



**Aquatic Nuisance Species  
Task Force  
Report to Congress**

**Fiscal Year 2004**

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## EXECUTIVE SUMMARY

Congress established the Aquatic Nuisance Species (ANS) Task Force with the passage of the Nonindigenous Aquatic Nuisance Prevention and Control Act in 1990 and reauthorized it with the passage of the National Invasive Species Act in 1996 (collectively, the Act). The Act charges the ANS Task Force with developing and implementing a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control and study such species; and to disseminate related information.

Section 1202(k)(2) of the Act requires the ANS Task Force to submit a report to Congress detailing progress in carrying out the provisions of the Act. This report highlights progress of the ANS Task Force in the development and implementation of a comprehensive program of waters for the United States to combat aquatic invasive species for the fiscal year 2004 (FY 2004). It is designed to introduce readers to the ANS Task Force and to report ANS Task Force accomplishments for FY 2004.

The report describes the statutory mandate and the structure of the ANS Task Force and progress made toward the goals of the ANS Program, as implemented through the *ANS Task Force Strategic Plan (2002–2007)*. It also reports on agency-specific activities prescribed in the Act. The report follows the general structure of the law and highlights collaborative activities developed as a result of the Act, including the International Convention for Control and Management of Ships' Ballast Water and Sediments, the Stop Aquatic Hitchhikers!<sup>TM</sup> public awareness campaign and the 100<sup>th</sup> Meridian Initiative.

Under the “Prevention of Unintentional Introductions of Nonindigenous Aquatic Species” section of the Act, the U.S. Coast Guard’s Ballast Water Management Program reported accomplishments related to penalties for non-submittal of ballast water reports; the Mandatory Ballast Water Management Program for U.S. Waters; New Ballast Water Management Equivalent Reporting Program; Shipboard Testing and Evaluation Program (STEP); International Maritime Organization (IMO); Environmental Technology Verification (ETV) Program; and ballast water system test facility. The Ballast Water Technology Demonstration Program (National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, and Maritime Administration) funded nine technology development and demonstration projects.

Under the “Prevention and Control of Aquatic Nuisance Species Dispersal” section of the Act, the ANS Task Force reports on accomplishments related to the adoption of national control and management plans for two aquatic invasive species; formation of a Mid-Atlantic Regional Panel; approval of state/interstate aquatic nuisance species management plans for Hawaii, Indiana and Wisconsin; establishment of the Research Committee and the Detection and Monitoring Committee; and formation of an ad hoc working group to refine the Strategic Plan to better define goals, objectives and performance measures.

The report provides detailed accomplishments for each of the ANS Task Force Committees and Regional Panels, as well as the progress made toward implementation of state/interstate aquatic nuisance species management plans.

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## INTRODUCTION

In 1990, Congress passed landmark legislation, the Nonindigenous Aquatic Nuisance Prevention and Control Act, to facilitate an effective governmental response to zebra mussel (*Dreissena polymorpha*) impacts on manufacturing and power generating processes in the Great Lakes' states. A key provision of this law was the creation of the national Aquatic Nuisance Species (ANS) Task Force. Six years later with the continued expansion of the aquatic invasive species (AIS) issue and their mounting impacts, Congress reauthorized the law and expanded its scope beyond ballast water introductions and zebra mussel control and management. It called on the ANS Task Force to work with its state and local government partners to address these challenges, take action, and produce tangible results. The success of the ANS Task Force in addressing these challenges is demonstrated through the stories featured in Spotlights on Collaboration scattered throughout this report and further established through the accomplishments and ongoing activities reported, herein for the fiscal year 2004 (FY 2004).

## PREVENTION OF UNINTENTIONAL INTRODUCTIONS OF NONINDIGENOUS AQUATIC SPECIES

### Ballast Water Management and Regulatory Program

Section 1101 of the Act provided authority to the Department in which the U.S. Coast Guard is operating to regulate and issue guidance for the management of ballast water as a vector for introduction of AIS. The U.S. Coast Guard's Ballast Water Management Program accomplished the following activities in FY 2004:

- **Penalties for Non-submittal of Ballast Water Reports**—On June 14, 2004, published regulations establishing penalties for vessels bound for the United States failing to submit a ballast water management reporting form, as well as vessels bound for the Great Lakes or portions of the Hudson River violating mandatory ballast water management requirements.
- **Mandatory Ballast Water Management Program for U.S. Waters**—On July 28, 2004, published regulations establishing a national mandatory ballast water management program for all vessels equipped with ballast water entering or operating within U.S. waters.
- **New Ballast Water Management Equivalent Reporting Program**—With the National Ballast Information Clearinghouse, launched the new Equivalent Reporting Program for vessels operating exclusively in the U.S. Exclusive Economic Zone. The program offered an alternative for an owner, operator, master, agent, person-in-charge or charterer of a vessel to submit required ballast water management reports in a single batch report on a monthly basis, instead of on a port-to-port, pre-arrival schedule as required under 33 CFR 151.204(b).
- **Shipboard Testing and Evaluation Program (STEP)**—The purpose of the STEP is to facilitate the development of effective ballast water treatment technologies through experimental systems, thus creating more options for vessel owners seeking alternatives to ballast water exchange. The STEP is available to all foreign and domestic vessels subject to the ballast water management regulations, 33 CFR 151 Parts C and D.
- **International Maritime Organization (IMO)**—Seven federal departments, led by the U.S. Coast Guard, actively participated in meetings of the IMO and its Marine Environment Protection Committee. In 2004, the IMO adopted the “International Convention for the Control and Management of Ships’ Ballast Water and Sediments.”
- **Environmental Technology Verification (ETV) Program**—Partnered with the U.S. Environmental Protection Agency’s (USEPA) ETV program to develop protocols for third-party verification of new ballast water management systems. Made progress on the ETV ballast water management system test protocols. These protocols included further development of a list of surrogate species for the standardized water (or challenge water) for land-based testing.
- **Ballast Water System Test Facility**—Partnered with the Naval Research Lab in constructing a ballast water system test facility in Key West, Florida. This facility will provide the country’s first testing platform to evaluate new ballast water treatment technologies in accordance with the testing protocols developed by the USEPA’s ETV program.

## **Spotlight On Collaboration: U.S. Government Collaborates to Birth a Convention**

As much negotiation and compromise occurred in the months leading to the Diplomatic Conference (Dipcon) on Ballast Water Management for Ships as during the week of February 9–13, 2004. Ballast water management had been on the Marine Environment Protection Committee agenda for 10 years and the committee had dedicated a working group to craft the language for a legal instrument. The Inter-Agency Working Group on Ballast Water was formed to include a mix of technical experts, those with policy responsibilities, and lawyers with various specialties. Representatives come from seven Departments: U.S. Coast Guard under the Department of Homeland Security, U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration under the Commerce Department, U.S. Marine Administration under the Department of Transportation, the Navy under the Department of Defense, and the Department of Justice.

Why such a diverse mix of talent to help in the establishment of the Convention? A unique collaborative team was needed largely because of the many challenges presented by the Ballast Water Convention. As a stand-alone legal instrument, significant attention was needed to ensure the Convention was consistent with other international laws and treaties. The Ballast Water Convention was also groundbreaking, as it specified a discharge concentration standard for the number of organisms allowable in ballast water. The standard was based on a goal of being biologically protective, environmentally sound and enforceable rather than on the capabilities of available technology. To get to this standard in the appropriate implementation schedule required contributions from all the resource agencies, particularly the USEPA's Office of Research and Development and the champions of the Ballast Water Technology Demonstration Program, and agencies dealing with shipping. Technical discussions with experts in invasion biology from the Smithsonian Environmental Research Center and technical workshops were held to gain input from other sectors. Ensuring the Convention resulted in actual protection of the marine environment was the focus of both the U.S. Coast Guard and Department of Justice who scrutinized the language of the sampling provisions and requirements for survey and certification. Every agency involved cut, crafted, and commented on over 30 papers with proposals and language to be considered at the Conference, including three lengthy submissions from the United States.

Of course, once the Dipcon convened, workings of the interagency group shifted significantly. What was once a group of individuals representing their agency's interest and jurisdiction became a team focused on advancing the position of the U.S. delegation. And what had been a multilateral debate between federal agencies became a multilateral debate among 74 countries and numerous interest groups representing every area from shipping to environmental protection.

In addition, proposals were no longer published in papers with months to consider their implications; they were proposed in "interventions," sometimes translated into English with only minutes to consider. There were only five seats near the head of the U.S. delegation, and as the Conference considered various issues, delegation members streamed through, feeding text and comments on areas with which they were most familiar. Smaller groups often worked past midnight, debating and refining text; the United States was always there. The working group became a team of professionals working with purpose and speed and looking out for each another's rest and coffee needs. And there was hope. At times, the Convention seemed doomed, and some doubted the Conference would conclude with an adopted instrument. After all, the last day was Friday the 13th. Yet the U.S. delegation persevered, pressing for the best possible outcome. While the adopted Convention may not fulfill everyone's dream of the perfect Ballast Water Management treaty, line upon line represent U.S. drafted text, principle and precept, issue and purpose. The Convention dramatically benefited from the dedication, expertise, and professionalism of the many federal agency stewards who participated in the process.

## Ecological Surveys

During FY 2004, a number of surveys were conducted in various parts of the United States.

- **Survey of Nonindigenous Aquatic Species in the Lower Columbia River**—During FY 2004, the final report for this project was delivered to the U.S. Fish and Wildlife Service (USFWS). The survey began in 2001, with the goal of characterizing biological invasions in the lower Columbia River as a baseline for evaluating effectiveness of subsequent ballast management programs. The report included a review of existing data from over 300 scientific papers and publications as well as sampling at 134 field locations from Bonneville Dam to the mouth of the Columbia River. The study found 81 species of fish, invertebrates, and aquatic plants have been introduced since the mid-1800s, including eight species previously unreported in the lower Columbia. A much larger number of aquatic species remain classified as “cryptogenic” or of unknown origin. The study also found the rate of discovering a new introduced invertebrate species increased from every five years between the 1880s and 1970 to every five months during the last decade. (It is not possible to distinguish the frequency of introductions versus the frequency of detection within this rate, but it reflects similar trends of increased invasion rates around the world.) Other changes revealed by the survey include significant range expansion of the New Zealand mudsnail (*Potamopyrgus antipodarum*), large areas of shallow-water habitat infested with Eurasian watermilfoil (*Myriophyllum spicatum*), and successive shifts in zooplankton community dominance by several species of Asian copepods. The survey now provides a framework for future AIS monitoring.
- **Survey of Nonindigenous Aquatic Species in the Mid-Columbia and Lower Snake Rivers**—This project, funded by the USFWS, began late in FY 2004 and is intended to extend upstream the effort from the lower Columbia River. The new project evaluates presence and distribution of nonindigenous aquatic species in the mainstem Columbia River between Bonneville Dam and Priest Rapids Dam, and the lower Snake River between Lower Granite Dam and the confluence with the Columbia. The survey will again be coordinated by the Pacific States Marine Fisheries Commission with the cooperation of Portland State University and University of Washington researchers. In FY 2004, a literature review began which will guide field sampling during FY 2005 and FY 2006.
- **Nonindigenous Species in Harbors on the Island of Lanai**—This project, funded by the USFWS, began late in FY 2004 and completes a series of harbor surveys for the main Hawaiian Islands. This survey focuses on ANS at two harbors of the island of Lanai, which has limited boat traffic from the other islands (i.e., it offers some sense of relative impact from several inter-island pathways). Tasks initiated during FY 2004 included developing a checklist of previous reports for marine organisms from Lanai and initiating surveys for Kaunalapali and Hulupoe harbors.
- **Survey of Mobile Bay and Mississippi Sound**—Surveys of Mobile Bay and Mississippi Sound for nonindigenous species occurrences were funded by National Oceanic and Atmospheric Administration (NOAA) in FY 2003. Results were received in FY 2004. Mobile Bay is the second largest port in the United States for coal exports. However, it was found to have a relatively small number of nonindigenous species.
- **ANS in the Sacramento–San Joaquin Rivers Delta (SSJRS)**—This project, funded by the USFWS in 2002, compiled and synthesized available information on ANS in the SSJRS to

provide baseline information. A draft of the final report was presented in August 2004, with a final draft expected in early 2005. A draft of the database was submitted in June 2004. A final copy of the database was submitted in September 2004.

- **ANS Survey of the SSJRS and San Diego Harbor**—In FY 2004, the USFWS provided funding to support a literature review on ANS for San Diego Harbor and provide direction for supplemental sampling. Field surveys of San Diego Harbor and the SSJRS will be conducted, as necessary and practicable, to complete or extend existing records. Specific sampling will depend on results of the literature reviews and will focus on taxa and habitats not well represented in the literature. Sites will be selected based on historic record of samples at each location and/or on the ability to resample the site at regular intervals to permit evaluation of invasion rates.

## **Ballast Water Technology Demonstration Program**

Section 1104 of the Act authorized the Secretaries of Interior and Commerce to conduct a ballast water technology demonstration program. The Ballast Water Technology Demonstration Program has been administered by the USFWS and NOAA since it was first funded in 1998. In 2002, the U.S. Maritime Administration (MARAD) became a third federal partner in the program.

From 1998 to 2004, the USFWS and NOAA spent \$9.37 million to fund 43 ballast water technology demonstration projects. The total nonfederal spending contributed to these ballast water technology projects is \$3.84 million. Except for two projects which were awarded by Congressional direction in 2002 and 2004, projects were selected competitively following a technical evaluation by an independent expert review panel or were continuations of previously funded projects.

In 2004, the Ballast Water Technology Demonstration Program funded nine technology development and demonstration projects for a total of \$3.3 million. This included one \$1.7 million project funded by Congressional direction.



## PREVENTION AND CONTROL OF AQUATIC NUISANCE SPECIES DISPERSAL

### Aquatic Nuisance Species Task Force

The ANS Task Force is an interagency committee established by Section 1201 of the Act and chartered under the Federal Advisory Committee Act. The ANS Task Force acts as a coordinating body to develop and implement a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control and study such species; and to disseminate related information. NANPCA was reauthorized and expanded with the passage of the National Invasive Species Act (NISA) in 1996. The Act includes provisions which assign specific responsibilities to the ANS Task Force as a whole, as well as to individual members.

The Act specified federal departments and agencies which would constitute the ANS Task Force. It also gave the ANS Task Force co-chairs the legal authority to include other federal agencies as members of the ANS Task Force, as appropriate. As of September 30, 2004, the following were member departments and agencies:

- U.S. Fish and Wildlife Service (USFWS)—co-chair
- National Oceanic and Atmospheric Administration (NOAA)—co-chair
- U.S. Coast Guard
- U.S. Army Corps of Engineers (USACE)
- U.S. Department of Agriculture (USDA)
- U.S. Environmental Protection Agency (USEPA)
- U.S. Department of State
- U.S. Geological Survey (USGS)

The Act gave the co-chairs authority to invite representatives of specific regional organizations, state agencies, and other governmental entities to participate as *ex officio* members of the ANS Task Force. The following are *ex officio* members of the ANS Task Force:

- American Water Works Association
- Great Lakes Commission
- Chesapeake Bay Program
- International Association of Fish and Wildlife Agencies
- American Public Power Association
- Gulf States Marine Fisheries Commission
- San Francisco Estuary Project
- Chippewa Ottawa Resource Authority for Native American Fish and Wildlife Society
- National Association of State Aquaculture Coordinators
- Mississippi Interstate Cooperative Resources Association

- Lake Champlain Basin Program
- Smithsonian Environmental Research Center

The ANS Task Force focuses its work on AIS issues of national significance which 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 ANS Task Force has a national focus, it recognizes the tremendous importance of actions taken at the regional and local level to achieve national AIS solutions (see more in the Regional Coordination section). The ANS Task Force purposefully meets at locations around the country to expose the federal and *ex officio* members to local, regional and national issues related to AIS and to trigger member agency action.

In November 2003, the ANS Task Force meeting was held in Arlington, VA.

- The national *Management Plan for the European Green Crab* was approved by the ANS Task Force following an open public comment period in the Federal Register.
- The *National Management Plan for the Genus Eriocheir (Mitten Crabs)* was approved by the ANS Task Force following an open public comment period in the Federal Register.
- The Chesapeake Bay Program proposed and the ANS Task Force approved the formation of a Mid-Atlantic Regional Panel to focus on regional AIS issues.
- Federal agencies/departments provided annual report on AIS activities for the first time.
- State/interstate ANS management plans for Hawaii, Indiana, and Wisconsin were approved by the ANS Task Force, making federal cost-sharing grants for implementation of plans available to them.

In May 2004, the ANS Task Force meeting was hosted by the Mississippi River Basin Panel in Columbia, MO, and held concurrently with the Missouri River Natural Resources Conference.

- The Mississippi River Basin Panel highlighted regional priority AIS issues for the ANS Task Force, including Asian carp control and management research, round goby (*Neogobius melanostomus*) impacts on native species, progress toward implementation of the national *Ruffe Control Program*, and efforts to strengthen and cover gaps in state regulations for AIS.
- In addition, the ANS Task Force renewed its commitment to implementation of the Strategic Plan.
  - NOAA committed to chair the Research Committee.
  - The USGS agreed to chair the Detection and Monitoring Committee.
  - An ad hoc working group, led by USDA was formed to refine the Strategic Plan to better define goals, objectives, and performance measures.
- The ANS Task Force staff agreed to explore opportunities to host a combined meeting of all Regional Panels.

## **Aquatic Nuisance Species Program**

Section 1202 of the Act authorized the ANS Task Force to develop and implement a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control and study such species; and to disseminate related information. The “Aquatic Nuisance Species Program” document guided the work of the ANS Task Force from 1994 to 2002. The document tracked the requirements laid out in 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.

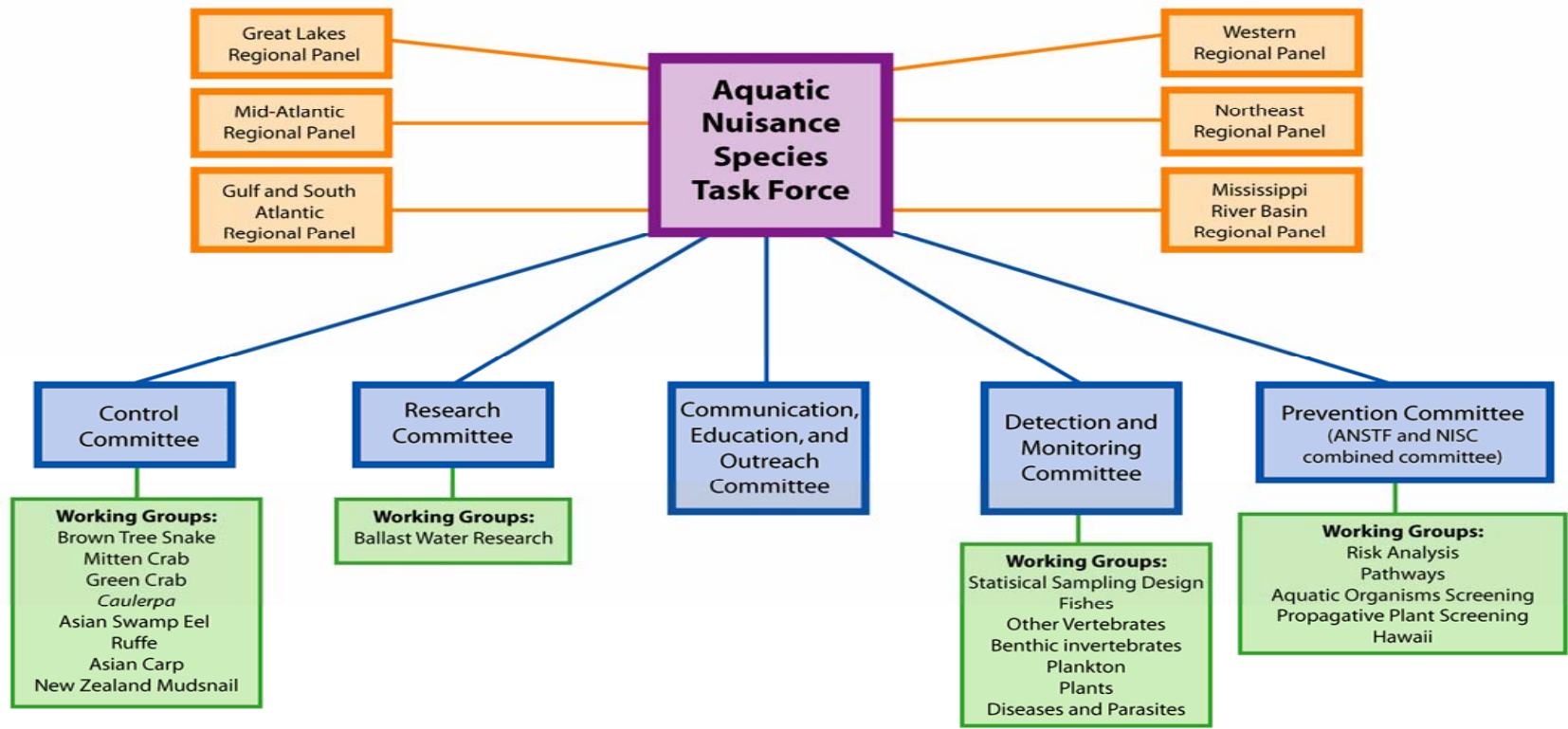
The *Aquatic Nuisance Species Task Force Strategic Plan (2002–2007)* gives direction to the activities of the ANS Task Force. The Strategic Plan maintains key elements of the ANS Program, but provides a broader focus for activities, consistent with provisions of NISA (1996). The Strategic Plan provides more emphasis on prevention strategies, particularly for intentional introductions. The ANS Task Force was restructured with the adoption of the Strategic Plan. Much of the collaborative work of the ANS Task Force is carried out under the authority provided through the ANS Program, as guided by the Strategic Plan.

While the Strategic Plan is valid through 2007, the ANS Task Force is in the process of refining the goals and objectives to be more measurable and accountable. This process is being undertaken by an ad hoc working group of the ANS Task Force and expected to be complete by May 2006.

To be more effective in achieving the goals of the ANS Program, the ANS Task Force restructured following adoption of the Strategic Plan (Figure 1). Previously, the ANS Task Force consisted of dozens of committees which all reported directly to the ANS Task Force. The structure was streamlined to form committees which oversee working groups. This more efficient structure includes five committees:

- Control Committee
- Research Committee
- Communication, Education and Outreach Committee
- Detection and Monitoring Committee
- Prevention Committee

# Aquatic Nuisance Species Task Force Structure



July, 2005  
Graphics by Don MacLean, USFWS

Figure 1 ANS Task Force Structure

### **Control Committee**

The Control Committee has yet to be officially formed. However, the Committee does have a number of active working groups reporting directly to the ANS Task Force on their progress to develop and implement national species-specific control and management plans. The plans are developed using diverse interests and expertise to find practical and innovative solutions to the complex issues of controlling and managing invasive species in aquatic environments.

In 2004, national control and management plans were approved by the ANS Task Force for mitten crabs (*Eriocheir* species) and European green crabs (*Carcinus maenas*), following public input through the Federal Register process.

The Asian Carp Working Group convened its first meeting after being established as a formal working group of the ANS Task Force in April 2004. The *Caulerpa* Working Group was reconstituted to develop a management and control plan for the genus *Caulerpa*, drawing on previous work of the ANS Task Force to develop a prevention plan for the Mediterranean strain of *Caulerpa taxifolia*. The first meeting of this working group was convened in February 2004.

The Ruffe Control Committee reported on implementation of the 1995 *Ruffe Control Program* at the Columbia, MO, ANS Task Force meeting in the spring of 2004. The overarching goal of the plan is to prevent or delay the further spread of ruffe (*Gymnocephalus cernuus*) in the Great Lakes and prevent its spread to inland waters. The committee reports the following plan objectives are working to show positive results: ballast water management, surveillance (early detection), education, and bait fish management. The following objectives are working with mixed results: population reduction, population investigations, fish community management, and the Chicago Sanitary and Ship Canal electrical barrier.

The following are the Ruffe Control Committee's overall observations regarding plan implementation:

- Implementation of activities and initiatives identified in the plan are delaying and will continue to delay human spread of ruffe in the Great Lakes.
- Unassisted range expansion/spread without human mediation will be difficult to control.
- Measures are in place to limit spread to waters not connected to the Great Lakes.
- Increasing costs coupled with reduced funding continue to erode away implementation efforts.
- Ruffe have been replaced by Asian carp as the Great Lakes ANS "poster child."
- There is no reason to be any less concerned about invasion impacts of ruffe.
- We must continue to be committed to controlling the spread of ruffe.
- Early detection is vital to successful control and management of the spread of ruffe.

### **Research Committee**

The Research Committee was established by the ANS Task Force in 2004 to do several things:

- Advise the ANS Task Force on national research needs, long-term research goals, and annual priorities

- Facilitate Regional Panel research planning and prioritization
- Facilitate information sharing and coordination of governmental and nongovernmental AIS research
- Ensure invasive species research, itself, does not result in the spread of AIS

### ***Communication, Education, Outreach Committee***

Recognizing the complexity of the AIS issue, the ANS Task Force has taken a fundamentally different approach to communications, education, and outreach. Instead of relying on passive informational materials to educate the masses, the Communications, Education and Outreach Committee strategically selects its target audiences and empowers them to proactively prevent the continued spread of aquatic nuisance species. Under the leadership of the USFWS, the Communications, Education and Outreach Committee has produced two successful national public awareness and partnership campaigns unifying public and private sector organizations to speak with one voice about this issue. The campaigns, based on social marketing processes and social science theory, are designed to promote a single, straightforward, empowering message via a compelling brand to targeted members of the public.

Stop Aquatic Hitchhikers!<sup>TM</sup> is the first national public awareness campaign developed by the ANS Task Force. Please see the Spotlight on Collaboration below for more information.

The ANS Task Force unveiled its Habitattitude<sup>TM</sup> campaign in the fall of 2004. Habitattitude<sup>TM</sup> builds upon the successes of Stop Aquatic Hitchhikers!<sup>TM</sup> and takes proactive education to a new level. As a first-of-its-kind partnership, this campaign brings an industry together with federal and state resource management and regulatory agencies and academia to promote environmentally responsible behaviors and is redefining governmental outreach.

Habitattitude<sup>TM</sup> brings these interests together to target aquarium hobbyists, backyard pond owners, and water gardeners. The overarching goal is to raise awareness about the growing AIS issue and empower people to make decisions and provide alternatives to releasing unwanted species. Couched as responsible consumer behaviors for disposing of unwanted ornamental fish or plants, these alternatives serve as the action-oriented basis of the campaign. The campaign principals (USFWS, Pet Industry Joint Advisory Council, and NOAA) support Habitattitude<sup>TM</sup> with an interactive website ([www.habitattitude.net](http://www.habitattitude.net)), a variety of in-store communication media and promotions, and governmental outreach activities. The USFWS is leading the processes to formally evaluate the effectiveness of both campaigns on many different levels.



**STOP AQUATIC  
HITCHHIKERS!<sup>TM</sup>**

Prevent the transport of nuisance species.  
Clean all recreational equipment.  
[www.ProtectYourWaters.net](http://www.ProtectYourWaters.net)



**Habitattitude<sup>TM</sup>**  
PROTECT OUR ENVIRONMENT  
DO NOT RELEASE FISH AND AQUATIC PLANTS



[www.Habitattitude.net](http://www.Habitattitude.net)

### **Spotlight On Collaboration: Stop Aquatic Hitchhikers!™**

Once introduced into waters of the United States, ANS are unintentionally transported and introduced into inland lakes and rivers by recreational boaters, commercial barge traffic, and various other pathways. A simplistic description focuses on stopping the spread of AIS, but this issue is far from simple. Global economic linkages complicate the issue. Global trade has increased resulting in the introduction of species, not native to the U.S., and these species find their way into our waters through intentional and unintentional means. Also, aquatic recreational users such as boaters and anglers unknowingly spread these harmful species to other waters. If they become established, invasives can wreak environmental havoc, degrade aquatic resources, and make waters unfit for recreation. They can also impact human health. Economists estimate costs at over \$100 billion annually, which is more than earthquakes, floods, and fires combined.

Because underwater species are rarely seen, impacts are not obvious until considerable damage has occurred. Unless they see direct impacts, people cannot relate to zebra mussels or hydrilla (*Hydrilla verticillata*). Informed citizens become discouraged, believing the issue is too complex for their actions to matter. Government outreach on AIS in the past has been passive, far too technical, agency-specific, and largely ineffective. While fact sheets, brochures, and press releases are traditionally used to fulfill agency information obligations, research shows these methods do not create the necessary behavior change to prevent the spread of AIS.

The ANS Task Force, under USFWS leadership, has taken a fundamentally different approach with its efforts to raise public awareness. Using social marketing principles and a broad-based perspective, the Communications, Education and Outreach Committee selected target audiences and designed communications and partnership campaigns redefining how the government does outreach.

Stop Aquatic Hitchhikers!™ is the first national public awareness campaign developed by the ANS Task Force. It brings public, private and nonprofit organizations together from the local, state, regional, and national levels to promote a single, straightforward, empowering message via a compelling brand focusing on preventing the continued spread of AIS. The campaign targets ALL recreational water users to raise their awareness about AIS and empowers them to adopt prevention procedures which limit the spread of these species to unaffected waters of the United States. One of the most compelling campaign features is the website ([www.protectyourwaters.net](http://www.protectyourwaters.net)), maintained by the USFWS, which allows any organization to take credit for the prevention information.

In addition to unifying the government, nonprofit organizations, and affected private sectors to speak with one voice, Stop Aquatic Hitchhikers!™ has been a powerful catalyst for other actions. The campaign has attracted external funding and unprecedented partnerships while solidifying the national collaborative approach for addressing AIS. Under the shared leadership of the International Association of Fish and Wildlife Agencies, state fish and wildlife agencies, and the USFWS, Stop Aquatic Hitchhikers!™ is being evaluated in four pilot states and has led to closer internal communications and collaboration between law enforcement staff of the USFWS and the states. The four pilot states have used their experience with the campaign to improve communications among various in-state agencies who address this issue and develop greater statewide public support for expanding agency AIS funding and authorities.

As of September 30, 2004, 148 partner organizations were using the campaign and promoting and reinforcing a consistent prevention message which empowers people to take environmentally friendly actions to protect aquatic resources. Additionally, through an email news alert service, Stop Aquatic Hitchhikers!™ has attracted more than 1,000 subscribers who visit the website regularly.

### ***Detection and Monitoring Committee***

The Detection and Monitoring Committee co-chairs were selected in 2004 and existing invasive species sampling protocols used by various agencies were compiled into a database.

### ***Prevention Committee***

The ANS Task Force and the National Invasive Species Council (NISC) determined their goals for prevention of potentially invasive species were similar enough to ANS Task Force goals to form one shared Prevention Committee. The ANS Task Force/NISC Prevention Committee has five working groups. The charges and progress in 2004 of these working groups are provided below.

#### **Pathway Working Group**

Charge:

- Identify high-risk pathways, in addition to ballast water, on which the ANS Task Force and NISC should focus
- Develop a process for facilitating identification of these pathways
- Identify possible actions, based on existing opportunities and constraints, for reducing the risk associated with each of the identified pathways
- Identify high-priority invasive species likely to be introduced unintentionally

Progress in 2004:

- Completed an evaluation of the statistical validity of pathways assessment tool and made amendments to the tool and diagrams based on the evaluation
- Created a library of relevant literature
- Developed a communications website for group members
- Developing an expert list for pathway analysis
- Creating an inventory of databases and developing pathway-prioritization focus groups

#### **Risk Analysis Working Group**

Charge:

- Facilitate development and use of science-based risk assessments to determine the risk level associated with intentional and unintentional introductions of potential invasive aquatic species
- Review and update, if appropriate, the 1996 “Generic Nonindigenous Aquatic Organisms Risk Analysis Review Process”
- Coordinate and review input from regional panels and the Invasive Species Advisory Committee concerning priority invasive species which may require risk assessments

Progress in 2004:

- Met regularly to revise and improve the ANS Task Force “Generic Nonindigenous Aquatic Organisms Risk Analysis Review Process”



### **Aquatic Organisms Screening Working Group**

Charge:

- Develop a screening process or processes to address intentional introduction of nonnative aquatic species

Progress in 2004:

- Held a meeting to determine an approach to develop a screening process for aquatic organisms

### **Propagative Plant Screening Working Group**

Charge:

- Develop a screening process or processes to address the intentional introduction of nonnative propagative plant material.

Progress in 2004:

- Held an initial meeting
- Working with the USDA–Animal Plant and Health Inspection Service on the regulatory revision of Quarantine 37
- Made progress with Canada and Mexico on invasive propagative plant materials through the North American Plant Protection Organization

### **Hawaiian Islands Screening Working Group**

Charge:

- Develop screening process or processes to address the introduction of nonnative plants and animals into the Hawaiian Islands

Progress in 2004:

- Focusing on current gaps in coverage since progress is already taking place in Hawaii (despite no formal meeting in 2004)

### **Additional ANS Program Activities**

The following tasks were identified in the provisions of the Act, and individual ANS Task Force member agencies made progress toward them in FY 2004.

#### **NOAA Sea Grant Aquatic Invasive Species Competition**

The 2004 NOAA Sea Grant AIS outreach grants competition resulted in support for the following efforts (state Sea Grant program lead):

- Sea Grant's collaboration with the USFWS and pet industry in the national Habitattitude™ campaign to educate the aquarium industry and hobbyist consumers about responsible behavior to prevent invasives (MN)
- Support for region-wide education and outreach networks in the mid-Atlantic and southeast regions and among the West Coast watershed councils (DE, MS, AL, OR)
- Support for state ANS planners in the Great Lakes and Connecticut (MI, CT)
- Multilingual ANS outreach tools (MA)
- Projects involving public education, outreach to water gardening shoreline restoration stakeholders, and impact assessments (OR, MN, NY)

#### **Chicago Sanitary and Ship Canal Dispersal Barrier**

The Demonstration Barrier I, constructed in April 2002 to use an electric field to prevent Asian carp from gaining access to the Great Lakes through the Chicago Sanitary and Ship Channel, was operated from January through December 2004 by the U.S. Army Corps of Engineers (USACE) at a cost of \$500,000. Fish samples have shown Asian carp within 65 miles of the barrier. However, additional studies using tagged fish released in the vicinity of the Demonstration Barrier I have shown no fish able to pass successfully through the barrier. Funding for the design and construction of the more permanent Barrier II was appropriated in 2004, with the USACE providing 75 percent of the funding and nonfederal sponsors providing the remaining 25 percent. Final design was completed in July 2004, and initial construction on Barrier II began in October 2004. Total costs for planning, design, and construction were estimated to be \$9.1 million. The project will be completed in the spring of 2006.

#### **Spotlight on Collaboration: 100<sup>th</sup> Meridian Initiative and the Lewis and Clark Bicentennial Commemoration**

The ANS Task Force and regional and local partners continue to work with the USFWS to use the 100<sup>th</sup> Meridian Initiative to prevent zebra mussels and other ANS from invading western waters through activities related to the Lewis and Clark Bicentennial Commemoration.

Zebra mussels and other AIS may be transported by boats and boat-related equipment from infested to uninfested waters. The 100<sup>th</sup> Meridian Initiative is a cooperative effort between state, provincial, and federal agencies to prevent the westward spread of zebra mussels and other ANS in North America. The Lewis and Clark Bicentennial Commemoration, beginning in 2004, includes 15 major events and many smaller events taking place from the Missouri River to the Columbia River. Commemoration activities are resulting in the launching of personal boats from all over the country into these rivers, an activity which increases the risk of spreading AIS.

To tap into information resources to encourage people to be careful about transporting zebra mussels, 100<sup>th</sup> Meridian Initiative participants include representatives from Kansas Department of Wildlife and Parks; USFWS; Glen Canyon National Recreation Area; Utah Division of Wildlife Resources; USACE; Miami Welcome Center; USGS; Oklahoma Department of Wildlife Conservation; U.S. Coast Guard Auxiliary; The Franciscan Earth Literacy Center; South Dakota Fish and Parks; Oregon Department of Fish and Wildlife; Oregon Bass and Panfish Club; National Park Service; Southern Nevada Water Authority Resources Department; Saskatchewan Environment and Resource Management; The University of Texas at Arlington; Iowa Department of Natural Resources; Washington Department of Fish and Wildlife; U.S. Coast Guard; Pacific States Marine Fisheries Commission; Water Quality Management-Manitoba Conservation; Arizona Game and Fish Department; Montana Department of Fish, Wildlife, and Parks; Nebraska Game and Parks Commission; North Dakota Game and Fish; Idaho Department of Fish and Game; USEPA; Bonneville Power Administration; Oregon Sea Grant; Nevada Division of Wildlife; Portland State University; and California Department of Water Resources. These partners have taken the following actions:

- Coordinated all activities with the national Stop Aquatic Hitchhikers!<sup>TM</sup> campaign to send a consistent prevention message and encourage the cleaning of boats and equipment
- Linked 100<sup>th</sup> Meridian Initiative to the top ten Lewis and Clark websites
- Purchased and placed over 500 signs at all river access points
- Worked with hundreds of marinas/portage/concessions businesses, state tourism agencies, and fishing organizations/groups to garner their assistance in emphasizing the importance of cleaning boats to prevent AIS spread
- Developed and distributed public service announcements to inform Lewis and Clark Bicentennial Commemoration participants of ways to reduce the risk of introducing AIS
- Established traveler information systems providing information about techniques to prevent AIS invasions
- Produced “Clean Your Boat Before You Float” posters with directions nearby boat washing facilities
- Continued development of numerous Hazard Analysis and Critical Control Point (HACCP) training opportunities (HACCP is a planning method which helps identify natural resource conservation activities which may present a risk of spreading ANS [such as moving equipment, vehicles, or live animals]. Those activities are targeted for specific prevention measures to reduce or eliminate risks.)
- Initiated development of zebra mussel identification and interception training programs in several locations in the West
- Continued development of zebra mussel monitoring efforts including evaluating new sites to monitor in California and restructuring the Portland State University volunteer zebra mussel monitoring database to make it compatible with the web-based management resources of the 100<sup>th</sup> Meridian Initiative
- Working with states bordering Missouri River impoundments to establish zebra mussel sampling sites on all mainstream reservoirs
- Continuing to conduct voluntary boater assessments using PDAs (personal data assistants) to quickly and easily obtain data on recreational boater traffic and demographics
- Improving awareness of zebra mussels, risks they present to western native species and economic activities, and outreach to the boating public on preventing their introduction and spread through such activities as placing signs and Stop Aquatic Hitchhikers!<sup>TM</sup> materials at marinas urging boaters to prevent the spread of ANS
- Distributing thousands of “Zap the Zebra” brochures to elevate awareness of zebra mussels
- Attending local boat and outdoor shows to distribute information on preventing AIS spread
- Developed other educational materials such as a zebra mussel education kit, an ANS display, and several print media articles.

## Regional Coordination

Section 1203 of the Act called on the ANS Task Force to establish the Great Lakes Regional Panel and Western Regional Panel and to encourage development and use of additional Regional Panels for the following purposes:

- Identifying regional priorities related to aquatic nuisance species
- Assisting and making recommendations to the ANS Task Force
- Coordinating ANS Program activities in the region
- Advising public and private interests on control efforts
- Submitting an annual report to the ANS Task Force describing prevention, research and control activities in the region

The ANS Task Force has established six Regional Panels which focus their work around regional issues (Figure 2):

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

Regional Panel membership is composed of federal, state, industry, environmental, and public representatives. The Regional Panels make a concerted effort to involve a broad spectrum of stakeholders in order to provide balanced advice to the ANS Task Force on regional priorities and issues of regional significance.

# The Regional Panels of the Aquatic Nuisance Species Task Force

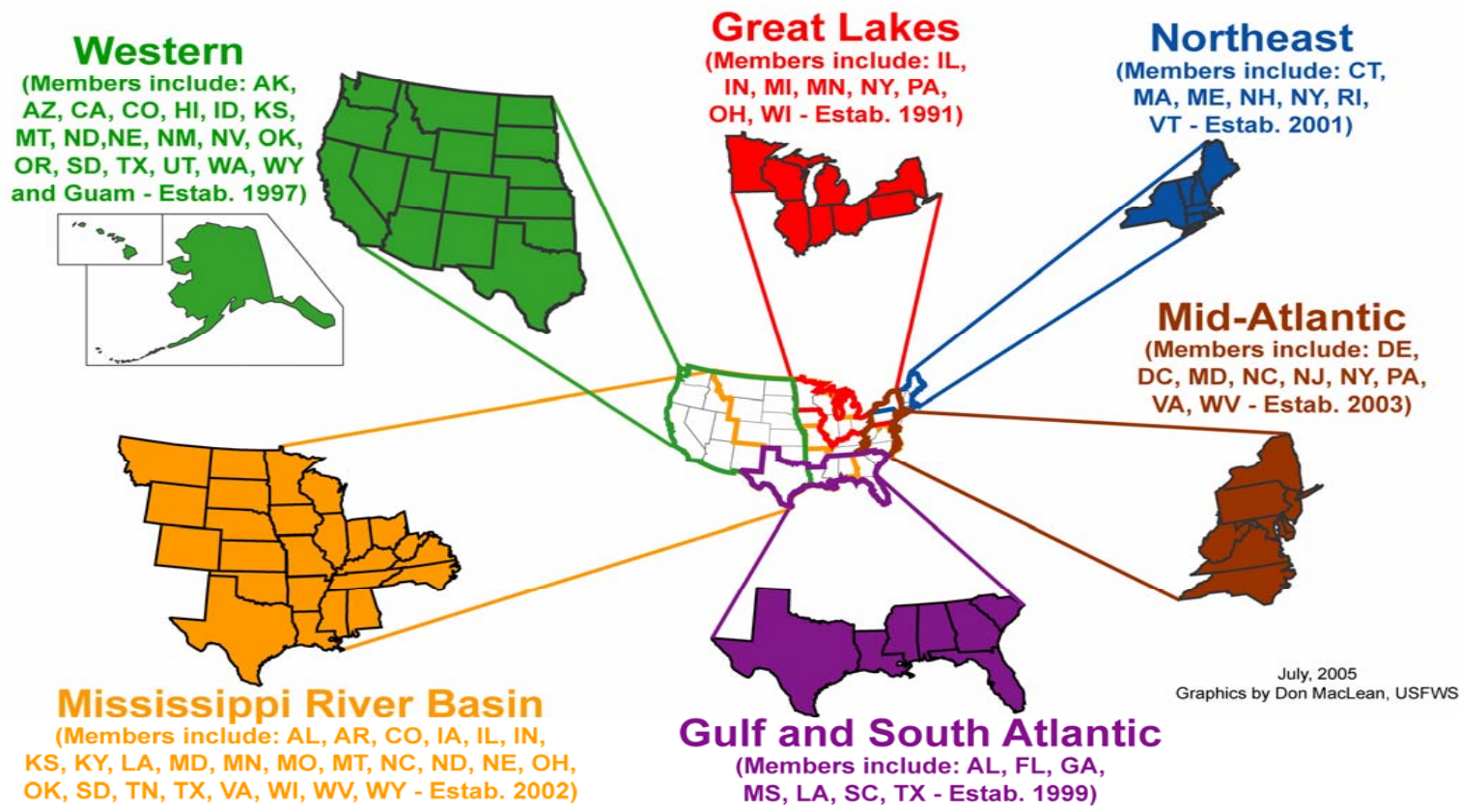


Figure 2 ANS Task Force Regional Panels



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

**History** The Great Lakes Regional Panel was officially convened in late 1991 by the Great Lakes Commission after passage of NANPCA. Panel membership is drawn from U.S. and Canadian federal agencies, eight Great Lakes states, and the province of Ontario.

**Host** Great Lakes Commission

**Chair** Roger Eberhardt, Office of the Great Lakes, Michigan Department of Environmental Quality

**Website** [www.glc.org/ans/panel.html](http://www.glc.org/ans/panel.html)

**Meetings** April 2004, Ann Arbor, MI

### **Working Groups/Subcommittees**

- Information and Education
- Research Coordination
- Policy and Legislation

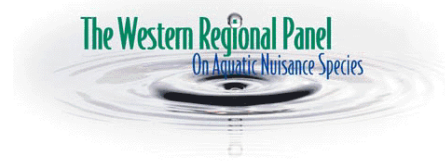
### **2004 and Ongoing Activities and Accomplishments**

- April 2004 Baltic Sea—Great Lakes Workshop on Aquatic Invasive Species
  - An international initiative addressed ANS issues and related opportunities for international collaboration between the Baltic Sea and Great Lakes regions.
  - Panel members and interested parties engaged Baltic Sea fellows in the event, which included governmental administrators and specialists from North America, Russia, Estonia, Latvia, Lithuania, and Nordic countries.
  - This international event planted the seeds for forming international partnerships which are critical in advancing effective ANS prevention and control programs.
- Organizational Strategy and Guidance on Operations
  - A document was developed to formalize the organizational structure and operational guidance of the Panel.
  - A preliminary draft of the document, *Great Lakes Panel Organizational Strategy and Guidance for Operations*, was presented for discussion and available for a 4-week review by Panel members.

- Working Group/Subcommittee Activities
  - Priorities documents were developed by each committee to identify AIS issues of highest concern. The committee priorities document will serve as funding guidance to governmental and private grant-making entities as well as guidance to public and private agencies/groups in the development of projects to advance AIS prevention and control in the Great Lakes region.
  - The Research Coordination priorities document was approved by the Panel in April 2004.
  - The Information and Education Committee supported developed priorities in topical areas of prevention, collaboration/partnerships, information management, marketing, education and evaluation. The document is in the final stages of development and, upon review of the Panel, expected to be finalized and approved at the fall 2005 meeting of the Great Lakes Panel.
  - The Policy and Legislation Committee conducted preliminary background research to support development of a priorities document.
- Communication Network
  - The Panel recognized the importance of establishing effective avenues of communication as a regional entity in keeping members and interested parties/stakeholders informed and vested in relevant ANS prevention and control initiatives.
  - Ongoing efforts support a communication network through a Panel listserv, emails, mailings, teleconferences, and maintenance of a Great Lakes ANS website.
- Great Lakes Regional Panel's *ANS Update*
  - Publication of the *ANS Update* newsletter continues to inform a wide-reaching audience on priority ANS issues and state/federal program developments.
    - Volume 9, No. 4: *Keeping Track of Aquatic Invasive Species in the Great Lakes*, by Michael Goehle of the USFWS's Lower Great Lakes Fishery Resources Office.
    - Volume 10, No. 1: *International Treaty on Ballast Water and Prospects for Domestic Legislation*, by Cameron Wilson, Deputy Chief of Staff from the office of Representative Vernon Ehlers (Michigan)
    - Volume 10, No. 2: *The Live Food Fish Industry: New Challenges in Preventing the Introduction and Spread of Aquatic Invasive Species* authored by Erin Higbee, 2004 Sussman Fellow of the Great Lakes Commission and Katherine Glassner-Shwayder, Great Lakes Commission.
- Brochure Publication on Great Lakes Aquatic Invasions
  - In this project, the Panel developed and published a revised version of the *Biological Invasions* brochure (1998).
- AIS Early Detection and Monitoring: A Pilot Project for the Lake Michigan Basin
  - A workshop was conducted in June 2004 to review survey results from Lake Michigan monitoring programs on their capabilities of invasive species monitoring.

- The workshop provided a forum to gather input on and further develop the draft guidelines and recommendations for an AIS early detection and monitoring network in the Lake Michigan Basin.
- Rapid Response Model Plan for Great Lakes Aquatic Invasions
  - A model plan was developed for the Great Lakes region which allows for the timely implementation of appropriate eradication/control measures when new nonindigenous AIS are discovered.
  - The project goal was to develop a model rapid response plan for application on a state or regional basis to provide enhanced capacity to anticipate, prevent, and respond to new invasions of nonindigenous AIS in the Great Lakes–St. Lawrence region.
  - A draft of the model rapid response plan was developed based on staff research and guidance provided from a workshop, conducted in April 2003 in Ann Arbor, MI.





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### ***Western Regional Panel***

- History** The Western Regional Panel was formed in 1997, after the passage of NISA. Panel membership is drawn from 19 midwestern and western states and territories, including Hawaii, Alaska, and Guam. There are currently 50 members (plus a few alternates) representing state and federal agencies, tribes, Canadian provincial agencies, federal agencies, universities, conservation and professional organizations, and industry.
- Host** U.S. Fish and Wildlife Service, Region 6, Denver, CO
- Chair** Susan Ellis, California Department of Fish and Game
- Website** <http://answest.fws.gov/>
- Meeting** September 2004, Anchorage, AK

### **2004 and Ongoing Activities and Accomplishments**

- Facilitation of U.S./Mexico Cooperation
  - Dr. Salvadore Contreras spoke on exotic freshwater fishes of Mexico at the annual meeting.
  - An ANS session was developed for the 2005 Desert Fishes Council meeting in Cuatro Ciénegas, Mexico, November 19–20.
- Facilitation of U.S./Canadian Cooperation
  - The *Spartina* eradication project in Boundary Bay, June 17–19, 2004, involved both British Columbia and the State of Washington.
  - A protocol for creating ANS materials to be distributed at U.S./Canada border crossings on both sides of the border was developed.
- Pilot Project—Pre-invasion Rapid Response Team
  - A pilot project was created based on the WRP rapid response plan model and other models using two aquatic weeds not yet been established in the western states: water chestnut (*Trapa natans*) and oxygen weed (*Lagarosiphon major*). Both species are commonly found in the aquarium trade, have created problems elsewhere and pose serious threats. The process will be reviewed to assess strengths, weaknesses, and previously unrecognized limitations to a successful rapid response. The end product, a summary report with recommendations, is expected to be completed in mid-2006.
- Support for the North American Lake Management Society annual meeting and creation of one-day ANS forum in November 2004

- Creation of an online searchable database of ANS educational materials by the Center for Lakes and Reservoirs at Portland State University
  - The database of more than 120 ANS education and outreach materials about western waters will be available to the public by October 2005.
- Pacific Coast Estuarine Information System (PCEIS)
  - Responding to a need to know the impact of aquatic invaders on the West Coast and to have ready access to data on basic estuarine and landscape characteristics, the USEPA, USGS, and WRP partnered to create a database of native and nonindigenous species of benthos, fishes, and estuarine plants in the estuaries of Oregon, Washington, and California.
  - Version 1 of the database gives information on 3,232 species after a review of 396 publications. Photographs of the mouths of 90 percent of the tributaries and estuaries are also included. The final CD of the PCEIS database will be available in early 2006.
- Integrating Aquatic Invasive Species Management into the Western Watershed Council Framework—An Investigation of Needs and Opportunities
  - This report from the project funded in 2003, gave seven recommendations as a follow-up to the assessment of needs and opportunities for ANS education within the Western Watershed Councils. Oregon Sea Grant has received National Sea Grant funding to develop materials targeting the Councils.
- Rapid Response
  - The WRP worked with a consultant to develop a rapid response plan for zebra mussels in the Columbia River Basin. The final document is expected to be complete by December 2005.
- Policy Resolutions
  - The Western Association of Fish and Wildlife Agencies (WAFWA) adopted a policy statement, “State Wildlife Agency Leadership for Aquatic Nuisance Species,” at the 2004 annual meeting in Sun Valley, ID.
  - The Western Governors Association (WGA) adopted policy resolution 4-12, “Undesirable Aquatic, Riparian, and Invasive Species,” sponsored by Governors Locke (WA) and Rounds (SD) at their 2004 annual meeting in Santa Fe, NM.
  - Both policies resolved to create a partnership among the WAFWA, WGA, and WRP to convene an Aquatic Invasive Species Working Group to work toward development and implementation of a comprehensive program to prevent the spread of ANS in the water resources of western states.



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

**History** The Gulf of Mexico Regional Panel was formed in 1999 to help limit the introduction, spread and impacts of ANS into five Gulf states. In 2004, the panel was renamed the Gulf and South Atlantic Regional Panel and now includes the states of Georgia and South Carolina.

**Host** Gulf States Marine Fisheries Commission

**Chair** Ron Lukens, Gulf States Marine Fisheries Commission

**Website** <http://nis.gsmfc.org/>

#### **Meetings**

- March 31–April 1, 2004, Mobile, AL
- November 8–10, 2004, Biloxi, MS

#### **Working Groups/Subcommittees**

- Research and Development
- Education and Outreach
- Control, Management, Restoration
- Early Detection/Rapid Response
- Pathways and Prevention
- Information Management

#### **2004 and Ongoing Activities and Accomplishments**

- Research and Development Work Group
  - The Research and Development Work Group is reviewing lists of research needs from other groups, including the original list from the Gulf of Mexico Program, and developing and maintaining the list of recommended research and development needs.
- Education and Outreach Work Group
  - This work group is reviewing existing education and outreach materials and activities and developing guidelines for the use of nonnative/invasive species in school science fair projects, a brochure of high-priority invasive species and issues in the Gulf region, a Kids/Teachers Corner to add to the website, and a newsletter.

- Early Detection/Rapid Response Work Group
  - This work group is developing a Gulf-wide rapid response plan.
- Information Management Work Group
  - The Information Management Work Group reviewed and revised the Gulf of Mexico Invasive Species website hosted by the GSMFC and is providing guidance for maintaining and updating the website on an ongoing basis.
  - The work group is also assisting in the development and maintenance of a web-based nonnative/invasive species database for the Gulf of Mexico.
- Taxonomic Registry Work Group (Ad Hoc)
  - This ad hoc working group is developing a list of taxonomic experts to assist in identification of nonnative/invasive species and gaining their cooperation to serve in an official capacity.
  - A Taxonomic Work Group was established. The Taxonomic Registry Work Group items listed above were the original charge of this group. Subsequent to forming the group, the panel learned the issue had become a priority at the national level and a number of panels were interested in pursuing it. Further work on the issue was tabled to determine whether the project would be addressed at the national level.
- Rapid Response Plan
  - A rapid response plan was started early in 2003. The approach was to have a rapid response plan for each state with linkages then developed to make it regional. Completion is expected by the end of December.
- Rapid Assessment
  - In 2003, a rapid assessment of the Mobile Bay drainage was completed.
  - In 2004, a rapid assessment of Mississippi Sound and associated drainages was completed.
  - Over 120 scientists participated, and over 500 samples were taken.
  - All the data are not yet processed; however, two known nonnative species—Asian clam (*Corbicula fluminea*) and Nile tilapia (*Oreochromis niloticus*)—were collected

### **Other Items of Interest**

- New Membership
  - Mexico—Roberto Mendoza, Universidad Autónoma de Nuevo Leon
  - Mexico—Porfirio Alvarez, Dirección General de Política Ambiental e Integración Regional y Sectorial SEMARNAT
  - State Agency—Phil Bass, Mississippi Department of Environmental Quality
  - State Agency—Steve Rider, Alabama Department of Conservation and Natural Resources/Freshwater Division
  - State Agency—Ted Hendrickx, Georgia Department of Natural Resources

- Status of State Plans
  - Florida—Complete, nearly ready to submit
  - Texas—Complete, ready for external review
  - Louisiana—Complete, submitted to the ANS Task Force for preliminary review
  - Mississippi—In progress, completion projected for June 2006
  - Alabama—Agreement to develop plan, process not started
  
- Strategic Plan
  - The strategic plan for the Gulf and South Atlantic Regional Panel was started in March 2004 and is expected to be complete by early January 2005.
  - The Regional Panel adopted the plan provisionally, pending some edits and reorganization. The plan has 5 goals, 24 objectives, and 59 tasks.



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### ***Northeast Regional Panel***

**History** The Northeast Regional Panel was formed in 2001. Panel membership is drawn from seven northeastern states and three Canadian provinces.

**Host** Gulf of Maine Council on the Marine Environment

#### **Co-Chairs**

- John McPhedran, Maine Department of Environmental Protection
- Judith Pederson, MIT Sea Grant

**Website** [www.northeastans.org/](http://www.northeastans.org/)

#### **Meetings**

- May 2004, Newport, RI
- November 2004, Saratoga Springs, NY

#### **Working Groups/Subcommittees**

- Ballast Water
- Communications, Education, and Outreach
- Policy and Legislation
- Science and Technology

#### **2004 and Ongoing Activities and Accomplishments**

- Monthly publication, via the Panel listserv and website, the *NEANS Panel Resource Digest*
- Ballast Water
  - NEANS Ballast Water Committee advised a ballast water workshop held in October 2003 in Halifax, Nova Scotia, to investigate appropriate ballast water exchange zones on the east coast of the United States and Canada. This workshop was convened by MIT Sea Grant and Transport Canada.
- Communications, Education, and Outreach
  - The committee worked through jurisdictional agencies on the Hydrilla Watch Card to be distributed in the Northeast.
  - As a practical mechanism of raising awareness on ANS, bright red floating key chains encourage individuals to clean boats and other recreational gear so “tag-along” species of plants and animals do not migrate between water bodies. The key chain has printed on it a link to NEANS website where visitors may obtain contact information for state and provincial agencies, exchange information on ANS, and report new findings or locate information or lists of area invasives.

- The water chestnut hand-pulling brochure was nearly completed. The brochure is targeted at resource managers and volunteer groups who conduct—or would like to conduct—their own hand-pulling programs.
- Policy and Legislation
  - This committee compiled a list of ANS-related legislative and regulatory measures. Although a list is posted on the Panel’s website, the Policy and Legislation Committee is expanding the project as a guidebook to current legislative and other regulatory measures.
- Science and Technology
  - The Science and Technology Committee compiled priority invasive species lists for the region and completed an analysis of commonalities and discrepancies between these lists. This analysis will give Panel members a better understanding of regional management priorities and make them aware of species which may be threatening their respective jurisdictions.
  - The committee launched the Marine Invader Database ([www.MarineId.org/](http://www.MarineId.org/)), an online repository for marine invasive species distribution information. The database contains species profile information, interactive mapping utilities, and an invasive species reporting template.
  - In May 2003, the committee organized a Rapid Response Planning Workshop in Bar Harbor, ME. The workshop laid the groundwork for states to develop early detection and rapid response plans.



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### ***Mississippi River Basin Panel***

**History** The Mississippi River Basin Panel, established in 2003, covers the largest geographic area (all or portions of 31 states in the Mississippi River Basin) of any of the ANS Panels in the nation. The Mississippi River Basin Panel includes 47 official members plus alternates and 21 other interested parties, including members representing 26 states and provinces and four subbasins (i.e., Upper Mississippi, Lower Mississippi, Missouri, and Ohio Rivers).

**Host** Mississippi Interstate Cooperative Resources Association

#### **Co-Chairs**

- Jay Rendall, Minnesota Department of Natural Resources
- Michael Hoff, U.S. Fish and Wildlife Service

#### **Meetings**

- January 2004, New Orleans, LA
- May 2004, Columbia, MO

#### **Working Groups/Subcommittees**

- Information and Education
- Research and Risk Assessment
- Prevention and Control

#### **2004 and Ongoing Activities and Accomplishments**

- Information and Education
  - The Information and Education Committee identified products, messages, and audiences; coordinated with other panels; inventoried information and education products on ANS; identified regulated invasive species in each state; and encouraged additional states to conduct model boater surveys.
- Research and Risk Assessment
  - The Research and Risk Assessment Committee developed a database of experts and current research as well as a research priority list.
  - The committee conducted a risk assessment workshop at the next Mississippi River Basin Panel meeting and sponsored a symposium on ANS research at the 2005 Midwest Fish and Wildlife Conference.



- Prevention and Control
  - The Prevention and Control Committee developed a list of priority species/matrix status and prepared an ANS harvest issue paper.
  - The committee also prepared a position statement on barriers and fish passage as well as on supporting a national screening process for intentional importation into United States.
  - The committee requested clarification of the Lacey Act from the USFWS.

### **Other Items of Interest**

- Priorities Species
  - Asian carp (top basin-wide ANS problem)
  - Zebra mussel
  - Round goby
  - Eurasian watermilfoil
  - Hydrilla
  - White perch (*Morone americana*)
  - New Zealand mudsnail
  - Purple loosestrife (*Lythrum salicaria*)
  - Curly-leaf pondweed (*Potamogeton crispus*)
  - *Salvinia* species
- Institutional issues of concern
  - Development of state ANS plans
  - Increased federal funding to implement plans already developed and those being prepared
  - Increased awareness and skills in conducting risk assessments due to the increasing need and the limited number of individuals who are qualified to complete them

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Mid-Atlantic Regional Panel on  
Aquatic Nuisance Species

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**Mid-Atlantic Regional Panel**

**History** In November 2003, the ANS Task Force approved the establishment of the Mid-Atlantic Regional Panel. Panel membership was approved by the ANS Task Force in October 2004. Panel members represent federal and state agencies, regional and academic entities, and private environmental groups from Delaware, District of Columbia, New Jersey, New York, North Carolina, Maryland, Pennsylvania, Virginia, and West Virginia.

**Host** Chesapeake Bay Program

**Interim Chair** Jennifer Greiner, U.S. Fish and Wildlife Service

**Website** [www.chesapeakebay.net/marp.htm](http://www.chesapeakebay.net/marp.htm)

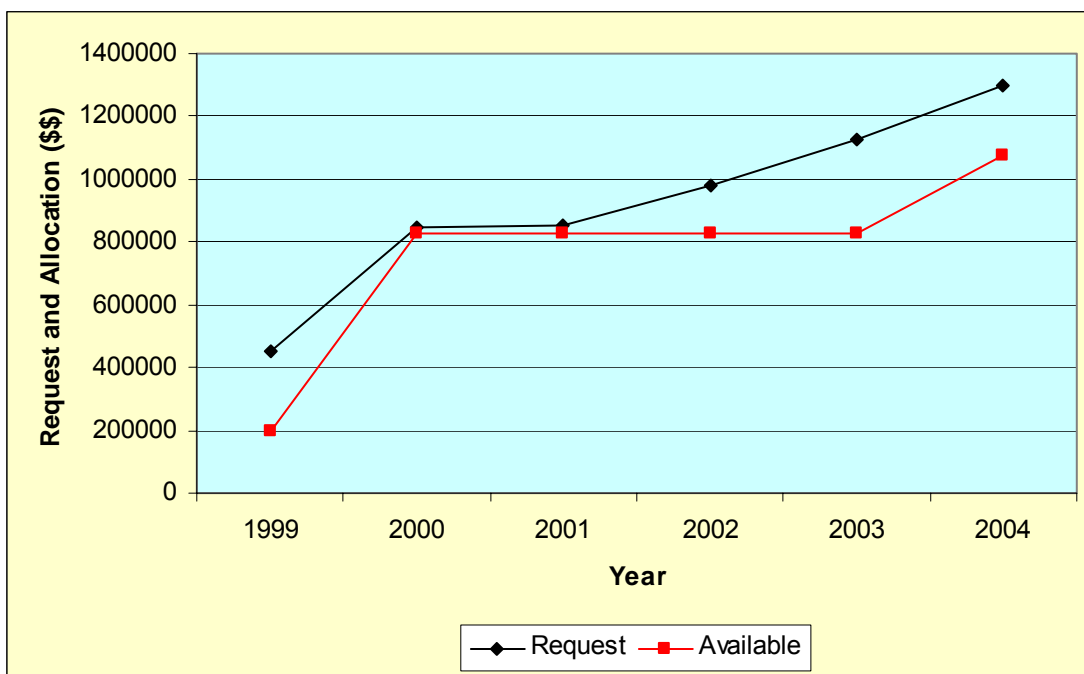
**2004 and Ongoing Activities and Accomplishments**

- The Chesapeake Bay Program appointed a Panel Coordinator in August 2004.
- The Coordinator and Chesapeake Bay Program support staff developed a Panel membership list which was submitted to the ANS Task Force in August 2004.
- The Coordinator and Chesapeake Bay Program staff worked on planning the Panel's first meeting for March 2005. The goals of the meeting were to determine Panel organizational structure, elect a chair and co-chair, discuss regional priorities, and initiate development of a workplan.
- The Coordinator and Chesapeake Bay Program developed a Panel website housed within the Chesapeake Bay Program website.

### State and Interstate Aquatic Nuisance Species Management Plans

State participation is essential to the effective coordination of prevention and control programs. The ANS Task Force encourages states to develop management plans for ANS and provides guidance, technical support, and financial resources (Figure 3) to implement the approved plans.

- The ANS Task Force tracks the number of state management plans in place and the status of plans under development (Figure 4) within the boundaries of each Regional Panel.
- The USFWS provided \$1,075,000 in 2004 for the implementation of fourteen state ANS Management Plans and two interstate plans through the cost-share grant program authorized under NANPCA.
- An additional thirteen states have management plans under development.



**Figure 3** Cost-share Grant Requests and Available Funds for State Management Plans



Below are major accomplishments in 2004 for ANS management plans, by state.

### ***Alaska***

A draft invasive pike management plan has been written and is under Alaska Department of Fish and Game review. In addition, a Department pike control committee has been created. Several committee members received support for piscicide training (National Conservation Training Center) and certification through USFWS. Committee members have become involved and contributed to ANS pike issues with fisheries agencies of the western states.

Pike detection assessments were initiated in Soldotna Creek, a tributary of the Kenai River. Public awareness and support from local stakeholders improved. Several local landowners have volunteered to assist staff in netting pike to gain insight of the issue while staff continues to assess pike infestation in Soldotna Creek. Through a local grass-roots effort, local landowners along Soldotna Creek are becoming more informed and seeking more detailed information on pike and alternatives for removal from staff.

### ***Hawaii***

The Aquatic Invasive Species Coordinator and all members of the Aquatic Invasive Species Response Team were hired in June 2005. They have become involved in numerous partnerships and collaborations including projects with the University of Hawaii, National Park Service, and Hawaii Department of Agriculture to help monitor, control, eradicate, or prevent populations of invasive species.

The AIS Coordinator has collaborated with numerous agencies on invasive species projects. Work has begun on a rapid response capability, and the Coordinator attended a HACCP training workshop. A priority task for the AIS Coordinator was to get the AIS Response Team operational. Once this was accomplished, the AIS Coordinator and AIS Response Team began working on several key projects regarding AIS control. These projects include *Gracilaria salicornia* (a marine red alga) removal in Kaneohe Bay, Oahu; a *Carijoa riisei* (commonly called snowflake coral or branched pipe coral) eradication project on Kauai; and a *Discosoma* sp. (disc anemone) eradication project on Oahu. In addition, the AIS Coordinator and AIS Response Team have worked with the Coordinating Group on Alien Pest Species (CGAPS) in helping to run community-based, invasive algae cleanups on the south shore of Oahu. These events not only help to remove large amounts of algal biomass, but they also serve to educate the general public and large numbers of school children (who often comprise a large percentage of the volunteers) on the problem of invasive algae.

### ***Illinois***

The USFWS grant helped Illinois achieve vital management and outreach activities in 2004. The year's activities focused on supporting the dispersal barrier projects in the Chicago waterways, developing the Asian carp eradication plan, creating and distributing ANS outreach materials, controlling Eurasian watermilfoil in priority lakes, promoting commercial harvest of Asian carp, and others. Forward movement on these activities included 1) continuing to study the efficacy of the experimental electric barrier and supporting development for a second permanent barrier, 2) finishing the Asian carp eradication plan now awaiting approval, 3) developing a watch poster for bighead carp (*Aristichthys nobilis*) and silver carp (*Hypophthalmichthys molitrix*),

4) advertising the ANS issue on the cover of the 2004 *Illinois Fishing Information* booklet and on all boat-registration renewal envelopes, 5) controlling Eurasian watermilfoil in Spring Lake (Tazewell County), and 6) providing technical assistance and program review for Asian carp market development.

### ***Indiana***

The *Indiana Aquatic Nuisance Species (ANS) Management Plan* was signed by Governor Joseph Kernan in the fall of 2003 and approved by the ANS Task Force in the fall of 2004. The management plan can be viewed at [www.in.gov/dnr/invasivespecies/inansmanagementplan.pdf](http://www.in.gov/dnr/invasivespecies/inansmanagementplan.pdf). The Aquatic Invasive Species Coordinator position was filled by Doug Keller in January 2005. With an AIS Coordinator in place, Indiana began implementing the management plan in 2005. Since Indiana's ANS management plan was not approved until the fall of 2004, no accomplishments were made toward achieving the goals of the plan during the FY 2004.

### ***Iowa***

The Iowa Department of Natural Resources (DNR) matches USFWS funds with state funds to implement its ANS Program. Following are the tasks accomplished during FY 2004. Watercraft inspections during the summer of 2004 addressed the extent of transportation of ANS by boaters in Iowa and the level of public knowledge regarding invasive species. DNR-ANS staff logged 239 hours of watercraft inspections which resulted in the inspection of 611 watercraft and over 1,590 personal contacts with boaters.

DNR-ANS staff surveyed aquatic vegetation in 75 Iowa water bodies in 2004. Species lists and aquatic vegetation maps were completed for each water body surveyed and entered into a database. Data prior to 2001, when the DNR-ANS took over the vegetation sampling program, was also entered into the database in 2004. ANS species documented and monitored in Iowa during aquatic vegetation and fisheries surveys in 2004 were Eurasian watermilfoil, brittle naiad (*Najas minor*), purple loosestrife, white perch, silver and bighead carp, and zebra mussel. Signs were posted at all ANS infestation sites alerting the public about the species presence and how to prevent its spread.

The Missouri River Aquatic Nuisance Species Working Group developed a public awareness campaign for preventing the westward spread of zebra mussels during the Lewis and Clark Bicentennial Commemoration. The DNR-ANS participated in the public awareness campaign in 2004 by broadcasting public service announcements on a traveler information system on Interstate 29, posting all water accesses on the Missouri River with a new standardized sign, and providing information at marinas.

The DNR-ANS Coordinator supported several regional panels and partnerships in 2004, including the Mississippi River Basin Panel on ANS (chairman of the Prevention and Control Committee), Asian carp management and control plan (member of the Planning Team), feasibility study to limit the invasion of Asian carp into the Upper Mississippi River Basin, Mississippi River Mussel Coordination Team, Midwest Invasive Plant Network, Iowa Invasive Species Working Group, and Iowa Weed Law Committee.

The Iowa legislature passed a new Aquatic Invasive Species Law in 2004 which prohibits the transportation of AIS within Iowa and directs the Natural Resources Commission to adopt rules

restricting the introduction, propagation, use, possession, and spread of AIS in Iowa and to define species as AIS. The DNR–ANS Coordinator wrote those rules, which should be effective January 2005.

### ***Lake Champlain Basin***

The primary project conducted in 2004 with FY 2004 funds was the Water Chestnut Management Program. Funding from multiple sources goes into the program and the following summary is for the entire program.

During the 2004 field season, the Water Chestnut Management Program continued its efforts to control the northward expansion of water chestnut in Lake Champlain. The program was able to mechanically harvest 203 acres and hand-pull 121 miles of shoreline. Mechanical harvesting crews removed 850 loads in the Benson Landing area of Lake Champlain. In total, mechanical harvesting crews removed more than 2.5 million pounds of water chestnut from Lake Champlain in 2004 and moved 1.5 miles farther down the lake than last year. The program was responsible for hand-pulling along 77 miles of Vermont shoreline and 44 miles of New York shoreline. In addition, several partners in the basin (Lake Champlain Basin Program, Vermont Department of Environmental Conservation, New York State Department of Environmental Conservation, The Nature Conservancy, New York Canal Corporation, and Lake Champlain Sea Grant) collaborated on a public forum in Whitehall, NY, to raise awareness of the water chestnut issue and build support for strengthening the financial commitment to the management program. Following the forum, partners formed a Water Chestnut Workgroup and will continue their efforts over the next several years.

### ***Maine***

Maine used 2004 USFWS funds to continue the state's ongoing work to develop rapid response capability to deal with new infestations of invasive aquatic flora and fauna. As in 2003, Maine's work with 2004 funds was a cooperative effort of the Department of Environmental Protection (DEP) and Department of Inland Fisheries and Wildlife (DIFW).

Previously, DEP and DIFW used 2003 USFWS funds to begin drafting a state rapid response plan to deal with incipient infestations of invasive aquatic plants and fish. This work included the following specific components:

- Research on the latest in response techniques to fish infestations
- Development of interagency memoranda of agreement for public access management and surface use restrictions during rapid response operations
- Development of decision and action matrices to aid field biologists in responding to new plant and fish infestations

USFWS 2004 funds furthered the development of rapid response capability by addressing the regulatory, funding, and logistical obstacles for plant removal in order to respond quickly to new infestations of invasive aquatic plants. Plant control, containment, and prevention measures for which rapid response procedures were developed include the following:

- Manual removal and suction harvesting by divers

- Installation of screens to prevent spread of fragments from newly discovered colonies, particularly during removal operations
- Use of benthic barriers for plant suppression
- Application of herbicides on small colonies of the target species
- Deployment of warning and regulatory buoys to prevent spread and keep areas free of boaters when response measures occur

All of the work supported by 2003 and 2004 funds has culminated in a draft state rapid response plan which is pending approval before the commissioners of the two agencies as of December 2005.

USFWS 2004 funds were also used to address several DIFW needs identified in regional management plans for nuisance fish introductions. Toward this end, DIFW purchased a backpack electrofishing unit which is used in responding to a nuisance fish infestation in the Rapid River, a premier wild trout fishery in western Maine. This unit will certainly be used in other western Maine waters as the need arises.

Research using 2003 funds revealed rotenone is the primary means to control or eliminate invasive fish; in most cases it is the only practical method. DIFW used 2004 funds, along with 2003 funds, to purchase a supply of rotenone to treat a small (approximately 10-acre) pond and therefore meet DIFW's immediate need. To date, DIFW has used this supply of rotenone to eradicate several populations of invasive fish introduced in private ponds (very small at well under 10 acres). Most of this material purchased with USFWS funds, however, remains stored at DIFW and will be used when needed for future rapid response operations.

### ***Massachusetts***

Massachusetts completed the following ANS Tasks with FY 2004 USFWS funding (all or in part).

- Developed an online, interactive marine invasive species data management system ([www.MarineId.org/](http://www.MarineId.org/)). The database will be used to track existing infestations and mark new arrivals. The database will be populated through a variety of monitoring efforts being initiated throughout the region (see below).
- Developed marine invasive species identification materials and initiated a pilot monitoring program. The Massachusetts Office of Coastal Zone Management (CZM) is working with several organizations around the state to develop and implement monitoring protocols for marine invasive species
- Initiated an early detection and rapid response planning process for Massachusetts: With the help of a NOAA Coastal Management Fellow, CZM is developing a rapid response network for Massachusetts which will serve as a model for the region.
- Developed a draft risk assessment methodology for evaluating new infestations for early detection and rapid response. The methodology will be used to determine whether a new invasion merits a rapid response.



- Developed, printed, and distributed signs targeting recreational boaters according to the Stop Aquatic Hitchhikers!<sup>TM</sup> campaign. Signs were distributed to boat ramps throughout Massachusetts.
- Redeveloped and distributed “A Guide to Selected Invasive Non-Native Aquatic Species in Massachusetts.” This “green guide” highlights several of the most harmful freshwater invaders in Massachusetts as well as a few threatening species such as the zebra mussel.
- Printed Weedwatcher Education materials and trained volunteer groups to monitor for new invasions in lakes and ponds. This effort will support long-term monitoring efforts in Massachusetts freshwater systems.

### ***Michigan***

Michigan’s ANS prevention and control program is broad and deep, reflecting the vital interest the state has in preventing the environmental and economic damage caused by ANS. USFWS funds provided support for many critical activities. FY 2004 was an outstanding year for implementing recommendations in the Michigan’s ANS management plan, using both USFWS funds and other sources of support.

Information/education actions were conducted in the state and form the core of our outreach efforts in prevention and control of ANS. Many of these were carried out with USFWS funds. Partnership efforts were another key activity, including operation of an ANS Council in Michigan and participating in the Great Lakes Panel on ANS in leadership positions. USFWS funds make it possible to participate in these activities through the use of federal funds for travel. The state continues to develop a rapid response plan as well as an early detection program, using the aquatic plant invader hydrilla as a case study. Projects supported with federal funds include the following:

- Operation of Michigan’s ANS Council.
- Participation in and leadership of the Great Lakes Panel on ANS. Office of the Great Lakes staff serve as Panel CHAIR and chair of the Information and Education Committee.
- Second annual ANS Awareness Week proclaimed by the governor in June 2004.
- Local ANS prevention projects grant program.
- Participation on the Barrier Project Advisory Committee for the Chicago Sanitary and Ship Canal electrical barrier.
- Planning and facilitation of Great Lakes Day with ANS focus.
- Technical committee participation on the Great Lakes Regional Rapid Response Model Plan project and on the Lake Michigan Early Detection Model Plan project of the Great Lakes Commission.
- Planning support, participation in, and presentation at the web-based Rapid Response workshop for the regional Great Lakes model plan in July.
- Purchase and distribution of ANS educational materials.
- Contacts for information provided throughout the year. The Office of the Great Lakes is listed as the ANS information contact in the state’s *Fishing Guide* published by the Department of Natural Resources.

- Completion of a boater survey.
- Participation as faculty at the Invasive Species Field Course operated by the Inland Seas Education Association.
- Presentations on ANS and Michigan's activities at a variety of state, regional, national, and international venues.
- Preparation of a case study for early detection and rapid response in Michigan using hydrilla.
- Presentation on Great Lakes ANS programs to the Baltic-Great Lakes conference.

### ***Montana***

Montana Fish, Wildlife and Parks (FWP) hired a full-time ANS Coordinator in February 2004. FY 2004 funds were primarily spent on the coordinator's salary, travel expenses, field equipment for detection and monitoring, supplies for the Montana boat inspection program, and public outreach efforts. Matching funds provided by the state were used primarily to purchase a vehicle for the ANS Program. Following is a list of major accomplishments:

- The state developed an interagency Montana Invasive Species Council to advise the ANS Coordinator.
- Legislation to help control exotic wildlife importations was put into law in January 2004; this legislation gives FWP the power to list exotic species as Uncontrolled, Controlled or Prohibited. A Classification Review Committee (chaired by the ANS Coordinator) was developed to provide guidance to the FWP Commission on classifying exotic wildlife.
- There is active representation on regional ANS panels and initiatives, including the Western Regional Panel, Mississippi River Basin Panel, and the 100<sup>th</sup> Meridian Initiative for the Columbia Basin and the Missouri River Basin.
- The ANS Coordinator received training on HACCP planning and completed the train-the-trainer course.
- Strategies have been developed and implemented to help prevent the spread of ANS through wildfire suppression activities. These activities were carried out in cooperation with the U.S. Forest Service and Montana Department of Agriculture.
- A boat inspection program has been developed and implemented. Throughout the spring, summer, and early fall, boats were inspected at all major fishing tournaments; major border crossings; and random events on reservoirs, lakes and rivers. At most inspection events, high-pressure water sprayers were available to clean boats/equipment, if necessary.
- Angler movement data have been collected on all major reservoirs, lakes, and rivers to help identify areas of high risk of ANS introduction.
- Several outreach efforts have been made this year, including efforts targeted toward field workers, children, fishing tournament participants, and general anglers and boaters. Several outreach efforts were carried out in collaboration with noxious weed awareness campaigns involving interagency collaboration among state and federal agencies.

### ***New York and Ohio***

New York and Ohio have ANS Task Force-approved state/interstate ANS management plans. However, in FY 2004, neither state requested funding from the Federal Government for implementation of its plan.

### ***Oregon***

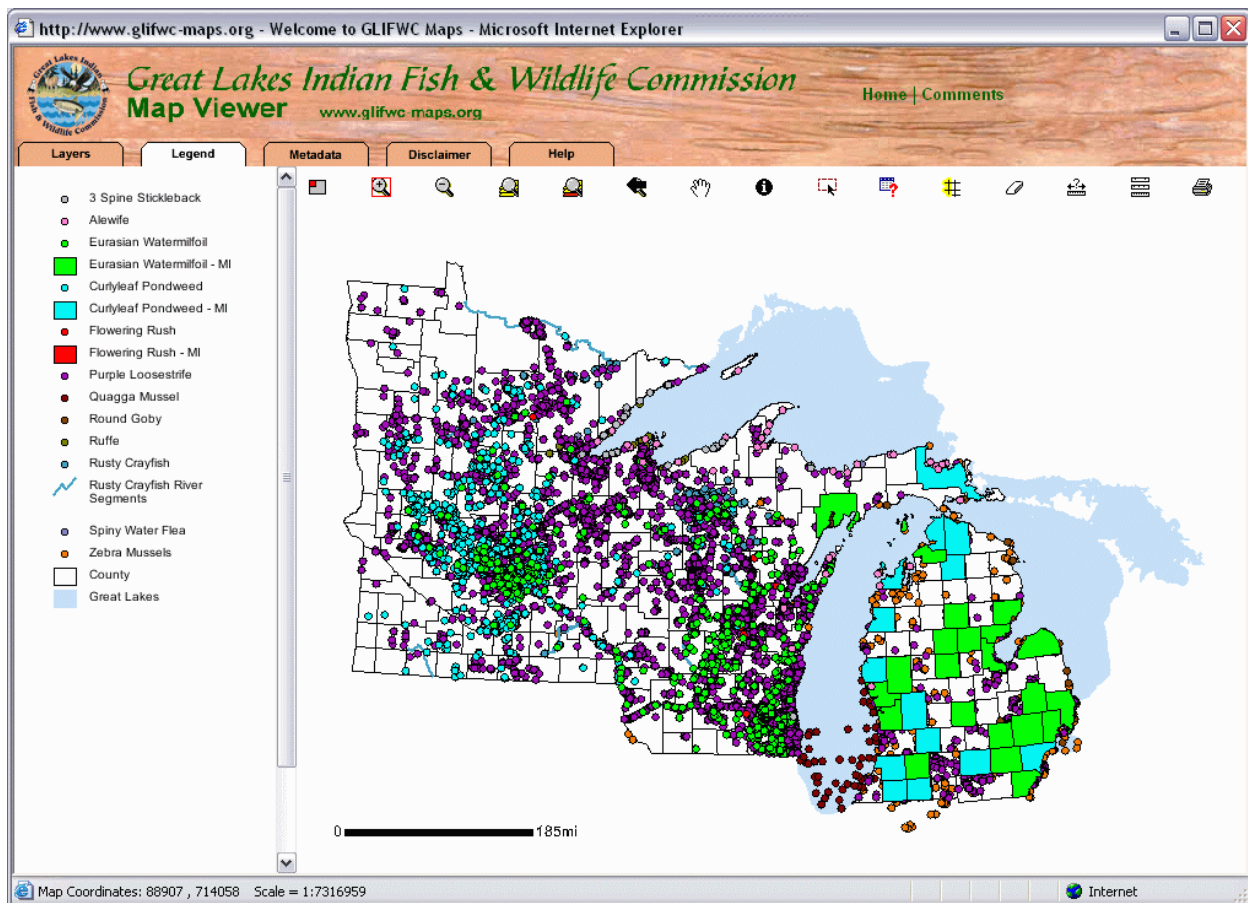
The Center for Lakes and Reservoirs at Portland State University (the Center) implements the *Oregon Aquatic Nuisance Species Management Plan* on behalf of the State of Oregon. The second year of the implementation of the Plan was focused on building partnerships and expanding the funding base for ANS work in Oregon. The Center chaired the Oregon Invasive Species Council and worked closely with the Oregon Departments of Fish and Wildlife and Agriculture on ANS issues and provided technical assistance to individuals on ANS management, primarily for aquatic weeds. The Center leveraged the FY 2004 funds and was successful in obtaining additional funds for implementing several of the strategies in the Plan, particularly for surveys and management planning. Additional plan support came from federal and state agencies, private foundations, and local homeowner groups.

Major projects included completion of a survey of ANS in the lower Columbia River and launch of a similar survey of the middle Columbia River, research on methods of verifying ballast water exchange, an investigation of hull fouling as a vector for ANS introductions, and studies of the viability of *Spartina* rhizome fragments and risk of oceanic dispersal of *Spartina* to Oregon. The Center also surveyed 94 coastal water bodies for aquatic weeds and mudsnails, 14 estuaries for *Spartina*, and 12 middle Columbia River tributary mouths for mudsnails. The Center completed aquatic weed management plans for five Oregon lakes and three areas in Skamania County, WA, on the Columbia River.

Outreach and education were high priorities for FY 2004. The Center initiated development of a statewide outreach and education campaign on invasive species in collaboration with the Oregon Invasive Species Council. In cooperation with the 100<sup>th</sup> Meridian Initiative, The Center developed signs to inform boaters on the hazards of invasive species transport and recommended actions to reduce this risk and began posting these signs at Oregon boat ramps along with mitten crab signs created in cooperation with NOAA.

### ***St. Croix Natural Scenic Riverway***

Highlights of Great Lakes Indian Fish and Wildlife Commission accomplishments in FY 2004 include the compilation and publication of regional AIS distribution and control data via an interactive Internet GIS database ([www.glifwc-maps.org/](http://www.glifwc-maps.org/); see figure below). The database facilitates regional cooperation and coordination of AIS management efforts laid out in both the St. Croix Natural Scenic Riverway and Wisconsin ANS management plans. It also provides links to other significant resources useful in the battle to stop the spread of AIS.



### ***Washington***

During FY 2004, the USFWS funded approximately 35 percent of the Assistant ANS Coordinator and 35 percent of a data-entry staff position. These funds and others enabled the state to accomplish the following in 2004, as provided in the *Washington State Aquatic Nuisance Species Management Plan*:

- ANS Monitoring for Zebra Mussel, European Green Crab, and Atlantic Salmon
  - Zebra mussel: Over 70 volunteers were trained to monitor substrate samples, 73 water samples were collected and analyzed, the Washington State Patrol inspected commercially hauled vessels, more than 1,000 recreational boat inspections were conducted, and educational materials were distributed to boaters and fishers.
  - European green crab: Volunteers monitored over 100 sites in Puget Sound.
  - Atlantic salmon (*Salmo salar*): Four hired science technicians surveyed 24 river systems.
- Ballast Water Management
  - The state participated in a ballast water work group mandated by the legislature, implemented and enforced ballast water law by hiring a ballast water ship inspector and monitoring reporting compliance, and maintained a ballast water database.

- Efforts continued to promote Washington's interim approval process for ballast water treatment technology as well as review and approve submitted applications (three have been approved).
- Outreach and Education
  - Educational presentations were given to the Asian/Pacific Islander community, schools, community centers, and marine enforcement centers, as well as to other community action and stakeholder groups.
  - Educational materials (brochures and signs) addressing various ANS were acquired and distributed, along with specific materials distributed in Cambodian, Vietnamese, and Laotian.
  - Hired staff conducted 100<sup>th</sup> Meridian Initiative boater surveys and distributed invasive species materials and signs throughout the state.
- Interagency Coordination and Partnerships
  - Coordination with the Department of Ecology included work on identifying and listing waters infested with noxious aquatic plants and developing protocols regarding ballast water discharges. Other collaborations included the Department of Agriculture, Puget Sound Action Team, state Noxious Weed Control Board, University of Washington, and Oregon Center for Lakes and Reservoirs, among others.
  - Staff chaired and coordinated meetings of the legislatively created ANS Committee.
  - The state participated in the Western Regional Panel, Western Governors' Association, West Coast Ballast Water Committee, and International Maritime Organization and attended Western Association of Fish and Wildlife Agency meetings.
  - Negotiations with the pet industry continued.
- Early Detection and Rapid Response Activities
  - A Washington early detection and rapid response plan was drafted and reviewed by the ANS Committee.
  - Species investigations included few European green crab reports, sightings/captures of adult Atlantic salmon, Piranha (*Pygocentrus nattereri*), blue crayfish (*Procambarus* sp.), and a sighting of an invasive tunicate (*Didemnum lahillei*), which prompted technical and rapid response.

### ***Wisconsin***

Highlights of Great Lakes Indian Fish and Wildlife Commission accomplishments in FY 2004 include the compilation and publication of regional AIS distribution and control data via an interactive Internet GIS database ([www.glifwc-maps.org](http://www.glifwc-maps.org)). The database facilitates regional cooperation and coordination of AIS management efforts laid out in both the St. Croix Natural Scenic Riverway and Wisconsin ANS management plans (see figure in the section above about the St. Croix Natural Scenic Riverway). It also provides links to other significant resources useful in the battle to stop the spread of AIS.

## Brown Tree Snake Control Program

Section 1209 of the Act authorizes the ANS Task Force to undertake a comprehensive, environmentally sound program in coordination with regional, territorial, state, and local entities to control the brown tree snake (*Boiga irregularis*) in Guam and other areas where the species is established outside its historic range.

In 2004, an independent review panel contracted by the Department of Interior Office of Insular Affairs undertook a review of the progress toward implementation of the *Brown Tree Snake Control Plan* approved by the ANS Task Force in 1996. Results of the review panel are expected in FY 2005.

FY 2004 funds from the USFWS were matched with funds from the Department of Interior Office of Insular Affairs and the Department of Defense to continue construction of the barrier around Area 50 on Guam. Currently, over \$745,000 has been contributed to this effort.

In addition, the North American Brown Tree Snake Control Team (NABTSCT) is maintained by Texas A&M University, Kingsville, through a cooperative agreement with the USFWS. The objectives are to coordinate actions of agencies, organizations, and stakeholders to prevent brown tree snake introductions and provide rapid response capacity.

NABTSCT activities and accomplishments for 2004 include the following:

- Texas A&M University staff worked with NABTSCT members on Guam to learn habits and capture techniques in case these skills are needed for at-risk continental U.S. locations.
- A rapid response map was created to rank high-risk U.S. areas for pathway evaluation and management.
- Web-based coordination services at Texas A&M University are creating visual processes to quickly sort and classify sightings into Highly Likely, Possible, and Highly Unlikely categories for collaborative responses to any report.
- A web-based flow chart is being developed to guide NABTSCT members to appropriate contacts for collections or reports of sightings.

## CONCLUSION

This report is transmitted to fulfill the requirements of Section 1202(k)(2) of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended by National Invasive Species Act of 1996. The report highlights the collective activities of the ANS Task Force member agencies and *ex officio* members. The report demonstrates the success of the ANS Task Force in working collaboratively on regional, national, and international scales to fulfill its mission to develop and implement a program of waters of the United States to combat AIS.

We invite you to participate in ANS Task Force meetings, committee meetings, and Regional Panel meetings to learn more about ANS Task Force activities.