

AQUATIC NUISANCE SPECIES TASK FORCE: MINUTES OF THE 2015 MAY MEETING

MAY 6 - 8, 2015, FORT LAUDERDALE, FLORIDA

On May 6-8, 2015, the Aquatic Nuisance Species Task Force (ANSTF) held a three-day meeting at Bahia Mar Fort Lauderdale Beach Hotel in Fort Lauderdale, Florida. Action items are listed below, followed by a summary of the meeting.

Decisional Items

The ANSTF made the following decisions:

- ANSTF approved the decision to reaffirm QZAP for another 5 years.
- ANSTF approved the National Snakehead Control and Management Plan.
- ANSTF approved the National Invasive Lionfish Prevention and Management Plan.
- ANSTF recommended approval of the Tahoe Regional Planning Agency as an ex-officio member of the ANS Task Force.

New Action Items

The ANSTF assigned the following action items:

- ANSTF members and panels will review and provide comments on ANSTF charter. Comments should be submitted to Laura Norcutt by May 22, 2015.
- ANSTF members and panels will review ANSTF membership list and provide updated information. Updates should be submitted to Laura Norcutt by May 22, 2015.
- ANSTF Reporting Matrix will be distributed to ANSTF members and Regional Panel for input on timeline and modifications. Schedule follow-up calls for early June 2015.
- Identify individuals (external to ANSTF) that could provide information on the economic impacts from AIS; compile information to assess current work, identify gaps, and potential future needs.
- Identify speakers for the Fall 2015 ANSTF meeting to present information on studies or models regarding AIS and economic assessments and provide a basis for discussion on next steps.
- Draft RTC will be distributed to ANSTF members and panels for final comment. (Two week turnaround for comment)
- Pam Fuller (USGS) will distribute a survey to determine priority aquatic plants to be (first) added into the USGS NAS database.
- Acting ANSTF Exec Sec will work with Jeff Hill (UF) to distribute risk assessment documents to ANSTF members and panels.
- Regional Panel Chairs and Coordinators will continue conversations regarding specific changes that may be warranted for NISA reauthorization
- FWS will inquire if reallocating funds from the SMP to Region Panels is possible.
- ANSTF member agencies will review GLRP grass carp priorities and actions to see what assistance may be possible. GL Panel will identify potential opportunities for agency involvement.

- ANSTF will provide information to GCERC on the ANSTF structure and available assistance for review and development of proposals in relation to the RETORE Act.
- Outreach Committee will assist ABYC (and other partners) in the development of AIS outreach materials for boat dealers and manufactures.
- ANSTF will continue to support ABYC efforts to minimize the spread of AIS through initiatives such as the development of boat standards.
- Next ANSTF meeting will be scheduled for November 4-5, 2015; Silver Spring, MD

1. Welcome and Preliminary Business

David Hoskins welcomed attendees and thanked them for attending. Hoskins also thanked the Gulf and South Atlantic Panel for hosting the meeting and proceeded to provide an overview of the meeting agenda.

Self Introductions

ANSTF members and audience members introduced themselves. The list below includes actual and call-in attendees. Names in italics participated by teleconference:

Name	Affiliation
Al Cofrancesco	U.S. Army Corps of Engineers
Ben Lenz	New York Power Authority
Bill Howland	Lake Champlain Basin Program
Bob Likins	Pet Industry Joint Advisory Council
Bobby Wilson	MICRA/ Tennessee Wildlife Resource Agency
Brian Goodwin	American Boating and Yachting Council (ABYC)
<i>Carolyn Junemann</i>	<i>U.S. Department of Transportation, Maritime Administration</i>
Cindy Kolar	U.S. Geological Survey
Craig Martin	U.S. Fish & Wildlife Service
<i>Dave Hu</i>	<i>Bureau of Land Management</i>
David Britton	U.S. Fish & Wildlife Service
David Dickerson	National Marine Manufacturers Association
David Hoskins	U.S. Fish & Wildlife Service
Dennis M. Zabaglo	Tahoe Regional Planning Agency
Dennis Riecke	Mississippi River Basin Panel
Don Maclean	U.S. Fish & Wildlife Service
Don Schmitz	Florida Fish and Wildlife Commission
<i>Doug Jensen</i>	<i>University of Minnesota Sea Grant Program</i>
Erika Jensen	Great Lakes Commission
Greg Conover	U.S. Fish & Wildlife Service
Hilary Smith	U.S. Department of the Interior
James Ballard	Gulf States Marine Fisheries Commission
Jeff Hill	University of Florida, Ruskin, FL
Jeffrey D. Schardt	Florida Fish & Wildlife Conservation Commission

<i>Joanne Grady</i>	<i>U.S. Fish & Wildlife Service</i>
John Navarro	Ohio Department of Natural Resources
John Darling	U.S. Environmental Protection Agency
John Galvez	U.S. Fish & Wildlife Service
Jon Lane	U.S. Army Corps of Engineers
John Moore	Bureau of Land Management
<i>John Morris</i>	<i>U.S. Coast Guard</i>
John Wullschleger	National Park Service
<i>Karen McDowell</i>	<i>San Francisco Bay Estuary Partnership</i>
Kelly Baerwaldt	U.S. Fish & Wildlife Service
Kelly Gestring	Florida Fish and Wildlife Commission
Kim Bogenschutz	AFWA/Iowa Department of Natural Resources
<i>Kimberly Caringer</i>	<i>Tahoe Regional Planning Agency</i>
Kristen Hart	U.S. Geological Survey
Kristen Sommers	Florida Fish and Wildlife Commission
Laura Norcutt	U.S. Fish & Wildlife Service
Leah Elwell	Invasive Species Action Network
Leslie D. Hartman	Texas Parks and Wildlife Department
Liana Lerma	Texas Parks and Wildlife Department
Linda Nelson	U.S. Army Corps of Engineers
Mark Lewandowski	Chesapeake Bay Program/Maryland Department of Natural Resources
Marshall Meyers	Pet Industry Joint Advisory Council
Michael.J.Greer	U.S. Army Corps of Engineers
<i>Michele Tremblay</i>	<i>Naturesource Communications as contractor to the Northeast Aquatic Nuisance Species Panel</i>
Mike Allen	Maryland Sea Grant
Mike Avery	USDA, Gainesville, FL
<i>Mike Ielmini</i>	<i>U.S. Forest Service</i>
Pam Fuller	GSARP Chair, USGS, Southeast Ecological Science Center
Paul Egrie	USDA APHIS Veterinary Services
Peg Brady	National Oceanic and Atmospheric Administration
<i>Phil Andreozzi</i>	<i>National Invasive Species Council</i>
<i>Raquel Crosier</i>	<i>Washington Invasive Species Council</i>
Ray Fernald	Virginia Division of Game and Inland Fisheries
Raymond M. Sauvajot, Ph.D.	National Park Service
Ron Johnson	National Association of State Aquaculture Coordinators
Ron Smith	U.S. Fish & Wildlife Service
Sam Chan	Oregon Sea Grant
Shailesh Sharma	National Oceanic and Atmospheric Administration Affiliate
Shannon Estenoz	United States Department of the Interior
Stas Burgiel	National Invasive Species Council

Stephanie Showalter Otts	National Sea Grant Law Center
Susan Pasko	National Oceanic and Atmospheric Administration
<i>Susan Shingledecker</i>	<i>BoatU.S. Foundation</i>

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

Following introductions, David Hoskins called for approval of the current meeting agenda and the meeting minutes from the November 2014 ANSTF meeting in Falls Church, VA. Motion was made by Al Cofrancesco, seconded by John Darling.

Laura Norcutt reviewed and provided an update on the action items from the November 2014 meeting:

Completed Actions:

- ANSTF will continue to work with the DOT Representative to resolve the issue of the SAH! Stop Sign brand on billboards.
 - *A memo was drafted with preliminary guidelines on the use of the SAH Brand on billboards and sent to ANSTF members and panels.*
- Report to Congress: ANSTF members to provide gaps, comments, and available graphics to Susan Pasko by November 21.
 - *Draft Report is complete and currently going through agency surname and working out a few details.*
- Regional Panels will provide a list of vacant positions to Laura Norcutt who will circulate the list to the ANSTF to help fill the positions.
 - *A list has been provided, Laura is continuing work to identify Federal members for the Panels.*
- ANSTF to send a joint letter to USGS expressing the need and support for the NAS Database, for sustaining the alert system, and reinstating and bolstering aquatic plants in the database.
 - *A letter was sent and, partly in response to the letter, USGS is reintroducing aquatic plants to the database; two new positions will be filled soon to support this work. More information in presentation #19 – New Species Occurrences)*
- ANSTF will send a support letter to ELI for the Lionfish Control Workshop.
 - *A letter of support was sent, yet outcome or progress of the workshop is unknown. No additional follow-up has occurred on the workshop.*
- ANSTF Members are to provide success stories and lessons learned to Paula West of the Initiative Foundation by mid-December. Don MacLean will send reminders to state plan contacts. Doug Jensen will help gather success stories.
 - *Action completed*
- FWS will respond to MSRBP letter on black carp and snakehead markers; Midwest region of FWS is working with USACE to develop black Carp markers.
 - *Action completed.*
- Wildlife Services will provide a brief memo detailing existing Chesapeake Bay nutria funding and a case for restoring funding that was cut. (Provided by Kevin

Sullivan December 1, 2014.) AD Hoskins will share memo with AD for Ecological Services and Chief of the National Wildlife Refuge System.

- *FWS helped arrange two site visits with the nutria eradication projects with USDA Wildlife Services and FWS Blackwater National Wildlife Refuge, including program managers and coordinators within the Refuge Program, Department of Interior Invasive Species Coordinator, and FAC staff. The site visits were extremely informative and demonstrated the significant progress that has been made by USDA's Wildlife Services and their partners in eradicating nutria from the Delmarva Peninsula.*
- *Program managers expect funding to be stabilized in FY 2015 and are exploring potential funding sources to meet critical project mission needs in FY16 and beyond. While no additional project commitments can be made at this time, program managers and coordinators are hopeful that sufficient project dollars will be available to achieve the eradication goal and subsequent verification stages of the project.*
- The ANSTF Outreach Committee is seeking ANSTF Members interested in participating on the Committee. Contact Doug Jensen or Elizabeth Brown. (Outreach)
 - *A list of names has been given to the Outreach committee chairs; a teleconference will be scheduled later this month.*
- ANSTF Members interested in helping with NISAW should contact Phil Andreozzi. (DOI)
 - *A list of names has been provided to Phil.*

Pending Actions:

- FWS will phase out the ANS Hotline in favor of reporting AIS sightings using the USGS NAS Alert System and other state reporting systems.
 - *USGS Alert system was chosen as a successor to the ANS Hotline as it allows for both online reporting and the ability to sign up to receive alerts when new species have been reported. As the ANS hotline is phased out, the 24-hour Call Center will be replaced by a recording that direct callers to the USGS Alert system and state agency contact information.*
- FWS will strive to fill the Executive Secretary position in 2015.
 - *It is expected that this position will be posted and filled by Fall 2015.*
- ANSTF to consider NISA reauthorization language that would look at alternate funding sources such as Pittman Robertson as part of broader discussion on Reauthorization.
 - *ANSTF has provided information on alternative funding models and provided to the Regional panels as they continue their discussions on NISA authorization.*
- Executive Secretary will work with FWS Wildlife and Sport Fisheries Resources (WSFR) to link WSFR resources on the ANSTF website.
 - *Link is not yet active as revisions to the ANSTF website are still ongoing.*

- ANSTF will follow up with FWS Office of Law Enforcement (OLE) on Marshall Meyers' proposal to develop more species specific codes for Law Enforcement Management Information System (LEMIS).
 - *Information has been gathered on this process, yet specific actions have not been taken.*
- Phil Andreozzi requests ANSTF Members seek a lead for freshwater and marine committees on coordinating/unifying all of the current Arctic work groups. (DOI)
 - *Request has been made, a lead has not yet been identified.*

Actions to be Discussed in Later Updates:

- The QZAP Committee requests extending the QZAP Plan to February 2020. Elizabeth Brown will share the Plan's 5-year Evaluation with the ANSTF and the ANSTF will review and consider it by May 2015.
 - *Update provided in # 13 – QZAP Update*
- The FWS Maryland Fishery Resource Office will address Maryland DNR Snakehead Plan comments and FWS will post the notice in the Federal Register for public comment. Comments will be addressed by the May 2015 ANSTF Meeting.
 - *Snakehead Plan Posted in the Federal Register March 17, 2015*
 - *Update provided in #17 – National Snakehead Control and Management Plan – Plan approved at this meeting.*
- NOAA will announce availability of the Lionfish Plan in the Federal Register for public comment. Current comments and any new comments from the Federal Register posting will be addressed by the May 2015 ANSTF Meeting.
 - *Lionfish Plan was Posted in Federal Register December 12, 2014*
 - *Update provided in #18 – National Invasive Lionfish Prevention and Management Plan – Plan approved at this meeting.*
- ANSTF members with the proper areas of expertise should consider attending the ABYC Summit on Boat Construction and recommend others that may be appropriate to attend.
 - *Action complete; see presentation #23 – Boat Design.*
- ANSTF members will contact Marshall Meyers if they are interested in helping revitalize the Habitattitude campaign.
 - *Update provided in #24 – Plans for Revitalizing Habitattitude*
- Stas Burgiel will provide the briefing paper on fracking to the ANSTF. The joint ANSTF Prevention Committee will determine the best way to approach working with industry to develop Fracking BMP's. The ANSTF will help engage the Fracking industry.
 - *Update provided in #28 – Hydraulic Fracturing for Gas Development as an AIS Pathway*

3. Overview of South Florida and Everglades Habitats and Water Management.

Jon Lane (U.S. Army Corp of Engineers, Jackson District, South Florida and Everglades Water Management and Restoration) gave an historical perspective of Florida's water management system, including showing a short clip from the USACE film *Waters of Destiny*. Most of Florida rivers were

channelized with water control structures at the turn of the century to drain the swamps for agricultural purposes (20-25% of sugar production in the U.S. occurs in the region) and development (6-7 million people live in the region). However, extensive rainfall produced widespread flooding and led to loss of life (e.g., Category IV Hurricane George of 1947). In 1962, the Central and Southern Florida (C&SF) project was authorized to provide flood control to agricultural lands. Congressionally authorized projects included flood control, water supply, drainage, preservation of fish and wildlife and Everglades National Park, recreation, navigation, and prevention of saltwater intrusion. Hundreds of people work to manage these competing interests, making daily decisions on where water should go closely following project regulation schedules and detailed operating instructions. The Comprehensive Everglades Restoration Plan (CERP) was submitted to Congress in 1999. CERP is composed of a series of projects designed to address four major characteristics of water flow: quantity, quality, timing, and distribution. The overarching objective of the Plan is the restoration, preservation, and protection of the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection. Although CERP authorized approximately 67 projects, invasive species was not a high consideration. Current invasions in the Everglades include African jewelfish, Nile monitor, *Lygodium* (old world climbing fern), apple snail, Asian swamp eel, and African rock python.

Al Cofrancesco: How close are we to completion of the Everglades Restoration?

Jon Lane: We are a long way off from completion.

4. Everglades Invasives Action Plan

Shannon Estenoz (Department of Interior, Office of Everglades Restoration Initiatives) provided an overview of the Invasive Species Strategic Action Framework for the Everglades that was adopted by the South Florida Ecosystem Restoration Task Force in November 2014. As of 2013, 50 plants, 34 invertebrates, 12 mammals, 4 amphibians, 38 reptiles, 11 birds, and 20 fishes are invasive in the Everglades. South Florida has been responding to the problem for years. There was a heavy emphasis on plants in the 1990's and 2000's (e.g., Melaleuca, Brazilian pepper, *Lygodium* (old world climbing fern), Australian pine) with some important successes. The Everglades Cooperative Invasive Species Management Area (ECISMA) is a formal partnership of federal, state, and local government agencies, tribes, individuals and various interested groups that manage invasive species. ECISMA is working well, although it runs on very little resources. Title 501c3 is looking to raise money to augment what is available through government funds. Focus on invasive species management has not been on prevention, but rather government is spending millions to control invasives that are already established. They have been addressing the problem for years, but it is only getting worse. Florida is the most vulnerable mainland state in the U.S. for invasive pest introduction and establishment; the state receives, on average, one new pest every month. Agriculture trade and pest interceptions at ports of entry have been doubling every 5-6 years; for example, 85% of plant material entering the U.S. comes through the Port of Miami. Regulating ports is challenging as stricter enforcement causes importers to move to a different port where activities cannot be monitored. Further, an increase in western trade has led to many new invaders from Asia. Climate similarities from the region result in a higher probability of establishment. South Florida Everglades Restoration Task Force invested \$25 billion on restoration, but invasive species are still problematic. In 2013, the South

The Florida Ecosystem Restoration Task Force developed a Strategic Action Framework to address invasive species. Products of the framework included a prioritized list of strategies, preliminary action assessment, and a crosscut budget. The Department of Interior is currently involved in prevention strategies such as the Lacey Act listings as well as building Early Detection and Rapid Response (EDRR) capability. To measure success, the Department is considering:

- the long-term suppression of established species
- containment of established but localized populations
- detection and possible eradication of new invaders that pose a threat
- prevention of new introductions of un-established species, and
- effective coordination at every level (free).

Many gaps still persist including inadequate and predictable resources, an incomplete toolbox, (difficulty in detecting invasive species e.g., python) undeveloped outreach opportunities, less than ideal coordination at the management and political levels, and lack of an effective EDRR system. To help fill these gaps they need to identify adequate resources, improve tools available for invasive species management, increase outreach, and focus on higher lever coordination. Currently their highest priority is to build an effective EDRR system.

Craig Martin: Have you considered increasing effort to characterize successes, such as building performance measures? Have you considered measuring the (falling) number of new invasions as way to monitor success?

Shannon Estenoz: They are using the number of invasives to communicate the problem; however many variables are involved, so they are not sure if the number of invasive species is an effective way to show success in prevention. Instead they must get better at scanning the horizon and forecasting what invaders may be next.

John Darling: Agriculture has been successful and is showing the costs of invasions; yet we don't have great economics on the costs of invasions such as impact on tourism, or impact to fisheries. There are popular diving wrecks that can't be dived on now because of lionfish infestations. What efforts have been made in this regards?

Shannon Estenoz: Economics has been identified as priority; there are good numbers on Everglades in general, but not on invasive species specifically. We would like to look at impacts to recreation and tourism as that is an important dataset that is needed.

5. An Overview of FWC's Efforts to Prevent, Assess and Manage Nonnative Freshwater Fish

Kelly Gestring (Florida Fish and Wildlife Commission, Non-Native Fish and Wildlife Program) provided an overview of Florida Fish and Wildlife Commission's (FWC) Efforts to Prevent, Assess and Manage Nonnative Freshwater Fish. Florida currently has 34 non-native freshwater fish species with reproducing populations (23 established with widespread permanent populations, 9 possibly established, 2 localized). However, at least 14 species have been eradicated by FWC or natural causes. The probability of invasion is enhanced by Florida's semi-tropical climate, vast interconnected network of canals, and numerous highly disturbed habitats (e.g., canals and bank stabilization), and interconnectivity between canals and aquifers that allows some species to overwinter. FWC's Nonnative Freshwater Fish Program was established to address concerns over nonnative freshwater fish introductions with a focus on prevention, assessment, and management. Prevention is a high priority as once a nonnative fish species is reproducing in an open water system, it is usually impossible to eradicate. Communication messages have relayed that releasing unwanted nonnative fish is illegal, inhumane, and potentially has serious ecological consequences. FWC has also developed lists of conditional and prohibited fish species as well as enhanced enforcement, outreach, education and EDRR programs. Because of the preventive measures, hotline calls were received from anglers spotting blue Mauna fish, marbled pim and bay snook. Assessment efforts have focused on documenting the distribution and abundance of exotic fishes; defining life history strategies, environmental limiting factors, population dynamics, and associations with native fishes;

and developing management strategies. Electrofishing has been the primary sampling tool on canals. Data from this sampling has suggested that some nonnative species are supplementing native species rather than replacing them. Finally, FWC's long term objective for nonnative freshwater fishes is to develop management strategies for established species with the goal of identifying wise-use practices for these undesirable but available resources such as commercial fisheries and consumptive uses. Such efforts are challenged by inedible or undesirable species (e.g., sailfin catfish). Further, promoting the harvest of species may lead to additional introductions (e.g., bulleye snakehead). The nonnative fish roundup program encourages anglers to catch, keep, and eat non-native fish as well as offers prizes for the biggest fish and most species captured. Such programs encourage fishing in places that are often inaccessible as well as provide FWC with data on species distribution. General conclusions are that non-native fish species are unwanted; however studies suggest established nonnative freshwater fishes in Florida have not caused native fish extinction and have not had measurable negative effects on native fishes, but they cannot be eradicated. Other variables (e.g., weather, residential runoff, urban sprawl, aquatic plant control) may impact native species as much as non-native species. And focusing on prevention is paramount as non-native freshwater fish will continue to be released.

6. Non-native Species in Florida Aquaculture

Jeffrey Hill (University of Florida) spoke about non-native species in Florida aquaculture, focusing on the history and distribution of the aquaculture industry in Florida, species in production, introduced species resulting from escape, regulations, and industry/agency/extension efforts related to non-native species escapement. Florida aquaculture is diverse ranging from alligators, to food fish, sportfish, and shellfish. Ornamental fish have the highest economic value (in 2013, 127 farms reported \$27.1M in farm gate sales); 58 million individuals on 23 facilities were reported in 2013-2014. Florida aquaculture began in the 1920s, with large increases in aquaculture during the 1930s, again post WWII, and the 1980s and 1990s. There has been a diversification of commodities since the 1970s, with the highest growth peak in the mid-1990s.

Aquaculture is a pathway for invasion in Florida; escapes occurred in 1950s through 1970s and releases were the primary pathway for 1980s to present. Recent studies have shown Florida aquaculture of ornamental fish has resulted in 94 introduced species, 30 reproducing, and 19 species that are now broadly established. Florida aquaculture regulations consist of over-arching non-native species regulations with prohibited and conditional species lists. Florida Department of Agriculture and Consumer Services (FDACS) defines aquaculture as agriculture requiring aquaculture farms certification, mandatory best management practices (with the goal of preventing escape of non-native species since 1997), compliance inspection, and non-compliance enforcement. Between 2013 and 2014, best management practices were evaluated on 23 producers (primarily ornamental); a total of 20% of certified producers in the state, but 80% of the production. Compliance rates were high with only six issues noted by FDACS staff and 13 by TAL staff. One issue required follow-up and was rapidly corrected.

To investigate the scope of fish escapement issue, monthly fish sampling was conducted at facilities with off-site discharge near Tampa using minnow traps, backpack electrofishing, and dip nets. Farm effluent was also sampled to the broader environment. 13% of fish caught at the effluent were nonnative fish. Most were Poeciliids, including native and non-native mosquitofish. The numbers of non-native fish families found in the environment decreased with distance from the farms. Some species are possibly established, while others maybe ephemeral. There has been considerable activity on risk assessment; species assessed in Florida include sturgeon, marine ornamental pathway, grass carp, Barramundi perch, blue tilapia, Barcoo grunter, GloFish (3 species), and arapaima, totaling 95 species. Risk management has focused on regulations, education, industry compliance, and non-regulatory approaches. Comprehensive genetic assessment has also been done on nonnative species.

Al Cofrancesco: Industry is making \$40 million, should they be taxed to help pay for State inspections? If people are receiving a profit from fish production, should they be taxed to help resolve environmental issue resulting from their industry?

Jeffery Hill: There is profit in the aquaculture industry from both traditional aquaculture and the pet industry. Responsibility is often difficult to determine, yet there are models where industry has paid to mitigate. Industry does pay by becoming certified and following BMPs. Industry following these steps are considered in compliance with regulations. Industry education, regulations, and compliance has made this a much smaller problem.

Al Cofrancesco: But the problem is still occurring. People are still profiting from the activity ... seems like a poor model.

Jeffery Hill: Aquaculture Services has funded research at the University of Florida to look at impacts and solutions. The mechanism for receiving those dollars has a strong industry input and are directed towards resolving issues that are causing the problems. Industry has recommended a lot of work to correct issues, demonstrating that they are engaged.

Peg Brady: You listed other assessments, how do others access these reports?

Jeffery Hill: Many are published, but can provide if necessary.

7. Pythons Management Efforts in Florida

Kristen Sommers (Florida Fish and Wildlife Commission) spoke on Python Management initiatives in Florida, including removal efforts, education and outreach, and reporting. Burmese pythons and northern African pythons are now established in parts of Florida. Burmese pythons have been reported in extreme south Florida since 1979, yet the invasion has escalated since 2009. In the 2013-2014 Fiscal Year, 229 Burmese pythons were removed from the wild and reported to FWC. Three Northern African Pythons were removed and reported. The main challenge to this invasion has been detection; detection rates are less than 1%. This is not only an Everglades National Park problem, as pythons cross numerous jurisdictional boundaries. State, tribal, country, and other public lands surround everglades national park; the ECISMA has helped to coordinate efforts. Current strategies include prevention, routine surveys and removals, utilization of volunteers, outreach and education. Through education, regulations and rapid response, FWC works to prevent new introductions of nonnative constrictors into Florida's natural habitats. After July 1, 2008, licensing has been made mandatory to possess constrictors. Similarly, it is illegal to transport pythons across the state lines. The IveGot1 Hotline was developed in cooperation with the Nature Conservancy, Everglades National Park, and FWC. The biggest challenge is lack of a statewide rapid response network and the ability to verify sightings. The Pet Amnesty Program was started in 2006 as a response legislation that created a license requirement to possess Burmese pythons and several other large constrictors. Since its inception, 32 exotic pet amnesty days have been hosted by FWC and outside partners. Over 2300 animals have been surrendered through the program and placed with adopters.

The Everglades Invasive Reptile and Amphibian Monitoring Program is managed by the University of Florida, FWC, and the South Florida Water Management District to further develop an Early Detection and Rapid Response (EDRR), management, and monitoring program for invasive reptiles and amphibians and their impacts within State-managed areas of south Florida. These activities include python survey removal activities, assessment of methods, and managing data collected from pythons taken from the wild. The Everglades National Park has an authorized agent program;

currently there are 14 agents and 7 staff at least partly dedicated to python removal. FWC also issues permits to individuals to remove pythons from FWC managed lands year round. These trained individuals are allowed to remove pythons and other conditional reptiles. FWC is currently examining obstacles and barriers to participation and will be surveying former and current participants in Spring 2015 to address concerns and try to increase participation.

Education and outreach programs provide education to citizens, natural resource workers, and local law enforcement agencies that may encounter pythons in either the wild or in their line of work. Training includes python handling, and those trained can become part of the Python Patrol Network - a list of people that FWC can call to have a community approach to respond to python reports. Since FWC took over this training program in October 2013 from the Nature Conservancy, staff have held 28 workshops, training 800 people on identification and handling. Introduced Reptile Early Detection and Documentation (REDDy) is a free, online course that informs how to recognize and report large, invasive reptiles. REDDy-trained observers play a key role in a much larger management program by helping to detect and document the spread of established species and sightings of new species. Other awareness campaigns have included Don't Let It Loose, Florida Invaders, and the Python Challenge (to be repeated in 2015). FWC became aware of northern African python in south Florida in 2009, approximately 30 have been removed since that time. These snakes are thought to be contained to 6 square miles; yet the Northern African Python Initiative has been elevated to encourage public reporting. In the future Florida agencies will continue to coordinate, expand existing programs, develop interagency management plans, and refine management and research priorities. They will also try to enhance detection, at this time it is difficult to determine distribution or forecast spread, thus actions are often reactive rather than proactive. Further, funding has been piecemeal; FWC continues to identify long term, dedicated funding.

Jackson Gross: Has FWC thought about using dogs to improve detection rates?

Kristen Sommers: Yes, FWC has considered dogs but it is expensive to have a handler, particularly as it relates to potential eradication of northern African python. We know dogs are better than we are at finding these animals.

John Darling: Is the goal eradication?

Kristen Sommers: Eradication may not be a reasonable goal, tools and technology available are not suitable to meet this goal.

8. Pythons Research

Brian Smith (University of Florida, presenting for Kristen Hart, U.S. Geological Survey) spoke on the USGS multi-faceted research program on pythons that is focused on improving control strategies. Low detectability is at the heart of all of our python science and management problems. A USGS/UF Detection Study (Dec 2012 – June 2013) used three radio tagged pythons on the C110 canal. Although the area is considered “optimal conditions” for finding pythons, the researchers were unable to find radio tagged pythons. Only one python was found out of the 398 opportunities, which equates to less than a .005 detection probability. EDD Maps have been used to delimit the range of current infestations. Sampling using eDNA sampling has improved occurrence and detection estimates of invasive Burmese pythons; detection rates for DNA is 99-100%, thus only two surveys are needed to determine the presence/absence of Burmese python in an area.

Research has also focused on impacts to wildlife. Studies have revealed that the pythons' diet consists of about 75% mammals, including many threatened or endangered animals. 24% of the

python diets consist of birds and remaining 1% include others (e.g. eggs and alligators). Other studies have demonstrated that gopher tortoises and pythons may co-habit within burrows. There has also been parasite spillover, including a lung worm that is exotic to the United States. Research focused on the basic biology of the python shows that high reproductive potential, low vulnerability to predators, and high dietary breadth have contributed to the pythons' success. In the literature, a female python with as much as 107 fertilized eggs has been reported.

Currently populations are bounded to the north by the cold and by salt to the South, although tested snakes were surprisingly salt water tolerant. Burmese python have demonstrated "homing" behavior, as released snakes were able to travel considerable distances to return to where they were captured. FWC is investigating the use of Judas pythons to improve detection of hotspots and large breeding aggregations. It's hopeful this type of work will help with developing control tools. For more information on the research program, refer to the USGS Risk Assessment, *Giant constrictors: biological and management profiles and an establishment risk assessment for nine large species of pythons, anacondas, and the boa constrictor* - <https://www.fort.usgs.gov/publication/22691>.

9. Florida's Aquatic Invasive Plant Program

Jeffrey Schardt (Florida Fish & Wildlife Conservation Commission, Invasive Plant Management Program) spoke on Florida's Aquatic Invasive Plant Program, with particular emphasis on the use of herbicides. Florida has one of oldest plant management programs in country; includes 460 public lakes and rivers, 1.25 million acres, 24 exotic species, 14 invasive species, and 405 active management programs. Statutory authority that guides the program provides funding and authorizes the issuance of permits (e.g. 68F-54, FAC and 68F-20, FAC). Florida Fish and Wildlife Commission does not manage plants in agricultural canal systems instead Florida's water management districts are responsible for controlling those systems. FWC's herbicide applications consider the native species that occur in those systems. Their management approach considers eradication of new invasive populations; however once species are considered as established, the approach keep the species at low levels. Funding for the program comes from boat registration, gas taxes, U.S. Army Corps of Engineers, and documentary stamps (tax on real estate transactions).

FWC conducts an assessment of 460 public lakes each year for early detection purposes and setting program priorities. Priority species for control include floating plants (hyacinth/ water lettuce), new hydrilla infestations, and other plants that may block access and navigation. Most Florida waterways are susceptible to hydrilla infestations. Hydrilla in their native range (Southeast Asia) grow up to 3.5 feet, however in Florida waters hydrilla have been reported up to 10-12 feet. In early stages, this weed can provide fish habitat; however, between June and August, hydrilla can grow 8 to 10 inches/day and form dense tangled mats. Management tools used by FWC include biological, chemical, cultural and physical. 17 biological control programs have been conducted for various weeds (e.g. alligator weed) and five insect species have been tested to control hydrilla, but none have been effective. Mechanical control has been around for about 100 years; however, it is non-selective, slow, and in many cases, cost prohibitive. Therefore, the most utilized tool in Florida is herbicides. Usage has left resistant clones, forcing the development of other tools for control. 16 compounds with 29 formulations to treat with herbicides were fast tracked for approval.

Between 1970-2014, Florida spent about \$25 M on research. Most research has focused on plant physiology to ensure herbicide does not impact non-target species. Environmental controls occurred for hydrilla between 2004-2005 when four hurricanes ripped hydrilla out of the water. Maintenance control: implemented state wide was able to bring hyacinth under control; this weed cannot be eradicated, but work continues to minimize its impacts. FWC has made several administrative agreements with many contractors for AIS plant control by assessing public water bodies and assessing impairment/ existing tools. Coordination occurs among many federal, state, and other entities throughout the State. Classroom curriculum has been the most successful form of outreach.

FWC website also provides vital information and acts as an outreach tool. FWC has been involved in annual five-day teacher workshop. Additional information on the plant program was provided on a small handout.

10. The Use of Dynamic Electric Field to Direct Bighead and Silver Carp Movements

Presentation was rescheduled for the following day – see below on this page.

11. USDA Invasive Species Research Program

Mike Avery (USDA Wildlife Research Center) spoke about the USDA Invasive Species Research Program related to aquatic invasive species. USDA conducts research on Burmese pythons and Nile monitors and develops detection and removal methods targeting these species. The research emphasis is on python trap development, environmental DNA, infra-red radar detection, and pheromone lures. The National Wildlife Research Center, located in Fort Collins, Colorado, is the federal institution devoted to resolving problems caused by the interaction of wild animals and society. Invasive species studied include feral swine, Burmese python, Nile monitor, tegu, sacred ibis, common myna, monk parakeet, vultures. Aquatic organisms naturally release DNA into the environment. This eDNA can be extracted from water samples and used to detect presence of invasives, this concept was tested with captive Burmese pythons. Field applications began in May 2014 to look at two locations in the Everglades. Testing was performed in conjunction with other control tools for comparison; the results are currently being analyzed. Studies using eDNA are currently being expanded to include the Nile monitor in order to delineate where this species occurs. Use of infrared technology for detection is also being investigated. Pythons can be detected until 2 hours after dusk before the pythons and environmental ambient temperatures become too indistinguishable. Differences in pythons and other wildlife is difficult to detect, but work continues on this technology. Trap development is still the cornerstone for much of wildlife management. Improvements to trap design has greatly reduced trapping of non-target organisms. Currently there are no pheromone-based tools that have been developed for the control of any reptiles' although APHIS is continuing work in this area. There are qualitative differences between male and female extracts from shed skins from Burmese python, which has potential to lure snakes to areas where they can be captured.

Thursday – May 7, 2015

Peg Brady awarded Dr. Al Cofrancesco (U.S. Army Corps of Engineers) a Life Time Achievement Awards from the National Invasive Species Awareness Week. Awarded by FICMNEW, ISAC, ANSTF, and NISC. Peg provided a synopsis of Al's lifetime achievements, which includes nine peer review papers, and five book chapters.

10. The Use of Dynamic Electric Field to Direct Bighead and Silver Carp Movements

Rescheduled from the previous day.

Jackson Gross (*Smith-Root, Inc.*) reported on research to use less electricity and make electrical barriers safer, in particular the use of a sweeping electronic field to deter movement of Asian carp in away from areas with little water flow. Challenges for application of the technology included the lack of environmental cues to direct fish, inhibition of mobility, variation in fish sizes and tolerances, and differences in water chemistry. However, sweeping barriers have very low frequency fields compared to the Chicago Area Waterway System, thus dramatically increased safety margins. The sweeping field was tested for its ability to move and incapacitate bighead and silver carps. Results of the trials suggest that it takes less than two sweeps to move small silver, medium bighead, and large

bighead carps out of the trial raceway. Electric sweeps are not harmful to human health. There are still challenges; for example, some silver carp preferred to stay in the electric field rather than go into areas of light. However, this observation suggests that light may also serve as an effective barrier, and should be investigated. Although the electric fields are effective at stunning the fish, mechanisms are needed to prevent further movement into the area. Studies have swept fish out three times and then has an incapacitation field that stops/incapacitates re-entry. This technology has potential applications with hydropower (draft tube entry) for sturgeon conservation; lamprey control (U-shaped electrodes) to inhibit climbing; fish lifts/elevators (push fish out of elevators upstream into main stem or keep fish from moving into elevators downstream); or help gather fish and prevent escapes during aquaculture operations.

John Darling: Do you need some type of infrastructure to make this approach work?

Jackson Gross: If you need to deter species such as sea lions, it would not be off the shelf. Work is ongoing to build mobile units. Need partners who want to develop technologies to further work and produce.

Sam Finney: In conjunction with nets or rotenone, I can see applications where fish are herded into an area where you can then collect them. I see this as an enhanced integrated pest management approach.

Jackson Gross: Set up trap nets where you could then herd them into the nets. Agreed on an IPM approach where you can incorporate with other collection or control tools such as CO₂.

12. Discussion: ANSTF Update

David Hoskins gave an overview from the FWS perspective on the FY 15 and FY 16 budgets. The President's FY 2015 budget for the Service continues the focus on key invasions. The FWS Branch of Aquatic Invasive Species has three primary focus areas: national coordination; prevention; and control and management. While the Service has the authority to manage other aquatic species, the funding requests focuses most of the AIS Program's efforts on addressing threats from zebra and quagga mussels and a significant increase in managing Asian carp. The FWS budget includes funding for the administration and management of the ANSTF. The funding includes the meeting expenses and the salary and travel for the ANSTF Executive Secretary, located within the Branch of Aquatic Invasive Species. The funds must also provide for the \$1 million State ANS Plan program and the Regional Panel support. Other funding provided to the FWS is designated for the quagga-zebra mussel program and the Asian carp management program. In FY 2015, \$1 million was designated for State ANS Management Plans and 40 Plans applied for funding in 2015. Other plans are currently in development, but we do not anticipate that they will be completed in the near future, so the funds that each state receives in matching funds should remain the same in FY15. Despite the continued success and popularity of the State/Interstate ANS Management Plan Grant Program, the amount of funding for each individual plan has declined over the years. This is because the funding must continually be divided into smaller and smaller pieces as new plans are approved by the ANS Task Force; and the AIS Program funding for State Plans has decreased from its highest funding in FY 2011. To give a clearer picture of the program's history, there are almost five times as many plans as there were in 2001, yet each individual plan receives approximately 75 percent less funding than they did in 2001. If all 42 currently eligible plans seek funding in FY15, each State would receive approximately \$23,000.

The Regional Panels of the ANSTF provide essential coordination and work production for the ANS Task Force at the Regional and local levels. Unfortunately, in FY 13 there was a significant deficit within the AIS program and FWS had to make some difficult budget decisions through FY15. Panel funding will continue at \$40K/Panel through FY 15. In FY16, the President's budget includes an increase of \$42,000 for Regional Panel support. While this does not completely restore the dollars lost due to sequestration, it is a start.

In FY 2015, the Service will allocate approximately \$930K to partners through grants for projects to control the spread of invasive mussels in the western U.S., with emphasis on preventing the spread from areas already contaminated via trailered watercraft. Funded projects will address the highest priorities of the 2010 QZAP. The FWS southwest Region hosted a teleconference in March with partners from across the west to discuss mutual priorities. All agreed that past priorities remain relevant and that we should continue to focus our efforts on staving spread from high-profile contaminated waters, especially the Colorado River. Following allocations last year, the Service does not expect to cover containment responsibilities of other (non-Service) federal land managers, prioritizing instead projects led by non-federal partners. A request for proposals will be posted on Grants.gov as soon as possible.

In FY14, the Service received base funding in the amount of \$3.5M to support early detection, rapid assessment, rapid response, containment, and control actions for Asian Carps in priority watersheds. Funds were allocated as follows: \$2.9M to the Great Lakes (including the Chicago Area Waterway System); \$400K to the Upper Mississippi River watershed; and, \$200K to the Ohio River basin. In FY15, the Service received a \$2.0M based funded add to support efforts to monitor, assess, contain, and control Asian carps, and the majority of this add was allocated to the Upper Mississippi River and Ohio River basins. The President's FY16 Budget Request asks for an additional \$2.4M in Service base funding to monitor and control the spread of Asian carps. If received, this would bring total Service base funding for Asian Carp to \$7.9M in FY16, which would be allocated as: \$5.3 M to the Great Lakes to support existing efforts and to fully wean the Service off existing Great Lakes Restoration Initiative Asian Carp Framework funds; and \$2.6M to augment existing funding and management efforts outside of the Great Lakes as described in the National Asian Carp Management and Control Plan.

The President's budget includes an increase for Aquatic Invasive Species Prevention. It includes three components that we believe the Task Force membership will benefit from: \$200,000 for conducting risk assessments to evaluate potentially invasive species. These assessments provide the public, industry, and state and Federal decision makers with valuable information to better prioritize and manage the greatest threats; \$400,000 for using risk assessment results to improve Federal regulatory processes and enable the Service to more effectively manage invasive species, especially those that are new to the U.S.; and \$69,000 for enhancing collaborative and voluntary partnerships with industry and States to yield sustainable and less environmentally costly business practices, such as Habitattitude™ (a consumer awareness campaign), industry "no trade" agreements, and new boat design and construction.

The ANSTF Charter is due to expire on September 10, 2015, as it must be renewed every 2 years. This process can take several months so we are beginning the process now. *Ex officio* members currently serve staggered 3-year terms of office. FWS policy now allows member terms to increase from 3 years to 4 years. We hope to make this change to the new charter. Additional comments on the charter were requested (see Action Items). David also requested a review of the ANSTF Members list to make sure all information is correct and up-to date (see Action Items). There are currently many vacancies due to members' 3 year terms expiring and several new members needing vetting. The Department of Interior and White House Liaison who approves the Task Force members have gotten more stringent in the member vetting process. The process of getting these members vetted can take 4 months or more. Almost every other member is also due to expire this year and FWS staff will contact you for the information we need for re-vetting.

The Aquatic Nuisance Species Task Force nominates, selects, and appoints its members as directed by the Nonindigenous Aquatic Nuisance Species Prevention and Control Act of 1990. The Act directs the co-chairs to invite non-Federal entities to participate as *ex officio* members of the Task Force. Additional *ex-officio* members can be invited and appointed by the co-chairs to represent non-Federal governmental interests and entities relating to aquatic nuisance species. We received interest in adding the Tahoe Regional Planning Agency as an additional *ex-officio* member to the ANS Task Force. They are a leader in Western AIS management, developed an excellent Regional AIS Management Plan, and there is only one other Western *ex-officio* representative on the Task Force. During our member updates, we will hear from them and discuss their membership.

The ANSTF Executive Secretary position has been vacant since March and it is vital that it be filled. Laura Norcutt has been acting Executive Secretary since March 2014 and Don Maclean will begin acting in June 2015 and will maintain the program until a new Executive Secretary is hired. The Program has had several other vacant leadership positions but has prioritized the ANSTF Executive Secretary position as one of its high-priority vacancies to be filled. FWS will initiate the hiring process shortly after Laura's retirement the end of May.

Bill Howland: Requests that FWS emphasize to Congress that regional panels must be a priority. Panels are hoping for a return to full funding, although an increase to \$60,000 would be preferred.

David Hoskins: In FY16, the President's budget includes an increase \$7000 per panel, if appropriated. This is the best that can be done for now and up to Congress to determine how to respond. FWS will do what they can to promote, but there are other priorities.

Dennis Riecke: The collaborative partner approach is really good as it is beneficial to itemize what individual states and federal agencies are spending. Important to note who is funding work – and who is not funding work. Industry helped create situations and should be a partner in solving it. No industry likes bad publicity, if public realized their actions have caused harm, this may encourage industry to become partners and fund

efforts in AIS management. Federal funding is not the answer; a collaborative funding approach is needed.

John Darling: Has there been any effort from ANSTF to explore this option?

David Hoskins: Not yet, but panels should be talking about funding mechanisms as part of NISA re-authorization. ANSTF should find time at next meeting to talk more about funding opportunities.

Peg Brady: ANSTF has had past conversations with the National science Foundation to identify potential funding opportunities, but efforts did not gain momentum. ANSTF has not yet looked at targeting specific industries.

John Darling: ANSTF should look at other models for ideas.

Peg Brady: Yes, mentioned this idea to GAO as part of their assessment of federal AIS spending.

Marshall Meyers: PIJAC pays user fees as much as \$980,000, although it is unknown where this money is used. Curious where money goes as more money is given that used for inspectors. PIJAC suspects that this money goes into the General Treasury.

David Hoskins: John Darling suggested that need to look at other models, perhaps need to do an assessment as to where money goes. This may be beneficial to ANSTF as a starting point.

John Darling: Will be interesting to see what GAO has to say and used that as a starting point.

Cindy Kolar: Tomorrow we will be hearing from Hilary Smith (DOI) about emergency response funding for EDRR. This conversation may be relevant.

David Hoskins: ANSTF may wish to wait for the GAO report and review findings and recommendations before taking action.

Peg Brady reported on the status of the GAO report. In the Water Resources Reform & Development Act (WRRDA) of 2014 Congress directed review of costs and AIS expenditures. All the agencies have been contacted over the last several months to respond to questionnaires. The GAO team has also held field trips, including one to the Southeast, Florida Everglades, Northwest that may be impacting ESA and Habitat issues. The Task Force will get a later update from Tama Weinburg (GAO). ANSTF may see a draft report in mid-June to review prior to finalization; however, ANSTF will not see the recommendations. The report should recognize that states, regional panels are integral components in the overall ANS response.

Peg Brady provided an update on the ANSTF report to Congress, which consists of AIS related activities within past 10 years. The language is being finalized and will be sent out to the Task Force as a final draft. Expect to see an email from Co-Chairs within the next couple of weeks. The report is expected to let the Congress know what is being done to combat AIS issues. Also, the development of the Reporting Matrix occurred as an alternative to an ANSTF Operational Plan. It important to refresh this document and use as a tracking mechanism to provide information for future reports and track progress on Strategic Plan. The last version of the matrix will be distributed to the ANSTF for thoughts and suggestions on a way forward for tracking.

13. Decisional: QZAP Update

Dave Britton (USFWS) provided an update on the QZAP work this year and addressed the renewal of the QZAP. One of the Action Items from our November 2014 ANSTF Meeting was from the QZAP Committee, requesting an extension of the QZAP Plan to February 2020. The QZAP Committee met in March and again concurred with the November 2013 QZAP Committees recommendation that the Plan does not need to be revised and can be extended another 5 years. The Task Force is being requested to reaffirm the action plan for another 5 years. Current QZAP funding priorities are to contain invasive mussels to waters where they already have established populations; promote outreach and information to the boating public; and enhance enforcement of existing law and regulations. The spread of invasive mussels is stoppable with enough money and effort; positive results have been seen and should continue into the future. In FY 14, QZAP funds were spent on a Mobile Decontamination Unit and Staff (\$80,000), development of a Regional AIS Data Sharing System (\$154,355), outreach and education (\$100,000), decontamination and Outreach at Lake Mead (\$121,962), WID Training (\$73,881) and an inspection and containment program for the Colorado River (\$400,000). Funding opportunities can be found in Grants.gov for this year's funding opportunity.

John Wullshlienger provided an update for NPS. Beginning in 2014, NPS received \$2M for quagga/zebra mussel management in nine western states. These were not new dollars but were earmarked. John provided a brief synopsis of all the parks receiving dollars, including Amistad NRA, Lake Mead NRA, Glenn Canyon, Keri Conti NRA, Black Canyon NP, BigHorn Canyon, Grant Teton NP, Glacier NP, and Lake Roosevelt NRA.

Leah Elwell: The Western Regional Panel and QZAP grant team has come together a number of times to discuss an update of QZAP.

Brian Bonsack: Highlighted that changes to the Wildlife Sportfish Restoration Program that States can now use Boating Access funds to pay for AIS projects. Several Western States were looking to fund AIS projects in this way.

Decision: The ANSTF reaffirmed QZAP for the next five years.

14. Informational: National Asian Carp Management Update

Kelly Baerwaldt and Sam Finney (FWS Asian Carp Management Program) gave an update on continued implementation of the National Asian Carp Management and Control Plan, including implementation of various aspects of Asian carp management and development of tools for biologists working on Asian carp projects throughout the U.S. The National Plan is over 10 years old and serves as a "parent document" to other management efforts. The National Plan includes 7 goals with 48 strategies and 133 recommendations. The plan covers all four species of Asian carps.

Implementation is occurring on a regional basis with step-down geographically focused plans, such as the Asian Carp Regional Coordinating Committee's Great Lakes Framework. On the ground, works include multiple barriers on the Chicago Area Water Way system. There are some concerns with barges and other metal-hulled vessels affecting the barrier field both electrically and hydraulically. A new FWS office has opened in Wilmington, Illinois. The office is staffed with seven people, making it easier to react to events and saves travel and time and money. Small fish (less than 2 inches) can swim through the barrier and barges can entrain fish; FWS and USACE staff is monitoring daily and seasonal patterns of fish abundances at the barrier. Certain barrier settings are effective in incapacitating fish. An increased number of black carp have been captured in the lower Mississippi River Basin. This is of concern since this is a molluscivore and there is evidence of reproducing populations in areas of the Mississippi and Illinois Rivers. MICRA recently completed its grass carp review and a number of recommendations were developed consistent with the National Plan related to grass carp use, such as fish production, triploid certification, shipping, regulation, and stocking recommendations for reducing spread throughout the U.S. A survey was conducted of producers, distributors, and state and federal fishery managers. Eight recommendations are forthcoming from this plan, such as unifying the current patchwork of State regulations on this species. Report is available on-line through the MICRA website.

The Water Resources Reform and Development Act (WRRDA) of 2014, included direction from Congress to the Service to lead a multiagency effort to slow the spread of Asian carp in the Upper Mississippi River and Ohio River basins, in coordination with the Army Corps of Engineers, National Park Service, and U.S. Geological Survey. WRRDA also directed the Service to complete a Report to Congress summarizing all activities and expenditures (both federal and non-federal) related to Asian carp prevention in the upper Mississippi River and Ohio River basins over the previous two years. A total of \$94.5 M was spent on Asian carp prevention from June 2012 to June 2014, with only \$12.2M spent outside of CAWS. Management strategies have been developed for portions of both the upper Mississippi and Ohio River basins. Many prevention activities are being conducted in both basins. All four species of Asian carp have increased their range in the Mississippi River Basin in the last two years, with the largest range expansion exhibited by silver carp. Black carp has shown the least range expansion, likely due to lack of targeted sampling for this species. Black carp are arguably the most destructive species of Asian Carp due to their preference for mollusks, and the fact that they are longer lived than other Asian carp species.

The eDNA Regional Surveillance Program, led by USFWS since 2013, is an early detection monitoring tool that helps verify presence of live fish and rule out other vectors. Technology has been very helpful to identify areas of concern to increase vigilance. In 2014, 6,000 eDNA samples occurred. 2015 adopted a new more efficient extraction technology. FWS will soon have four mobile labs to do field extraction techniques. AFS, AFWA, USFS have teamed up to inform the broader aquatic management community about the promises and opportunities associated with the emerging field of eDNA analysis. This online "clearinghouse" will provide contact information for current eDNA researchers, as well as information about each researcher's capabilities, tools, and services and is intended to facilitate connections between the scientists who are developing eDNA technology and managers seeking to apply this technology to conservation questions. The clearinghouse will be housed on the AFS website: edna.fisheries.org. The Asian Carp Regional Coordinating Committee had been chaired by EPA and CEQ. The ACRCC is now chaired by EPA and FWS. The National Asian Carp Surveillance Plan was intended to address growing need for standardized guidance for monitoring and detection efforts focused on Asian carps in waters of the U.S. outside of the Great Lakes and CAWS. The draft was sent out for review by state and federal partners and comments were compiled in May 2014. This new strategy outlines the USFWS roles and authorities for managing Asian carps, highlights the risk of each species identified in the Surveillance Plan, incorporates existing documents and plans and maps, and integrates information

from the completed and ongoing Bi-National Risk Assessments and integrated pest management programs. The document will draw upon and be structured to complement the existing National Plan, and is not intended to serve as its replacement. Additionally, the new strategy will articulate the FWS vision regarding management of the various Asian carp species in terms of monitoring and control, focusing on surveillance methods, and describing a starting point for framing options for control. This document would also serve as a venue to communicate messaging on eDNA and underscore the importance of early detection, while deferring to the individual basins for specific and targeted management and control techniques (e.g. commercial fishing). The Surveillance Plan should also serve as an umbrella document for the ongoing Sub-basin planning efforts currently underway in the Upper Mississippi and Ohio River basins focused on Asian carp monitoring using USFWS funding. Great Lakes and Mississippi River Interbasin Study directed formal evaluation at Brandon Road Lock and Dam, as this location that can address upstream transfer of Mississippi River species through all Chicago Area Waterway System pathways. Implementation of technologies at the Brandon Road control point was a feature of three out of six structural alternatives presented in 2014 GLMRIS Report. On May 1, 2015 USACE released Brandon Road Draft Project Management Plan. Finally, the USFWS manages the Asian Carp Response in the Midwest web site (<http://asiancarp.us/>) to give the public a one-stop shopping location on what state, federal and international partners are doing to prevent the spread of Asian carp. The website was recently updated to reflect the Water Resources Reform and Development Act and will now be able to provide a home for future information from our partners in the Ohio River and Upper Mississippi River basins.

John Darling: This level of funding this is completely unprecedented. Can we learn something about how to marshal resources to do something like this?

Sam Finney: What has been done in the Chicago River is applicable to other areas of the U.S.

Bill Howland: Recognize that it takes a continent to prevent an infestation; we need to be sure we have a strong plan to move forward. One of the reasons regional panels are important to bring this perspective. Should take advantage of all lessons learned and make sure if communicated in reports and use to make cost benefit analysis persuasive in term of natural resources lost.

Dennis Riecke: Member organizations of the Great Lakes Regional Panel should encourage their executive directors to call members of the Congressional Invasive Species Caucus. For years we had zebra/quagga at the 100th Meridian but they passed over it. Even if a couple of species incur costs of zebra/quagga and Asian carp, lost ecosystem goods and services will be significant. We need to address this before the 11th hour.

Al Cofrancesco: There are many invasive species, more than ever before and even one invasion can be devastating. Reference to information given to Congress and GAO should direct actions towards new invaders and not established species in order to have a chance at success.

David Hoskins: These themes are represented in the RTC.

Erika Jensen: GAO report is focused on what we are spending. It won't address what Bill or Al were talking about. We need better information on economic costs of invasive species. It is an ongoing struggle getting this information. We can bring this up with GAO when they call in. Recommended ANSTF identify speakers on this topic for next meeting.

John Wullschleger: This information would be helpful within the Federal budget process.

Leah Elwell: Suggested that we are not the ones that need to hear this information, but need to find a way to communicate it to other groups. Can we get a Pimentel-type analysis? Can we stand on a platform as a group and put some money into that type of paper?

Peg Brady: ANSTF should explore how an economic study might get done and send out a formal request for candidates that could look at the impacts from invasive species to lost ecosystem goods and services.

Erika Jensen: Suggested National Academy of Science as a possibility.

Dennis Riecke: ANSTF should explore who could look at this issue. National Academy of Science study need funding in order to conduct this type of study. USFWS has an economic unit.

Craig Martin: ANSTF can have a discussion with the FWS economic unit to explore options.

Jackson Gross: Northwest Power and Conservation Council, recently did a large assessment of impact of QZ impacts. ANSTF should review how PNCC performed the assessment and what information and resources are necessary. Phil Rockefeller, new chair of Power Council may be able to assist.

Bill Howland: The Gund Institute at the University of Vermont is looking at the lost ecosystem services within the Lake Champlain Basin.

David: We will send a formal request to the Task Force members to follow up and develop a team to identify potential person who will carry out economic assessment of AIS.

Report from the Government Accountability Office

Tama Weinburg (GAO) reported on the GAO assessment of the federal costs of, and spending on AIS, as mandated by Congress in the Water Resources Reform and Development Act of 2014 (WRRDA). GAO will report to Senate (e.g., EPW) and House (Natural Resource) Committees. The report will include how much federal agencies spend on invasive species and the extent to which federal agencies measure progress. The Task Force membership has been very helpful in the assessment and they have received responses from 13 federal agency members. GAO has conducted two site visits, including South Florida's Keys and Everglades and were well informed of the issues and challenges. Mike Meleady (GAO) went to northern California to visit with Bureau of Reclamation and others. GAO will be presenting their report to the Hill on June 10th .

Peg Brady: The ANS Regional Panels did have a chance to speak directly to the GAO. Asked if the panels would like to provide some input.

Dennis Riecke: Can GAO somehow reference the economic costs of aquatic invasive species to the U.S. Economy? For example within the Mississippi River, explain what are the states spending and where the funding comes from. It would be helpful if the report included this, as it would engage the states' decision makers and representatives.

Tama Weinburg: GAO will provide a link to the report once it is completed. The economic costs was an area the GAO was hoping to get more information, but that info was not readily available.

Erika Jensen: Will the GAO report summarize Federal funding by program, funding authority, and line item?

Tama Weinburg: The GAO report will summarize budgets at a much higher level; Not every Federal agency provided comparable information that would allow wrap up at the finer scale. GAO won't compare what has been authorized versus what is actually funded.

15. Discussion: Building Policy Consensus in the West: Update on Development of Model Law and Regulations

Leah Elwell (Invasive Species Action Network, representing the Western Regional Panel) provided an update on the building consensus project. "Building Consensus in the West," an initiative of the Western Regional Panel on Aquatic Nuisance Species. The goal of the WRP initiative is to develop a multi-state vision for watercraft inspection and decontamination programs. Model State Legislative Provisions were developed to offer guidance to states with existing watercraft inspection and decontamination programs, to create a foundation for multi-state reciprocity, and outline a legal framework for the authorization of new watercraft inspection and decontamination programs. These provisions were approved by AFWA. The group has begun developing model regulations for state programs. Much of the work has originated from the west, but all products and processes could be used nationwide. Phase I of the Model legislation was completed in March 2014. Analysis indicates that 62% of states have legal provisions addressing the trailered recreational watercraft vector. Recent State legislative activity has shown launching restrictions, including Nebraska, South Dakota, and Maryland. Seeing an increased use of model legislation. Sixteen States have Watercraft Inspection and Decontamination (WID) Programs in place. Phase II of the Model Regulations project is now underway. It will include: Waterbody classification with respect to zebra/quagga mussel infestation, inspector training, uniform inspection and decontamination protocol, and certification of inspection and decontamination. Western states are working on consensus developed standards and protocols for water sampling and training of boat inspectors. PSMFC and ISAN are updating the "Uniform Minimum Protocols and Standards for Watercraft Interception Programs for Dreissenid Mussels in the Western United States" document. More information about the building consensus updates can be found at nsglc.olemiss.edu.

Doug Jensen: Will the model regulations outline the pros and cons to the different types of regulations? It will need to touch on where and who should be inspected. Should it be everyone versus what may be more practical.

Leah Elwell: Stephanie Showalter Otts has looked at issue. Although want to inspect everyone, but not feasible – so regulations try to give practical solutions

Erika Jensen Will there be any information on costs of a WID program and where the dollars could come from within a State should they be interested in pursuing a WID program? For States that don't have a WID, it will be a significant cost.

Leah Elwell: The report will probably not include this information; funds are identified, but it does not give information on cost as each state would have different mechanisms.

Susan Shingledecker: The boating community is available, should the WRP be interested in engaging.

16. Informational: Addressing AIS Transport at Federall-Managed Water Bodies

Hilary Smith (DOI), Stas Burgiel (NISC), and Laura Norcutt (FWS) provided an update on the policy options paper in response to a November 2011 Western Regional Panel recommendation, to address the movements of boats infested with invasive mussels and other AIS, a joint ANSTF/NISC Committee was developed. A workgroup was formed in 2012 and included about 50 individuals

from nine Federal agencies. The work group was charged with examining Federal laws, policies and regulations governing the movement of AIS (including but not limited to AIS). Recent developments, such as staffing changes, slowed progress on this work. In addition, the DOI Solicitors Office Review had an in depth analysis that has required considerable work addressing comments. Section 1039 of the 2014 WRRDA charged the Secretary of the Army, with coordination through the U.S. Army Corps of Engineers (ACOE), to evaluate Federal authorities and make recommendations. This charge was similar to the Federal Lands workgroup charge. The committee has been working with ACOE to leverage this work for their WRRDA obligations and not “recreate the wheel.” The Workgroup’s product includes an introduction, overview of the current federal authorities, policy options, and appendices. Appendix 1 outlines Federal agency roles and responsibilities. Appendix 2 summarizes the authorities for invasive species management. Appendix 3 outlines the Committee itself. There were a number of legal “grey areas” that complicated answering some of the basic questions, such as “can you stop a boat?” The work group has taken a hard look and will look to see if more detail and analysis can be provided to answer this question in the final product. Another challenge is that federal actions are a moving target; therefore, the document likely will be a snapshot in time. Next steps are to incorporate comments from committee on draft paper; revisit input on specific questions with federal land management agencies, circulate a final draft for agency approval, and provide information on authorities and policy options to ACOE for WRRDA report.

Peg Brady: When is the ACOE’s deadline?

Stas Burgiel: June 2015. ACOE will be dependent on their own internal process and they want to ensure that other agencies have a process to sign off on inputs into and relevant recommendations within the final report prepared by the ACOE..

17. Decisional: National Snakehead Control and Management Plan

Laura Norcutt (USFWS) provided an update on the National Snakehead Management and Control Plan. The Snakehead Plan was approved by the ANSTF during the May 2014 meeting. However, through an oversight, the Snakehead Plan was not vetted to the public through the Federal Register as required by NANPCA. The plan was posted in the Federal Register in March, and 2 comments were received. First comment suggested that the best way to control snakehead was consumption rather than spending federal dollars. The second comment pertained to needing a centralized database. The plan was modified to highlight the need to leverage existing databases (e.g., NAS) and additional coordination through the States.

Decision: The ANSTF approved the National Snakehead Control and Management Plan.

18. Decisional: National Invasive Lionfish Prevention and Management Plan

James Ballard (Gulf States Marine Fisheries Commission) provided an update on the National Invasive Lionfish Prevention and Management Plan. The Lionfish Plan has been through a review by the ANSTF and the National Invasive Species Council, and all comments have been addressed. It has also been posted in the Federal Register for public review. The Notice resulted in over 50 comments from 16 groups. Comments included that the plan did not adequately address use of fisheries and incentive programs for control; suggested additional information and publications to be added to the Plan. The Committee has addressed all comments; most are reflected in the plan revision; however, the committee felt some comments were outside the scope of the Plan and would be better suited in an implementation plan.

Peg Brady: Requested James comment on how the plan incorporated in international efforts

James Ballard: The Gulf and Caribbean Fisheries Institute has taken knowledge from plan and incorporated into greater efforts and develop BMPs. Tables and strategies from past workshops and committees were pulled into plan.

Decision: The ANSTF approved the National Invasive Lionfish Prevention and Management Plan.

19. Informational: New Species Occurrences

Pam Fuller (USGS) gave a "species update" and summarized new species introductions and species movement to new areas entered into the NAS Database over the past 6 months. When the NAS program tracks species distribution, it also gathers information on new occurrences. Most of these occurrences from new areas are sent out via the Alert System. In the U.S., NAS showed 110 new occurrences in 12 months; 53 new occurrences in the past 6 months. Three new to the nation, 5 new to a state, and 45 new to a basin. Within major drainages, the Gulf, Ohio, and California saw the greatest number of new occurrences. Pam highlighted a number of invasions spreading. For example, 1) quagga are expanding their range in the south west and east, 2) Zebra mussels are expanding their range in all directions; 3) Bighead carp was moving into the Ohio river; 4) Asian clam are spread throughout the U.S., 5) red tailed catfish had new reports in Tennessee, Florida, and the northeast. 6) European ear snail was reported in the Colorado Basin and 7) lionfish continue to rapidly expand, with the most recent report from Brazil.

Peg Brady: How will the USGS database begin incorporating plants?

Pam Fuller: The letter of support from ANSTF allowed reprogramming to find new funding to hire staff to re-add plants in database. USGS will be sending out survey for priority species to have a starting point on what to re-add first into database.

Craig Martin: The database that should be leveraged to track performance of collective efforts, Future discussions are needed to determine ways to assess how outcomes are being achieved.

20. Informational: OIT Project and WebCrawler Tool

Erika Jensen (Great Lakes Commission) provided an update on the status of the project and development of a tool that can be used by partners to evaluate what potential ANS are in trade on the internet. The Great Lakes Commission received a Great Lakes Restoration Initiative grant - more commonly known as GLRI - in 2012 to develop software to look at Internet sales of invasive species. The tool was recently completed and has been collecting data on Great Lakes species and markets since August. The trade of live organisms is one of several pathways by which non-native and sometimes invasive species are introduced and spread. The pathway assessment identified 166 species of concern. The webcrawler software developed found 58 species out of 166 being searched for sale on the internet. Not all species are regulated, although some are injurious and noxious species as well as those regulated within states. Top 15 species were all plants, including the water lettuce - which is actively managed. The webcrawler will also report the URL where a specific species can be found. The project found 209 unique websites that sold species. The study looked at shipping restrictions to see what species could be shipped to U.S. Of 209 websites, 133 will ship to the Great Lakes region. 62% of websites occur in the U.S. 59% of websites had no specific shipping specifications. 18% wouldn't ship to U.S. or Canada.

Internet trade is a problem pathway. The web crawler is a good warning tool that is useful as an indicator of what is in trade and what species might be an emerging species of concern. Next steps include continuing to develop findings, conducting outreach, working with partners to take action on confirmed findings, make the tool available for use in other regions, and developing a final report that includes recommendations for future work.

Al Cofrancesco: Have you looked at a business model? A grant here or a grant there doesn't seem like a long-term funding option.

Erika Jensen: GLC has hired a new chief information officer. Hope to put together various funding proposals that may help secure long-term funding.

John Wullschleger: How adaptable would this be to other river basins?

Erika Jensen: Very, all that is needed is a change to the list of species that are being searched.

23. Discussion: Update from the Aquatic Invasive Species Summit: Boat Design and Construction in the Consideration of AIS

Rescheduled in order to accommodate presenters' schedule.

Brian Goodwin (American Boat and Yacht Council) provided an update on the Summit on Boat Design and Construction in consideration of AIS that was held in Nevada in January 2015. There were about 100 participants, split evenly between AIS experts from state, federal, university and non-governmental organizations and boating-related industries, including boat and engine manufacturers, marina owners, boating industry associations, and other parts of the industry sector. The meeting represented the first attempt to bring AIS managers and the boating industry together to look at opportunities to reduce the risk of spreading AIS through boating. Federal and State overviews and perspectives were provided to industry so everyone was on the same page. There were four breakout sessions: 1) Boat design and construction, 2) Component/system design and installation, 3) Engine propulsion systems, 4) Trailer design and construction.

Some of the "take aways" from the summit included:

- 1) stronger relationships between industry and AIS managers;
- 2) insight into warranty issues that may be a result from boat decontamination;
- 3) Exploration into decontamination methods to ensure measures do not damage equipment;
- 4) ways to customize experience to benefit both groups;
- 5) Jurisdiction and protocol issues and differences (industry wants to see uniform protocols);
- 6) All manufacturers were challenged to make some changes to product that would reduce the spread of AIS;
- 7) educational document provided to the boating industry manufacturers to promote understanding of the issues and aid in better design of products to prevent the spread of AIS;
- 8) A design could be "AIS Safe", indicating that it can be fully drained and/or flushed by design and eliminate areas that are difficult to decontaminate.

Next Steps included a need to maintain relationships between agencies and industry; resources for industry to include in owner's manuals and public outreach; development of a Technical Information

Report, and developing a Steering Committee to continue guiding this work. Summit minutes can be found at “ www.abycinc.org/ais “

Peg Brady: Much progress has occurred in the commercial shipping industry (referring to ballast water management); has there been a dialogue with this group?

Brian Goodwin: There are some differences between commercial and recreational boating side; but may be worth further exploration.

John Darling: Is the Clean, Drain, Dry message getting into owner’s manuals. Is there a ready-made solution that could be included in the owner’s manuals?

Brian Goodwin: Yes, but further communication is needed. May be best to work top down, starting at manufacturers.

John Darling: “AIS Safe Boat” is a great idea. Is there a crowd source opportunity that could come up with ideas?

Brian Goodwin: The industry is full of innovators and crowd sourcing is something that wasn’t pursued.

Dennis Riecke: How willing do you believe industry would be to raise funds to contribute to AIS prevention efforts?

Brian Goodwin: Industry likely unwilling to give money to states, it would be a hard sell. May have better luck asking to fund for private organizations that focus on conservation.

Al Cofrancesco: What size boats are being considered?

Brian Goodwin: ABYC standards could be used on the very large yachts. The majority of the boats in the U.S. are less than 20 feet; less than 26 feet you’ll get over 90 percent of boats. It’s the boats that get moved from lake to lake.

Meg Modley: What are the next steps for outreach or providing guidance?

Brian Goodwin: Next steps are to form a committee to develop guidance that can be moved forward. Summit was the beginning of a discussion, still much work to be done to engage with industry, technical information report is a first step to create standards. QZAP dollars may help further process. ANSTF members and panels can help make message more effective.

James Ballard: Is it possible to develop an AIS clearinghouse for outreach materials?

Craig Martin: FWS is trying to move Protect Your Waters website forward and engage with ANSTF Outreach committee. Since the last Task Force meeting, we have not been able to update the website. A committee is needed to populate website, but FWS is ready to engage to make the web a resource for partners.

21. Informational: Panel Updates

Great Lakes Panel:

The Fall GLP meeting was held November 19-20, 2014 at the National Oceanic and Atmospheric Administration Great Lakes Environmental Research Laboratory in Ann Arbor, Michigan. The meeting featured sessions on the Great Lakes Restoration Initiative accomplishments and future plans, risk assessment tools, lessons learned from AIS response exercises, a synthesis of recreational water user surveys conducted across the region, next steps for preventing AIS movement through the Chicago waterways, determining priorities and recommendations for Grass Carp, an update on projects focused on organisms in trade, and a new Invasive Mussel Collaborative. A joint GLP and Mississippi River Basin Panel meeting was held April 14-15 in Madison, Wisconsin at the University of Wisconsin. Joint meeting session topics included consensus efforts in Western states; activities to address the movement of AIS between the Mississippi River and Great Lakes basins; reauthorization of NISA; Grass Carp; and organisms in trade. As an outcome of the meeting, the MRBP and GLP are working on a joint recommendation on Grass Carp. The GLP meeting focused on lessons learned from efforts to control invasive crayfish and several invasive aquatic plants.

The GLP finalized the document "Grass Carp Priorities for the Great Lakes." The document is intended to elevate awareness of the risks, complexities for management and needs associated with preventing new introductions and establishment of Grass Carp in the Great Lakes basin.

The GLP's Information/Education Committee continues to provide opportunities for members to share information about new outreach projects and share materials as appropriate. This helps expand the impact of individual projects and promotes consistent messaging throughout the region. The Committee has begun work to review and update the Great Lakes Aquatic Invasions booklet and the I/E Priorities Document. The Committee continues to review the Outreach Inventory developed last year, and is working to make it a useable living document. The Committee is also compiling survey questions used throughout the region with the intention of developing a standard suite of questions for future use.

The Policy Coordination Committee continues to serve as forum for exchanging information on regional policy activities, including efforts to address the Chicago Area Waterway system pathway for interbasin AIS transfer, as well as regional consistency in AIS related regulations.

The Research Coordination Committee continues to exchange information and identify priority research needs for both specific species and pathways. The committee recently updated its priorities document with revised research priorities for addressing the canals and connecting waterways pathway, building off of the U.S. Army Corps of Engineers GLMRIS report. The Research and Policy Coordination Committees are working jointly to identify priority issues for the GLP to address at future meetings including: assessing the costs and benefits of AIS prevention and control; risk assessment; and invasive macrophyte control.

Northeast Panel:

With the 20% cut to the Panel's annual funding allocation, maintaining the NEANS website, online guide, and other investments is challenging or is no longer happening. The Panel has completed its social marketing project with a user survey QR coded (to NortheastANS.org) to the distribution of floating key chains with the "Stop Aquatic Hitchhikers" message. The *Hydrilla Watch Cards*, printed in both French and English are distributed throughout the region. Michele Tremblay, nature resource communications in a pro bono capacity to the Northeast Aquatic Nuisance Species Council, and Erika Jensen, Great Lakes Commission are convening a process for NISA reauthorization. The last meeting was convened December 1-3, 2014 in Gloucester, Massachusetts at Massachusetts Division of Marine Fisheries HQ. The meeting provided a wet lab for participants to view ANS collected by divers. A Hazard Analysis and Critical Control Point training was held in conjunction with the meeting. Susan Pasko, NOAA and Nancy Balcom, UConn Sea Grant trained about a dozen professionals. Most of federal seats on Panel are still vacant. The Panel missed the

insights and information that federal members have brought to the table. The next NEANS Panel will be convened May 11-13, 2015 at the Gulf of Maine Research Institute in Portland, Maine. The Gulf of Maine Research Institute and the Northeast Aquatic Nuisance Species Panel are teaming up for a Science Café, from Stream to Sea: Invasive Aquatic Species” on Monday, May 11, 2015. The fall meeting is slated in Connecticut. Agencies' travel budget cuts are impeding their ability to come to the semi-annual meetings for very important and product face-to-face interactions. The Panel provides webinar and conference call at each meeting location but technology does not provide the same value as everyone being together for two days of meetings, field tours, and other events. The Panel is now forced to find gratis meeting space, which is particularly challenging given the need for WiFi and other technology to support remote participation for those who cannot travel. The Panel contractor is spending more time and money to save dwindling Panel funding by grocery shopping, calling in favors for gratis meeting space, and providing all supplies and infrastructure, as well as pro bono services, including grant and other revenue generating source research.

Gulf and South Atlantic Regional Panel:

The GSARP last met on Tuesday, May 5, 2015, prior to the ANSTF meeting. The agenda included speakers on the SERC benthic monitoring program, ECISMA and related mangrove control efforts, deep water trapping of lionfish. The panel also Adopted a new five-year guidance document that will guide their activities. The panel will be conducting a review of small grant proposals of FWS, Region 4. They will also be updating the ANSTF Experts Database and recommends that other panels also provide updates.

Western Regional Panel

The 2015 Annual Meeting is planned for Lake Tahoe for September 2-4, 2015. The meeting will be hosted by the Tahoe Regional Planning Agency.

Following the successful August 2014 Tunicates Workshop, the Coastal Committee has pursued a next step to address the management of tunicates and other marine invasives in a Marine Invasive Species Regional Management Plan. A regional plan will increase marine partnerships and opportunities to share resources, and provide a framework to facilitate regional marine invasive species management. Next steps include face-to-face work sessions to create a scoping document in April 2015 and September 2015.

Alaska, British Columbia and Washington continue cross border work to address the spread of invasive European green crab along the Pacific coast. A key project for 2015 is a Washington State volunteer early detection and monitoring project. In spring 2015, a detection and monitoring protocol will be developed and volunteer training will commence. The project is due for completion in mid-2016 and will collaborate with state, federal, international, local and tribal governments, and industry stakeholders.

The Coastal Committee is participating in a water sampling effort of commercial ports under a global project led by Governors State University. The project goal is to predict spread of aquatic invasive species via ballast water and biofouling using modeling, shipping data and biological samples. Sampling will begin in summer 2015.

Following the ABYC Summit in January, a work session was held with state coordinators and other relevant participants to begin the next steps in developing model regulations. The Building Consensus Legal team completed a plan to address the model regulations in the next year. A webinar hosted by the National Sea Grant Law Center was held in April 2015 and additional work sessions are being planned. WRP provides a forum through Building Consensus for communication regarding watercraft inspection and decontamination station operations by a variety of jurisdictions to prevent and contain zebra and quagga mussels, and other ANS, throughout the Western States. A

subcommittee of Building Consensus developed improved regional training standards and documents for inspectors and decontaminators. The committee also adopted Colorado's trainer's program and developed a standard trainer's course for those teaching inspectors and decontaminators. The group is currently working to update the Uniform Minimum Standards and Protocols and continue to update a new website for participants. WRP is organizing a workshop in late 2015 or early 2016 to address action items from the Phoenix 2012 and Denver 2013/2014 Building Consensus workshops.

The ballast tank filter research project is completed. The Mussel Mast'R is now available to OEM businesses and marine service centers to purchase directly from Wake WorX. This system is available to boaters for purchase and installation. The WRP's involvement with the filter has come to an end. WRP will continue to provide leadership and participate in ongoing ABYC and NMMA efforts resulting from the January Vegas meeting.

Mississippi River Basin Panel

Had a joint meeting with the Great Lakes Panel from April 14-15, 2015 in Madison, WI. Sixty-six people attended. Thirty-one people attended the Mississippi River Panel Meeting, 14 of which were panel members. There were 10 panel meeting presentations and the panel committees met jointly and separately.

The panel reviewed and edited MICRA report titled "The use of grass carp (*Ctenopharyngodon idella*) in the United States: production, triploid certification, shipping, regulation, and stocking: recommendations for reducing spread and throughout the United States" submitted to the USFWS. The panel also reviewed and edited the draft Aquatic Nuisance Species Task Force 2014 Report to Congress. The panel coordinator helped draft Action Items for the Ohio River Basin Asian Carp Strategy Framework and worked with states to develop six project templates -- Locks and Dams (KY), Removal (KY), Communications (KY), Wabash River (IN), Monitoring (WV), Telemetry (FWS) (From the Ohio River Basin Asian Carp Coordination meeting May 6, 2015).

Ongoing Work from the Research and Risk Assessment Committee includes

- Seeking a panel member from American Waterway Owners,
- Getting an active panel representative with the right expertise from the US Army Corps of Engineers,
- Compiling a list of the best gears by water body type and sampling seasons that are being used to sample for Asian Carp,
- Re-polling GLP and MRBP members on key research needs,
- Arranging a workshop on acoustic deterrents and fish guidance systems for Asian Carp,
- Surveying panel states on what they are spending on ANS programs and how those programs are funded,
- Submitting a panel request to the USFWS economic group for them to fund a larger economic assessment of ANS expenditures,
- Locating speakers on fracking and watgardens for presentations at panel meetings,
- Possibly funding a research project to determine if a pheromone can trigger Asian Carp spawning events, and
- Sending a few panel members to China in fall 2015 to research Unified Method of Asian Carp harvest.

Prevention and Control Committee will

- Follow-up and implement recommendations contained in the TGC External Review report,
- Develop a plant module for MRBP Rapid Response Plan,
- Collect existing state materials to develop an MRBP briefing on lake services industry,

- Contact ANSTF to expand current Transfer / Water Carriage project and gather information,
- Update MRBP's existing AIS commercial harvest guidelines,
- Write a letter to federal agencies requesting biocontrol research for giant cane, and
- Solicit proposals and identify opportunities to cost share analysis of baitfish vector.

The Education and Outreach Committee will

- Explore participating in the next AREA conference depending on location within the basin,
- Contact Pam Fuller (President of the AFS Introduced Fishes Section) about increasing panel involvement at AFS division meetings,
- Follow up with Full Option Science System (FOSS) about incorporating AIS outreach information into established curriculums and science class packets,
- Re-contact national biological supply houses regarding their sale of ANS species to schools,
- Reevaluate Panel Boater Survey by surveying AIS coordinators,
- Survey states to determine if the panel should host an Index of AIS outreach materials on the panel website,
- Hire a consultant to revise the MRBP website, and
- Consider accepting the ABYC's invitation to attend the International Boat Exposition Conference and
- Have a booth to distribute Stop Aquatic Hitchhiker Campaign materials.

Al Cofrancesco: USACE is addressing *Arundo* and be able to assist and provide information. Al also may be able to assist with finding suitable USACE rep for panel.

Peg Brady : Suggested the Panel contact Sam Chan (Oregon Sea Grant) for additional information on school pathways.

Mid-Atlantic Panel

The fall meeting was held December 10-11, 2014 in Virginia Beach, Virginia. The meeting focused on AIS issues of concern in Virginia, with presentations on blue catfish, nutria, snakehead fish, feral hogs, lionfish, and *Phragmites*, as well as presentations about issues of regional concern including hydrilla, AIS in aquariums, and invasive species harvest incentives. An afternoon field trip provided an opportunity for participants to learn firsthand about ongoing efforts related to monitoring and eradication of nutria and feral hogs in Virginia. Sarah Whitney (Pennsylvania Sea Grant) and Steve Minkinen (USFWS) stepped down as Panel chair and vice chair, and Ray Fernald (Virginia Department of Game and Inland Fisheries) and Mike Allen (Maryland Sea Grant) were elected to serve as chair and vice-chair, respectively.

The Panel has conducted a small-grants competition annually since 2007 to fund on-the-ground activities addressing MAPAIS' mission and regional priorities. Four small-grant projects were completed in 2014 including:

- A strategic plan for nutria eradication in areas of Virginia and North Carolina
- The West Virginia Invasive Species Management Plan
- An invasive species management plan and monitoring smartphone/internet application for Bushkill Township in Pennsylvania, and
- An invasive species teacher professional development project led by the Cary Institute of Ecosystem Studies in New York.

Annual progress reports were received, and work continues on two ongoing small-grant projects including an invasive species toolkit for educators, and an eDNA monitoring project for *Didymosphenia geminata*.. The Panel allocated \$34,000 to fund three projects proposed in 2014:

- (1) Characterization of the invasive New Zealand mud snail population in central Pennsylvania - \$12,000;
- (2) A cooperative MAPAIS project with the National Sea Grant Law Center, the National Association of Attorneys General, and the Environmental Law Institute to improve regional understanding of strategies available to facilitate agency access to private land for eradication and control of aquatic nuisance species - \$7,000; and
- (3) Expansion of the Pennsylvania Field Guide to Aquatic Invasive Species (also partially funded through MAPAIS) into a regional AIS field guide covering approximately 100 invasive species threatening the Mid-Atlantic Region - \$15,000 for first year of 2-year effort. Each of these projects is continuing on schedule.

The 2015 Request for Proposals was released last month, and we anticipate funding several projects this year. Proposals submitted by the May 1 deadline will be reviewed by members of the Panel, and decisions regarding funding will be made at the spring 2015 meeting, tentatively scheduled for June.

22. Regional Panel Recommendations

Great Lakes Panel recommendations:

- 1) The Great Lakes Panel on Aquatic Nuisance Species recommends that the ANS Task Force and its member agency representatives work to advance the priorities and recommendations outlined in the *Grass Carp Priorities for the Great Lakes* document developed by the Great Lakes Panel.

David Hoskins: Recommendations in the document were fairly broad. FWS will share recommendation with Region 3 and circle back on how may be able to assist.

Peg Brady: Are there specific recommendations for each agency associated with the actions?

Erika Jensen: Not yet, but the panel can continue dialogue and report back at next meeting. There is also a role for research institutions and NGOs.

David Hoskins: Federal agencies should look at the document independently to determine where may be able to provide assistance, but it would be helpful if Panel can clarify.

Northeast Panel recommendations:

- 1) The Northeast Aquatic Nuisance Species Panel recommends that the Task Force identify and secure \$60,000 to restore this funding and begin discussions to identify and secure additional and dedicated sources of support so that the panels may continue to provide the high level and high quality services and products for which they were tasked by the Aquatic Nuisance Species Task Force.

Michele Tremblay: Operations of the panel is extremely difficult with the current funding level. The funding level has made operations almost untenable. GAO several years ago looked at inefficiencies in expenditures, but then dropped it once they looked at it briefly.

David Hoskins: This recommendation was echoed by the Western and Mid-Atlantic Regional Panel. For the Mid-Atlantic Regional Panel, the majority of funding has gone

to seed a variety of regional management initiatives. FWS has recommended that everything possible be done to restore funding on Regional Panels.

Ray Fernald: MAP is encouraged by info heard today, but the issue still needs to be pushed forward

Leah Elwell: This has consistently been brought up as a recommendation to the Task Force.

David Hoskins: We've been able to hold the line to \$40K but when there was an opportunity to increase the AIS funding, we took that opportunity. We have a request for \$42K increase for a total of \$47K/panel. Again, it is in the President's Budget and FWS will defend the President's Budget request. We understand that costs continue to go up and that this creates some difficulties. Ultimately, how much funding goes to the ANS efforts is up to the Congress, though FWS has some discretion on how to spend it.

Bill Howland: Given each state is an entity that has responsibility to fund the plan, is it permissible to allocate part of state plan funding to the panels? Some may be willing to reduce state plan funding as a temporary solution, since state plans have ability to locate other funding.

David Hoskins: FWS need to take a look at this before we are able to provide a definitive response on this. The hope is that "all boats rise with a rising tide." FWS looked to direct resources in the president's budget towards the highest priorities (Regional Panel funding).

Michele Tremblay: Can state plans include panel funding in their request? It is not clear why allocation cannot be reallocated, especially since the panels' funding has been reallocated in recent years.

David Hoskins: FWS will look at issue further, but hoping Congress will raise funding levels this year. Rather see additional funds from Congress that can be put towards highest priorities.

Leah Elwell: Some states cannot afford to give money to panels, already dedicated to other efforts and coordinators.

Western Regional Panel recommendations:

- 1) Provide increased financial support to the panel(s) and continue to provide funding to support highest priority implementation components of QZAP.

David Hoskins: QZAP funding of \$930K was authorized to implement QZAP and a RFP has been posted Funding will continue towards the highest priorities. FWS Southwest Regional Office will work with partners to develop priorities.

- 2) Support and explore ways to re-authorize the National Invasive Species Act.

David Hoskins: Understands there is interest in moving forward and this is reflected in RTC. Potential items that we would like to see addressed include highlighting unfunded needs, such as State and Interstate ANS Management Plans.

Ray Fernald: Panels have had discussions about reauthorization, should continue keep ANSTF informed on how can assist and timeline.

Erika Jensen: Are discussions focused on funding, or are there specific program or policy changes that we would want to see in the reauthorization?

Leah Elwell: Not yet, but can take question back to panel. Encouraging representatives to become part of IS Caucus as this group may be needed to push a re-authorization forward.

Erika Jensen: Offered to distribute 2007 notes, when a re-authorization was introduced last.

Peg Brady: If NISA is re-authorized do the panels have lists of action?

Leah Elwell: The notes were not a detailed list of action document.

Peg Brady: It never came to us.

David Hoskins: The RTC may provide indication if there is interest in reauthorization, in the meantime not aware of specific interest. After the RTC is sent up to Congress there may be the opportunity for individual entities to engage on the reauthorization topic.

3) Encourage the completion and release of the Federal Lands Working group document which defines and identifies the role of federal agencies in managing invasives.

David Hoskins: An update of efforts was provided earlier. Federal agencies will review the document once it is finalized by committee.

4) Support dialog with both ABYC and National Marine Manufacturers Association in follow up and outreach to boating community.

David Hoskins: Update provided earlier suggested interest and enthusiasm to continue that discussion. Technical Informational Report may provide opportunity to develop industry standard. If collaborators are able to gather funds, may help move dialogue to next step.

Brian Goodwin: The ANS Task Force has a great opportunity to work with the industry and ABYC. The Sportfish and Boating Partnership Council has been very influential. SOBA received money from grant program to test pumping equipment, very similar to issue at hand.

Leah Elwell: Can the outreach committee be used to address this issue and develop materials for boat dealers?

David Hoskins: Yes, but goals or summit are much broader and will need to find funding for next steps.

- 5) Provide professional technical support for the development of the Marine Invasive Species Regional Management Plan.

Peg Brady: NOAA has been involved and willing to support, but awaiting direction.

- 6) Continue to take steps to complete the revision/update of the website Protectyourwaters.net website in 2015.

David Hoskins: FWS reassumed the lead role in managing the campaign and website and will need help populating the website through Task Force's Outreach Committee.

Gulf and South Atlantic Regional Panel Recommendations:

- 1) The GSARP recommends that the ANSTF sends a letter to the Gulf Coast Ecosystem Restoration Council, the FWS Southeast Regional Director, and other appropriate entities, to inform them of the established structure of the Task Force and Regional Panels so they can take that information into consideration when reviewing ANS proposals submitted under the RESTORE Act.

David Hoskins: A formal letter may not be needed, perhaps just a conversation with the regional director.

James Ballard: The Panel is looking to provide review board with information about the ANSTF. They don't seem to be aware that the Regional Panels can serve in a consultation role.

Peg Brady: Is information needed just about the ANSTF structure? Or other guidance or state management plans?

James Ballard: Both, ANSTF should provide all information about structure that may be of use.

David Hoskins: FWS will give further thought on how best to address and advance the objective.

- 2) The GSARP recommends that the ANSTF engage the national boat and trailer manufactures and other related industries to start a discussion on ways the industry could help fund ANS work.

David Hoskins: Recurrent issue of funding, ANSTF must pursue conservation with ABYC with how to fund next steps, but will also need to identify alternative funding solutions.

Mississippi River Basin Panel Recommendations:

No recommendations at this time.

Mid-Atlantic Panel Recommendations:

No recommendations at this time.

24. Discussion: Plans for Revitalizing Habitattitude

Marshall Meyers (Pet Industry Joint Advisory Council) provided an update of Habitattitude and discussions for revitalizing the campaign. Habitattitude has three goals including: 1) raising public awareness, 2) engaging people, and 3) promoting a unified message. The Habitattitude webpage is a very dysfunctional webpage and will improve website content and communications, though Habits + Habitat+Attitude = Habitattitude (website will explain each). The campaign will emphasize selecting the right pet and doing right by your pet and doing right by our environment. Website will contain an “In the News” page that we will be populating with news articles. The website will also provide information about the effects of invasive species on our environment and stress alternatives to releasing a pet. The new website will have information on selecting the right pet, care and maintenance, and how do you dispose of an unwanted pet.

Selecting the right species will also be a focus. The site will include compatibility charts for saltwater and freshwater fish where animals can be held together as well as basic information, such as appropriate tank size needed. The website will also include care and maintenance, background on invasive fish that are prohibited at the state or national level, and links to information, such as risk assessments and other publications.

MOU Parties (FWS, PIJAC, NPS) are now populating the website. Industry representatives (including Hardin/Meyers/Eason/Milford) are completing the Reptile and Water Garden pages. An Advisory Committee (NOAA, AFWA, NISC, USDA, NGO, Academia) is being assembled to review content and recommend how to broaden campaign partners. The MOU parties also hope to form an Implementation Committee that would help put the boots on the ground including at 3,500 pet stores. Re-launching of the website is expected in September/October 2015.

Pam Fuller: Although pet stores are using the logo, employees are often unaware of what the message means. Need to ensure that the information trickles down to the employee level.

Marshall Myers: This is a continual problem that we face. We should link these efforts to pages that are local versus national in scope.

Lad Adkin: Has there been a critical look at why Habitattitude has been a failure? Has there been a consideration of rebranding?

Marshall Myers: Branding was done with a marketing company. The brand was well thought out, but not marketed as intended, current effort is trying to correct this mistake.

Doug Jenson: Early study on Minnesota found that 94% of people knew they should not release a pet to the environment, but they didn't know what to do with it. But we didn't do a good job with disseminating the information.

Don Maclean: The brand needs to have an alternative logo that specifically states “do not release”.

Marshall Myers: Agreed. “Don't release Me” is better than “Don't release your Pet”.

25. Informational: A National EDRR Framework and Emergency Response Funding Plan

Hilary Smith (DOI) provided an update on efforts to develop a framework for a national early detection and rapid response (EDRR) program and to develop a plan for creating an emergency

response fund. The October 2014 White House Priority Agenda on Climate Resilience and Natural Resources calls upon DOI and NISC agencies (NOAA, EPA, USDA and others) to work with states and tribes to develop these efforts. The deadline for submission is September 30, 2015. A federal planning and writing work group has been formed and is overseeing the processes of obtaining wider reviews and vetting of drafts by a full range of federal and non-federal invasive species and climate program experts. This all-federal work group is working closely with existing Federal Advisory Committee Act (FACA) compliant groups and processes, which includes the ANSTF and Invasive Species Advisory Committee (ISAC), to obtain the input of non-federal experts, tribes, stakeholders, and the public. Co-leads include DOI and NISC, and there is collaboration from the Federal Work Group and non-Federal Advisory Team operating through the ISAC's EDRR subcommittee. These groups intend to 1) build on existing efforts, 2) focus on species impacting natural areas and all-taxa, 3) link to climate resilience, 4) promote cooperation and partnerships, and 5) incorporate scalability, implementability, resource availability, and metrics. Primary audience is the White House, Council on Climate Preparedness and Resilience, and Deputy Secretaries from main federal agencies, but document will be of use to a number of other audiences. There is a 9 month timeline to finalize the document, the federal work group is currently preparing various components of the report for advisory team review.

The federal work group consists of about 20 participants. The group is focusing on developing the framework and funding plan. As draft products are available, information is transferred to the non-federal group for review. The non-federal group is diverse in geographic and taxonomic expertise (about 30 people are currently participating). The groups are reviewing a number of plans and models for gaps and successful components, yet continue to look for new references. The groups are starting to put together recommendations and ways to visually display information transfer, decision-making, and EDRR action steps through figures and diagrams. An overview of the overarching concepts include Preparedness (planning in advance to be successful, risk assessment, species watch lists); Detection (training and monitoring programs; reporting and identification); Rapid Assessment (what are the impacts, what response is needed, what is warranted, what is feasible); Rapid Response (treatment design and implementation as well as evaluation, who leads efforts). There is also a need to identify revenue sources (both appropriated and non-appropriated dollars) and mechanisms of dispersal of funds. For this, the work group is looking at other models (wildfire, NFWF, CDC). Key questions that the group is looking for input from ANSTF include: 1) What is the value added of a national EDRR system?; 2) In what ways can regional, state, tribal, and local efforts benefit from a national EDRR system?; and 3) What are opportunities to connect and enhance existing EDRR systems? Next steps are to vet the document with various audiences, incorporate input, complete gap analysis, and continue drafting report components.

Erika Jensen: Have the work groups looked at the Great Lakes governors' aid agreement to share resources? It may be useful.

Hilary Smith: Believe the groups have already considered this document.

Public Comment

No Public Comment

Friday – May 8, 2015

26. Informational: Member Updates

National Association of State Aquaculture Coordinators

The organization continues efforts to control salvinia. Also working with several agencies on a non-regulatory approach to *Batrachochytrium salamandrivorans* (Bsal). Ron Johnson will be retiring, but staying on as the ANSTF representative.

Gulf States Marine Fisheries Commission

State of Alabama continues revisiting dive sites to monitor lionfish; found that there are higher densities this year, even after removal efforts occurred the previous year. No high densities have been reported on the Florida panhandle. Efforts are now monitoring sites in Mississippi. Also beginning an Adopt a Reef Program to engage recreational divers to remove lionfish.

Lake Champlain Basin Program

The basin's Boat Launch Steward Program will continue, hiring 10 new employees to cover about 12 launches. Last year inspectors found 2 cases of quagga mussels, which are not yet in Lake Champlain. The program is supported by the governor, and \$1M has been provided for this purpose. Lake George is beginning its second year of the mandatory boat inspection program. Champlain Canal connects the Hudson to Lake Champlain and may be a possible vector for zebra mussels. There was public concern when spiny water fleas and Asian clams were detected in nearby lock, resulting in a \$200K non-federal match for the ACOE to conduct a feasibility study focus on the transfer of AIS through the canal. The basin has also seen changes in fish abundances; especially as alewife displace native smelt and possibly yellow perch. Continued efforts include hydrilla and Asian clam control as well as monitoring for spiny water flea. \$70k has been set aside to support the Lake Champlain Rapid Response fund. If these dollars are needed, they can be used immediately.

U.S. Geological Survey

The USGS Ecosystems Mission Area is reorganizing internally and adding biosecurity issues and fish and wildlife disease research and monitoring to the Invasive Species Program. We have a recent hire, Camille Harris, to assist with the broadening of the Program. Camille, a wildlife veterinarian and disease ecologist, will be coordinating aquatic and terrestrial wildlife disease research across USGS. Her background includes research on a variety in infectious wildlife diseases as well as dermal sarcoma in walleye. Camille will be focusing primarily on wildlife disease issues, but we will look for opportunities for her to become involved with the ANSTF as applicable. The USGS Invasive Species Program had increases totaling \$3.75 M in FY2015, including \$2M for Asian carp, \$1M for invasives in the Everglades (the majority of new funding being put toward projects focusing in Early Detection, Rapid Assessment, and Rapid Response), \$0.5M for New and Emerging Invasive Species (much of which was directed toward ANS projects), and \$0.25M for brown treesnakes on Guam. There are adds for an additional \$2.25M in the President's Budget for FY2016 (\$2M for New and Emerging Invasive Species and \$0.25M for brown treesnakes).

USGS is pleased to announce the reinstating of aquatic plants to the Nonindigenous Aquatic Species Information System (NAS). This change was funded through re-programming of current funds in combination with new funds received in FY2015. Communication from ANSTF on this issue confirmed the importance of the NAS to bureau leadership.

Field trials of microparticles (small particles designed to encapsulate a registered fish toxin, antimyciin, to selectively control Asian carp) are planned for this summer. A portable system to complete eDNA analysis (using PCR) for Asian carp will soon be released. USGS and FWS are participating in a Binational Risk Assessment for Grass Carp in the Great Lakes, an effort being led

by the Great Lakes Fishery Commission and Department of Fisheries and Oceans Canada. A peer review panel of the risk assessment will be conducted on June 1-3. Numerous products on Asian carps continue to be published.

USGS and the Great Lakes Commission recently established an Invasive Mussel Collaborative to advance scientifically sound technology for invasive mussel control to produce measurable ecological and economic benefits. The Collaborative will provide a framework for communication and coordination, identify the needs and objectives of resource managers, prioritize the supporting science, recommend communication strategies, and align science and management goals into a common agenda for invasive mussel control. USGS has also invested more into detection, control and management of dreissenids and other mussels.

U.S. Department of Agriculture - Animal and Plant Health Inspection Service:

APHIS Veterinary Services Aquaculture Program offered for public comment the Commercial Aquaculture Health Program Standards (CAHPS) which is a concept for establishing a non-regulatory voluntary framework for the improvement and verification of the health of farmed aquatic animals produced in U.S. commercial aquaculture industry sectors to facilitate trade. Principles outlined in the CAHPS may be used by industry, Federal, State, Tribal, and regulatory and private veterinary authorities to provide for early disease detection, surveillance, reporting and response for the control of aquatic animal pathogens—especially those listed by the World Organization for Animal Health (OIE)—and to prevent pathogen dissemination via movement and trade of aquatic animals.

The CAHPS is a new initiative that sets forth a model framework for the health of commercially farmed aquatic animals. The CAHPS recognizes and builds on current activities and existing guidelines for health of aquatic animals and aim to establish uniform standards for U.S. farmed aquatic animal health and movement. The goal of CAHPS is to provide uniform standards for U.S. commercially farmed aquatic animal health and movement and a template for known national aquatic animal health status. Implementation of CAHPS will provide leverage for APHIS in trade negotiations.

U.S. Army Corps of Engineers

ACOE has had an invasive species leadership team for last 8 – 10 years to facilitate activities. Efforts have included aquatic weed control in the Erie Canal to prevent weeds from entering the Great Lakes, risk assessments as part of the Great Lakes Restoration Initiative, various biocontrol and chemical projects and compiling information for the GAO Assessment on federal agencies roles in invasive species management. Constructing barriers to restrict movement of Asian carp is coming to a close and soon funding will be moved from “construction” to “operations and maintenance”. WRRDA 2014 directed to close St. Anthony lock, and this action will be completed this summer. ACOE is spending about \$120M for operative costs; aquatic plant management and control programs have not been in the President’s budget and do not receive consistent funding. As an ongoing effort, 14-18 research projects on biocontrol/chemical control are currently held. Examples include hazardous algal blooms in the Great Lakes. As an international collaboration, funding has been provided to some Korean Universities for biocontrol experiments.

U.S. Environmental Protection Agency Chesapeake Bay Program

Primary focus remains and ballast water, the agency is currently in its second revision of the Vessel General Permit (VGP). EPA is continuing research of protocols to assess discharge and will publish a report by the end of the FY on technology verification. UV treatment systems are being examined as previous assessments may not have accurately assessed this technology. This issue will be addressed in a land based protocol that is scheduled to be completed next year. The second phase of GLRI Action Plan (2015 – 19) has been released and funding levels are expected to be similar to prior years. The Clean Boating Act has been delayed, but EPA continues to work on these guidelines.

Chesapeake Bay Program

Chesapeake Bay does not have a AIS dedicated funding. Nutria populations in the Chesapeake Bay are close to being eradicated, but have crossed state line. Mute swans populations have been reduced to less than 50 birds. Didymo has been detected in two rivers, but the distribution has declined – likely a result of the felt sole ban (first in the nation). The program is attempting to modify regulations for rusty crayfish, as bait is the main pathway for this invader. The Invasive Catfish Task Force is starting commercial fishery intended to reduce their abundance. The Northern snakehead remains well established in the Potomac Rivers and hydrilla was recently detected in Deep Creek Lake leading to treatment and a voluntary inspection program. Legislation may pass a mandatory inspection program on Deep Creek Lake, yet no funding has been identified for this effort. Zebra mussels have migrated south in the main stem of the Chesapeake Bay, the program is currently discussing how to manage this invasion.

Great Lakes Commission

The GLC is working in partnership with the Great Lakes and St. Lawrence Cities Initiative (Cities Initiative) to investigate solutions to the threat of Asian carp and other invasive species passing through the Chicago Area Waterways System (CAWS), while maintaining current uses of the system. The GLC and Cities Initiative are continuing to convene meetings of an Advisory Committee as the primary regional stakeholder forum seeking solutions to the problem of AIS transfer through the CAWS. The Committee last met on April 9 and will meet again on June 3 in Chicago.

Work is underway on a grant from the Great Lakes Restoration Initiative to develop software and tools to track, identify and monitor the sale of invasive species via the internet. The GLC hired the software development firm RightBrain Networks to develop the web-crawling software system. The final system is complete and in the initial stages of operation.

The GLC convened a Ballast Water Task Force to assess current ballast water standards and develop a common platform among Great Lakes states and provinces from which to advance a future ballast water management regime. The GLC is tracking activity on U.S. legislation, S. 373, the Vessel Incidental Discharge Act, that would impact state authority to regulate ballast water.

The GLC continues to expand a partnership with the USGS-Great Lakes Science Center to lead communications and research on the invasive plant Phragmites. The Great Lakes Phragmites Collaborative, established in 2012, continues to engage the resource management community, reduce redundancy, link science and management, facilitate adaptive management, and encourage a systems approach to management and conservation associated with this species. The GLC also supports the Collaborative for Microbial Symbiosis and Phragmites Management, established in partnership with the USGS to bring together researchers to explore the potential to use symbiotic relationships both to control invasive Phragmites and encourage native plant establishment.

The GLC is providing backbone support to a new collaborative to advance development of control technologies for invasive mussels. The collaborative was established in partnership with USGS, the Great Lakes Fishery Commission and NOAA. The Collaborative Steering Committee was established in early 2015 and met for the first time in February. More information is available at www.invasivemusselcollaborative.net.

The GLC recently completed work in partnership with the Great Lakes Fishery Commission to develop a sea lamprey barrier mapping tool. The tool allows the user to search and select barriers in the Great Lakes region to see what tributaries and watersheds are being protected from sea lamprey movement by those barriers in order to inform future decision-making.

National Park Service

The NPS continues to build capacity to respond to zebra and quagga mussels within parks and is considering a Colorado River Management Plan. Ray Sauvajot has been appointed as the new director. Internally the agency will be looking at their regulations to determine if modifications are needed to better protect their lands and build partnerships. There are many projects occurring at the park level including trout control in Yellowstone, Asian carp control in Mississippi in the CAWS, lionfish control in Florida parks, and tilapia removal in Hawaii.

Association of Fish and Wildlife Agencies

AFWA's Spring Meeting was held March 11, 2015, during the North American Wildlife and Natural Resources Conference in Omaha, Nebraska. The Fall Meeting will be held during the AFWA Annual Meeting in Tucson, Arizona, September 14-18, 2015

AFWA secured funding to support travel for state agency staff to attend the ABYC boat design summit. Meeting minutes are available at www.abycinc.org/ais and will be used by ABYC to determine the necessity of developing a Technical Information Report following the procedures outlined by the American National Standards Institute (ANSI). AFWA continues to use the Model Legislative Provisions and Guidance to Promote Reciprocity among State Watercraft Inspection and Decontamination Programs to analyze and compare current state programs.

The handout on the Use of SFR Funds at Aquatic Nuisance Species Inspection Stations developed for the Fall 2014 ANSTF meeting was distributed to members of the Invasive Species, Fisheries and Water Resources Policy, and Angler and Boating Participation Committees.

AFWA continues to develop ideas on ways to encourage more legislators to join the Congressional Invasive Species Caucus. Other more-established caucuses (e.g., Congressional Boating Caucus) may have interests in ANS and should be approached for coordination on ANS issues.

An AFWA working group has begun to review the ecological risk screening summaries (ERSS) for fish and crayfish proposed by USFWS for consideration for no-trade agreements. The first ERSS reviewed by the working group was for the African longfin eel. The ERSS and reviews of ERSS determined the overall invasive risk of the African longfin eel as uncertain. A next step will be to run the species through a Bayesian Network to assess invasiveness based on expert opinion and quantitative and qualitative information. The prevalence of a swimbladder nematode that may affect American eels could lead to a determination of invasiveness. If invasiveness is determined, recommendations will be made for risk management actions that include no trade under the MOU.

An AFWA working group including members from the Invasive Species Committee, Fish and Wildlife Health Committee, and Amphibian and Reptile Sub-Committee will be discussing development of a wildlife pathogen management program to address states' needs for managing pathogens that affect wildlife species but not domestic agricultural production. A current example is salamander chytrid fungus (Bsal).

U.S. Fish and Wildlife Service

The Executive Secretary position has been vacant since the retirement of Ms. Susan Mangin at the beginning of March 2014. BAIS has a planned series of rotations for the position until such time as it is filled. Laura Norcutt has been the acting Executive Secretary for the past several months, during which the Spring (May) and Fall (November) 2014 and spring 2015 ANSTF meetings were planned and implemented. Laura will be retiring the end of May 2015. After Laura's departure, Don MacLean will be the acting Executive Secretary until the position is filled.

FAC has confirmed with the Department of Transportation that Federal law and corresponding laws in several other States regulate the use of traffic control device images in outdoor highway advertisements. To remedy this issue, we plan on developing new guidelines for using the SAH! brand on large advertising billboards; however, until that guidance is final, we are recommending that: 1) Existing billboards do not have to be immediately taken down, but do recommend that the stop sign feature from the logo be removed once contracts expire on billboard advertisements; 2) Any new or updated billboard signage use the letter "o" rather than an image of a stop sign for "o" in the word "Stop"; and, 3) Campaign partners comply with their State's DOT regulations since using the word "Stop" may be prohibited in outdoor advertisements.

Concerns have been raised by campaign partners with respect to Wildlife Forever seeking a trademark on the "Clean, Drain, Dry" tagline. This tagline has been used since at least 2008 to communicate best management practices for preventing the spread of AIS. Partners are raising concern with how a trademark on the tagline may affect their implementation of the campaign. It is likely partners will challenge the trademark if the trademark application proceeds.

FY15 Asian Carp Budget Allocation

- In FY14, the Service received base funding in the amount of \$3.5 M to support early detection, rapid assessment, rapid response, containment, and control actions for Asian Carps in priority areas or watersheds. Funds were allocated as follows: \$2.9 M to the Great Lakes (including CAWS); \$400,000 to the Upper Mississippi River watershed; \$200,000 to the Ohio River basin.
- In FY15, the Service received a \$2.0 M base funded add to support efforts to monitor, assess, contain, and control Asian carps, and the majority of this add was allocated to the Upper Mississippi River and Ohio River basins.
- The President's FY16 Budget Request asks for an additional \$2.4 M in Service base funding to monitor and control the spread of Asian Carps.
- If received, this would bring total Service base funding for Asian Carp to \$7.9 M in FY16, which would be allocated as follows: \$5.3 M to the Great Lakes to support existing efforts and to fully wean the Service off existing Great Lakes Restoration Initiative Asian Carp Framework funds; and \$2.6 M to augment existing funding and management efforts outside the Great Lakes as described in the Management and Control Plan for Bighead, Black, Grass, and Silver Carps in the United States (National Plan).

- Full implementation of the National Plan is estimated to cost \$20 - \$25 M annually.

FWS has prepared a multi-species proposed rule to list 10 freshwater fish (Amur sleeper, crucian carp, Eurasian minnow, European perch, Nile perch, Prussian carp, roach, stone moroko, wels catfish, and zander) and 1 crayfish (yabby) as injurious species. All species have a high climate match in parts of the United States, a history of invasiveness outside their native ranges, and, with one exception (zander in Spiritwood Lake, North Dakota), are not currently found in U.S. ecosystems. We used Ecological Risk Screening Summaries to obtain climate-matching and other information. This is the first rule we are proposing since we signed a Memorandum of Understanding with Pet Industry Joint Advisory Council (PIJAC) and Association of Fish and Wildlife Agencies (AFWA) in 2013 that outlines an agreement regarding the voluntary refrain from importation of species not yet in trade in the United States. The draft rule, environmental assessment, and economic analysis are under review in FAC. FWS anticipates being able to publish for public comment in mid-2015. To see this rule move forward expeditiously, Region 3 has offered assistance to FAC HQ to help offset workload and competing agency priorities.

In 2010, FWS published a proposed rule to list nine species of large constrictor snakes as injurious species. In 2012, four species were listed (Burmese and two other pythons, plus the yellow anaconda). In 2014, FWS reopened the comment period on the five remaining constrictor snakes (reticulated python, green anaconda, Beni anaconda, DeSchauensee's anaconda, and boa constrictor). In March, FWS published the final rule to list the reticulated python and the three anacondas, but withdrew the proposal to list the boa. As soon as the second final rule published, the plaintiffs for the lawsuit against the first final rule filed an amendment to add the four newly listed species to their challenge. The plaintiffs also filed an application for a temporary restraining order to keep this second rule from going into effect on April 9. In a hearing on April 7, the judge granted a temporary stay, so the rule became effective on April 9. The judge is expected to rule in the coming weeks if the regulation stays in effect or if it will be vacated. The complaints in the lawsuit are still on the table.

Categorical Exclusion (CatEx) under NEPA for the injurious wildlife listing under the Lacey Act would allow the Service to list species more efficiently by precluding the need to conduct redundant NEPA analyses. BAIS published the proposed CatEx in the Federal Register in July 2013, reviewed and addressed the more than 5,000 comments, and composed a draft final notice. That draft is with the Solicitors' Office for preliminary questions before moving to surname and for coordination with the Council on Environmental Quality. Efforts continue to complete this important work.

An emerging fungal disease with the potential to negatively affect native salamanders may enter the United States through ongoing importations of live, nonnative salamanders, according to a paper that published in Science in October 2014. The fungus (*Batrachochytrium salamandrivorans* or "Bsal") is related to the already widespread and fatal amphibian chytrid fungus known as Bd. Bsal is not yet known to be present in the United States. The Service is the only agency with the authority to prevent its introduction into the United States. BAIS has been working with the Branch of Hatchery Operations and Applied Science and other partners on options to prevent this fungus from entering the United States, including an Injurious Wildlife listing under the Lacey Act for salamander species susceptible to infection by or carriers of Bsal.

FWS (with leadership from Regions 3 and 5) has developed a series of tools to help manage invasive species risks from the live animal trade. The tools include: 1) the Ecological Risk Screening Summary (ERSS) process, which helps to predict the invasiveness of imported, nonnative species; 2) the Bayesian Network analysis, which helps assess the risk of species determined to be uncertain

through ERSS; and 3) the Risk Assessment Mapping Program (RAMP), a model that uses international databases of climate, individual species distribution, and other factors to match known species climate requirements with predicted climate regimes across North America (current year, 2050, and 2070). All three tools have recently gone through or are currently undergoing peer review per OMB policies for “influential science.” The ERSS and Bayesian Network peer review summaries are now available to the public on the Office of the Science Advisor’s Peer Review website http://www.fws.gov/science/peer_review_agenda.html. The RAMP model is currently undergoing peer review. There is strong interest from partners in using these tools. For example, the State of Michigan enacted Public Act 537 with strong bipartisan support earlier this year. The law establishes new protections to minimize the risk of invasive species in the State and says that the State shall use the risk assessment protocol for aquatic species developed by the Service. FWS is also in process of completing an updated SOP for use by the agency and State and industry partners when developing risk screens.

National Oceanic and Atmospheric Administration

NOAA does not receive allocated funding for invasive species efforts, rather the Agency’s work is reflective of impacts to NOAA’s trust resources. For example, the Habitat Blueprint is NOAA’s strategy to integrate habitat conservation throughout the agency, focus efforts in priority areas, and leverage internal and external collaborations to achieve measurable benefits within key habitats such as rivers, coral reefs, and wetlands. NOAA has identified state and federal invasive species experts and plans to consider invasive species prevention and management while developing Habitat Blueprint Focus Area Implementation Plans.

NOAA staff continues to offer Hazard Analysis & Critical Control Point (HACCP) Planning to Prevent the Spread of Invasive Species. A team from NOAA and USFWS have revised manual, forms and teaching materials to better align with natural resource management work. A new HACCP website is under development and will be hosted by the USFWS National Conservation Training Center. The last training was offered in Santa Cruz, California and a future workshop in Alaska is under development.

NOAA had an internal Aquatic Invasive Species Workshop in Santa Cruz, California on March 31 to April 1, 2015. In addition to focusing on developing goals and objectives for the new NOAA Western AIS Team, the workshop had the following objectives:

- Examine AIS issues that impact NOAA trust resources by region and explore mitigation strategies.
- Identify ways to use existing NOAA processes, programs, and priorities to advance AIS prevention and control strategies.
- Examine AIS case studies and issues where NOAA is making progress and those that need greater attention.
- Establish a prioritized list of objectives for the NOAA AIS Team and a framework for moving forward.

The workshop participants made numerous recommendations to strengthen AIS work within NOAA. A final report from the Workshop will be released this summer.

The National Marine Sanctuaries Lionfish Response Plan was released in February, 2015 and is available at: <http://sanctuaries.noaa.gov/science/conservation/lionfish15.html>. The Plan was drafted to minimize ecosystem degradation in affected sanctuaries so that benthic habitat does not degrade and sanctuaries continue to serve as refuges for native reef fish species. The plan aims to identify critical actions needed to minimize the impact of this unprecedented marine invasion. Four national

marine sanctuaries have been invaded by lionfish – Gray’s Reef, Florida Keys, Flower Garden Banks, and Monitor. The plan recommends science, service, and stewardship activities for the first three sanctuary sites, as activities at the Monitor sanctuary are much more limited and will only be discussed briefly. Prior actions by the sanctuaries to deal with lionfish, as well as future activities, rely on collaborations among agency programs and offices, as well as partners outside NOAA, including international collaborations around the wider Caribbean.

This response plan summarizes information on the scope and status of the lionfish invasion, the threats posed to national marine sanctuaries, and the challenges to managing the invasion. It also summarizes current activities taking place, as well as calls for actions to be planned, coordinated, and supported nationally or regionally and actions specific to the individual marine sanctuaries within the invaded range. All actions are directed at management measures that will minimize impacts caused by the invasion, specifically in the areas of monitoring, control, research, and education and outreach. These actions are consistent with those called for in the National Ocean Policy Implementation Plan and other local, regional and national plans specific to the lionfish invasion.

NOAA continues involvement in the Ballast Water Convention. IMO was adopted in 2004 and will enter into force 12 months after ratification by 30 States, representing 35 per cent of world merchant shipping tonnage (currently at 32.6%). NOAA is also involved in the Arctic Council’s Arctic Climate Resilience Agenda that is proposing development of improved practices and policies to prevent the introduction of invasive species in marine, coastal, freshwater, and terrestrial ecosystems, and strengthen management of on-going invasions using risk based assessment and management.

Numerous activities are occurring at the regional level. For example, the Gulf and South Atlantic regional staff are enhancing capacity building for lionfish research and control in the Caribbean. The regional panel has also assisted with the development of Lionfish Web Portal. NOAA’s Great Lakes Environmental Research Lab (GLERL) is investigating links between quagga/zebra mussels and harmful algal blooms and continues work on the GLANSIS database and factsheets. The Pacific islands Region is performing monitoring and vessel inspection on Papahānaumokuākea Marine National Monument and removing Crown-of-Thorns starfish in American Samoa and invasive algae from Hawaiian reefs. Staff from the Chesapeake Regional Office is chairing the Invasive Catfish Taskforce. The Western Region is developing an AIS management plan for the Sacramento-San Joaquin River Delta, conducting research on *Watersipora subtorquata* (a bryozoan) in the Monterey Bay National Marine Sanctuary, conducting invasive algae removals in southern California, and investigating the impacts on non-native species on ESA listed salmon. In addition, NOAA continues to conduct numerous restoration projects nationwide. Several of these projects are involved in AIS prevention and / or management.

27. Decisional: Tahoe Regional Planning Agency Member Request

Tahoe Regional Planning Agency has requested appointment as an ex-officio member to the ANS Task Force. Dennis Zabaglo (Tahoe Regional Planning Agency) provided information on the organization and how membership will benefit both parties. Tahoe Regional Planning Agency was formed by Congress to protect the lake, ratified by the States in 1969. The Agency was a comprehensive invasive species program that consists of control, EDRR, prevention, education, and partnerships. They have conducted previous control efforts for milfoil infestations, Asian clams, non-native fish, and invasive crayfish. The agency partners with numerous businesses, local

governments, research community, and the boat industry. Many of the goals and efforts of the Tahoe Regional Planning Agency align with the ANS Task Force Strategic Plan.

Doug Jensen: Is Tahoe evaluating the outreach program for behavior change and level of awareness?

Dennis Zabaglo: Yes, a number of surveys have shown that people are aware of issue. Inspections are mandatory – but rates of necessary decontamination for boats have been lowered, down from 60% down to 35%

Peg Brady: Are they formal? Do they have a seat in the regional panel?

Leah Elwell: Lake Tahoe was added as a formal member to the WRP in 2013 and is very active

Bill Howland: In the Lake Champlain Basin, Lake George was infested with Asian clam, a team was put together to go to Lake George to advise them. The Tahoe Regional Planning Agency was one of them. LCBP found them to be highly professional and great collaborators.

Ron Johnson: Are all *ex-officio* members voting members?

Laura Norcutt: All members are voting members and according to the regulations the co-chairs may invite other participating members.

Decision: ANSTF recommended approval the adding the Tahoe Regional Planning Agency as an ex-officio member to the ANS Task Force.

28. Discussion: Hydraulic Fracturing for Gas Development as an AIS Pathway

The Spring 2014 meeting of the ANSTF called for a scoping exercise on the need for and feasibility of developing best management practices (BMPs) for reducing the risk of the introduction and spread of invasive species through hydraulic fracturing (“fracking”) operations. Stas Burgiel (NISC) provided an update of the efforts. The project is being coordinated through the formation of an ad hoc working group on invasive species and hydraulic fracturing. Notice was circulated to the regional panels to identify individuals interested in participating in the working group to consider options for drafting BMPs for both the terrestrial and aquatic aspects of onshore fracking. The working group is looking to engage industry representatives to investigate threats and find solutions. The working group has been challenged by finding individuals with geographic and issue-specific expertise.

29. Informational: Detection and Management of Monoecious Hydrilla in the Erie Canal

Michael Greer (U.S. Army Corps of Engineers, Buffalo District) presented on monoecious biotype of hydrilla (*Hydrilla verticillata*) which was discovered in the Erie Canal, NY in 2013. He highlighted the concerns about the spread of this invasive plant species throughout the Great Lakes basin. The US Army Corps of Engineers is leading an eradication demonstration project in partnership with the New York State Hydrilla Task Force Members and local task force members. The primary focus of this project is leading the response to eradicate the infestation in the Erie Canal. Other aspects of the project include technical assistance for other infestations in the Great Lakes; potential rapid response assistance at new infestations; development of new and innovative methods to combat hydrilla; and knowledge transfer to

resource managers in all Great Lakes states. The Erie Canal is commonly used for recreation, thus serves as a potential source of spread to high value areas. Hydrilla can be found in patchy large beds along the canal banks. Chemical treatments have been used in focus areas at the maximum labeled rate that would not impact native vegetation. There are control structures that allow for 48 hour periods to control contact time with herbicides; however, there is still water flow even with gates closed. In 2014, approximately 90% of Hydrilla tubers had sprouted by June 2014; however, no tubers have been observed sprouting after the July 2014 treatment. Hydrilla in the area near the service road ramp was not controlled by the initial treatment or by a follow up treatment in September targeting this site. The majority of hydrilla remaining in the canal was present in the service road ramp area. Overall hydrilla frequency in canal was reduced from 33% to 4%. Native submerged aquatic vegetation (SAV) was significantly impacted within treatment area. Efforts will result in a Great Lakes specific assessment of hydrilla that is complimentary to the demonstration project and will include plant biology and ecology studies necessary to support risk assessment, modeling, and reduce uncertainty. If people are interested in assisting with the risk assessment on hydrilla, they would be welcomed to participate.

John Navarro: How does the ACOE decide when to take action?

Michael Greer: NYS Cayuga Lake and New York was taking the lead. The Erie Canal infestation was the second infestation found and ACOE decided action was needed. Also water is flowing in two different directions which has created additional difficulties.

Al Cofrancesco: It is a case-by-case basis; ACOE was able to collaborate with the District to use research dollars for a demonstration project. Herbicide is one tool in the toolbox, ACOE is also looking at biocontrols.

Public Comment

No Public Comment

30. Meeting Summary

A list of final action items and decision items was discussed (see pages 1-2 above). The next meeting of the ANS Task Force will occur on first week of November, at NOAA headquarters in Silver Spring, Maryland.

The Spring 2015 ANSTF Meeting was adjourned