



Aquatic Nuisance Species Task Force

2014 Report to Congress

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STRUCTURE OF THE AQUATIC NUISANCE SPECIES TASK FORCE

The Aquatic Nuisance Species Task Force (ANSTF) was established by Congress with the passage of the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) in 1990 and reauthorized with the passage of the National Invasive Species Act (NISA) in 1996 (collectively, the Act). The ANSTF is an interagency committee established by Section 1201 of the Act and serves to develop and implement a program for waters of the United States¹ that:

- Prevents the introduction and dispersal of ANS;
- Monitors, controls and studies such species;
- Conducts research on methods to monitor, manage, control and/or eradicate such species;
- Coordinates ANS programs and activities of ANSTF members and affected State agencies; and
- Educates and informs the general public and program stakeholders about the prevention, management, and control of these species

ANSTF Strategic Plans

Section 1202 of the Act authorized the ANSTF to develop and implement a program for waters of the United States to prevent introduction and dispersal of ANS, to monitor, control, and study such species, and to disseminate related information. The *Aquatic Nuisance Species Program* document guided the work of the ANSTF from 1994 to 2002. The document tracked the requirements outlined in the NANPCA (1990). It established the core elements of the ANS program (prevention, detection and monitoring, control) and support elements (research, education, and technical assistance), provided for prioritization of activities, and charted a course for implementation of the Act. The ANSTF Strategic Plans for 2002–2007 and 2007–2012 maintained the key elements of the ANS Program, but provided a broader focus for activities consistent with provisions of NISA (1996). These plans provided more emphasis on prevention strategies, particularly for intentional introductions. The ANSTF Strategic Plan for 2013 – 2017 carries through many of the goals and objectives established in previous plans by remaining focused on prevention, monitoring, and control of ANS as well as increasing public understanding of the problems and impacts associated with invasive species. The Strategic Plan also calls attention to other areas of ANS management, including habitat restoration and research. The new Strategic Plan establishes eight goals that serve as a blueprint and coordination tool for the ANSTF.

Federal and Ex-officio Members

The ANSTF's charter is authorized by the Federal Advisory Committee Act (FACA) of 1972. The charter provides the ANSTF with its core structure and ensures an open and public forum for its activities. To meet the challenges of developing and implementing a coordinated and complementary Federal program for ANS activities, the ANSTF members include 13 Federal agency representatives and 13 representatives from ex-officio member organizations. These members work in conjunction with Regional Panels and issue-specific committees to coordinate efforts amongst agencies as well as efforts of the private sector and other North American interests.

The Act designated the Director of the Fish and Wildlife Service and the Undersecretary of Commerce for Oceans and Atmosphere as the ANSTF Co-chairpersons. It specified six Federal agencies² that would constitute the ANSTF, but also gave the co-chairs legal authority to include other Federal agencies as

¹ The term "waters of the United States" is defined by the Clean Water Act 40 CFR 230.3(s)

² Federal agencies specified within the Act include the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Environmental Protection Agency, United States Coast Guard, Army Corps of Engineers, United States Department of Agriculture.

members of the ANSTF, as appropriate. Members of ANSTF are responsible for committing resources to achieve the goals of the Strategic Plan and reporting annually on their progress. At the time of Plan adoption (May 3, 2012), the following were ANSTF member departments and agencies:

- **United States Fish and Wildlife Service (USFWS)—co-chair**
- **National Oceanic and Atmospheric Administration (NOAA)—co-chair**
- Army Corps of Engineers (ACOE)
- Bureau of Land Management (BLM)
- Bureau of Reclamation (BOR)
- Department of State (DOS)
- Environmental Protection Agency (EPA)
- United States Forest Service (USFS)
- Department of Transportation (DOT), Maritime Administration (MARAD)
- National Park Service (NPS)
- United States Coast Guard (USCG)
- United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS)
- United States Geological Survey (USGS)

The Act also named four organizations³ to be included in the base ANSTF membership, yet authorized the co-chairs to invite representatives of specific regional organizations, State agencies, and other governmental entities to participate as *ex-officio* members of the ANSTF. At the time of Plan adoption (May 3, 2012), the following were *ex-officio* members of the ANSTF:

- Great Lakes Commission
- Lake Champlain Basin Program
- Chesapeake Bay Program
- San Francisco Estuary Project
- American Public Power Association
- American Water Works Association
- Association of Fish and Wildlife Agencies
- Gulf States Marine Fisheries Commission
- Mississippi Interstate Cooperative Resources Association
- Native American Fish and Wildlife Society⁴
- National Association of State Aquaculture Coordinators
- Smithsonian Environmental Research Center
- *Fisheries and Oceans Canada (invited observer)*

³ Organizations specified within the Act include the Great Lakes Commission, Lake Champlain Basin Program, Chesapeake Bay Program, and San Francisco Bay-Delta Estuary Program.

⁴ Two members co-represent the Native American Fish and Wildlife Society

FEDERAL MEMBERS - ROLES AND RESPONSIBILITIES

United States Fish and Wildlife Service (USFWS)

USFWS co-chairs ANSTF and houses multiple programs that address management and control of invasive species across the United States. USFWS also oversees the injurious species provisions of the Lacey Act (Title 18), which are paramount to invasive species regulation in the United States. The National Wildlife Refuge System has invasive species teams that are currently reviewing strategies and recommending potential projects involving invasive species. The Agency also has several habitat restoration programs that restore habitat degraded by invasive species as part of their overall habitat restoration activities.

National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic Atmospheric Administration (NOAA) has responsibility for prevention, monitoring, control, education, and research to prevent future introductions and the spread of aquatic invasive species. NOAA provides staff support for engagement and activities related to its leadership role as the co-chair of both the National Invasive Species Council (representing Department of Commerce) and the Aquatic Nuisance Species Task Force, two interagency organizations that coordinate and ensure complementary, cost-efficient and effective Federal activities regarding invasive species. Additionally, NOAA's Sea Grant program and program offices have been actively involved in research and outreach regarding aquatic invasive species, as well as restoration of habitat that benefits native species by removal of invasive organisms.

Army Corps of Engineers (USACE)

The U.S. Army Corps of Engineers (USACE) has a number of control programs of invasive species, and is authorized to implement a 50/50 Federal/local cost sharing arrangement with State and local governments for managing nuisance aquatic plants in waterways not under the control of USACE or other Federal agencies. USACE also has a number of research programs focused on invasive species.

Bureau of Land Management (BLM)

The Bureau of Land Management (BLM) focuses primarily on controlling invasive plants, which has been identified as a top priority for the agency and has implemented an action plan, called Partners Against Weeds, to prevent and control the spread of noxious weeds on public lands. The United States Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) regulates animal pests on BLM land under a memorandum of understanding between the two agencies.

Bureau of Reclamation (BOR)

The Bureau of Reclamation (BOR) is responsible for programs that control invasive species which infest water systems, including reservoirs, rivers, distribution canals, etc. Species such as zebra mussels, Chinese mitten crabs, hydrilla, and water hyacinth obstruct water flow, reduce recreational access, and can cause structural damage. BOR manages invasive species through its Integrated Pest Management Program under its basic operation and management authority and various reclamation-enabling statutes and directives.

Department of State (DOS)

The Bureau of Oceans and International Environmental and Scientific Affairs, Office of Conservation and Water (OES/ECW) is the main point of contact in the Department of State for invasive species issues. OES

is responsible for international marine and coastal invasive species as well as terrestrial ones in a variety of contexts, and advocates for policies and approaches consistent with those of the United States at international forums such as multilateral environmental agreements and regional initiatives like the Convention on Biological Diversity. DOS works closely with other Federal agencies to develop U.S. policies on invasive species and collaborates with other agencies in international matters related to invasive species.

Environmental Protection Agency (EPA)

EPA's research activities include evaluation of ecological indicators (including non–native species) for surface waters, the effects of non–native species on wetland restoration and studies on non–native, submerged aquatic vegetation. EPA works extensively with Canada and bordering states in managing invasive species issues in the Great Lakes region, and regulates ballast water discharge, which is a leading pathway for invasive species introductions into US waters.

United States Forest Service (USFS)

As a major federal landowner in the United States, the Forest Service works extensively with public and private stakeholders and other partners to conduct management activities against a wide range of aquatic and terrestrial invasive species across the 193 million acre National Forest System extending from Alaska to the Caribbean. The Forest Service is recognized as a leader in invasive species ecology, management, and research in the United States, and internationally. The Forest Service also plays an important role in each of the national federal interagency coordinating groups addressing invasive species, including the Aquatic Nuisance Species Task Force, the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW), and the Federal Interagency Committee for Invasive Terrestrial Animals and Pathogens (ITAP).

Department of Transportation (DOT), Maritime Administration (MARAD)

The Federal Highway Administration (FHWA) has an oversight role in federally funded highway projects that include both Interstate and State highways. FHWA's Vegetation Management Program guides States departments of transportation on invasive species issues. The Federal Railroad Administration (FRA) promotes safe and environmentally sound rail transportation and supports invasive species control efforts on rail corridors. The Maritime Administration (MARAD) promotes development and maintenance of an adequate, well–balanced, U.S. Merchant Marine, and supports the control of aquatic invasive species.

National Park Service (NPS)

The National Park Service (NPS) manages 401 parks covering more than 83 million acres, and approximately 200 of those parks have identified exotic species as an important resource management threat. NPS prohibits most introductions of exotic invasive species on land under their management and requires the use of an Integrated Pest Management approach to remove or control exotic species on NPS units. The NPS actively pursues on the ground prevention and containment efforts, providing public information on impacts and control methods, impact assessments and monitoring, and research and development of invasive species control technologies. NPS staff also work at local, regional, and federal levels to ensure interagency collaboration on aquatic invasive species management efforts.

United States Coast Guard (USCG)

Section 1101 of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 provides authority to the the U.S. Coast Guard to regulate and issue guidance for the management of ballast water as a vector for introduction of aquatic invasive species. USCG also works with other agencies to develop and enforce international fisheries and maritime agreements, including those concerning ballast water management.

United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS)

The Animal and Plant Health Inspection Service (APHIS) within the Department of Agriculture (USDA) is the primary agency charged with preventing invasive species from entering the country. APHIS authority arises from laws such as the Plant Protection Act and a number of statutes collectively referred to as the animal quarantine laws. APHIS can prohibit, inspect, treat, quarantine, or require mitigation measures prior to allowing entry of plant species, plant pests, biological control organisms, animals, animal products and by-products, or their host commodities or conveyances. APHIS is also authorized to prevent the introduction and dissemination of diseases and pests of livestock and poultry. APHIS has emergency authority to deal with incipient invasions and works in cooperation with academia, non-governmental organizations, and other federal, state, regional, and local agencies.

United States Geological Survey (USGS)

The U.S. Geological Survey (USGS) Biological Monitoring and Research Program conducts research in terrestrial and aquatic ecosystems, including invasive plants, vertebrates, invertebrates, and wildlife disease organisms. The USGS assists resource managers to obtain reliable information on invasive species, develop methods and tools to better prevent and control invasions, and to reduce their impacts on ecosystems and native species. Emphasis is given to areas administered by Interior and regions that are particularly threatened by invasive species, such as Hawaii, western rangelands, wetlands, the Great Lakes, and eastern waterways. USGS investigates the causes, effects, prevention, and management of invasive and nonindigenous organisms in the United States. USGS hosts a prominent national database on nonindigenous aquatic species that is available to the public.

EX-OFFICIO MEMBERS - ROLES AND RESPONSIBILITIES

Association of Fish and Wildlife Agencies

The Association of Fish and Wildlife agencies (AFWA) is the professional association that serves as the collective voice of North America's state, provincial, and territorial fish and wildlife agencies to advance sound, science-based management and conservation of fish and wildlife and their habitats in the public interest. AFWA represents its state agency members on Capitol Hill and before the Administration to advance favorable fish and wildlife conservation policy and funding and works to ensure that all entities work collaboratively on important issues, including aquatic invasive species. The AFWA Invasive Species Committee provides a national forum for coordinated action among state and federal entities working on invasive species issues. The Invasive Species Committee reviews the ANSTF Strategic Plan, prioritizes projects to accomplish the goals of the plan, and provides a framework for cooperation among agencies and other partners to engage the aquatic invasive species challenge.

Mississippi Interstate Cooperative Resources Association

The Mississippi Interstate Cooperative Resources Association (MICRA) consists of 28 state fish and wildlife management agencies organized in 1991 as a partnership to improve management of interjurisdictional fish and other aquatic resources in the Mississippi River Basin. The Mississippi River Basin is the largest watershed in the nation, covers 41% of the continental United States and draining all or part of 31 states and 2 Canadian provinces. The Mississippi River Basin has been greatly impacted by a number of invasive fish, plants, and mussels and continues to be threatened by new ANS introductions.

National Association of State Aquaculture Coordinators

The National Association of State Aquaculture Coordinators (NASAC) helps develop strategies and disseminates protocols to help reduce the risk of invasive species being spread into waters of the United States; reviews management, prevention and guidance plans, as well as panel recommendations for scientific integrity and stakeholder involvement to insure the organizational effectiveness of these plans while considering the economic sustainability of stakeholders. NASAC, through its state coordinators, promotes the importance of reducing the introduction, spread, and impact of ANS by promoting education and outreach programs including ANS-HACCP and biosecurity plans for fish farmers, invasive species workshops and circulates ANSTF reports to other aquaculture organizations.

American Public Power Association

American Water Works Association

Chesapeake Bay Program

Chippewa Ottawa Resource Authority

Great Lakes Commission

Great Lakes Indian Fish & Wildlife Commission

Gulf States Marine Fisheries Commission

Lake Champlain Basin Program

***Native American Fish and Wildlife Society*⁵**

San Francisco Estuary Project

Smithsonian Environmental Research Center

⁵ Two members co-represent the Native American Fish and Wildlife Society

ANSTF REGIONAL PANELS

The ANSTF focuses its work on ANS issues of national concern that require or could benefit from collaborative solutions. It strives to create opportunities and synergies among members and participants to work collaboratively by sharing resources, expertise, and ideas across agency and organizational lines. While the ANSTF has a national focus, it recognizes the tremendous importance of actions taken at the regional and local level to achieve national ANS solutions. Section 1203 of NANPCA created the Great Lakes Regional Panel to identify priorities, to coordinate ANS program activities, and to advise public and private interests on control efforts in their region. The 1996 amendment required the ANSTF to encourage the development of additional regional panels to provide an intergovernmental mechanism for the development of a coordinated Federal program to prevent and control nonindigenous ANS as authorized by the Act. The Regional Panels are responsible for implementing actions that assist in achieving the Strategic Plan's goals and reporting annually on their progress⁶. At the time of Plan adoption (May 3, 2012), the ANSTF had established six Regional Panels:

- Great Lakes Regional Panel
- Western Regional Panel
- Gulf and South Atlantic Regional Panel
- Northeast Aquatic Nuisance Species Panel
- Mississippi River Basin Regional Panel
- Mid-Atlantic Regional Panel

Great Lakes Regional Panel

Brief History of the Panel

Host organization

Current chair and coordinator

Website

Mission

Roles and Responsibilities to the ANSTF

Ongoing Challenges

⁶ Section 1202(k) (2) of NANPCA, requires the ANSTF to submit, on an annual basis, a report to Congress focusing on progress in carrying out the provisions of the Act. Under the Act, the Regional Panels are required to submit an annual report to the ANSTF describing activities in their regions related to ANS prevention, research and control activities. Additionally, contracts for funding the panels require an annual report.

Gulf and South Atlantic Regional Panel

Brief History of the Panel

The Gulf and South Atlantic Regional Panel on aquatic invasive species (GSARP) was established in 1999 under the Gulf of Mexico Program of the EPA and in 2002 the Gulf States Marine Fisheries Commission took over administration and coordination responsibilities. The GSARP is made up of the eight states bordering the Gulf of Mexico and the south Atlantic coast (North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas). The Membership currently consists of twelve federal, thirteen state, eleven NGO, and one international representative(s).

Host organization

Gulf States Marine Fisheries Commission (GSMFC)

Current chair and coordinator

Chair:

- Leslie Hartman, Texas Parks and Wildlife Department
Email: leslie.hartman@tpwd.state.tx.us

Coordinator:

- James Ballard, Gulf States Marine Fisheries Commission
Email: jballard@gsmfc.org

Website

<http://www.gsarp.org/#:content@1:links@2>

Mission

The main role of the GSARP is to provide for coordination of aquatic invasive species control and management activities among its member states and other organizations in the region and to help all the members develop a working relationship with each other to help facilitate communication and cooperation across the region.

Roles and Responsibilities to the ANSTF

Previously, the Panel has funded projects aimed at developing novel ways to control and eradicate ANS in the southeast region. They have also supported projects that developed and distributed outreach materials to educate the public about the impacts of ANS and the steps they can take to stop new introductions and the spread of existing populations. Presently, the level of funding provided to the GSARP does not allow for the support of projects.

Ongoing Challenges

Decreased funding is the main impediment to successful coordination between GSARP members. Over the last 15 years, the funding for the Panel has only decreased while the cost of conducting business has continued to increase. This has resulted in the removal of funding to support member projects, and with the 20% reduction in funding in 2013, has greatly jeopardized the ability of the Panel to provide its base function of coordination across the region.

Mid-Atlantic Regional Panel

Brief History of the Panel

The Mid-Atlantic Panel on Aquatic Invasive Species (MAP) was formed in 2003 through the efforts of the Chesapeake Bay Program's Invasive Species Workgroup, which identified and ranked invasive species threats to the Chesapeake Bay region. With so many invasive species threats in the Chesapeake Bay watershed and the Mid-Atlantic region, the Chesapeake Bay Invasive Species Workgroup expanded their geographic scope by forming MAP. MAP has a diverse membership representing state and federal agencies, academic institutions, environmental organizations, commercial interests, and regional entities.

Host organization

MAP's fiscal agent is the University of Maryland/Maryland Sea Grant.

Current chair and coordinator

Chair:

- Sarah Whitney, Pennsylvania Sea Grant
- Email: swhitney@psu.edu

Coordinator: MAP does not currently have a coordinator, but does receive staff support from the EPA Chesapeake Bay Fellowship Program:

- Hannah Martin, Chesapeake Research Consortium
Email: jballard@gsmfc.org

Website

<http://www.midatlanticpanel.org>

Mission

The panel will assist state and federal agencies, and other stakeholders, in developing and implementing strategic, coordinated, action-oriented approaches to prevent and control aquatic invasive species in the Mid-Atlantic region.

Roles and Responsibilities to the ANSTF

Supporting the goals of the ANSTF Strategic Plan is one of the charges that drives MAP's work. MAP works to prevent the introduction and spread of aquatic invasive species through science and management, policy, and education and outreach activities and initiatives. We help state, federal, and local agencies, non-profits, and private landowners in the Mid-Atlantic states tackle aquatic invasive species (AIS) issues by identifying and prioritizing regional issues, coordinating local ANS programs, and assisting the ANSTF in coordinating federal programs that promote effective methods of preventing and managing ANS introductions.

Ongoing Challenges

MAP members volunteer their time to participate in the panel. Sometimes it is written into their job description, sometimes they are there because they see the benefits that MAP provides to their work. So one of the Panel's challenges is finding time in everyone's already busy workplans to devote to MAP. In part because of this challenge, MAP has decided that the best use of the Panel's funding is to distribute it to others through an annual grant program.

Mississippi River Basin Regional Panel

Brief History of the Panel

The Mississippi River Basin Panel (MRBP) was formed in 1993 and has 45 voting members and 40 non-voting members. Thirty-six federal and state agencies representatives comprise the bulk of the MRBP's voting membership. Academia, private environmental and commercial interests are represented on the MRBP, however many membership positions remain unfilled and increased participation is desired.

Host organization

Mississippi Interstate Cooperative Resource Association (MICRA).

Current chair and coordinator

Co-chairs:

- Luci Cook-Hildreth, Texas Parks and Wildlife Department
Email: Luci.Cook-hildreth@tpwd.state.tx.us
- Curtis Tackett, Oklahoma Department of Wildlife Conservation
Email: ctackett@odwc.state.ok.us

Coordinator:

- Greg Conover, U.S. Fish and Wildlife Service
Email: greg_conover@fws.gov

Website

<http://www.mrbp.org/>

Mission

In accordance with the six responsibilities for regional ANS panels established in the Nonindigenous Aquatic Nuisance Prevention and Control Act, the MRBP's current priorities are:

1. Interagency and interbasin coordination and information exchange among management agencies and stakeholders
2. Identification and evaluation of introduction pathways
3. Training and familiarization with the Incident Command and National Incident Management Systems for implementing rapid response actions
4. Implementation of the national Asian Carp Management and Control Plan
5. Development and accessibility of ANS materials
6. Evaluating the effectiveness of education and outreach actions to increase awareness and foster behavior change

Roles and Responsibilities to the ANSTF

The MRBP has three standing committees to address the panel's responsibilities, current priorities, and to assist in implementation of the ANSTF Strategic Plan. Panel funding is used to organize periodic coordination meetings (approximately every 9 months) that are essential to facilitate coordination and implantation of regional ANS programs and projects; identify priorities and emerging issues; and development of recommendations for the ANSTF. Remaining panel funding is directed to the creation of regional ANS outreach products and implementation of projects to address priority ANS issues within the basin.

Ongoing Challenges

The MRBP has two primary challenges that affect the panel's ability to assist in implementation of the ANSTF Strategic Plan and to address the MRBP's responsibilities and priorities. These challenges are inadequate funding and constrained participation. The MRBP has a part-time coordinator whose expenses are almost entirely covered by MICRA and the USFWS. Adequate Regional Panel funding is needed to support a full-time MRBP coordinator, at least one panel coordination meeting per year, and to provide operational funds for implementation of MRBP's priority regional ANS programs and project needs. The increased activity and production resulting from such funding would likely increase the interest and participation of private environmental and commercial interests in the MRBP. Federal and state agency member participation often wanes due to agency budget and travel restrictions, resulting in requests for panel funding to provide support for member travel expenses. Adequate funding of ANSTF approved State/Interstate ANS Management Plans to support a full-time ANS coordinator and plan implementation in each state would improve agency participation in the Regional Panel.

DRAFT

Northeast Aquatic Nuisance Species Panel

Brief History of the Panel

The Northeast Aquatic Nuisance Species (NEANS) Panel was established in 2001, the fourth regional panel to be established under the auspices of the ANSTF. The NEANS Panel addresses issues and concerns relative to the freshwater and marine resources of its member states. The Panel's members represent state, provincial, and federal governments; academia; commercial and recreational fishing interests; recreational boaters; commercial shipping; power and water utilities; environmental organizations; aquaculture; nursery and aquarium trades; tribal concerns; lake associations; and the bait industry.

Host organization

Current chair and coordinator

Co-chairs:

- Theresa Portante-Lyle, New England Interstate Water Pollution Control Commission
Email: tportante-lyle@neiwppcc.org
- Mark Malchoff, Lake Champlain Sea Grant
Email: malchom@plattsburgh.edu

Coordinator:

- Michele L. Tremblay, nature resource communications
Email: info@NortheastANS.org

Website

<http://www.northeastans.org/>

Mission

The NEANS Panel's mission is to protect the marine and freshwater resources of the Northeast from invasive aquatic nuisance species through commitment and cohesive coordinated action and works with Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont and the Canadian Provinces of New Brunswick, Nova Scotia, Prince Edward Island, and Québec.

Roles and Responsibilities to the ANSTF

NEANS's activities focus on member communication, coordination, and collaboration including meetings, workshops, training opportunities, and production and distribution of outreach and education products and other tools

Ongoing Challenges

Western Regional Panel

Brief History of the Panel

The Western Regional Panel (WRP) was formed in 1997 and currently has 64 voting members with many other additional regional partners who participate in WRP activities. The membership is representative of inland and coastal interests with members from 19 state agencies, 11 federal agencies, 5 Canadian agencies, 4 tribal representatives, and 21 members ranging from academia, industry, commissions, non-profit conservation organizations, recreational boating, and legal interests.

Host organization

The WRP does not have a host organization. It is led entirely by its volunteer members and volunteer executive committee.

Current chair and coordinator

Chair:

- Elizabeth Brown, Colorado Parks and Wildlife
Email: Elizabeth.brown@state.co.us

Coordinator:

- Leah Elwell, Invasive Species Action Network
Email: leah@stopans.org

Website

<http://www.fws.gov/answest/>

Mission

The mission of the WRP is to protect western aquatic resources by preventing the introduction and spread of ANS into western marine, estuarine, and freshwater systems through the coordinated management and research activities of state, tribal, federal, commercial, environmental, research entities, industries and other regional panels.

Roles and Responsibilities to the ANSTF

The WRP has played a role in implementing all of the eight goals put forth in the Strategic Plan. The greatest focus has been placed on coordination, prevention, control and management, and education and outreach. Ensuring that member partners have a voice on AIS and sharing those concerns with the ANSTF has been a critical WRP role. The WRP provides a forum for sharing information on prevention, control and management, and in many cases prioritizing the needs of the diverse interests represented within our large geographic area.

Ongoing Challenges

Because funding has become increasingly tight, the WRP has been forced to minimize activities (e.g. limiting participation in ANSTF meetings, inability to provide fiscal support for research or special projects). Further, the variation in participation within the WRP from federal and state agencies has affected our ability to be highly successful. The WRP would benefit from greater participation from these agencies.

STATE AND SPECIES MANAGEMENT PLANS

ANSTF encourages State and interstate planning entities to develop management plans describing detection and monitoring efforts of ANS, prevention efforts to stop their introduction and spread, and control efforts to reduce their impacts. In addition, these plans serve to coordinate efforts between State agencies, local governments, tribal entities, industry, as well as other entities including non-governmental organizations. Consequently, they are a valuable and effective tool for identifying and addressing ANS problems and concerns in a climate of many jurisdictions and other interested entities. Once a State or interstate ANS management plan is approved, the ANSTF monitors the activities of the planning entity to ensure the plans are implemented. This monitoring process allows the ANSTF to evaluate the capacity and capability at State and local levels to coordinate, detect, and respond to invasive species. This information allows the ANSTF to better identify strategies for monitoring, containment, outreach, and other ANS activities. It also allows for identification of priority activities and species, obstacles to fully implementing the ANS State management plans, and cooperative partnerships that exist among entities managing ANS. This information is critical for recognizing the amount and type of data and management methods available, which allows for an assessment of gaps, redundancies, and opportunities for collaboration among agencies that are not being realized. It is clear that actions and goals performed at the Federal level will not will not succeed unless they are undertaken in cooperation with stakeholders; for that reason, coordination and joint action with State partners is critical for addressing invasive species problems within the United States.

The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (as amended by NISA, 1996) specifies that the ANSTF, through the AIS Program implemented by the Fish and Wildlife Service, may develop cooperative efforts “to control established aquatic nuisance species to minimize the risk of harm to the environment and the public health and welfare.” These efforts, originally called “control programs” in NANPCA, eventually became known as National AIS Management and Control Plans. There are no specific criteria the ANSTF must follow when deciding whether an AIS warrants a control plan. The ANSTF or any other entity may recommend they initiate the process to develop a control plan. Development of a plan can proceed if approved by the ANSTF and if an entity steps forward to lead the drafting process. Once a plan is drafted and approved, however, there is no guarantee of funding for implementation. Limited funding for implementation has primarily been provided by the Service.

There are currently 7 approved national control and management plans for the following species (or in some cases, entire genera): Asian carp, brown tree snake, Caulerpa (a seaweed), mitten crabs, European green crab, New Zealand mudsnail, and Eurasian ruffe. Each plan includes an implementation section that describes prioritized tasks and their associated costs/staffing requirements. Despite the Service’s focus on prevention, the AIS Program still focuses some of its limited funding to implement some implementation tasks of the existing control plans. To date, however, limited resources have prevented any of the plans from being sufficiently funded, leaving many critical tasks in limbo. Lack of funding for plan implementation has also negatively impacted the motivation to develop new plans. Tremendous efforts are expended developing plans yet funding for implementation is extremely limited. As the number of control plans has increased, the funding to implement each plan has decreased.

State ANS Management Plan Accomplishment

- Brief Overview of State Plan Accomplishments, working on updating the 2010 State Plan Factsheets
- Specific State accomplishments will be highlights in goal below

Species Management and Control Plan Accomplishment

Caulerpa Control Plan

- Development and distribution of a pre-K through second grade children's book entitled *A New Home for an Old Friend* and a 25-page set of complementary lesson plans on the dangers of aquarium dumping. Copies have been distributed to 38 states and 19 countries outside the United States.
- Development and distribution of a graphic novel on the dangers of aquarium dumping entitled, *"Fish Invaders at Gypsy Point: Katie and George Learn about Alternatives to Aquarium Dumping.* Material and complementary lesson plans on the dangers of aquarium dumping focused on 3rd – 5th graders were included. Copies of this book and associated lesson plans have been distributed to seven states and four countries outside the United States.
- Development and production of a DVD entitled *Invaders from Around the World* to accompany the books for Pre K – 5th grade students. The science concept of biodiversity and native species are introduced. The impact of humans through introduction of invasive species is presented in a manner that engages students and is consistent in presenting a scientific message.

Mitten Crabs Management Plan

- The National Chinese mitten crab (CMC) workshop was held in Arlington, VA on 2 November 2010. The objectives of the workshop were to establish a North American CMC workgroup; develop a network for collaboration between east and west coast CMC activities; and to identify future needs and direction for the CMC National Management Plan (NMP).
- The CMC workgroup reviewed the action items from the workshop and followed-up in areas where there are identified needs and concerns. They identified five focus areas for review and modification including the creation of an online clearinghouse for CMC information; expanding the current plan to include the east coast; update the existing ecology section; suggest methods for CMC early detection; and update the implementation table.

European Green Crab Management Plan

- West Coast Green Crab Technical Committee coordinates state, federal and university green crab management and research activities in the US and Canada. The group is currently responding to the 2012 finding of green crab in the Strait of Juan de Fuca and developing a Puget Sound monitoring plan for the state of Washington that will be implemented in 2014.
- PSMFC has supported green crab monitoring in Oregon and Washington since 2007. Data collected on abundance and population structure of the green crab is of critical importance as resource managers and the commercial shellfish industry develop management options to address the threat posed by this species.
- A research project was concluded in 2010 by Portland State University, the University of California (Davis) and the Smithsonian Environmental Research Center that determined the effectiveness of local removal, built capacity for management, and evaluated the plausibility of eradication of the well established, widespread European green crab *Carcinus maenas*.

- NOAA provided funds for PMSFC to administer a citizen science removal effort in Seadrift Lagoon, California. This project demonstrated a sustainable model for less expensive management efforts that will also help educate and engage stakeholders and other citizens in invasive species management.
- Community-based monitoring for European green crab in Southeast and South Central Alaska also continues. Communities involved include Valdez, Homer, Sitka, Prince of Wales Island and Ketchikan. European green crab have yet to be detected in Alaska, although they continue to move northward. Currently, the closest population is in Gale Passage, British Columbia, approximately 100 miles south of the Alaska border with Canada.

New Zealand Mudsail Management & Control Plan

- Surveys for NZMS distribution and risk assessments occurred in several Western states through 2008.
- An annual meeting of interested researchers, managers, conservation groups, industry and others occurred from 2005 through 2011.
- To assist fish hatchery prevention efforts, FWS funded risk assessments as well as research on NZMS substrate avoidance and removal of NZMS from hatchery water sources
- Region 6 began annual inspections of all NFHs for New Zealand mud snails and other invasives in 2013.
- Conducted NZMS surveys in targeted areas until FY12 when R1 stopped receiving NZMS control funds
- Developed a GARP model of AIS spread based on NZMS data
- In 2010 R1 coordinated with Oregon Sea Grant and other partners to produce a gear decontamination document: "How to Prevent the Spread of New Zealand Mudsails Through Field Gear".

STILL NEEDED:

Bighead, Black, Grass, and Silver Carps Management and Control Plan

Brown Tree Snake Control Plan

Ruffe Control Program

Giant Salvinia Control Plan

Purple Loosestrife Management Plan

Water Chestnut Management Plan

Quagga Zebra Action Plan

PREVENTION

Prevention is the first line of defense against ANS. Once a species becomes established, control efforts require significant and sustained resources. Since eradication may not be feasible, prevention is the most cost-effective means to avert the risk of harmful introductions. Investment in prevention avoids many of the long-term economic, environmental, and social costs associated with ANS. New species can arrive through many different ways, but most species that are considered to be invasive are a direct result of human activity. The movement of ANS may utilize pathways including, but not limited to, ballast water and hulls of ships, canals and waterways, aquaculture, the aquarium and pet trade, the bait industry, recreational activities, biological research, and habitat restoration projects.

Federal Members

- USACE: USACE, in consultation with other federal agencies, Native American tribes, state agencies, local governments and non-governmental organizations, continues to conducting the Great Lakes and Mississippi River Interbasin Study (GLRMIS). The GLRMIS Report presented the results of a multi-year study regarding the range of options and technologies available to prevent ANS movement between the Great Lakes and Mississippi River basins through aquatic connections. USACE analyzed and evaluated available options to address ANS and formulated alternatives specifically for the Chicago Area Waterway System (CAWS) with the goal of preventing ANS transfer between the two basins. The GLRMIS Report also includes an analysis of potential impacts to uses and users of the CAWS, and corresponding mitigation requirements for adverse impacts to functions such as flood-risk management, natural resources, water quality, and navigation.
- USACE: The Corps of Engineers is leading a group of federal and state agencies in eradicating the new infestations of monoecious hydrilla found in the Tonawanda Creek, NY.
- NPS: NPS staff partnered with the Minnesota Department of Natural Resources to evaluate threats posed by Asian carp and actions needed to minimize their impact in waters of the upper Mississippi River. An ad hoc Asian carp task force developed the Asian Carp Action Plan in 2011, which has led to early identification of carp movement, habitat evaluations for potential establishment in the Saint Croix Riverway, and initiatives to prevent the spread of Asian carp in the upper Mississippi River.
- NPS: NPS: The NPS will continue to collaborate with domestic and international partners to promote ballast treatment technologies, evaluate their efficacy, and demonstrate the need to protect waters of the Great Lakes and other water bodies. The NPS will work to implement components of the Lionfish Response Plan and develop plans for ANS management in the lower Colorado River.
- USFS: The **WO** is also supporting a risk assessment that will analyze potential environmental impacts of *quaternary ammonium products* (i.e. Sparquat and many variations). This process will explore health and human safety issues and acceptable methods for disposal, and hopefully will result in amended EPA labels approving the use these chemicals to decontaminate fire and field gear and protect against the spread of aquatic invasive species.
- USFS: Region 2 of the USFS continues to support state and water users in preventing the spread of ANS in major waterways located on National Forest lands. These reservoir and stream networks provide significant revenue for state and local economies through fishing and water-based recreation In Colorado, the Service used Challenge Cost Share agreements to fund seasonal watercraft inspectors, which were matched by state and municipal partners.

Ex-Officio Members

- AFWA: AFWA cooperated with the Department of the Interior, the U.S. Fish and Wildlife Service, and the Pet Industry Joint Advisory Committee to develop a memorandum of understanding (MOU) establishing a general framework for collaborating on nonregulatory approaches to reduce the risks of potentially invasive, nonnative species from being introduced into the United States through trade. Ongoing implementation of the MOU includes AFWA helping to evaluate which species potentially used in trade should be evaluated for invasiveness and possible recommendations to limit or prevent trade of species.
- MICRA: In recognition that its members must work collaboratively and cooperatively with partner management agencies, MICRA, with input by the MRBP and others, developed an action plan to guide coordinated efforts in the Mississippi River Basin to prevent additional species invasion, and contain and control populations of priority ANS established in the Mississippi River Basin. The action plan has two primary goals: 1) reduce and ultimately prevent all new introductions of ANS, and 2) stop the spread of ANS within the Basin, extirpate harmful ANS, or if impossible, then control populations to ensure sustainable aquatic ecosystems and the social, economic, and cultural uses they support.

Regional Panels

- WRP: In August of 2012, the WRP and other partners brought together leaders in AIS management, attorneys general and, state and federal law enforcement for a co-learning workshop to discuss and improve current boat inspection and decontamination programs in the west. This effort has cascaded into successful improvements in communication, relationships, protocols and legislation. This effort is ongoing and targeted goals will be addressed during the 2013-2017 period.
- WRP: WRP developed and approved Guidance to Prevent the Spread of AIS through Field Gear in 2012, completed the project Development of Preemptive Rapid Response Teams for Exotic Aquatic Weeds (with partners USDA- ARS Exotic and Invasive Weed Research, Davis, CA and Portland State University, Portland, OR), and collaborated and approved the document Uniform Minimum Protocols and Standards for Watercraft Interception Programs for Dreissenid Mussels in the Western United States.
- WRP: One of the largest challenges facing watercraft decontamination programs is the lack of a cost effective method to decontaminate the ballast tanks of watercraft. To address this issue, a prototype ballast water filtration system was developed and tested at Lake Mead, NV by University of Nevada, Reno (UNR). Support for the project was provided by USFWS (Portland, Denver Offices), California Department of Fish and Wildlife, Colorado Parks and Wildlife Department, Tahoe Regional Planning Agency, Pacific States Marine Fisheries Commission and Water Sports Industry Association. Test results showed the filtration unit will retain/damage Dreissenid veligers and zooplankton suggesting its effectiveness in preventing ANS introductions
- WRP: planning to develop a risk assessment of coastal invasive species for the Pacific region
- WRP: currently refining protocols and practices with recreational boat inspection programs, as well as finalizing model legislation and regulations associated with these programs in the western region.
- NEANS: Identification of ANS can be challenging and time-consuming for even the best of professionals. For resource managers, field scientists, and citizen scientists, it might require

obtaining and carrying multiple identification keys, with each having some species and not others. To remove this barrier to early detection, NEANS created a dynamic, online guide which allows users to select parameters such as freshwater or marine habitats and creates a customized, printable guide to take into the field or use for training purposes. The guide is produced in a simple, PDF file that can be printed, emailed, posted to a website, or distributed to networks. Printing on water-resistant paper has shown to create an especially effective tool.

- MAP: in 2009 MAP hosted an integrated program of prevention through vector management aimed at closing the doors as tightly as possible to harmful ANS and offering the best prospects against preventing potential new invasions. The workshop brought together distinguished scientists and policy leaders from across the country to discuss the research, management, education and public engagement challenges – and opportunities – for developing an action-based vector management framework to prevent new exotic species introductions. Based on formal presentation, summaries and discussions of current knowledge about these vectors and pathways – together with related matters on regulations, education, and public engagement – workshop participants identified significant knowledge gaps and actions required to support a vector management approach to prevent new bioinvasions.
- GSARP: Nonindigenous apple snails is widespread throughout the Southern U.S., yet no method currently exists for eradication. Aquarium dumping is a primary pathway for introduction, accordingly new snail introductions could be greatly reduced if aquarium snails were made available as a sterile product, unable to reproduce if introduced into the wild. GSARP investigated approaches to generate sterile snails in high yields.
- MRBP: The MRBP partnered with NOAA and John A. Community College to provide HACCP training and Train-the-Trainer training for MRBP members. John A. Community College provided free meeting space and a NOAA instructor traveled to the Mississippi River Basin to make the training accessible to MRBP members.

States

- UT: 2008-2013 – Interdicted and/or inspected over 1.6 million boats on launch ramps prior to launching to interview boaters, ensure boats were not carrying AIS, and educate regarding AIS issues
- UT 2013: Added statutory authority to conduct roadside inspection stations; Initiated mandatory inspection at the I-15 South Port-of-Entry to stop boats entering the state from the Lower Colorado River drainage
- IL: Develop and distribute approximately 100 boat landing signs with steps that recreational water users can take to reduce the risk of transporting zebra mussels and other AIS among Illinois' waterways.
- LA 2012: Regulation passed to prohibit the live possession of Apple snails and Rio Grande Cichlids and prohibited their commercial sale.
- WY: Legislation – In 2010, the Wyoming State Legislature passed the Wyoming Aquatic Invasive Species (AIS) Act which established the state's AIS program. The act allowed for inspections and decontamination of watercraft, one permanent position to coordinate the program, an initial \$1.5 million appropriation, and a boater fee to partially fund the program. From 2010 when the program began, through 2012, the program conducted over 123,333 watercraft inspections in 49,764 unique boater contacts. In 2012, the AIS law was amended to establish mandatory inspection for all watercraft entering Wyoming from March through November each year

- NE: In April 2012, new state legislation passed prohibiting the possession/transport of aquatic invasive species in Nebraska. The new legislation plays a critical role in decreasing the risk of aquatic invasive species introduction and spread in Nebraska. Following legislation, regulations were developed within the fisheries division of Nebraska Game and Parks Commission to implement the new legislation, which included an official list of Aquatic Invasive Species. A public hearing was held at the August Commissioners' meeting and the regulations were approved – to be enacted started January 1, 2013.
- MT: Montana runs a veliger detection laboratory which processes samples for all of the states in the Missouri River Basin.
- WI: Steps have been taken to identify the sources of wholesale and retail bait in Wisconsin. The project person has visited with the wholesale bait suppliers to determine which species are being imported into Wisconsin. Part of the analysis includes evaluating whether or not AIS are being unintentionally transported along with bait shipments. This effort has also included identifying the bait importers and harvesters and meeting regularly with the bait dealers association. Also, specific protocols will be developed for bait collection, screening, disposal of AIS and reporting requirements.
- MI: Volunteer Aquatic Invasive Species (AIS) Watercraft Inspection and Education Program in the summer of 2007 to promote water resource stewardship on a community level, by actively involving individuals in preventing the spread of harmful AIS that threaten Michigan's waters. The goal of the Volunteer AIS Watercraft Inspection and Education Program is to increase public understanding of AIS, reduce the risk posed to lakes through introduction of AIS from boats, and promote environmental stewardship of Michigan's aquatic ecosystems.
- IO: Purchased and distributed equipment to fisheries management stations with known ANS infestations within their districts. The equipment provided a second complete set of sampling gear for the stations so one set could be cleaned and dried completely before being used in another waterbody and to aid in cleaning boats and equipment to prevent the spread of ANS during daily operations.
- ND: Conducted a status and biological impacts review of ANS in ND. This review found that only 5 documented species of ANS common carp, curly leaf pondweed, Eurasian watermilfoil, silver carp and zebra mussel. And of these 5 ANS, common carp and curly leaf pondweed has developed self-reproducing and established populations. This comparative paucity of ANS in ND is thought due to fairly strict bait fish and other ANS regulations and a focus on mandatory inspections for ANS of all fishing tournament boats and all commercial equipment coming into ND that will be used in or on ND waters.
- WA: Development and support for proposed new comprehensive 2014 state aquatic invasive species legislation designed to eliminate loopholes, increase management authorities, and promote consistency with other state authorities to create a broad and proactive management capacity.

EARLY DETECTION AND RAPID RESPONSE

Despite the best preventive efforts, new ANS are certain to be introduced into waters of the United States. When a new species is introduced, the best strategy is early detection and rapid response (EDRR). This includes monitoring habitats to discover new species soon after introduction, reporting sightings of previously unknown species in an area, and working quickly to keep the species from becoming established and spreading. EDRR increases the likelihood that localized ANS populations will be found, contained, and eradicated before they become widely established. EDRR can slow range expansion of ANS, and avoid the need for costly long-term control efforts.

Federal Members

- NPS: Quagga mussels were identified in Lake Mead NRA in early 2007. Upon identification, the NPS established an incident team and developed a quagga/zebra mussel infestation prevention and response planning guide. Lake Mead NRA also implemented containment procedures by developing a boat washing and public education program that has widely increased the understanding of invasive mussel management. These projects demonstrated rapid response planning in the midst of an invasive species outbreak; however they also demonstrated the large funding requirements necessary to implement widespread plans for control. To date funding at this scale has not been possible and the challenges of establishing multi-interest management with limited staff, funds, and regulations are still being assessed.
- USACE: The Corps Invasive Species Leadership Team has been developing approaches to incorporate our Districts and Divisions in early detection and rapid response plans. USACE recreational facilities have activities in place to make visitors aware of the aquatic invasive species problems.
- USFS: The Region 1 of the USFS participated in a Montana invasive species summit which explored use of the Incident Command System for rapid response to combat AIS outbreaks. At the Forest level, Gallatin NF helped fund Montana Fish Wildlife and Parks (MFWP) surveys for New Zealand mudsnails and other AIS. Region 5 will participate in an AIS Rapid Response drill to be held at Lake Tahoe, which will use the Incident Command System and will involve multiple federal, state, and local agencies. The Lake Tahoe Basin Interagency *Dreissenid* Mussel Rapid Response Plan is the basis for this exercise.

Ex-Officio Members

Regional Panels

- WRP: The WRP will continue regional communication to address marine debris as a risk to species introduction within the Pacific region.
- WRP: The WRP will continue to facilitate the conversation regarding sampling and monitoring standards among states and partner entities as part of the Building Consensus effort. A broader, coordinated, national effort is needed that involves eDNA laboratories working on zebra or quagga mussels in the western US with those working on Asian carp and other eDNA procedures throughout the nation.
- MRBP: Thousands of aquatic plants and animals are imported to the U.S. and individual states each year. Each of these species has a different risk of becoming established and invasive if released into the environment. Resource managers need a rapid risk screening process to evaluate these risks and determine which species warrant a full risk assessment prior to being

imported. The development of a model Rapid Risk Screening Process for state natural resource management was developed and refined by the MRBP. The project resulted in a Rapid Risk Screening Process that natural resource management agencies can use to identify species that warrant full risk assessment. The process allows for low risk organisms in trade to not be unnecessarily held up for a full risk assessment and protects native ecosystems by identifying the highest priority species in trade that warrant further risk assessment.

- MRBP: The MRBP developed the model rapid response plan to assist state natural resources management agencies effectively plan and quickly implement rapid response actions. In addition to providing information on rapid response planning, the model plan includes a template that can be used by states in developing their own rapid response plans. The project resulted in increased preparedness by state and federal government agencies to implement coordinated rapid response actions necessary to address ANS introductions in the Mississippi River Basin.
- NEANS: NEANS member agencies are involved in a variety of efforts to mobilize citizens and experts for early detection of invasive plants and animals in freshwater and marine systems before they become entrenched and spoil fishing wharves, boat launch areas, harvests and catches, and the aesthetics that are so important to tourism economies. The panel has also supported the citizen science program, Marine Invader Monitoring and Information Collaborative (MIMIC); rapid assessment surveys to monitor marine areas, and partnered with Sea Grant for early detection of Mitten Crabs in the Northeast
- MAP: MAP Funded an interagency workshop addressed policies, staffing, coordination, and communication, improving AIS rapid response planning.

States

- ND: Eurasian watermilfoil in Dead Colt Creek Reservoir was addressed through a combination of aquatic herbicide applications and 10+ feet annual late fall drawdown of the water level for three consecutive years to expose the EWM to freezing. After these three years of treatment, no EWM has subsequently been found during four years of follow up sampling.
- OR: In 2008, developed an Aquatic Invasive Species Early Detection and Rapid Response protocol for their summer Aquatic and Riparian Effectiveness Monitoring Program field personnel who now do early detection for more than 20 nonnative species of concern to the PNW.
- MI: Michigan established an Angler Monitoring Network using funds from the Great Lakes National Program Office of U.S. EPA in 2003-2004. This network provides the opportunity for the 1.3 million licensed anglers in Michigan to obtain information on aquatic invasive species and to report any new species they may find to the Operations Service Centers of the Department of Natural Resources. This network will continue to be operated in 2006-2007 by staff of the Office of the Great Lakes and the Department of Natural Resources with funds from the U.S. Fish and Wildlife Service.
- OR: Rapid response exercise held at Prineville Reservoir, Prineville Reservoir, the highest risk water-body in the state for AIS to test the draft Oregon Dreissena Rapid Response Plan. The exercise was well attended by a variety of local and regional partners and the ISC dominated exercise informed a number of improvements that were made to the plan which was debuted at the October 2013 Columbia River Basin 100th Meridian Team Meeting.
- LT: The Lake Tahoe Aquatic Invasive Species Coordination Committee has partnered with the League to Save Lake Tahoe, a non-profit environmental group, to begin a volunteer AIS monitoring program. The program is a volunteer snorkeling, diving, paddling and boating monitoring program to survey and report locations of aquatic invasive weeds at Lake Tahoe. As the program matures,

it could also include invasive animals. The first monitoring group was trained last quarter. The program is called “Eyes on the Lake”.

- LT: A rapid response exercise has been in the planning stages for Wildhorse Reservoir in northeast Nevada, sponsored by the 100th Meridian Initiative Columbia River Basin Team that would evaluate the Columbia River Basin Interagency Invasive Species Rapid Response Plan (CRB Plan). This would be the fourth exercise of the CRB Plan.

DRAFT

CONTROL AND MANAGEMENT

Once ANS are established, under most conditions complete eradication is usually not feasible. A more realistic approach for established populations is using control measures to slow the rate of range expansion and lessen the impacts to public interests. Management objectives may include eradication within an area, suppressing a population, limiting spread, and reducing impacts. Control measures may include mechanical, chemical, biological, and integrated pest management strategies. Adequate funding, public awareness, and management expertise are critical to success, particularly because ANS can span geographic and jurisdictional boundaries and do not recognize political boundaries or agency jurisdictions. Accordingly, ANSTF encourages an ecosystem-level approach to managing ANS.

Federal Members

- USACE: The Corps of Engineers is conducting control and management operations of aquatic invasive species on its diverse portfolio of water resource facilities in all 50 states. These operations are conducted in collaboration with many ANSTF members, other federal agencies and state organizations.
- USACE: The Corps of Engineers is conducting or participating in ten large scale ecosystem restoration activities throughout the United States. Each of these restoration activities involve ANS issues including management of aquatic weeds, Chinese mitten crab, quagga and zebra mussels, nutria, pythons, and exotic fish species.

Ex-Officio Members

- AFWA: In 2012 AFWA hosted a workshop on the needs of state agencies regarding Asian carp management nationwide. An action plan was developed to guide AFWA committees and state agencies on specific steps that can be taken to help implement the national Asian carp management and control plan. AFWA also proposed to develop a business model for commercialization of Asian carp as a management strategy.
- MICRA: MICRA continues to evaluate grass carp production, triploid certification, shipping, stocking, and related regulations to identify sources and pathways as well as the annual production, stocking, and shipment of diploid grass carp. . Information provided through this analysis will provide the USFWS and states with an understanding of the extent and magnitude of legal diploid and triploid grass carp sales, shipping, and stockings in the United States. The information will also assist the USFWS and states to implement recommendations and strategies identified in the 'Management and Control Plan for Bighead, Black, Grass, and Silver Carps in the United States' to reduce the risk of establishment of self-sustaining populations of grass carp in new waters of the United States.
- MICRA: Many states in the Mississippi River Basin have abundant populations of Asian carp that are impacting native fish populations. Many management agencies have determined that increased commercial harvest may be one of the few means available to provide an immediate benefit. MICRA hosted a workshop and webinar to provide a forum for natural resource managers in the Mississippi River Basin to have an in-depth discussion on the potential for commercial harvest to be an effective tool to reduce Asian carp populations. Participants identified several issues related to the commercial harvest of Asian carp that they requested MICRA take a lead role in coordinating basin-wide resolution

Regional Panels

States

- IN, 2008: Coordinate surveys at Griffy Lake to determine if Brazilian elodea is eradicated or if further treatments are necessary. In three surveys in the 2008 growing season, no Brazilian elodea was detected. Coordinate Lake Manitou hydrilla eradication project. Hydrilla tuber population continues to decline and now only approximately 6% of the original tuber population remains. In 2009, Plans were developed and implemented for aggressive control of parrot feather at Meserve Lake. Entire littoral zone was treated with granular 2,4-D and entire shoreline sprayed with liquid 2,4-D or Renovate in late spring. Additional small spot treatments of some remaining shoreline plants took place through the summer and fall. All deep-water plants appear to have been eliminated although some small colonies in springs/seeps have proven more difficult to eliminate. Additional action will be taken in 2010 in an effort to continue toward the goal of eradication.
- WI 2007: GLIFWC crews treated 128 of the smaller loosestrife sites with herbicides, only two of these sites exceeded ½ acre. Biological controls have become established at the larger sites (over 1 acre). Several thousand *Galerucella* beetles were collected and distributed to partners to initiate new biological control efforts.
- GA 2013: Since the implementation of the full time flathead management program in 2007, more than 70,162 pounds of flathead catfish (30,816 fish) have been removed from the Satilla River in 7 years.
- MT: New legislation in 2013 designated the entire state a management area to prevent new invasive species. This rulemaking includes funding for control and eradication and consolidated authority for all aquatic invasive species with Montana Fish Wildlife and Parks.
- LT: Emerald Bay is a part of the California State Parks System and one of a few underwater state parks in the state. The effort to remove invasive weeds in Emerald Bay was led by the Tahoe Resource Conservation District (TRCD) and utilized bottom barriers placed over the plants and diver assisted suction removal. The TRCD weed removal contractor removed weeds using diver assisted suction where the diver pulls the weed and using a hose from a floating suction unit, brings the weeds to a surface separator and into a bin for disposal at a composting company. Weed removal work was conducted in Emerald Bay at Parson's Rock and Vikingsholm during FY 2013. Both areas continue to be weed free. Keeping Emerald Bay free of weeds requires annual maintenance as weed fragments continue to be dispersed in the Bay by watercraft carrying the weed material from other infestations in the Lake and into the Bay.
- LT: The Warm Water Fish Working Group has met regularly for planning and implementation of the project, which began in June, 2011 with a warm water/non-native fish removal blitz using electro-shock boats. In 2013, warm-water fish control continued at the Tahoe Keys with electro-fishing spearheaded by the California Department of Fish and Game and the University of Nevada Reno. The total effort this year consisted of 15,951 fish removed between April and September that brought the total for this phase of the project to 38,141 invasive warm water fish removed.

RESEARCH

Information and research is needed to quantify and clarify the effects that ANS are having on native species and habitat as well as to socio-economics and human health. Although much research has been conducted for some ANS, there are many species for which little is known. Increased knowledge of the biology, potential impacts, associated control methods, and interaction with climate change and other major drivers of change will allow for the most effective management of ANS. Research is necessary to increase the effectiveness of prevention, detection, response, and control and management of invasive species.

Federal Members

- USACE: USACE conducts ANS research through two direct-funded R&D programs: the Aquatic Nuisance Species Research Program (ANSRP) and the Aquatic Plant Control Research Program (APCRP). The ANSRP addresses all ANS that are problematic to our nations' waterways, infrastructure and associated resources. The ANSRP investigates innovative technologies regarding risk assessment, prevention, species biology, and environmentally sound options to manage ANS that cause problems on Corps facilities. The APCRP is the nation's only federally authorized research program directed to develop technologies for the management of invasive aquatic plant species. The program provides effective, economical, and environmentally compatible methods for assessing and managing problem aquatic vegetation that interfere with the valued uses of waterways in the United States. Research projects funded under the APCRP investigate biological control agents, chemical control strategies, biology and ecology of invasive aquatic plant species, and integrated weed management methods. As an example, new aquatic herbicides and use patterns developed under the APCRP have reduced chemical application rates by nearly 40%.
- USACE: The Corps of Engineers has two research programs focused on invasive aquatic species. The Aquatic Plant Control Research Program which conducts research on invasive plant species and the Aquatic Nuisance Species Research Program that focuses on invasive aquatic animals.
- NPS: The NPS worked with researchers and private companies to develop ballast water treatment technologies that could be installed on vessels for ongoing invasive management as well as emergency response technology and operations that could be implemented in the event of vessel groundings. New treatment instrumentation was installed on the NPS vessel, Ranger III, at Isle Royale NP, which ferries passengers through Lake Superior. The NPS has shared these technologies with national and international vessel operators as well as promoted the technology through regulatory agencies.
- NPS: Through partnerships, the NPS has encouraged development of new technologies, demonstrated effectiveness of these technologies, and encouraged their adoption. The NPS continues to work with researchers and private companies to develop ballast water treatment technologies that could be installed on vessels for ongoing invasive management as well as emergency response technology and operations that could be implemented in the event of vessel groundings.

Ex-Officio Members

- CORA: The Inter-Tribal Fisheries and Assessment Program is assisting CORA in a study to see if specially modified nets can macrophtye fouling of nets and avoid unwanted lake trout by-catches. The study will help tribal commercial fishers in the 1836 treaty area avoid fouling of nets by macrophtyes and Dreissenid mussels and aid in the rehabilitation of native lake trout. The study

has successfully developed tools to meet its goals. CORA will continue to help tribal commercial fishers adopt and use the new system and explore opportunities to transfer the methods to help fisheries research and other commercial fisheries

- NASAC: The Florida Department of Agriculture and Consumer Services in conjunction with NASAC conducted a survey of the Atlantic Coastal States to summarize and compare their laws, policies and programs as they pertained to the use of sovereign submerged lands for shellfish culture. All of these states prohibit the culture of non-native shellfish in state marine waters. The project produced an analysis that has been shared with the Atlantic States, National Oceanic and Atmospheric Administration's Aquaculture Program and to shellfish producers via the East Coast Shellfish Growers Association.

Regional Panels

- WRP: The WRP completed the projects gain a better understanding of the thermal tolerances, physiological condition, and population genetics of Dreissenid mussels to assist in ANS management in waters of the Western U.S. The panel also completed a risk assessment of recreational boating traffic to more effectively manage this pathway.
- WRP: The WRP will continue to provide feedback on the research and development of technologies to minimize the risk of recreational boat ballast water.
- MRBP: The Minnesota DNR and Minnesota Sea Grant designed an ANS survey to gauge how much Minnesota boaters know about ANS and to determine where they get their information. The purpose of the survey was to use the results to direct future public information campaigns for greatest effectiveness. Repeated over time, the survey would provide a means to evaluate education and outreach program success. The MRBP used the Minnesota survey as a common template for boater surveys throughout the Basin. The results of the surveys are used by the MRBP Outreach and Education Committee to develop regional recommendations, priorities, and projects. The information benefited the individual states that conducted surveys and provided a baseline for making future evaluations of outreach product and program effectiveness.
- NEANS: When Hydrilla, a particularly menacing plant to native communities, was found in isolated areas of the Northeast region, a concerted effort was made to learn everything about it so that resource managers could prepare and respond. NEANS solicited qualifications from researchers to draft a white paper and developed a Hydrilla Watch Card. Without these regional models of early detection, rapid response, and integrated spread prevention using a broad range of approaches, there will be duplication of effort or the lack of effort
- MAP: MAP devotes most of its federal funding to toward an RFP project to help direct funding to AIS issues in the Mid Atlantic states. MAP conducted an annual grants competition from 2007 – 2012. During that time, MAP funded 28 projects totaling \$247,684. That funding brought an additional \$511,445 in matching funds to support AIS work. Projects ranged from research to early detection to control to outreach and education. MAP is in the middle of its grant process for 2014 and will fund up to \$35,000 in projects with this funding over the next two years.
- GSARP: There is a need for species specific tools that can be used to eradicate invasive fish populations without adversely affecting the native species. GSARP conducted a study of a "Trojan YY fish" consisting of a sex-reversed fish containing two Y chromosomes can be introduced into a normal fish population. These YY fish result in the production of a disproportionate number of male fish in the population in subsequent generations. Mathematical modeling of the system

following introduction at a constant and small rate of the YY fish reveals that female fish decline in numbers over time, leading to eventual extinction

States

- LT: 2012 survey work led to the creation of a GIS calibrated map showing the locations of non-native plants keyed to global positioning system (GPS) information. In addition to determining the presence or absence of non-native plants, the 2012 survey results were analyzed in terms of density of plant material. This “density analysis” will be useful when planning control work so that sites heavily infested are selected and so that suitable quantities of resources are deployed
- LT: The Tahoe Keys is a housing development constructed in the 1960's including dredged lagoons and waterways. These water bodies have become clogged with invasive weeds and invasive fish are now prevalent throughout the development. The Tahoe Keys area is considered a major source of invasive weeds and fish to the rest of Lake Tahoe. A working group has built cooperative relationships among the partners resulting in significant progress towards reducing and controlling invasives in the Tahoe Keys. The overall Tahoe Keys Project entails a three-year study in the Tahoe Keys lagoons, The project objectives are to evaluate the effectiveness and feasibility of available plant control methods: mechanical removal, application of synthetic and natural bottom barriers and focused application of herbicides. In addition, the Project requires significant oversight and management to coordinate activities and outreach efforts to inform or notify affected property owners. This project moved into the monitoring phase during the fall of 2012 and monitoring continued during FY 2013.
- IL: Field evaluation of Zequanox™ as a biocontrol agent for zebra and quagga mussels in Illinois waters and potential effects on non-target species. Conduct small-scale field trials to assess the efficacy of Zequanox™ for controlling zebra and quagga mussel infestations in Illinois waters.
- MO: Four thousand thirty-eight (4,038) completed surveys were returned from the 10,000 registered boaters that were mailed a 24-question survey to determine their knowledge and habits related to ANS. The information gained from this survey will assist in shaping future outreach efforts and messaging.
- CA: Planning, logistics and agenda development for a forum, hosted by California Department of Fish and Wildlife (CDFW) Invasive Species Program, with researchers to discuss recent work characterizing the risk from marine invasive species vectors, how this research can inform State management activities, and to explore the possibility of applying methodologies to freshwater invasive species vectors and ecosystems
- HI: Current focus has been on Hawaii’s efforts to manage the risk of bio fouling introductions and spread. To date this work has been focused on data collection from both commercial and non-commercial vessels and increase network development to support future policy development.

EDUCATION AND OUTREACH

The lack of awareness concerning ANS impacts is one of the largest management obstacles. Few people understand the threat some nonindigenous species pose and how their actions might introduce them. Many ANS have been introduced through the actions of uninformed people; for example, disposing of bait, launching a boat, or stocking a private pond can each lead to the introduction of ANS if precautions are not taken. Robust public awareness and action programs will help the public understand the impacts associated with invasive species so they can be partners in solving the problems. More importantly, people need to know what they can do to help prevent the introduction and spread of ANS in waters of the United States.

Further, the importation of organisms through trade has allowed species to spread by the receipt of unwanted organisms that hitchhike with the intentionally imported ones. Many policy makers, natural resource administrators, and private interest groups have facilitated the intentional introductions of species for certain economic or recreational purposes without understanding the effects these species may have on native species. These intentional and unintentional methods of introduction can be eliminated or curtailed by educating people about their potential to transfer ANS into new habitats.

Federal Members

- USACE: In 2011 hydrilla a problematic aquatic weed, was discovered in Lake Cayuga, Inlet, NY. An interagency eradication program was developed and implemented later that year; however to prepare for possible spread into nearby waterbodies, USACE held a symposium to acquaint resource managers with information on hydrilla biology, ecology, and management, discuss trends and potential impacts of the aquatic weed, and identify and prioritize research and management needs.
- USACE: Recently the Corps of Engineers initiated a webinar series that educates individuals on invasive species problems, control and management technologies and ongoing research. Topics included: Low Cost Mapping of Submerged Vegetation, Grass Carp Research Update for Invasive Aquatic Plant Management, Invasive Species and Foot Traffic - Distribution and Prevention in Recreation and Military Installation Settings, Biocontrol for Invasive Species, and Selecting the Right Aquatic Herbicide
- NPS: Parks provide on-site information regarding invasive species and associated control actions. In addition to park based signage, visitor interpretation programs, and interdiction efforts, the NPS provides web based updates and other materials to inform the public of ANS impacts and management.

Ex-Officio Members

- AFWA: The AFWA Invasive Species committee is preparing a compilation report on state invasive species legislation and regulations. The report will provide an outline of laws and regulations broken down by terrestrial and aquatic animal, plant, and other invasive organism by state. States looking to introduce invasive species legislation or change existing regulations can look at trends in neighboring states and other states around the U.S. to guide their decisions. Legislation and regulations change continually, and this living document will need to be updated annually.
- MICRA: U.S. Representatives Mike Kelly (R-PA-3) and Betty McCollum (D-MN-4) sponsored an "Asian Carp Awareness Symposium" hosted by MICRA in the U.S. Capitol Visitor's Center during National Invasive Species Awareness Week and Great Lakes Days. Speakers from MICRA discussed the extent and magnitude of the Asian carp invasion. The symposium brought needed attention to

AIS, the ANSTF, the extent and magnitude of the Asian carp problem in the Mississippi River Basin, and the need to implement the national Management and Control Plan for Bighead, Black, Grass and Silver Carps in the U.S.

- NCSAC: The North Central Regional Aquaculture Center (NCRAC) supplied funding to develop educational materials, biosecurity plans and hold six workshops to address concerns of fish farmers that the exotic disease pathogen Viral Hemorrhagic Septicemia (VHS) and ANS such as zebra mussels, rusty crayfish and Asian Carp could be a threat to their operations. NASAC's goals were to assist and network with NCRAC and the collaborative agencies to develop Best Management Practices (BMP's), and Biosecurity Plans for three culture methods utilized in the North Central region: pond culture, raceways and RAS. The principals developed worked for both private and public aquaculture facilities and were beneficial to the entire industry. To date, the exotic disease pathogen Viral Hemorrhagic Septicemia (VHS) has not been found or transferred to any fish farm in the United States.
- NASAC: Through their network of Aquaculture Coordinators and collaboration with other aquaculture organizations NASAC's goal is to enhance awareness about ANS and their harmful effects. NASAC is exploring the possibility of a partnership between Wildlife Forever and stakeholders who are supplying fish and bait for the sport fishing industry through signage, brochures and posters on delivery trucks and in bait shops. Wildlife Forever is the organization contracted to market the national public awareness campaign designed by the U.S. Fish and Wildlife Service on behalf of the ANSTF. The campaign simplifies the aquatic invasive species issue, makes it relevant to aquatic recreational users and helps them become part of the solution in preventing the spread of ANS.

Regional Panels

- WRP: The WRP updated and published the "Threats to the West" brochure and distributed among all WRP regional partners and other interested individuals and groups. The panel also completed a pilot project to explore outreach to boaters on permitted rivers conducted by Invasive Species Action Network.
- WRP: The WRP plans to discuss better use of current education tools and possibly develop a regional strategy for the WRP
- MRBP: The MRBP hosted an international symposium on invasive Asian carp in North America in August 2006. Following the symposium, MRBP worked with the American Fisheries Society and other partners to publish the Invasive Asian Carps in North America. The publication is in part a proceedings of the August 2006 symposium, however several chapters were updated and added between the symposium and the publication of the book. The book provides researchers and resource managers with a comprehensive resource with the most current information available on all four species of Asian carp in North America.
- NEANS: NEANS worked with its members to determine priority species and produce a variety of educational products to help them self-identify as possible freshwater and marine vectors and provide them with species identification materials, which include how to report and resources for further information. These products, all with Protect Your Waters and Stop Aquatic Hitchhikers branding, included Hydrilla Watch Cards, Asian Clam Watch Cards, and floating key chains
- NEANS / MRBP: *Didymo (Didymosphenia geminata)* is freshwater diatom (a type of alga) that is spreading to river systems across the United States and around the world. There has been a considerable amount of new research that improves our knowledge of the biology, control,

outreach and impacts of Didymo. In response, the Invasive Species Action Network, NEANS, and MRBP hosted an International Didymo Conference. The conference successfully brought together natural resource managers, researchers, conservationists, fishing clubs and others with an interest in learning more about didymo. This conference brought together leading scientists, managers and anglers to share their experiences. Information shared at the conference will be captured in a "Proceedings" publication with the peer-reviewed journal Diatom Research.

- MAP: MAP funded a Pennsylvania Sea Grant project to produce the "Aquatic Invasive Species Field Guide for Pennsylvania." Printed on waterproof paper, this handbook is a useful tool for professional and amateur naturalist to use to identify non-indigenous organisms. It is a consistent and clear resource for identifying, collecting, and reporting on AIS in PA.
- GSARP: GSARP created an invasive species traveling trunk, a self-contained outreach and educational tool that can be used to educate a wide variety of people about the impacts associated with invasive species and the steps they can take to stop new introductions and the spread of existing populations. Currently the GSARP has 3 traveling trunks of hands-on invasive species examples that are available for use by the public at no cost. Each trunk includes an annotated outline of talking points for presentation to secondary school students and the general public. Each trunk covers eleven different invasive species making them more holistic of the full problem of invasive species in the southeast.

States

- OR: ANS Plan funds contributed to the Oregon Invasive Species Council Invasive Species Awareness Campaign. Campaign products included a statewide assessment of invasive species management; "The Silent Invasion" an award winning documentary produced by Oregon Public Broadcasting; telephone and web-based resources for reporting invasive species; and much more.
- MI: The Office of the Great Lakes planned to host its annual AIS Awareness Week June 13-21, 2009. This implementation of an information and education effort in Michigan to focus attention on AIS prevention and control is an important recommendation in the state management plan and encompasses a number of actions. The purpose is to educate various groups on the importance of prevention and control for aquatic nuisance species in Michigan waters. The target audiences are boaters, anglers, legislators, local government officials. Activities include, among other things, distribution of AIS educational materials, demonstrations on AIS prevention throughout the state
- WY: A new "Don't Let it Loose" campaign was launched to educate pet owners on the dangers of letting pets loose into the wild. A Don't Let it Loose brochure was produced and distributed to all 4th grade students in Wyoming. Additional brochures were distributed to regional offices, and will be distributed to additional venues in 2014.
- LT: During FY 2013, the Tahoe AIS Program continued the implementation of the "Tahoe Keepers". This is the primary effort to reach, inspect and educate operators of non-motorized watercraft. This online based stewardship program has registered 1,557 members, representing 2,702 individual watercrafts. This has resulted in education on clean drain and dry practices and prevention of AIS transfer to this important user group.
- MO: Trained Coast Guard Auxiliary flotilla members to conduct 100th Meridian Surveys and Inspections on Missouri Reservoirs and provided supplies for conducting the inspections. The 100th Meridian Surveys and Inspection are primarily to educate boats owners on how to inspect and clean their boats to prevent spreading aquatic invasive species to new areas

- MO: Radio ad “Help Stop Aquatic Hitchhikers”: The thirty second radio ad was played on the Missouri Net several times per day throughout the eight days prior to Memorial Day. These types of media broadcasts help to educate the public and help them understand what they can do to prevent spreading AIS at the beginning of the recreational season
- MI: Michigan is moving forward with collaborative ANS public service announcement video with Wisconsin and Minnesota Departments of Natural Resources that unites three of the Great Lakes greatest stakeholder states. Messaging in the PSA focuses on preventing and limiting the spread of AIS, including zebra and quagga mussels. A second effort includes the purchase and use of a mobile boat wash station to demonstrate how boats and equipment can be inspected and cleaned to prevent the unintended transport and spread of AIS. The boat wash will serve as a prominent outreach and education tool to communicate important messages about AIS prevention and management to a wide audience at a variety of events and locations throughout the state.

DRAFT

COORDINATION

*** Coordination will not be a separate section; instead separate activities will be highlighted as “sidebar” stories.*

Federal Members

- USACE: The Invasive Species Leadership Team (ISLT) was established by a CECW-CO Memorandum dated 13 July 2005 to provide oversight of the USACE Invasive Species Program. The ISLT provides direction to achieve goals and objectives that complement the National Invasive Species Management Plan (NISMP) and that are applicable to Corps Civil Works programs and projects. The team continues to provide strategic direction on research programs, develop and implement cost effective strategies to address ANS, develop policies to ensure compliance with EO 13112, and coordinates invasive species issues within the MSC.
- USACE: USACE has developed an Invasive Species Leadership Team that coordinates and collaborates with ANSTF members, regional invasive species councils, other federal and state agencies and non-federal sponsors. The Team also develops and implements cost effective strategies to address invasive species problems that affect USACE water resource management missions, coordinates team initiatives with the Environmental (and other relevant) Communities of Practice and Major Subordinate Commands, and provides annual cost information for USACE to be provided to the National Invasive Species Council
- NPS: The NPS worked with federal and state partners in 2012 to identify regulations that are being utilized or could be used to manage for ANS movement. These efforts helped identify gaps and capacity for agencies to work together to improve ANS management effectiveness
- NPS: The NPS is working with DOI agencies and the National Invasive Species Council to improve collaboration and establish a national invasive species management plan that will include support of the mission of the ANSTF.
- USFS: In 2011, the USFS released new national policy (Forest Service Manual 2900) for Invasive Species Management (including vertebrates, invertebrates, plants, and pathogens) across aquatic and terrestrial areas of the National Forest System. This policy adds new requirements for agency-wide integration of invasive species prevention, early detection and rapid response, control, restoration, and collaborative activities across all National Forest System lands. Additional policy direction, in the form of a new Forest Service Handbook, tiered from FSM 2900, is under development and will provide specific operational requirements, standards, criteria, and guidance for invasive species management operations. This draft Handbook is currently being reviewed by the Invasive Species Advisory Committee and will undergo public comment and tribal consultation before it is finalized and issued. The Handbook release is targeted for summer 2015.

Ex-Officio Members

- AFWA: State, provincial, and territorial agencies have broad responsibilities for the management of fish, wildlife, and habitat within their borders, and programs within these agencies are not always given the support needed for effective prevention, control, and management of invasive species. The lack of action in one state can lead to larger problems across multiple states and federal lands that may require legislative action to address. The AFWA Invasive Species Committee attempts to keep invasive species program and funding needs on the forefront of agency directors and staff through meetings, action items, and email communications. AFWA staff and committee

members also regularly attend congressional briefings and provide materials to Federal and tribal agency directors and staff to generate support for invasive species in agency priorities.

- AFWA: People moving watercraft from one state to another may be confused by different regulations, and states may not accept the decontamination conditions of another state. The AFWA Invasive Species Committee cooperated with the Western Regional Panel and the National Sea Grant Law Institute to develop draft model legislative provisions for the recreational watercraft pathway for state agencies to consider when developing rules and regulations. These provisions were adopted by AFWA at its 2014 spring business meeting. Similar rules and regulations will lead to greater cooperation and reciprocity among state agencies as they relate to recreational watercraft as a pathway for aquatic invasive species
- NASAC: Public and private aquaculture has a potential for becoming a pathway for invasive species, yet the myriad of different regulations and the complexity of multiple authorities may result in confusion and non-compliance. To alleviate the situation, USDA APHIS requested NASAC compile the list of animal health contact for each state. The Aquatic Animal Health Contact Project was a great success as it provided for the first time for both stakeholders and regulatory agencies a list of contacts in each state preventing miscommunication, accidental release of potential pathogens and minimizing harmful effects of ANS.

Regional Panels

- WRP: The need to create consistency and consensus on boat inspection and decontamination programs has been an identified need for several years. However, following the Co-learning Workshop in Phoenix 2012, the WRP actively collaborated with stakeholders to address this issue. The WRP's Building Consensus Committee has been actively addressing boat inspection and decontamination programs from all aspects including protocols, terminology, and legislation. Other aspects that will be explored in the near future include sampling protocol consistency.
- WRP: Tunicates (or sea squirts) are highly opportunistic, prolific spawners and are capable of rapid territorial expansions when introduced to regions outside of their native range. The WRP is in the planning stages of assembling an intensive day and a half workshop that will bring together coastal managers, scientific leaders and other pertinent regional stakeholders to develop a strategic management framework. The goals of the workshop are to: establish the known extent of existing tunicate populations in the region and determine the environmental and economic risks, previous and planned management and research efforts, identify future research and funding priorities, discuss the feasibility of eradicating existing populations, and decide on the need for a regional management plan
- MRBP: The MRBP holds coordination meetings for its members approximately every nine months. Joint meetings were organized with the Great Lakes and Gulf/South Atlantic regional panels in 2008 and 2012, respectively. The joint coordination meetings provide for an exchange of ideas, lessons learned, and success. The regional panels' committees met jointly in 2008 to identify common priorities and opportunities for joint projects. The meeting also resulted in joint recommendations to the ANSTF. In 2012, the panels had joint session to discuss vector management and outreach/education programs. The Gulf/South Atlantic and Mississippi River Basin regional panels also held a joint workshop on the Incident Command System in rapid response.
- NEANS: Providing professionals and citizen scientists with the best available information and tools greatly increases the likelihood that their efforts will be successful in preventing and eliminating

ANS, thus reducing the impact of invasives on our national and local economies. NEANS has provided its members with semi-annual meetings including training opportunities and academic presentations since its formation in 2001. These have included communication and media experts presentation and discussion panels, volunteer recruitment consultants, rapid response command model practitioners, experts to provide in-depth botanical and zoological information, field tours, and hands-on demonstrations of technologies.

- NEANS: NEANS has supported or led several regional planning efforts. For example the panel identified and documented state and local regulations relating to boat, bait, and human movement (as vectors of invasive species), resulting in a dynamic legislation matrix for use in researching existing laws and providing model language for new legislation in other states and neighboring regions. The panel also identified species at high risk for invasion in unaffected areas and their relative cost to ecosystems and economies .
- GSARP: With very limited resources available to agencies and organizations to address the problems associated with ANS across the Gulf and South Atlantic Region, Coordination and cooperation become vital. Historically the GSARP has meet on a biannual bases to help promote cooperation and coordination across all the agencies and organizations with an interest in controlling aquatic invasive species in the Gulf and South Atlantic Region. In order to enable participation at these meetings, the program has provided travel assistance to all its non-federal members which has resulted in attendance of >85% of these members at each meeting. For most of the members, these meetings are their only opportunity to interact and learn from one another from across the region. The ability to maintain this travel support and to cover the costs of the meetings themselves is being jeopardized by the level funding of the program for the last 15 years and by the 20% reduction in funding in 2013.

States

- OR: In 2007 Oregon hosted a Pacific Northwest Nutria workshop 2007 in Vancouver WA, to facilitate communication between regional organizations/agencies involved in nutria management, help define impacts, and set the agenda for future management and research.\
- HI: State management plan funding has afforded Hawaii the ability to partially fund an ANS coordinator. This position has been crucial to focusing attention to broad scale implementation of the state's 2003 ANS Management Plan. Having a full time ANS coordinator has enhanced the Hawaii's ability to carry out the objectives of the plan and to participate in and support appropriate state, regional, federal and international efforts addressing AIS.

STILL NEEDED:

Federal Members:

United States Fish and Wildlife Service

National Oceanic and Atmospheric Administration

Bureau of Land Management

Bureau of Reclamation

Department of State

Environmental Protection Agency

Unites States Maritime Administration

Unites States Coast Guard

United States Department of Agriculture, Animal and Plant Health Inspection Service

Unites States Geological Survey

Ex-officio Members

American Public Power Association

American Water Works Association

Chesapeake Bay Program

Great Lakes Commission

Gulf States Marine Fisheries Commission

Lake Champlain Basin Program

Great Lakes Indian Fish & Wildlife Commission still needed

San Francisco Estuary Project

Smithsonian Environmental Research Center

Regional Panels:

Great Lakes Regional Panel

ANS BUDGET:

- Cross-cut cut from NISC
- Panel funding (from 2007 – to present)
- State Plan funding (from 2007 – to present)

RECOMMENDATIONS:

- AFWA: Invasive species programs continue to be underfunded and underrepresented within most agencies. Strategies need to be developed to change that status or invasive species problems will continue to escalate across the country.
- WRP: The current legislation that guides the ANSTF and the Western Regional Panel, the Nonindigenous Aquatic Nuisance Prevention and Control Act (1990) reauthorized and amended by the National Invasive Species Action (1996) is due for reauthorization. This would improve the leverage of the Task Force and all of the Panels.
- WRP: The continued funding and coordination of The Quagga Zebra Action Plan is critical to quickly implement containment watercraft inspection and decontamination stations in response to new detections for the purpose of preventing the movement of contaminated watercraft from leaving infested waters.