wednesday, March 6 will educate federal policy makers, solicitors, and counsels about existing laws and regulations and gaps. Meetings on Capitol Hill will not be coordinated by NISAW; however, attendees will have time during the week for these meetings.

## **23. Informational: Research and Prevention Committee Updates**

Pasko provided an update on the following Research Committee activities:

- After the ANSTF approved the strategic plan, the committee developed a list of 8 projects that could be accomplished within the next year. The committee voted to determine which of the projects were the highest priority and should be first completed.
- The committee agreed to compose a list of research priorities to be promoted by the ANSTF. Several Regional Panels have such a list which will serve as a starting point for a national list. A draft list of research needs will be sent to the ANSTF and Regional Panels for review and comment.
- The committee put out another call for widely used protocols and Best Management Practices (BMPs) to distribute via the ANSTF website. The committee will look at all submissions to identify gaps.
- The committee proposed developing a technical document to supplement the Recreational Guidelines. This document will be geared more to industry professionals than the general public.
- A short-term goal is to widely distribute the risk analysis protocol.
- The committee would like to construct a research tab for the ANSTF website.

Burgiel highlighted work under the joint ANSTF/NISC Prevention Committee and the Climate Change Ad Hoc Committee, as well as the recent federal crosscut budget on invasive species activities. Past Prevention Committee meetings have focused on information sharing between members, but will now largely revolve around specific tasks. In 2005 and 2007, the committee completed two products that examined pathways. The committee is now updating the list of pathways and looking for a way to collate the guidance that relates to specific pathways. Finally, the committee has discussed project-specific work, including bait and fouling of energy development equipment and vehicles.

The Climate Change Ad Hoc Committee was tasked with reviewing management guidance and gaps in knowledge. Although the committee has had a lack of leadership, the group continues to grow and has solicited input and interfaced with a collection of interagency processes. The current task is to compile this input, identify gaps, and submit to the ANSTF.

NISC has compiled its 2012 federal crosscut budget of member agency expenditures on invasive species across six broad categories. As a conservative estimate, reporting NISC agencies spent approximately \$2.2 billion while experiencing a 1% decline over last year, although that percentage differs by agency. Burgiel distributed hardcopies of the crosscut; additional copies are available on the NISC website:

([http://www.invasivespecies.gov/global/org\\_collab\\_budget/organizational\\_budget\\_performance\\_based\\_budget.html](http://www.invasivespecies.gov/global/org_collab_budget/organizational_budget_performance_based_budget.html)).

## 24. Discussion: Stop Aquatic Hitchhikers!

As part of his update on the Stop Aquatic Hitchhikers! (SAH!) program, Joe Starinchak, FWS, introduced Doug Grann, CEO of Wildlife Forever. This nonprofit organization was founded 25 years ago by the North American Hunting Club and the North American Fishing Club. Its 1.3 million members hail mostly from Great Lake states and proactively support fish and wildlife conservation in a variety of ways, including taxing themselves and funding conservation through license sales. This organization is one of many collaborators on SAH!

A signature program of SAH! is the Threat Campaign, an outreach and educational campaign designed to stop the introduction of invasive species. Starinchak shared a number of activities conducted as part of this campaign, including the State-Fish art competition and *Invader Crusader* lesson plans. The goals are to educate youth and build stewardship. The Threat Campaign also uses a multimedia outreach program to target recreational users to stop the spread of invasive species. Targeting users requires partnering with federal and State agencies, tribes, nongovernmental organizations, corporations, and local recreation associations. Since its inception in 1996 with a print ad targeting anglers, the Threat Campaign has grown and won numerous awards. The campaign is now seeking more partners and trying to expand into Alaska.

Two DVDs, including *Playing Smart*, were created through the campaign and produced by the U.S. Forest Service. Another production is *Silent Invaders!*, the first and only invasive species TV show. Produced by the North American Media Group, this show focuses on the Great Lakes watershed, features federal and State staff, and identifies the top threats to the region. That show has won three Telly Awards, while the *Playing Smart* DVD has won one.

Threat Campaign public service announcements have reached over 100 million viewers. In 2013, they will feature a young, outdoorswoman, which should increase viewership. Starinchak showed slides of posters, ads, billboards, and other media used to educate and encourage inspecting, cleaning, draining and other best practices to stop the introduction in ANS. Overall, the message is consistent but designed for local markets.

SAH! helps its partners, including the ANSTF, and adds resources to the goal of stopping aquatic hitchhikers. From 2006 to 2011, the cost has been over \$3.7 million, with 51% coming from the partners, 14% from Wildlife Forever, and 35% attributed to added value and discounts. That funding has resulted, however, in 980 million impressions to date. All materials that have been developed are now available free of charge. During discussion, it was noted that the FWS has provided \$450,000 over 10 years to SAH! But that annual funding is now part of the ANSTF funding and will no longer be available to SAH!

## 25. Informational: Panel Updates

### ***Mid-Atlantic Regional Panel (MARP)***

Moss highlighted the MARP small grants program that has existed since 2007 and funded 25 projects at a cost of approximately \$215,000 and has leveraged nearly \$450,000 in partner funds. Moss distributed an inventory that included the completed projects, the grantees, and their findings. This year's Request for Proposals elicited 8 proposals addressing AIS eradication and control, reporting and monitoring, survey and risk assessment, and public and professional education: 3 projects were selected for funding.

Moss encouraged the ANSTF to revisit the summary from the 2009 workshop, Preventing Aquatic Invasive Species in the Mid-Atlantic. This document is available on the Maryland Sea Grant website and includes several recommendations that may still be relevant.

### ***Western Regional Panel (WRP)***

Elwell reported the WRP elected a new chair at the last meeting. Formed in 1997, the WRP has 19 member states. The WRP coordinator is funded by Region 6 of the FWS at \$50,000 per year. The FWS is no longer able to support the coordinator position and funding will cease by 2015. The WRP held a strategic planning session at the 2011 meeting and listed the basic functions of the coordinator. The WRP will not be able to respond to all requests without a coordinator.

The WRP finalized the *Quagga-Zebra Mussel Action Plan for Western U.S. Waters* in 2010 and updated and reprinted 50,000 copies of *Threats to the West*. The annual meeting was held in Salt Lake City, Utah, in October 2012. The WRP also partnered to offer the successful Attorney's General meeting, "Legal and Regulatory Efforts to Minimize Expansion of Invasive Mussels through Watercraft Movements." A WRP working group is following up on action items from this workshop and organizing a condensed workshop to be presented during NISAW. The WRP also discussed the Japanese tsunami debris, is working on European green crab (*Carcinus maenas*) sightings along the western coast, coordinating research for filtration of ballast tanks of recreational boats, coordinating watercraft inspection and decontamination, facilitating future standardization of field and lab processes for early detection of Dreissenid mussels, and developing a guidance document to prevent the spread of ANS through field gear.

### ***Gulf and South Atlantic Regional Panel (GSARP)***

Ballard reported that the GSARP has been working with the State of Mississippi to develop a state management plan. The plan may be ready to present for approval at the spring ANSTF meeting. The GSARP has 3 invasive species travelling trunks available. Since July, the trunks have been reserved nearly every day. Many groups are using the trunks, including schools and State agencies. The trunks include 5 plant and 6 animal species and have many hands-on activities. Reservations can be made online and there is no cost to the user. Some users have suggested adding a banner to be used during outreach events. The panel is building more cases and has the main components for 2 additional trunks; the goal is 12 trunks. Sex-specific DNA for three invasive fish species was used to isolate sex-specific markers; no markers have yet been identified. Research on using reproductive sterility as

a tool for prevention and control of invasive aquatics continues. Some success has been had using irradiation to induce sterility; methods, such as drugs, are also being explored to induce triploidy. The GSARP held a joint meeting with the Mississippi River Basin Panel in New Orleans, Louisiana. This meeting focused on vector management and outreach and education. The panels also hosted an Incident Command System (ICS) training workshop. Several GSARP members are collaborating on efforts to learn more about Asian tiger shrimp (*Penaeus monodon*). Lionfish range and densities are continuing to increase, becoming very abundant in the northern Gulf of Mexico. To help manage this species, the Invasive Lionfish Control Ad-hoc Committee is writing a *National Invasive Lionfish Prevention and Management Plan* for the ANSTF, the NPS has completed their *Lionfish Response Plan*, and the Gulf and Caribbean Fisheries Institute released *Invasive Lionfish—A Guide to Control and Management* in October 2012.

### ***Northeast Aquatic Nuisance Species Panel (NEANS)***

Nancy Balcom, Connecticut Sea Grant Extension Program, reported on the May 2012 NEANS meeting held in conjunction with the Great Lakes Panel in Rochester, New York. A hydrilla workshop, in conjunction with the ACOE and New York Department of Conservation, was held on the final day of the panel meeting. The purpose of the workshop was to plan a Hydrilla Summit, which was held in New York in September 2012. This year, NEANS also completed an Asian clam (*Corbicula fluminea*) watch card, funded a new hydrilla watch card, and sponsored a literature search for hydrilla.

Continuing with its collaboration efforts, the Northeast Aquatic Nuisance Species Council is acting as the fiscal agent for the International Didymo Conference in Providence, Rhode Island, on March 12–13, 2013. NEANS will schedule their spring meeting to coincide with this conference. Finally, NEANS hopes to have the Long Island Sound interstate plan available for ANSTF review soon.

### ***Great Lakes Panel (GLP)***

Navarro reported on GLP elections and the spring GLP meeting, which was held in conjunction with NEANS. Featured topics included coordination of ballast water regulations and advancing management of organisms in trade. The Information and Education Committee held two webinars in July that focused on two invasive species mapping efforts with social media and public awareness components: Early Detection and Distribution Mapping System (EDDMapS) and iMapInvasives. This committee also disseminated nearly 10,000 copies of the *Great Lakes Aquatic Invasions* booklet. Efforts by other committees included exploring opportunities to advance risk assessment protocols and efforts, supporting the efforts of a Ballast Water Collaborative, developing a briefing paper on grass carp (*Ctenopharyngodon idella*) management issues and risks, and considering opportunities involving outreach on the need for pre-import screening and risk assessment. The fall 2012 GLP meeting is scheduled for December in Ann Arbor, Michigan, and the spring 2013 meeting will be held in May in Duluth, Minnesota.

Jensen asked the ANSTF to approve the U.S. Forest Service as a member agency of the GLP under the “U.S. Federal” membership category of interest. The ANSTF approved the U.S. Forest Service as a federal member of the GLP.

### ***Mississippi River Basin Panel (MRBP)***

Ron Benjamin, Mississippi Interstate Cooperative Resource Association, reported on the MRBP meeting held in conjunction with the GSARP on October 10–12, 2012, in New Orleans, Louisiana. The MRBP finalized a scope of work for an independent review of triploid grass carp regulation and use in the United States and hosted an Aquatic Invasive Species Symposium at the American Fisheries Society Annual meeting in St. Paul, Minnesota on August 19–23, 2012. Ongoing work includes the *Mississippi River Basin ANS Field Guide*, partially funding a research project to develop a chemical

control strategy for invasive crayfish, constructing a display to illustrate the difficulty in distinguishing between carp and gizzard shad, and working with the Mississippi River National Museum and Aquarium to develop a traveling AIS exhibit.

## 26. Panel Recommendations

Panel recommendations are presented below in bold font; individual discussions, if any, follow each recommendation.

### *Western Regional Panel*

- 1. The ANSTF provide support to build capacity in marine debris management, specific to Alaska.**
- 2. The ANSTF provide funding to support implementation components of QZAP.**

### *Gulf and South Atlantic Regional Panel*

- 1. The ANSTF incorporate evaluation measures into the outreach efforts of the newly revised Recreational Guidelines to be able to assess the impact they have on the public's behavior.**

The ANSTF agreed to have the Outreach Committee incorporate evaluation measures into the outreach efforts of the newly revised Recreational Guidelines to be able to assess the impact they have on the public's behavior.

### *Mississippi River Basin Panel*

- 1. The ANSTF explore methods to establish and institutionalize an ANS screening process that would evaluate species prior to importation.**
- 2. Annual reporting of ANSTF activities is a high priority and is necessary to elevate issues and regional panel afforest. At a minimum, the ANSTF should resume annual Congressional reporting of ANS issues, including progress on implementation of national management plans an unmet need.**
- 3. The MRBP thanks the ANSTF members for their efforts to implement recommendations in the National Asian Carp Management Plan, specifically the FWS recent funding for the national analysis and review of Grass Carp regulations and use in the United States. The MRBP recommends that ANSTF members continue to explore ways to implement components of the National Asian Carp Management Plan, beginning with the 40 highest priority recommendations as prioritized by the Regional Panels.**

## 27. Discussion: Incentives for Harvesting Invasive Species

This item was removed from the agenda due to a lack of time.

## Public Comment

No public comments were submitted.

## Meeting Summary

The next ANSTF meeting is scheduled for May 8–9, 2013, in Duluth, Minnesota.

## Adjourn

The meeting adjourned at 5:00 PM.