

MRBP Member Updates

October 2012

Alabama – Submitted by: Steve Rider, Alabama Division of Wildlife and Freshwater Fisheries

The Alabama Aquatic Nuisance Species Management Plan has been conditionally approved by the Aquatic Nuisance Species Task Force. The ANSTF has asked for a revised plan before official approval is granted. The revised plan will be resubmitted in early 2013 for review and approval at the spring 2013 ANSTF meeting.

Twelve Midas cichlids (*Amphilophus citrinellus*) were discovered in Little Schultz Creek in August 2011 by a graduate student from the University of Alabama. Little Schultz Creek is found in Bibb County and part of the Cahaba drainage. Subsequent sampling trips thru the end of August 2012 have not yielded any additional individuals.

Control and eradication efforts continue for Island Applesnails (*Pomacea insularum*) found in Langan Park and Three Mile Creek in Mobile. Two copper treatments were conducted in the Langan Park ponds and in Three Mile Creek this summer, along with 3 treatments to reduce emergent vegetation. Over 30 volunteers assisted with egg scrapping and adult collection along a 0.25 mile stretch of Three Mile Creek for one day this past summer with 427 applesnails collected.

Three large (>1150 mm TL) bighead carp were collected below Coffeenville Lock and Dam on the Tombigbee River in the spring during paddlefish sampling.

Two small (37, 50 mm TL) tilapia (*Oreochromis* spp.) were collected during river IBI sampling below Claiborne Lock and Dam on the Alabama River in August.

Arkansas – Prepared by: Brian Wagner, Arkansas Game & Fish Commission

Arkansas continues to move forward on our ANS Management Plan. The draft plan has been reviewed by the Arkansas Game & Fish Commission's administration and legal staff and their input has been addressed. Preliminary review by ANSTF raised several concerns, which we addressed to their satisfaction in a second review at this time. Once some minor final revisions are made, it will be presented to our Commission and Governor's Office prior to official submission to ANSTF. We are optimistic that this will happen in time for the Spring ANSTF meeting.

We continue to have public reports of Northern Snakeheads in and around the area of attempted eradication in eastern Arkansas. Our District Office in the area still gets frequent calls to report sightings, most of which turn out to be Bowfin, but several have been confirmed as Northern Snakeheads. With the enactment of the new labeling of rotenone, AGFC has discontinued its use in standard sampling, and we have still to find an effective alternative approach for investigating Northern Snakehead presence.

Indiana – Submitted by: Eric Fischer, Indiana Department of Natural Resources

Indiana Department of Natural Resources has continued to utilize our GLRI funding this year to combat a variety of Aquatic Invasive Plants. We are wrapping up our 6 consecutive year for a whole-lake Sonar treatment to eradicate hydrilla at Lake Manitou in North Central Indiana. Through 2011 we have achieved a 99.5% reduction in hydrilla tuber abundance. After 4 years the goal of eradication of parrot feather at Meserve Lake, a small natural lake in northeast Indiana looks to have been successful in having no new occurrences.

With the promotion of Doug Keller to Aquatic Habitat Coordinator, Indiana Department of Natural resource has appointed Eric Fischer the Aquatic Invasive Species Coordinator and primary representative to the MRBP.

A number of activities are underway to continue to understand more about Asian carp movement and stream usage downstream of the inter-basin watershed connection that occurs during flood stage at the boundary between the watersheds of the Maumee River (Great Lakes drainage) and the Wabash River (Mississippi drainage). For a second year Indiana DNR has contracted with Purdue University to continue to assess Asian carp movement and spawning in the upper Wabash. Having tagged/tracked 100 Asian carp in the Wabash River in the 2011, With plans to collect and track another 100 Asian carp in phase II of the research project. We hope to learn how far up in the Wabash they actually spawn, and preferable habitat use to aid in predicting potential spawning events and future control efforts.

Effective August 31st 2012 the Indiana Department of Natural resources implemented a new rule that prohibits the sale, exchange, or distribution of 28 Aquatic Invasive plants. Rule language found at : <http://www.in.gov/legislative/iac/20120829-IR-312120050FRA.xml.pdf> . The Division of Fish and Wildlife in partnership with the Division of Entomology and Plant Pathology will be visiting wholesale and retail outlets in the state to assure that prohibited species are not present on site and eliminated if found in trade. Of these 28 species the most popular currently in trade include flowering rush, Brazilian elodea (Anacharis), yellow floating heart, parrot feather, and yellow flag iris. The costs for eradication of Brazilian elodea from Griffy Lake at \$150,000 dollars and the \$50,000 dollar price tag for elimination of Parrot feather from Meserve Lake would not make sense if we continued to have retail stores offering these invasive species for sale.

Iowa – Submitted by: Kim Bogenschutz, Iowa Department of Natural Resources

The Aquatic Nuisance Species Program (DNR–ANS) staff consisted of 1 full-time Coordinator/Natural Resources Biologist, 1 full-time Natural Resources Technician, and 20 seasonal Natural Resources Aides (18 watercraft inspectors, 2 survey crew) in 2012.

Major accomplishments so far in 2012 include the following.

- Surveyed vegetation in 55 waterbodies. Duplicate or triplicate surveys were done on infested lakes to monitor growth of aquatic invasive plants. No new infestations of invasive aquatic plants were discovered.
- Chemically treated 27 waterbodies with Eurasian watermilfoil or brittle naiad.
- Surveyed zebra mussels in Clear Lake, Lake Rathbun, and Bluebill Lake.
- Placed 80 zebra mussel veliger settlement samplers in 28 lakes and reservoirs.
- Sampled water for zebra mussel veligers in 14 lakes and rivers.
- Monitored Asian carp distribution and reproduction in Iowa rivers and lakes.
- Purchased equipment for DNR Fisheries management stations to prevent the spread of ANS during operations
- Conducted over 10,000 watercraft inspections reaching over 30,000 people
- Leased 14 billboards with ANS prevention messages on interstate and state highways
- Distributed signs, brochures, identifications cards, posters, tattoos, maps, and regulations booklets; designed information kiosks; broadcast radio advertisements, a travelers information system, and local television programming; and conducted press releases, radio and television interviews, and presentations
- Supported 19 partnerships and cooperative projects
- Proposed changes to the Code of Iowa related to aquatic invasive species.

Iowa has three interior lakes with known infestations of zebra mussels: Clear Lake, Lake Rathbun, Bluebill Lake. Survey data from 2012 indicate that the adult zebra mussel population in Clear Lake appears to be similar to 2011; however, the number of juveniles sampled in August were higher than the past few years. No adult zebra mussels were found at Rathbun Lake, and none were found on the settlement samplers placed throughout the lake. No veligers were also collected in water samples taken from April through September in Rathbun Lake. This is the first year since 2008 that no veligers have been collected in water samples from Rathbun Lake. Zebra mussel settlement samplers were placed around the state in high use lakes and lakes flooded by infested rivers. A new zebra mussel infestation was indicated by the sampler in Bluebill Lake (2 miles from Clear Lake) and confirmed with additional sampling. A single zebra mussel was found on a sampler in September in Upper Gar Lake, which is part of a chain of lakes in Northwest Iowa. Additional sampling will occur throughout the fall to try to determine if additional zebra mussels are present in the system.

Bighead carp have been reported from the Missouri River and its tributaries and the Des Moines River in Iowa for the past 17 years. They have commonly been reported above Lock and Dam 19 on the Mississippi River and its tributaries since the early 2000's. Silver carp were first reported in Iowa in 2003 below Pool 19 and in the Des Moines River. Prior to 2011, silver carp had only been found in the Missouri River, Big Sioux

River, Mississippi River, Des Moines River as far upstream as the Lake Red Rock dam, and Chariton River below Rathbun Lake. The major flooding along the Missouri River in 2011 allowed both bighead and silver carp to expand their range into the Little Sioux River, its tributaries, and natural lakes in the watershed. In spring 2012, a commercial fishing company caught 55 silver carp and 82 bighead carp in East Okoboji Lake and one silver carp in Spirit Lake. A second netting effort in the same East Okoboji Lake location resulted in only two bighead carp and two silver carp. DNR-ANS staff conducted egg and larval surveys for Asian carp below Lake Red Rock (flood control reservoir on Des Moines River) during the spring and early summer of 2012. No eggs or larval fish were collected. A new state record bighead carp was caught by an angler from Rathbun Lake (flood control reservoir on Chariton River) in July. It weighed 93.5 pounds and was 18 years old. DNR-ANS and Fisheries staff were interviewed by Iowa Public Television in April for two programs on Asian carp. The segment on Market to Market aired in June, and the one on Iowa Outdoors aired in July.

In Iowa, it is illegal to possess, introduce, import, purchase, sell, barter, propagate, or transport aquatic invasive species. The Iowa DNR can list aquatic invasive species by rule and prohibit boating, fishing, swimming, and trapping in infested bodies of water. Proposed changes for 2013 include prohibiting the transport of aquatic vegetation, requiring water to be drained from all equipment before leaving a waterbody, and requiring drain plugs to be removed or open during transport. Another proposed change would allow the Iowa DNR to prohibit bait collection from infested waterbodies. Language would also be included stating that operators and haulers of water-related equipment are responsible for inspecting their equipment when removed from any waterbody or upon entering waters of the state. Equipment would also be subject to inspection by Iowa DNR staff who could prohibit a person from placing or operating water-related equipment in waters of the state if the person refuses to allow an inspection or refuses to remove and dispose of ANS, aquatic plants, and water. Three public input meetings were held in July to get comments on the proposed changes. In general, comments were favorable toward the proposed changes. Two state representatives and one state senator have agreed to sponsor the legislation to make the code changes.

Kentucky – Submitted by: Ron Brooks, Kentucky Department of Fish and Wildlife Resources

Carp distribution center requesting 100,000 pounds per week from late September through June. Big River maintains that they are going to get a distribution center in Kentucky. The Wickliffe facility has yet another prospective Chinese business trying to procure some funding.

Louisiana – Submitted by: Rob Bourgeois, Louisiana Department of Wildlife and Fisheries

Regulations

In order to restrict the commercial sale of “Louisiana wild caught” apple snails (*Pomacea* spp.) into the pet trade, the existing regulations have been modified to only allow the possession of dead apple snails. This action was caused by a fisherman asking what permits and regulations were in place so he can legally harvest and sell Apple snails to local pet stores.

Another regulation was amended to only allow the possession of dead Rio Grande Cichlids. Under the previous laws, a fisherman could not release the Rio Grande Cichlid back into the water nor could he possess it. Since Rio Grande Cichlids are commonly caught in New Orleans City park lagoon system and surrounding waterways, this law allows fisherman to legally possess the cichlids if they are dead.

Marine Species

LDWF staff continue to monitor the spread of lionfish in the Gulf of Mexico. Our research dive program has been monitoring fish assemblages at oil rigs. This program has documented the numbers and distribution of lionfish at these rigs sites. Additional sightings have been reported from recreation divers and spearfisherman.

Tiger shrimp harvests have been reported to LDWF. The numbers of sightings have increased since August. Currently, LDWF staff is collecting specimens to be included in a study looking at the genetic structure of the shrimp in the Gulf.

In August, two other exotics have been reported to LDWF. A Gaint Land Crab (*Cardisoma guanhumi*) was confirmed on Grand Isle, LA and a Pacific Swimming Crab (*Charybdis hellerii*) was captured in Barataria Bay.

Inland Species

Apple snails have been reported in more of the canals around the New Orleans area and the upper Barataria Basin, indicating either range expansion or improved reporting by the public. A new confirmed site of apple snails has been found in LaPlace, LA near New Orleans. It is unknown at this time if the recent floods from Hurricane Isaac have had any effect on the distribution of apple snails. We are planning a spring site visit to investigate the effects of the flood on the population. A site In Lafayette, LA appears to be Apple snail free without any known treatment. This site and downstream drainages will be monitored to determine if the population has been expatriated.

A single Rio Grande Cichlid was found in Lake Verret, LA (south central LA). Follow up electro shocking in the area did not show any additional Rio Grande Cichlids. With the amount of fishing pressure in this area, if there is an established population, we expect to get reports.

Following the 2011 flooding of the Mississippi River, Asian carp have located in a few new water bodies in both northern & southern LA. Biologists continue to track their progression throughout the state. Included are two maps which show the “new sightings” of Asian Carp in LA. Sightings in the waterways north of Lake Pontchartrain have been reported both by the public as well as our biologists.

Figure 1. Louisiana Asian Carp Spread 2011

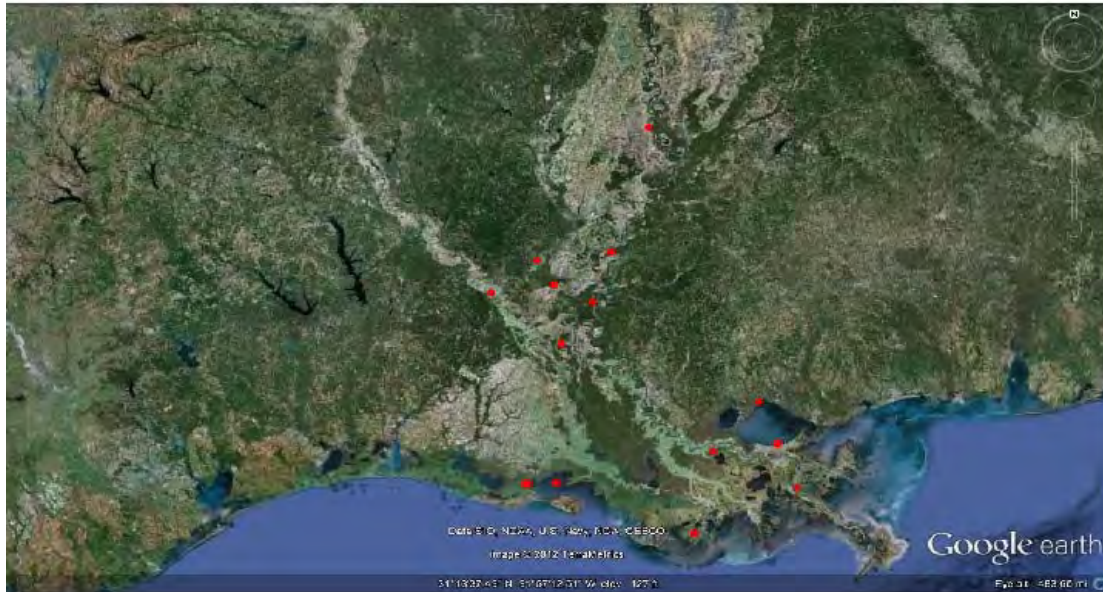
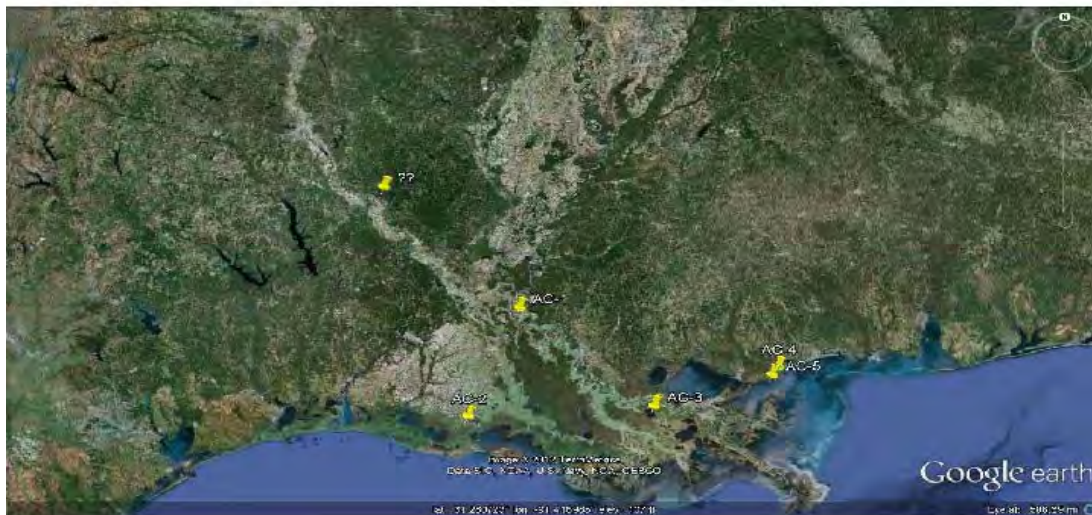


Figure 2. Louisiana Asian Carp Spread 2012



Research

LDWF will utilize our 2012 ANS grant to begin drift net sampling for Asian Carp next spring. We will look at ichthyoplankton to determine the status, relative abundance and distribution of Asian carp. This baseline information could be used to model

distributions, understand recruitment and metapopulation dynamics, assess impacts, and inform management of these aquatic invasive species.

Aquatic Plants

The Louisiana Department of Wildlife and Fisheries (LDWF) treated 75,414 acres of nuisance aquatic weeds in fiscal year 2011-2012. These herbicide applications were completed by both LDWF spray crews and private spray contractors. Statewide spring aquatic weed estimates for our major nuisance species during the past five years are found in Table 1. The giant salvinia estimate is deceiving because integrated management efforts have been successful in some north Louisiana impoundments. Much of the estimated 32,237 acres is located in the Barataria-Terrebonne marsh and the Atchafalaya Basin in south Louisiana. These are large, open systems which make giant salvinia control very difficult.

In past years, the U.S. Army Corps of Engineers (USACE) has provided approximately 30,000 acres of annual aquatic plant control in south Louisiana, most of which was herbicide applications for water hyacinth. Their Removal of Aquatic Growth Program did not receive funding for 2012. LDWF has assumed the plant control responsibilities in these areas with no increase in budget. Contract sprayers have sprayed a total of 159 days in Henderson Lake, Belle River, and the Terrebonne Marsh in 2012. There are 46 days of spraying remaining on current work orders. These areas were previously controlled by the USACE.

Giant salvinia has been a major focus of aquatic plant control efforts in Louisiana since 2006. The combination of herbicide applications, water level fluctuation, and biological control is being used to keep giant salvinia coverage at a level that allows for recreational use of the waterbodies. Floating boom material is being used on several lakes to restrict the movement of giant salvinia from shallow nursery areas to main lake areas where much of the boating and recreation takes place. These booms also collect the salvinia and provide a location for repeated herbicide treatments.

Giant salvinia weevil stocking effort has increased over the past year. LDWF has entered into a contract with the USACE experiment station in Lewisville, TX to raise the weevils in greenhouses and to stock them and monitor population levels in Caddo Lake, Lake Bistineau, Wallace Lake, Clear-Smithport Lake, Saline Lake, and Turkey Creek Lake. Weevil transplants in the early spring will continue in 2013. An agreement with the LSU Agricultural Center provides the giant salvinia weevils that are stocked into public waterbodies throughout south Louisiana. The majority of these weevils are stocked into the Barataria and Terrebonne marshes, and the Atchafalaya Basin.

Table 1. LDWF Spring Weed Estimates for 2008-2012.

Plant	1 st Year	Acres of Infestation				
		2008	2009	2010	2011	2012
Water Hyacinth	1884	128,595	134,413	86,530	80,750	90,197
Hydrilla	1975	118,017	98,352	75,810	66,925	47,481
Common Salvinia	1980	208,450	188,815	102,082	49,735	30,247
Giant Salvinia	1998	6,560	13,691	2,706	25,076	32,237

Outreach

A large effort is being made for better public outreach/education.

- Joint booths with LDWF Aquatic Outreach section:
 - Cub scout day camp – 1
 - Expos & Boat Shows – 6
 - Career Fair/workshops – 2
 - Tournaments/ Rodeos – 3
 - Festival/Fair/Family events - 9
- New Brochures/Handout:
 - Northern Snakehead vs Bowfin (Choupique)
 - Lion fish

New brochures/posters are being developed to raise awareness and to educate the public on the proper disposal of unwanted aquatic pets.
- In addition, to the Spring City Parks Big Bass and Rio Grande Rodeo, LDWF has started a Fall Rio Grande Rodeo to try to reduce the number of large overwintering cichlids.
- LDWF has responded to media requests for Gaint Salvinia, Rio Grande Cichlids, Apple snails and Tiger shrimp.
- Facebook:

LDWF is taking full advantage of the social media network, posting brochures, links, and articles about ANS species/concerns. To date, information on Tiger Shrimp, Rio Grande Cichlids & Northern Snakehead have been shared.

Mississippi – Submitted by Dennis Riecke, Mississippi Department of Wildlife, Fisheries & Parks

New Activities since December 2011

As Southern Division, AFS Resolutions Chairman I worked to guide consideration and voting on a SDAFS *Resolution On The Federal Funding For Programs To Prevent, Control, And Manage Aquatic Invasive Species*. The SDAFS membership approved this resolution in January 2012 and voted to send it to the Parent Society for consideration. The AFS Resolutions Committee sent a revised version of this resolution to the AFS Governing Board in July 2012. The AFS Governing Board approved sending the resolution to the AFS membership for a vote in August 2012. The resolution should be published in a future issue of *Fisheries* along with a 30 online comment period and a 30 day online voting period. The resolution urges the Congress of the United States to appropriate \$61,000,000 on an annual basis to fund the Regional Panels (\$6,000,000), the State/Interstate Plans (\$53,000,000), the Quagga-Zebra Mussel Action Plan, (\$1,000,000) and to fund the USGS Aquatic Nuisance Species Database (\$1,000,000) for prevention, control and management of nonnative aquatic invasive species.

A SDAFS *Resolution on Federal Funding for Implementation of the Management and Control plan for Bighead, Black, Grass, and Silver Carps in the United States* was published in the summer 2012 SDAFS newsletter and advertised for comment on the SDAFS website. The comment period ended on Sept. 1, 2012. The next step is submission to the SDAFS membership for a vote either online or at their Feb. 2013 annual business meeting. The resolution urges the Congress of the United States to appropriate \$286,000,000 over 20 years to fully implement all the strategies and recommendations contained in the *Management and Control Plan for Bighead, Black, Grass, and Silver Carps in the United States* as approved by the Aquatic Nuisance Species Task Force in 2007.

Heavy rainfall from Hurricane Isaac in August 2012 killed an estimated 20,000 nutria along the Mississippi Gulf Coast.

Ongoing Activities

The *Mississippi State Management Plan for Aquatic Invasive Species* was sent to the National ANS Task Force in January 2010 for their review and extensive comments were received. All these comments were addressed in the revised plan document. Another public comment period will commence soon. We expect to submit the plan at the next ANS Task Force Meeting for their approval.

Continued posting “Stop Aquatic Hitchhiker” signs at new boat ramp sites.

Reprinted and continued distributing “Stop Aquatic Hitchhiker” cards along with all boat registrations or renewals that are mailed out.

Continued printing The Stop Aquatic Hitchhiker logo and bullet list in the annual regulation guides --- *Mississippi Outdoor Digest* and *Guide to Mississippi Saltwater Fishing*.

Links to the Mississippi River Basin Panel on Aquatic Nuisance Species and the Gulf and South Atlantic Panel on Aquatic Invasive Species, Stop Aquatic Hitchhiker and Habitattitude websites are on the department website.

The Mississippi Museum of Natural Science has a permanent exhibit on exotic species.

The Mississippi Department of Marine Resources has been monitoring and treating Giant Salvinia (*Salvinia molesta*) and other invasive plants in the Pascagoula River system.

Future Activities

Implement the activities specified in the Mississippi State Management Plan for Aquatic Invasive Species.

Compose freshwater fishing bait regulations to specify what bait can be legally, sold, possessed, transported and used in Mississippi.

Seek approval of legislation required to initiate licensing of retail bait outlets selling live freshwater fishing bait.

Adopt a list of approved, restricted and prohibited species under the authority specified in MS Code 49-7-80 and as specified in the *Mississippi State Management Plan for Aquatic Invasive Species* Amend list of approved, restricted and prohibited species as specified in the public notice that regulates aquaculture activities in Mississippi.

Establish an EDRR monitoring program comprised of state and federal personnel who sample aquatic species in Mississippi public waterways on a routine basis.

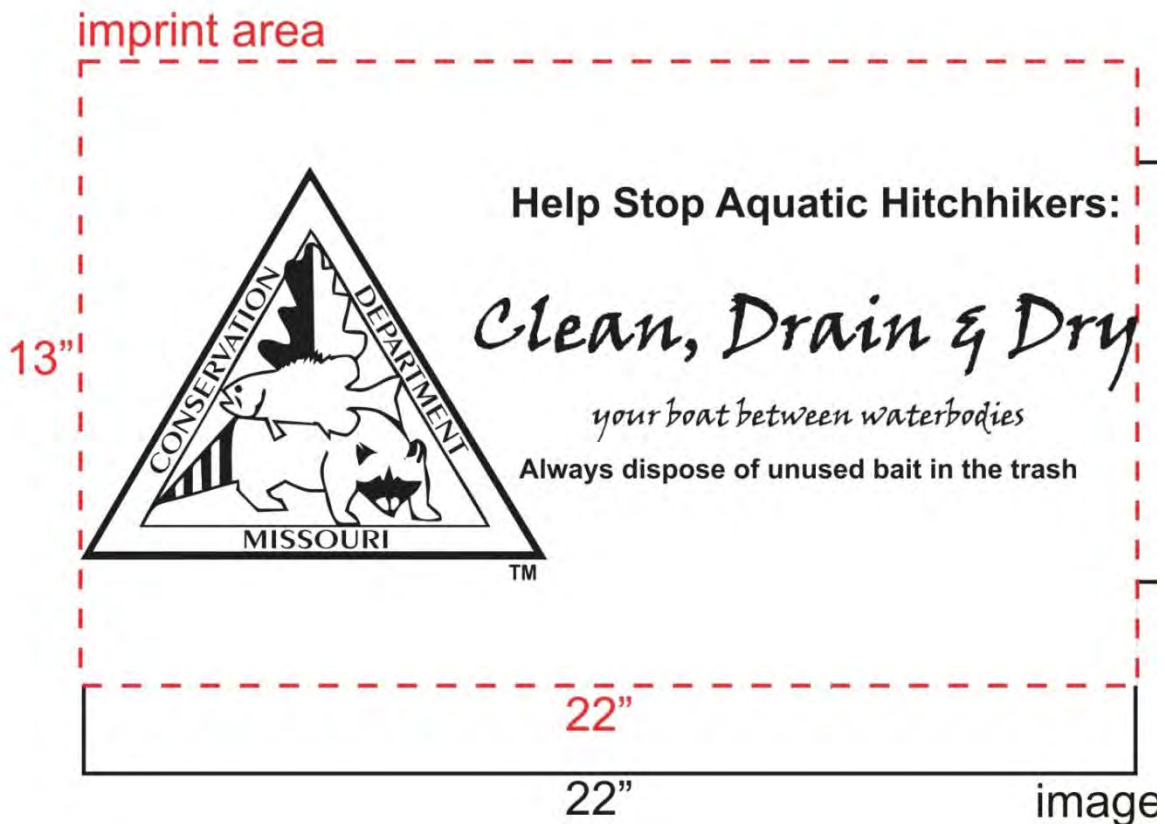
Update and expand information for Mississippi contacts listed in the Expert Taxonomic Database.

Missouri – Submitted by Tim Banek, Invasive Species Coordinator, Missouri Department of Conservation

1. Continued implementing the Missouri Department of Conservation's fish hatchery biosecurity plans by using the ANS Task Force Grant to purchase supplies identified in the plans to prevent transferring non-target species or diseases into, within, and from Missouri's fish hatcheries.
2. Aired a 30-second "Stop Aquatic Hitchhikers" paid radio spot for a week prior to Memorial Day. The ad aired on 61 stations of the Missouri Net.
3. A regulation prohibiting the sale of crayfish for live bait became effective in March 2012. The regulation was adopted to protect endemic crayfish populations from being invaded by crayfish species not native to a particular watershed. However, the aquaculture industry strongly opposed the regulation and their resistance has prompted the Director's office to delay enforcement of the regulation until a working group can determine if options are available that would satisfy the aquaculture industry and still protect native crayfish populations.
4. Someone anonymously reported a large houseboat from Eufaula Lake, OK that was to be launched in Table Rock Lake had zebra mussels attached to it. Regional fisheries biologists worked with the boat owner to have it decontaminated. The boat was inspected and found it to be free of zebra mussels before it was allowed to launch. Although it delayed the boat owners and added to their expense, they were very cooperative and happy to comply with the decontamination process.
5. A wetland and aquatic invasive species plant workshop was organized for MDC, city, county, federal and other professional staff at Powder Valley Nature Center near St. Louis, MO. Several plant experts from within Missouri and from out-of-state presented information on a number of aquatic plants. Speakers were asked to bring plant specimens with them that were displayed in aquaria and allowed attendees to observe the actual plants. Plant history, biology, detrimental effects, ID and control options were covered. The workshop was well attended and evaluations were very positive. The workshop causing an increased awareness resulting in the first known *Hydrilla verticillata* record in Missouri being discovered within two weeks after the workshop.
6. Coast Guard Auxiliary members are conducting 100th Meridian Surveys and Inspections on private watercraft at five Missouri reservoirs in 2012. The intent is to continue educating Missouri boaters about aquatic invasive species and teach them how to prevent spreading them.
7. Ordered additional promotional hand towels (see below) with the Clean Drain and Dry message focusing on containing the spread of zebra mussels by targeting anglers and boaters that frequently travel between waters within days. Coast Guard

Auxiliary member were supplied towels to give to boat owners that cooperated by agreeing to participate in 100th Meridian Surveys and Inspections.

8. A rapid response was conducted on a private pond after variegated water clover (*Marsilea mutica*) was reported. MDC staff provided the herbicide and made the initial applications. The pond owner has purchased herbicide and is following up with applications in an effort to eradicate the plant.
9. Zebra mussels were discovered in one new Missouri location in 2012. While working on the water control structure the USACE found attached adult zebra mussels at Smithville Lake. Further investigation revealed one adult zebra mussel attached to a courtesy dock located at Camp Branch Marina, the area where a zebra mussel eradication attempt was conducted in 2010 after a contaminated boat lift was installed at the marina without being decontaminated. Whether the zebra mussels resulted from the contaminated boat lift or some other source is unknown.
10. Lastly, the attached letter was drafted for the Conservation Federation of Missouri in support of increased federal funding for state ANS plans and in support of the FWS's National Asian Carp Plan.





Conservation Federation of Missouri

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Richard Ash
President

Dave Murphy
Executive Director

July 11, 2012

Dear Missouri Congressional Delegates:

The Conservation Federation of Missouri requests your support for federal funding to prevent further introductions of aquatic invasive species and to control aquatic invasive species that are currently invading Missouri, threatening our state's economy and putting our native species and aquatic communities at risk. It is estimated that cost to mitigate and control aquatic invasive species in the U.S. is more than \$138 billion annually. Invasive species are also at least partly responsible for nearly half of the threatened or endangered species listed under the Endangered Species Act.

Missouri's Aquatic Nuisance Species Plan was completed and approved by the Aquatic Nuisance Species Task Force in 2008. However, the grant program was never fully funded. In federal FY 2012 Missouri's portion has dwindled to \$25,437, while the eight Great Lakes states averaged \$1 million per state through the Great Lakes Restoration Initiative (GLRI) to implement their approved ANS plans. Furthermore, funding for implementing Missouri's plan is in danger of being totally eliminated in federal FY 2013. Much of Missouri's aquatic invasive species prevention efforts such as, supplies for fish hatchery biosecurity plans, monitoring zebra mussel populations, conducting early detection sampling, and public education and information efforts to prevent citizens from spreading aquatic invasive species are funded by this grant. It is more cost effective to prevent an invasive species from invading new waters than trying to eradicate or control it once it becomes established.

The Mississippi Interstate Cooperative Resource Association (MICRA) is an organization made up of 28 states within the Mississippi River Basin. MICRA developed *An Action Plan to Minimize Ecological Impacts of Aquatic Invasive Species in the Mississippi River Basin* to address invasive species. This Plan focuses MICRA's collaborative efforts to lead a strategic, action-oriented approach to minimize the risk of aquatic invasive species introduction and leads collective efforts to implement integrated pest management approaches to contain and control established aquatic invasive species populations.

"Guarding Our Natural Heritage"

www.confedmo.org

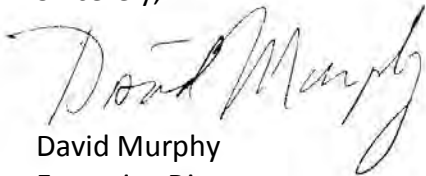
Asian carp are not only a serious concern of the Great Lakes states. Asian carp continue to invade new areas of the Mississippi River Basin and have invaded the Missouri River and its tributaries in Missouri and states upstream as far as central South Dakota. The U.S. Fish and Wildlife Service have developed a national plan to address Asian carp, *Management and Control Plan for Bighead, Black, Grass, and Silver Carps in the United States*. The plan has been approved, but implementation has not been funded.

The Conservation Federation of Missouri respectfully requests that you support funding to implement MICRA's action plan, the national Asian carp plan and funding to assist states with controlling aquatic invasive species that are threatening native species, state's economies and your constituent's safety.

State Wildlife Grants have funded many invasive species projects in Missouri, but funding for State Wildlife Grants is at risk of being cut completely from the federal FY 2013 budget. Losing this revenue will significantly reduce the on-the-ground work related to invasive species prevention and control in Missouri. The Conservation Federation of Missouri urges you to find a way to maintain funding for the State Wildlife Grant program to ensure that efforts to fight invasive species and improve fish and wildlife habitat will continue in Missouri.

Thank you for your consideration of supporting essential funding to prevent and contain invasive species.

Sincerely,



David Murphy
Executive Director

Below are websites with more information on the documents or plans referenced in this letter:

Missouri ANS Plan:

http://anstaskforce.gov/State%20Plans/MO_ANS_Management_Plan.pdf

MICRA's Action Plan:

<http://micrarivers.org/resource-materials/micra-documents/category/10-action-plans.html>

U.S. Fish and Wildlife Service Asian Carp Plan:

http://www.asiancarp.us/documents/Carps_Management_Plan.pdf

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Montana – Submitted by: Eileen Ryce, Montana Fish, Wildlife & Parks

Watercraft Inspections

As of Aug 26, 2012, MFWP watercraft inspection crews have inspected over 18,000 boats. Over 100 fouled boats have been intercepted including boats contaminated with Dreissenid mussels, New Zealand mudsnails and Eurasian watermilfoil. Eight seasonally permanent watercraft inspection locations were established in May, with 4 crews roving to various waterbodies throughout the season. Locations and waterbodies were selected with partner input prior to the start of the season. MT Department of Agriculture has also established crews in EWM management areas.

FWP Early Detection and Monitoring

Waterbodies surveyed in Montana are prioritized based on: previous years' work, angler/boater pressure, water quality data, risk of introduction, etc. There are two technicians trained in monitoring for the AIS program. Regional fisheries biologists have also been trained throughout central and eastern MT. AIS early detection and monitoring includes: invertebrate and macrophyte sampling, and plankton sampling for veligers (samples processed at the FWP lab in Helena). Priority locations for sampling include the 10 state, 3 federal, and 12 private hatcheries. Almost 300 sites in 38 waterbodies were sampled in 2011. Sampling is ongoing for 2012.

Dreissenid Veliger Lab

Montana's lab is processing the majority of plankton samples for the Missouri River Basin. In 2011 this included almost 800 samples processed for 7 states. Similar numbers are expected for 2012.

Inspect, Clean, Dry Campaign

The Inspect, Clean Dry Campaign was established in 2010. At the time the campaign began, a survey of public knowledge of AIS was conducted. A pre and post survey has been completed and a second post survey is planned for Fall of 2012. The data from the survey is helping establish whether the survey is being effective at increasing awareness and changing behavior.

New Bait regulations in areas with EWM areas

The new rules stipulate restrictions on bait use in areas which have been identified as contaminated with Eurasian watermilfoil in the Missouri River drainage.

New bait restrictions within the contaminated bodies of water are:

- Possession of bait (dead or alive) is permitted as allowed in the fishing regulations
- Transport of bait to and from a contaminated area is allowed either dry (e.g. earthworms in dirt) or in uncontaminated water (e.g. transferring minnows from lake water to well water).

- Collection of bait animals, including commercial seining is not permitted within the above contaminated areas.
- Transport of live fish is allowed if the fish are transferred from lake or river water to uncontaminated water (e.g. transport in well water).
- Upon leaving any body of water, all boats AND equipment (including bait buckets) must be free of Eurasian watermilfoil.

Ohio – Submitted by John Navarro, Ohio Department of Natural Resources

Ohio is currently revising their AIS State Management Plan which needs to address the quickly changing AIS landscape. The Plan will go through both internal and external review and will incorporate a Rapid Response component. Ohio and Indiana hosted a Rapid Response table-top exercise in Ft Wayne, Indiana on August 28th and 29th. State, federal, university, and NGO's participated in this exercise that included instruction on the Incident Command System and a mock planning exercise dealing with a specific AIS scenario. Ohio is currently monitoring for Asian carp in the Ohio River and Lake Erie using traditional collection methods and eDNA. Ohio is working closely with the USACE to determine the threat of several hydraulic connections to pass AIS between the Mississippi River and Great Lakes Basins. Ohio continues to work with several partners to combat Phragmites and Hydrilla.

Oklahoma – Submitted by Curtis Tackett, Oklahoma Department of Wildlife Conservation

Outreach

ANS information was published in the 2012 Oklahoma Fishing Guide to inform anglers about ANS alerts and precautions to follow to prevent the spread of invasive species. Numerous short videos were produced about ANS for the Outdoor Oklahoma television show, you tube, and the ODWC website. Several professional presentations and presentations to user groups such as boaters and anglers were given to spread awareness about ANS. With using a donation given by the US Boat Foundation, ODWC had tournament angler cards printed which display the Check, Drain, Dry message and tips on keeping bass alive. ANS material was printed in the Outdoor Oklahoma magazine.

Sampling

ODWC continued zebra mussel veliger sampling with the USFWS in the spring of 2012. A total of 18 lakes were sampled using plankton tows. Samples are currently being analyzed by Oklahoma State University.

Following reports by anglers of silver carp in Southeast Oklahoma, ODWC conducted electrofishing and gill net surveys on the Kiamichi River and other small tributaries of the Red River in Southeast Oklahoma. Prior to this study, incidental capture of

individual bighead carp had been reported from the Neosho River and Grand Lake, and from the Red River; no silver carp had been reported from Oklahoma. However, in response to several reported sightings by anglers in the Kiamichi River during spring of 2012, we conducted a survey for silver and bighead carp in the Kiamichi River and three other lentic systems in Choctaw and McCurtain counties in southeastern Oklahoma. We used electrofishing gear and gill nets to sample over 5 days during June, 2012. In so doing, we captured a total of 13 *Hypophthalmichthys*, including five silver carp and eight bighead carp, and we collected or detected them in three of the four water bodies sampled. Among the fish captured, we measured weight, length, and egg mass (of females), and removed pectoral spines to determine age. Silver and bighead carp appear to be well established in southeastern Oklahoma, and it is likely that they are reproducing.

Regulation Proposals

Three rule change proposals were submitted regarding ANS.

1. Addition of the Australian Red Claw crayfish and Rusty Crayfish to Oklahoma's restricted species list.
2. No person may leave waters of the state in possession of live non game bait fish, including minnows or shad, unless they possess a receipt of purchase for all bait in their possession or a commercial minnow dealer's license.
3. Allowing anglers to possess bighead and silver carp only for reporting purposes.

West Virginia – Submitted by Frank Jernejcic, West Virginia Department of Natural Resources

We have just started discussions about the best way to monitor for the presence of Asian carp in the West Virginia reach of the Ohio River. Our initial plan is to place ANS posters at public access sites and monitor public reports.

In 2011, we initiated a policy and procedures for aquatic nuisance species and fish disease control to protect the aquatic species inhabiting West Virginia's public waters. These procedures are required for all West Virginia Division of Natural Resources (WVDNR) staff, as well as any governmental agency, individual, or private company operating in West Virginia public waters under the authority of a WVDNR issued scientific collecting permit (WV State Code 20-2-50) or as a WVDNR cooperator. Our major concerns at this time are for preventing VHS entering the state, and reducing the spread of zebra mussels. Fish health monitoring of selected impoundments and rivers has detected largemouth bass virus but not VHS.

Golden algae have not been detected during monthly sampling since causing a fish kill on Dunkard Creek in September, 2009. Reduction of the high salinity deep mine discharges that promoted the bloom have apparently been successful in eliminating the conditions necessary for a bloom.

Wyoming – Submitted by: Beth Bear, Wyoming Game and Fish Department

Legislation

- 2012 legislation will require all conveyances (watercraft, water hauling truck, etc.) entering Wyoming from out of state to be inspected prior to contacting or entering Wyoming waters.
- Legislation also allows for watercraft check stations to be established at Port of Entries of other locations near borders.

Outreach

- A new outreach campaign targets a variety of water users and focuses on the Drain, Clean Dry messaging. Six brochures were developed for General audience, Motorized boaters, Non-motorized boaters, Anglers, Waterfowl hunters, and Water transportation systems.
- Outreach materials under development include billboards, a poster identifying several aquatic invasive species of concern, and a brochure educating people not to release aquarium pets.

Watercraft Inspections

- Through the end of August 2012, a total of 35,591 watercraft inspections have been conducted. This includes 204 high risk inspections and 92 decontaminations.
- In 2013 watercraft inspections will shift from being conducted at waters or boat ramps to 10-12 Port of Entry/border locations and 6 roving water crews.

Monitoring

- 52 waters were surveyed for aquatic invasive species during 2011.
 - All samples were negative for larval zebra/quagga mussels.
 - Curly pondweed was found in Lake DeSmet in northeast Wyoming.
 - Asian clam were found in the Laramie River in southeast Wyoming.
- Monitoring is underway for the 2012 season with 52 waters scheduled to be sampled. Fifteen high risk waters are sampled twice a season (July and October), and all other waters are sampled once (October).

At-Large Member – Submitted by: Peter Sorensen, University of Minnesota

The AFS symposium sponsored by the MRBP, “The Biology and control of invasive fishes: lessons across species and regions’ went extremely well. It lasted two days, attracted two dozen speakers including speakers from Japan, China and Australia, and was very well attended. Peter Moyle’s keynote talk on how much of fisheries management usually now involves managing invasive fish in highly modified environments seemed especially germane. Many speakers thanked the MRBP and I think we got good recognition. The symposium may serve as a foundation for a book. The University of Minnesota has been awarded nearly 4 million dollars to establish a new cooperative AIS research center and more funding promised in 2013. The center will be seeking to hire faculty with expertise in zebra mussels, diseases of invasive fish, Asian carp and extension in the next year. Please let Peter know if you know any good candidates. The center is currently working with the USGs and MN DNR to re-test Mississippi River waters for Asian carp eDNA. The state legislature also awarded the MN DNR 7.5 million dollars to design and implement Asian carp barriers. Barr Engineering is presently examining the feasibility of constructing a new barrier in lock & Dam #1 s in the Mississippi River. The DNR has also hired commercial operators to fish for Asian carps. All elements of the MN Asian carp action plan are thus being implemented. There have been several new reports of zebra mussel infestation in local lakes this summer.

Louisiana Sea Grant – Submitted by: Julie Anderson, Louisiana Sea Grant

Louisiana Sea Grant (LSG) has been involved with outreach and public awareness of AIS. First, LSG promoted public awareness of AIS at numerous educational events. These included Louisiana Earth Day (Audubon Zoo and Baton Rouge) and Ocean Commotion (over 2,000 2nd-8th graders; and 400+ teachers and chaperones). Recipes for AIS and educational articles have been featured in the monthly fisheries letter *Lagniappe* (2000+ subscriptions).

LSG updated their marine education resource pages including the invasive species topic page: <http://www.lamer.lsu.edu/invasivespecies/index.html>.

U.S. Forest Service – Submitted by: Nick Schmal, U.S. Forest Service

See attached report.



NON-NATIVE INVASIVE SPECIES

Eastern Region Program Accomplishments 2011



Buckthorn (Rhamnus cathartica)



Goatsrue (Galega officinalis)



Zebra mussel (Dreissena polymorpha)



Emerald ash borer (Agrilus planipennis)



Feral pigs (Sus scrofa)



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USDA Forest Service - Eastern Region Invasive Species Management

2011 Program Accomplishments

CARING FOR THE LAND AND SERVING PEOPLE ... the mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations. Further, the Forest Service advocates a conservation ethic in promoting the health, productivity, diversity, and beauty of forests and associated lands; to that end the control of non-native invasive species is paramount to the agency's mission. On December 5, 2011 the Forest Service announced the publication of its first ever national-level direction on the management of invasive species across aquatic and terrestrial areas of the National Forest System. "Invasive species cost the American public an estimated \$138 billion each year. They deplete water supplies, destroy recreation opportunities and damage landscapes across the country" said U.S. Forest Service Chief Tom Tidwell. "We are taking this bold approach to better protect our nation's forest and water resources from the threat of invasive species." As follows is a summary of this document.

FSM 2900–Invasive Species Management. Amendment no. 2900-2011-1. Effective Date = 2/5/2011. This new chapter replaces FSM 2080 (noxious weed management). Management activities for aquatic and terrestrial invasive species are based upon an integrated pest management approach on all areas within the NFS and on areas managed outside of the NFS under the authority of the Wyden Amendment, prioritizing prevention and early detection and rapid response actions as necessary. All NFS invasive species management activities will be conducted within the following strategic objectives: 1) Prevention 2) Early detection & rapid response 3) Control & management 4) Restoration 5) Organizational collaboration. Also relevant to our Forests is the discussion about Regional Forester, Forest Supervisor, and District Ranger responsibilities.

The Forest Service is also developing a handbook to accompany the recently released FSM 2900. This handbook (FSH 2900) will provide detailed instruction for implementing invasive species management on National Forests and other NFS units. Furthermore, the agency is also revising the National Invasive Species Strategic Framework (formerly known as the National Invasive Species Strategy) with a target completion date of late 2012.

FS Eastern Regional accomplishments:

Midwest Invasive Plant Network (MIPN) Partnership Agreement (\$20,000): MIPN's mission is to reduce the impact of invasive plants in the Midwest. MIPN includes a diverse group of participants and partners and currently has five committees: Green Industry, Early Detection & Rapid Response, Education, Research, and Fundraising. The Network is guided by a Board of Directors and an Advisory Council. In December 2011 MIPN partnered to offer presentations in conjunction with the 66th Annual Meeting North Central Weed Science Society. Hosted in Milwaukee, WI, a number of FS Eastern Region Forest employees were able to participate. <http://mipn.org/> MIPN also received funding via the Great Lakes Restoration Initiative (GLRI), an interagency program led by the Environmental Protection Agency. The purpose of the GLRI is to protect, maintain, and restore the chemical, biological, and physical integrity of the Great Lakes. Funds allocated to MIPN for the GLRI were used for priority projects in the following areas: Accountability, Monitoring, Evaluation, Communication, and Partnerships.

Guidance for Eastern Region NNIS Best Management Practices: This is now in draft stage, to be released in the next several months.

White-Nose Syndrome (WNS) in Bats: The Eastern Region is home to 14 bat species. WNS, a disease fatal to many bats, has now affected seven species and spread to 15 states within the Eastern Region. The Region responded to the crisis by: closing access to hibernacula; helping to develop the interagency National WNS Plan; accessing pre-WNS maternity season populations; and preparing the Region's WNS Regional Response Plan. The Region has set aside 'special emphasis funds' to address key national WNS Plan goals. The Eastern National Forests allocated nearly \$475,000 for WNS projects and partners contributed \$86,000.

Outreach and Education Partnerships:

Wildlife Forever - The Eastern Region is working with Wildlife Forever, and others, to reach the hunting and angling community about the invasive species issue. Wildlife Forever is the national non-profit conservation arm of the North American Hunting Club and North American Fishing Club whose combined members total 1.3 million sportsmen and women. Wildlife Forever is able to focus on multi-species - aquatic and terrestrial – projects and with conservation education as a primary mission orientation. Outreach projects in FY2011 included the production and airing of a conservation education television program about invasive species in the Great Lakes region; presentations and dissemination of printed materials at trade shows, outdoor expos, and fishing tournaments; and a billboard campaign that reached tens of millions of people. Financial support for this partnership in FY2011 included \$20,000 from NFWF01 and \$411,000 from the inter-agency Great Lakes Restoration Initiative (NFXFA6).

National Professional Anglers Association (NPAA) – The Eastern Region also worked cooperatively with NPAA to teach youth and their families about the threat of aquatic invasive species and steps that individuals can take to prevent their spread. This partnership reached hundreds of people in the region as NPAA pros and Forest Service staff hosted fishing derbies and provided information about aquatic resources and aquatic invasive species.

Discovery World - The Eastern Region partnered with non-profit Discovery World in Milwaukee, Wisconsin to support the development and delivery of a dedicated public education program about aquatic invasive species called the “Great Lakes Most Unwanted” (GLMU). Targeting audiences from grades K-12, the GLMU program meets school curriculum standards by enlisting student participation in workshops presented by the Great Lakes Water Institute, a Building the Water Generation Lecture Series co-funded by corporate partner AT&T, Spring Break and Summer Camps, and experiential education schooner voyages to learn about aquatic organisms on Lake Michigan. A permanent Asian Carp tank and educational display was also installed at Rieman Aquarium using support provided by Forest Service and Wisconsin Department of Natural Resources. Over 230,000 people benefitted from this integrated, multi-dimensional learning program. Funds from the FY2010 Great Lakes Restoration Initiative (\$48,000) were placed in this partnership, with the majority of the work performed in FY2011. The Forest Service contribution to this project leveraged over \$70,000 in non-federal funds.

Regional Inter-Agency Coordination. The Eastern Region participates actively in two regional panels of the Aquatic Nuisance Species (ANS) Task Force. The ANS Task Force is an intergovernmental organization dedicated to preventing and controlling aquatic nuisance species, and implementing the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) of 1990 and the National Invasive Species Act (NISA) of 1996. Our participation in the Great Lakes Panel and the Mississippi River Basin Panel of the ANS Task Force help us to coordinate our efforts for dealing with aquatic NNIS with those of other state and federal government agencies and nongovernment organizations. Regional panels meet bi-annually and have issue-oriented committees and work groups that interact on a more regular basis.

FS Northeastern Area State and Private Forestry. Forest Health Protection programs emphasize protecting the long-term health and sustainability of our forests. Our major responsibilities are to assist the States with implementing their forest health programs and to provide forest health support on National Forests and other federal lands. Activities include identification and evaluation of insect and disease problems, provision of resource materials and management recommendations in forests and nurseries, training in hazard tree management, and assistance with major forest pest control projects. For Eastern Region information and activities relating to: emerald ash borer; hemlock woolly adelgid; Asian longhorned beetle; beech bark disease, etc. please refer to the following link: <http://www.na.fs.fed.us/fhp/index.shtm>

The following Northeastern Area employees have expertise and knowledge of area programs for specific important invasive insects and diseases: Rick Turcotte – Hemlock woolly adelgid (biological and chemical controls); Nate Siegert – Emerald ash borer (management responses to EAB); Brad Onken – Beech bark disease (genetic resistance and management responses); Kevin Dodds – Asian longhorned beetle (species preference and insect behavior); and Manfred Mielke – Thousand canker disease (introduction); Butternut canker (genetic resistance and marking guides).

FS Northern Station. There is a critical lack of information on how to detect invasive pests, how to minimize their impact and how to develop resistance. The Northern Research Station is addressing some of these needs for important invasive pests. The following Northern Station employees have research programs dealing with specific important invasive insects and diseases: Leah Bauer – Emerald ash borer (biological control); Mike Ostry – Butternut canker (genetic resistance); Kathleen Knight – Emerald ash borer (ash population dynamics); and Jennifer Koch – Emerald ash borer (possible genetic resistance) Beech scale (genetic resistance).

**Eastern Regional Office
626 E. Wisconsin Avenue
Milwaukee, WI 53202**

Contact: Jan Schultz, Non-native Invasive Species Program Leader, 414.297.1189 or jschultz@fs.fed.us



Allegheny National Forest

2011 Invasive Species Accomplishments

Non-native Invasive Plant Treatments: Non-native invasive plant (NNIP) treatment projects occurred across the Allegheny National Forest (ANF) and totaled 53.4 acres. Through Stewardship contracting and with members of the prison crew, Youth Conservation Corps (YCC), and ANF staff, chemical and mechanical treatments were completed, including: herbicide application with backpack sprayers; hand pulling/digging; and digging with a back hoe. Control emphasized the removal/reduction of plants/seed sources in order to limit expansion of extant populations. Targeted species included: garlic mustard, goatsrue, multiflora rose, Japanese barberry, Canada thistle, Morrow's honeysuckle, glossy buckthorn, and purple loosestrife.



Goatsrue (*Galega officinalis*)

Hemlock Woolly Adelgid Monitoring: Using existing hemlock classification and hemlock woolly adelgid (HWA) risk (susceptibility and vulnerability) maps, surveys started in the southeast corner of the ANF (portion of the ANF in closest proximity to nearest known HWA site in Pennsylvania) and moved northwest assigning priority to stands with large influxes of recreation users. In total, 32 stands comprising 293 acres were surveyed and no evidence of HWA was detected.

Allegheny National Forest
4 Farm Colony Drive
Warren, PA 16365
Contact: Collin Koers 814 .728. 6142 or ckoers@fs.fed.us

Zebra Mussel Monitoring: To prevent introduction of zebra mussels into the Allegheny River, 825 boaters were randomly screened at two Forest Service boat launches using a predetermined set of questions developed to ensure boats with a high risk of harboring the species were not launched. Also, for boats that were launched without being screened, their trailers (1,749) were inspected in parking lots for evidence of aquatic vegetation that might harbor zebra mussels. In addition to the boat screening and trailer surveys, seven Forest Service boat launches and approximately 2.25 miles of adjacent shoreline were surveyed for zebra mussels during the reservoir's annual drawdown. No evidence of the species was detected.



Zebra mussel (*Dreissena polymorpha*)

Species Targeted	Accomplishment	Funding	Fund Code
NNIPs	53.4 acres	\$16,148	NFWF, NFRW, CMRD, GSRV
HWA	293 acres	\$3,000	NFIM
Zebra mussel	825 boats, 1,749 trailers	\$4,000	NFIM, NFRW
	7 launches, 2.25 miles	\$1,000	NFIM



Chequamegon-Nicolet National Forest

2011 Invasive Species Accomplishments

Control efforts on the districts were primarily focused on garlic mustard, wild parsnip, European swamp thistle, and Canada thistle. Canada thistle was manually removed from a site with the federally threatened plant species, Fassett's locoweed. Over 1600 acres were treated across the Forest at numerous locations including roadsides, campgrounds, and trails. Two new weed species were documented on the Forest, including brown knapweed (Washburn District and Eagle River-Florence District) and Burnett saxifrage (Washburn).

Award Winning Work: The Eagle River-Florence District received a National Invasive Species Program Award for "Excellence in Invasive Species Partnership Development" for their involvement with formalizing two Cooperative Weed Management Areas (CWMA) on the district. Our CWMA partners received "Invader Crusader" awards from the Invasive Plant Association of Wisconsin: "Volunteer Award" to Carol Ave Lallemond for her work with the Upper Chippewa CWMA and the "Professional Organization" award to the Wild Rivers Invasive Species Coalition.

The Chequamegon and Nicolet Title II Resource Advisory Committees approved grants for three invasive species projects. The Wild Rivers Invasive Species Coalition hired two interns to operate a portable boat washing station in Florence and Forest Counties. They washed 663 boats and educated over 1,500 people on aquatic invasives. The Northwoods CWMA worked with ten towns within Ashland and Bayfield counties to survey and map roadside invasive plants on over 500 miles of road. They provided half-day training sessions to each of the towns' road crews to teach them weed treatment techniques. The Upper Chippewa Invasive Species Cooperative hired 2 co-coordinators to lead the invasives education and control efforts for their CWMA, including garlic mustard, parsnip, thistle, and knotweed control, and numerous informative presentations to schools and public events.

Great Lakes Restoration Initiative projects: Through a partnership with the Northwoods CWMA, we were able to treat two off-Forest gravel pits that supply a large amount of gravel (and potential non-native invasive species to the Forest. With GLRI funding, the Northwoods CWMA was able to engage over 200 people through outreach programs, target over 20 different species and treat approximately 77 acres of invasive plants with the help of 100 volunteers.



The Upper Chippewa CWMA purchased this billboard with Pulling Together Initiative funding through the National Fish and Wildlife Foundation



The Wild Rivers Invasive Species Coalition provides AIS education and boat washing

Fund Code	Acres Treated	
CWKV	155	
NFVW	1374	\$241,693 funding
NFMG	36	
SSCC	68	
Total	1634	

Chequamegon-Nicolet National Forest
500 Hanson Lake Road
Rhineland, WI 54501

Contact: Linda Parker, 715.762.5169 or lrparker@fs.fed.us



Chippewa National Forest

2011 Invasive Species Accomplishments

The Chippewa National Forest (CNF) Invasive species program focuses on prevention and control of high priority invasive species that threaten ecosystems. Most of the lands managed in the CNF are part of the Leech Lake Indian Reservation. The Leech Lake Band of Ojibwe (LLBO) is our primary partner in all invasive species management efforts.

Protecting and Restoring Forests from Invasive Insects and Diseases: We are preparing for likely introduction of emerald ash borer, a destructive insect that has devastated ash forests elsewhere in the country; we are developing Dutch elm disease tolerant cultivars with local genetics for restoration purposes. The Forest received a National Forest System Invasive Species Program Award for work with landscape restoration and rehabilitation against invasive species. The Forest was recognized for high level of leadership in restoration of lowland hardwood forests, mitigating the effects of Dutch elm disease and emerald ash borer and reducing impacts from invasive plants on forested lowland areas. The landscape scale approach to restoration incorporates broad partnerships between public and private stakeholders, and a sustainable holistic design with a goal of protecting and restoring lowland hardwood ecosystems across northern Minnesota.



Nursery planting of Dutch elm disease tolerant elm trees

New Bio-control Program: A new program of bio-control for spotted knapweed began in 2011, with release of insects at five sites in a pilot study.

Holding the line on garlic mustard: We are working to contain an isolated population of garlic mustard with potential to spread to millions of acres of surrounding hardwood forest. The CNF worked with the LLBO and the Conservation Corps of Minnesota (CMMI) to hand-pull approximately 80 acres of garlic mustard. This effort also benefits local communities through tribal employment.

Chippewa National Forest
200 Ash Ave. NE, Cass Lake
MN 56633

Contact: Todd Tisler, 218.335.8629 or ttisler@fs.fed.us

Parsnip Partners: the LLBO initiated a partnership between the CNF, Onigum Local Indian Community, Cass County Minnesota, Turtle Lake and Shingobee Townships to manage common parsnip on roadsides. Parsnip is a threat to public health and safety. A grant from the Resource Advisory Committee will provide employment and job training to local Ojibwe youth.

Loosestrife Partnership Yields Added Benefits: We continued our partnership with Itasca Waters Legacy Partnership (IWLP) in 2011 to perform survey and control actions on 126 purple loosestrife sites. Our partnership with IWLP is the basis for a new Invasive Species Management Area, a partnership between Federal, State, Local Tribal and nongovernmental agencies to manage invasive species across boundaries in Itasca County.

Earthworms-Managing the Menace: Invasive earthworms are widespread on the CNF and have caused untold harm to soil and native plant communities. In June 2011 we conducted training by Great Lakes Worm Watch for CNF and LLBO staff on exotic earthworm rapid assessment tool. We are developing and implementing best management practices to prevent further spread of invasive earth-worms on the CNF.

Putting the Lid on Gravel: The CNF Monitoring, Inventory, and Survey Team (MIST) surveyed 42 gravel pits for invasive and noxious weeds to assess for treatment. This produced data essential for planning rehabilitation and treatment of gravel pits. In the past weed seeds in gravel have been a source of weed infestation throughout the CNF.

After extensive work with the LLBO to address concerns about herbicide use, we published an environmental assessment of invasive plant prevention, control and restoration in October 2011. The CNF sponsored a workshop on management and restoration of utility corridors, rights-of-way and permanent openings March 15 2011. We worked towards building a consensus from managers and biologists in how to best manage these often neglected and weed-infested lands.

To help prevent further spread of garlic mustard, we installed boot brushes & interpretive signs at the Stony Point nature trail





Green Mountain & Finger Lakes National Forest

2011 Invasive Species Accomplishments

Program highlights on the Green Mountains NF:

- Joint ARRA-funded project with state of Vermont resulted in hiring contractors to treat NNIP at state parks and on NFS lands
- Retained receipts funded Vermont YCC to do manual control of infestations in the Nordic project area
- The Upper White River CWMA applied for and received two grants that will fund work in FY12
- Education, outreach, and development of an EDRR team continue for Forest Pests, none of which are yet found on the GMNF. (Partners: UVM, VT Depts. of Forests, Parks, and Rec., Dept. of Agric., APHIS, and S&P Forestry)



Figure 2: As part of the joint ARRA-funded NNIS project with the state of Vermont, Japanese knotweed was cut to the ground in early summer, then hand-sprayed in early autumn.

Program highlights on the Finger Lakes NF:

- Great Lakes Restoration Initiative funds covered the majority of the cost to:
 - Treat knapweeds and thistles on > 1,000 acres of grasslands with broadcast herbicide
 - Treat riparian areas within grasslands with foliar spot spraying of herbicide
 - Inventory for future treatments
- Beetles previously introduced to control Hemlock Woolly Adelgid were monitored; research and education are ongoing (Partners: Cornell U., U. Mass., FL PRISM, NYS DEC, S& P Forestry)



Figure 1: In grasslands on the FLNF, knapweeds and thistles are treated by broadcast spraying highly selective herbicide that affects only a few plant families, leaving much of the vegetation intact.

Project	Fund Code	Dollars	Acres/ Sites
Finger Lakes Grassland Restoration			
Broadcast spray for thistles & knapweeds	NFWV	\$11,98	10
	NFWF	5	grasslands:
	NFXFF6*	\$2,766	1047.6
		\$31,34	acres
		4	
Riparian area hand spraying for thistles & knapweeds	NFXFF6*	\$5512	5 grassland riparian areas: 21 acres
Botanical inventory in preparation for FY12 treatment	NFXFF6*	\$3541	2 grasslands & 2 shrub lands: 145 acres
Green Mountain NNIP Control			
Manual & herbicide treatments of high risk sites**	ARRA funds received by state to work with GMNF	\$40,00	27 sites:
		0	23.8 acres
Nordic Project NNIP Treatments	Retained receipts (stewardship contracts)	\$10,80	5 sites: 10.8 acres

* NFXFF6 is the fund code for Great Lakes Restoration Initiative dollars
 **High risk sites include trail heads, parking lots, and campgrounds where infestations could easily be spread by recreational activity

Green Mountain & Finger Lakes National Forest
 231 North Main Street
 Rutland, VT 05701-2417

Contact: Mary Beth Deller, 802.767.4261 or mdeller@fs.fed.us



Hiawatha National Forest

2011 Invasive Species Accomplishments

The Hiawatha National Forest (HNF) non-native invasive plant (NNIP) program focused on garlic mustard, Eurasian watermilfoil, Scotch pine, spotted knapweed, and wild parsnip. Many projects continued in 2011, such as removing invasive plants from TE sites, controlling NNIP in gravel pits, and releasing bio-control insects in spotted knapweed infestations. The Forest expanded the overall program by coordinating with two cooperative weed management areas (CWMA's), volunteers, and other HNF program areas.



Figure 1. Wildlife personnel completed Scotch pine treatment using a Fecon brush cutter.

Youth Conservation Corps removed NNIP that were impacting piping plover habitat along Lake Michigan. The EUPCWMA facilitated the project on the St. Ignace District by removing NNIP from 15 acres of habitat for piping plover (federally endangered), Pitcher's thistle, and Houghton's goldenrod (both federally threatened). Volunteers assisted with manual removal of NNIP from high priority locations, such as Grand Island National Recreation Area and garlic mustard sites. The CUPCWMA weed crew manually removed invasive plants, conducted mapping and monitoring of NNIP in Big Island Lake and Rock River Canyon wilderness areas. A complete invasive plant inventory of Round Island Wilderness Area (St. Ignace District) was also accomplished with the grant funding. The Round Island inventory detected four purple loosestrife infestations, a species not previously recorded on the island.

NNIP in timber sale areas were treated with herbicide and manual removal methods prior to seeding with native seed. Through a program supported by various resource areas, Scotch pine was removed along several major travel corridors.

Pre-harvest herbicide treatments in upcoming timber sale areas were used as a preemptive measure to prevent the spread of invasive plants from those areas. Invasive plants in gravel pits across the HNF were treated through herbicide contracts. Other projects highlighted the North Country Trail and Whitefish Bay Scenic Byway by removing invasive plants from trailheads, parking areas, campgrounds, and other popular visitor sites. The use of bio-control methods were used in wildlife openings impacted by spotted knapweed and to control Eurasian watermilfoil at Steuben Lake. The first boot cleaning station was installed on Grand Island NRA at William's Landing as part of a partnership with the Grand Island Marathon and the HNF Native Plant program.



Figure 2. EUPCWMA garlic mustard identification workshop and removal project at Cut River Bridge

Fund code	Funding	Acres	Comments
NFWW	\$97,174	244	Main Program – Also Funded completion of 2011 NNIP EA
CMRD	\$10,000	15	Funded 2011 NNIP EA
RTRT, CWKV, NFWF, WFHF, NFXFE6		83	BLI's also funded inventory, monitoring, 2011 NNIP EA and outreach

Partners/Cooperators: Eastern Upper Peninsula Cooperative Weed Management Area (EUPCWMA), Central Upper Peninsula Cooperative Weed Management Area (CUPCWMA), USFS-Northern Research, HNF Native Plant Program Volunteers, Grand Island Association, Grand Island Marathon

Hiawatha National Forest
820 Rains Drive
Gladstone, MI 49837

Contact: Kirk Piehler, (906) 428-5874 or kpeihler@fs.fed.us



Hoosier National Forest

2011 Invasive Species Accomplishments

Non-native invasive species (NNIS) treatments on the Hoosier National Forest focused plant control in Forest-designated Special Areas (SAs). Much of the work involved herbicide treatments using indefinite delivery-indefinite quantity (IDIQ) Task Orders along trails, streams, old roads, wildlife openings, or other disturbance corridors. The primary locales for Task Order work occurred in the Clover Lick, Harding Flats, Boone Creek, and Rockhouse Hollow SAs that all contain globally rare barrens communities. Other Task Orders occurred along roadways and recreation areas at the Wesley Chapel SA and the Charles C. Deam Wilderness.

Treatments near barrens involved control of Japanese stilt grass, autumn olive, garlic mustard, sericea lespedeza, sweet clover, crown vetch, Johnson grass, potato vine, Japanese honeysuckle, multiflora rose, and other trailside invasive species. Control of tree of heaven, kudzu, mimosa tree, and water milfoil (Celina Lake) occurred at recreation sites. Volunteers assisted with hand pulling of garlic mustard in the Charles C. Deam Wilderness and the Pioneer Mothers' SA. Wild Turkey Federation volunteers planted native shrubs and conducted broadcast seeding in wildlife openings.

Other focal areas receiving control were various wildlife openings. At these sites, the Forest conducted clearing by bushhogging, used herbicide to spray dense infestations of tall fescue and other exotic pasture grasses then seeded these old fields with native seed using a no-till seed drill. These actions promote native plant diversity and provide a wide variety of plants for native pollinator species.



Contractor and Forest Service personnel preparing native seed for fall planting with no-till seed drill

Prescribed burning projects provided additional control of various non-native invasive species NNIS plants, primarily where infestations occurred near open barrens communities or in wildlife openings. The prescribed burning stimulated growth of native herbaceous plants and warm season grasses, especially where the Forest has seeded those areas. In these areas, the burning often was hot enough to reduce and control invasive shrubs/vines, as well as aide in promoting native plants to do a better job of competing with herbaceous nonnative plants.



NNIS-IDIQ contractor performing autumn olive control using skid-steer and drum cutter/mulcher

Fund Code	Funding	Acres	Comments
NFN3	\$24,500	5.3	Native seed purchase, clearing/seeding projects
NFVW	\$132,600	343.3	NNIS-IDIQ TOs, Wildlife IDIQ TOs, native seed purchase
NFWF	\$24,400	73.7	Wildlife IDIQ TOs for clearing, seeding drill, NNIS-IDIQ TOs, native seed purchase
WFHF	\$23,375	187.0	Prescribed burning projects
CONT	\$0	15.4	Volunteer Labor Contribution
Total		624.7	

Partners/Cooperators: Indiana Dept. of Natural Resources Fish & Wildlife, National Wild Turkey Federation, Indiana University Volunteers, Local chapter R, C, & D Volunteers, and the Southern Indiana Cooperative Weed Management Area.

Hoosier National Forest
811 Constitution Avenue
Bedford, IN 47421

Contact: Kirk Larson. 812 276 4773 or kwlarson@fs.fed.us



Huron-Manistee National Forest

2011 Invasive Species Accomplishments

Control emphasized garlic mustard, Japanese barberry, exotic honeysuckles, Oriental bittersweet, spotted knapweed, Phragmites, Lombardy poplar, houndstongue, eurasian watermilfoil, and purple loosestrife. Priority treatment locations included Piping plover and Pitcher's thistle (Threatened/Endangered) habitats in the Nordhouse Dunes Wilderness in Mason County, Karner blue butterfly (Threatened/Endangered) habitat in Oceana County, Indiana bat (Threatened/Endangered) habitat in Manistee, Mason, and Wexford Counties, Regional Forester Sensitive Species Showy Orchis habitat in Iosco County, the Loda Lake Wildflower Sanctuary in Newaygo County, and Lake Mitchell (aquatic treatment) in Wexford County. The Forests' three botanists work in collaboration with the following Partnerships and with funds from the Great Lakes Restoration Initiative. We heartily thank them for participating in the following activities.

Great Lakes Restoration Initiative actions

- Support for the Huron Pines CWMA.
- Support for the Northwest Michigan CWMA.
- Phragmites treatment, 17 acres.

Consumers Energy Cost Share Agreement actions

- Garlic mustard treatment, 10 acres.

Michigan Garden Club Partnership actions

- Autumn olive treatment, 40 acres.
- Pollinator garden NNIP treatment, 7 acres.

North Country Trail Association Partnership actions

- NNIP treatment, 1 acre.

The Forests' Botanists also provided presentations to interested and affiliated groups, including the Lake Bluff Audubon Society, Sustainable Forestry Initiative, and Pine River Association.

Cooperating Partners are the Northwest Michigan CWMA, Huron Pines/Northeast Michigan CWMA, Consumers Energy, Lake Mitchell Improvement Board, Michigan Garden Club, North Country Trail Association, and Stewardship Network.



Loda Lake Wildflower Sanctuary hand treatment with Michigan Garden Club volunteers.



USFS personnel, Oriental Bittersweet Treatment

Fund Code	Treatment Acres	Monitoring Acres	Comment
CWKV	24		
NFWW	576		T/E and RFSS habitats
NFXF	40		T/E habitat
CWFS	21		20 ac aquatic
ALL		746	
TOTALS	661	746	

Huron-Manistee National Forest
 1755 S. Mitchell St.
 Cadillac, MI 49601

Contact: Matt Sands, 231-775-5023 ex 8760 or msands@fs.fed.us



Mark Twain National Forest

2011 Invasive Species Accomplishments

The Mark Twain National Forest removed over 3,900 acres of invasive plants in 2011. Following is a breakdown of what was accomplished:

Non-Native and Invasive Plants

- Invasive plant treatments involved:
- utilizing permitted livestock on 2,475 acres to contain and/or reduce *Sericea lespedeza* and multiflora rose
- mowing and brushing *Sericea lespedeza*, autumn olive, non-native thistles and spotted kapweed on 993 acres
- 320 acres of herbicide treatment on *Sericea lespedeza*.
- Approximately five acres of Kudzu were prescribed burned as a pretreatment for herbicide. Additional invasive treatments (mowing) were completed by grazing permittees as part of conservation practices on grazing allotments.

Feral Hogs

In 2011, The Mark Twain in partnership with the Animal and Plant Health Inspection Service (APHIS) removed 104 feral hogs from nine trap sites on national forest or adjacent private lands.

- Fourteen feral hogs were captured in April.
- Ten more were captured in June.
- The Missouri Department of Conservation (MDC) helped the Forest catch a large male feral hog (boar) on private land, two miles south of Bell Mountain. This particular boar had been fitted with a GPS-radio collar in December 2010. It traveled three miles northeast of the trap site and was eventually killed two miles west of the capture site on Forest Service property.
- In January, five feral hogs were captured along the Big Piney River on private property just east of the Eck track and bordering NFS lands.



Feral hog in trap

Aquatic Invasives

The Forest in cooperation with the Department of Conservation has posted educational and prevention signs at all major fishing and river access points for Zebra mussels, Asian carp species and for Didymo

The invasive alga "didymo" is present in the White River and the North Fork of the White River in Arkansas

Stop Rock Snot

After leaving this water:

CHECK - Remove all visible clumps of algae and plant material from fishing gear, waders, clothing, water shoes and sandals, canoes and kayaks, and anchoring sites that has been in the water.

CLEAN - Clean your gear in a 2% bleach solution or 6% saltwater solution or disinfecting detergent. Scrub boots and other "hard" items thoroughly. Soak clothes, tent/sleeping bags and other "soft" items for 20 minutes.

Please do your part... Don't Spread Didymo!

Get more information:
Contact the
Mark Twain National Forest
at 573-354-4821
or visit:
www.ProtectYourWaters.com

Fund Code	Acres	Comments
CWFS	60	Invasive - Mechanical/Physical
NFRG	551	Invasive - Mech, Physical, Herbicide
NFVW	3160	Invasive - Livestock, Mechanical/Physical
NFWF	30,172	Invasive – Mechanical/Physical (feral hog trapping)
Total	33,947	

Mark Twain National Forest
401 Fairgrounds Road
Rolla, Missouri
Contact: Brian Davidson. 573.341.7414 or
briandavidson@fs.fed.us



Midwin National Tallgrass Prairie

2011 Invasive Species Accomplishments

Accomplished highlights:

- Target plant species included cattails, reed canary grass, Phragmites, garlic mustard, teasel, autumn olive, willows, multiflora rose and honeysuckles.
- Treatment along US Route 53 for teasel and phragmites in cooperation with Illinois Department of Transportation.
- Volunteer hours for invasive control totaled 1161 plus 21 herbicide application hours.
- 12 staff members and 16 volunteers are licensed pesticide applicators for Midwin invasive plant treatments.
- Environmental education and invasive weed control with Youth Conservation Corps (YCC), Might Acorns, Leaders in Environmental Action for the Future (LEAF), Lewis University and other local schools.
- Started to GPS black walnut populations for future monitoring of 1000 cankers disease.
- First year monitoring for EAB (Emerald Ash Borer) - results negative.
- Continued monitoring for gypsy moth infestation for future treatment.



NIIPP project - Using weed wrench to uproot invasive shrubs during Plainfield Park District Volunteer Work Day at Mather Woods June 25, 2011

Also in 2011, Midwin continued to support the cooperative weed management area (CWMA) initiated in 2010. The CWMA is now officially the Northeastern Illinois Invasive Plant Partnership (NIIPP) and received \$95,000 in funding through Midwin from the Great Lakes Restoration Initiative agreement between the Forest Service and US EPA. NIIPP now has over 45 members over an eight-county area in northeastern Illinois, including most of the Chicago area. In 2011, NIIPP and its partners treated 333 acres for invasive plants, including infestations that threaten a Federal Threatened plant, the Eastern Prairie Fringed Orchid. NIIPP is also playing a role detecting and controlling the spread of hydrilla and other aquatic invasive plants in northeastern Illinois.

Zebra Mussel Monitoring: To prevent introduction of zebra mussels into the Allegheny River, 825 boaters were randomly screened at two Forest Service boat launches using a predetermined set of questions developed to ensure boats with a high risk of harboring the species were not launched. Also, for boats that were launched without being screened, their trailers (1,749) were inspected in parking lots for evidence of aquatic vegetation that might harbor zebra mussels. In addition to the boat screening and trailer surveys, seven Forest Service boat launches and approximately 2.25 miles of adjacent shoreline were surveyed for zebra mussels during the reservoir's annual drawdown. No evidence of the species was detected.



*Various eradication efforts: clipping seedheads and site removal (*Dipsacus sylvestris* and *Lespedeza cuneata*) along with educational information provided by New Invaders Watch Program*

Activity	Acres	Comments
Mowing	921	Used to control encroachment of non-native shrubs into grassland habitats
Hand Pulling	15	Used to control invasive plants in sensitive habitats (native woodlands, TES plant populations)
Herbicide	1480	Used to control large infestations that threaten restored native habitats, either as propagule sources or active invading infestations

Midwin National Tallgrass Prairie
30239 S. State Route 53
Wilmington, IL 60481
Contact: Delane Strohmeier, 816.423.6370 ext. 251 or
dstrohmeier@fs.fed.us



Monongahela National Forest

2011 Invasive Species Accomplishments

Invasive species management on the Monongahela in 2011 focused on protection of habitat for threatened, endangered, and sensitive species. The control of infestations that threaten to invade timber sale areas, compete with tree regeneration, and threaten Forest Service facilities was also emphasized. Multiple species were treated using a combination of cooperative agreements and force account labor.

Potomac Highlands Cooperative Weed and Pest Management Area projects:

- Treated 390 acres of infestations to reduce threats to nearby populations of threatened, endangered, and sensitive plants. Treatments targeted viper's bugloss, nodding thistle, spotted knapweed, Japanese stiltgrass, pale yellow iris, and garlic mustard.
- Treated 722 acres of infestations to reduce competition to regenerating trees in old harvest units and ecosystem restoration areas. Species treated included spotted knapweed, tree of heaven, autumn olive, and Morrow's honeysuckle.
- Treated a 2.1-acre emerging infestation of mile-a-minute vine (currently the only known infestation on the Forest).
- Treated 11 acres of garlic mustard to shield an adjacent back country area from invasion.



CWPMA crew member treating mile-a-minute vine

Force Account projects and cooperative projects with West Virginia Division of Forestry:

- Treated 124 acres of infestations that threatened Forest Service facilities, range allotments, and resource management projects (garlic mustard, nodding thistle, Morrow's honeysuckle, Japanese stiltgrass, autumn olive, tree of heaven, reed canary grass, crown vetch).
- Leveraged volunteer time to pull 13 acres of garlic mustard for the Garlic Mustard Challenge.
- Treated 86 acres of garlic mustard and Japanese stiltgrass to prevent further spread by timber harvest.
- Removed tree of heaven from 1.4 acres of habitat for shale barren rockcress (rare plant).
- Treated hemlock trees for hemlock wooly adelgid at 6 recreation and administrative sites.

Fund Code	Funding	Acres	Comments
NFV W	\$26,500	1,141	CWPMA crew and FS staff
NFW F	\$3,400	31	FS staff funding
NFT M	\$3,700	86	FS staff funding
RTRT	\$4,600	43	WV DOF crew
CWK 2	\$4,600	43	WV DOF crew
NFR W	\$3,300	8	FS staff funding
Total		1,352	

Partners/Cooperators: The Nature Conservancy, Potomac Highlands Cooperative Weed and Pest Management Area, West Virginia Division of Forestry, Appalachian Forest Heritage Area, volunteers from the local community.

Monongahela Twain National Forest
 200 Sycamore Street
 Elkins, WV 26241
 Contact: Kent Karriker at 304.636.1800 or kkarriker@fs.fed.us



Ottawa National Forest

2011 Invasive Species Accomplishments

Control emphasized garlic mustard, Japanese barberry, exotic honeysuckles, glossy buckthorn, Eurasian watermilfoil, and purple loosestrife. Local road commissions were contracted to mow roadside valerian and chervil infestations. Youth Conservation Corps treated marsh thistle in Sylvania Wilderness. Biocontrol insects were raised and released, targeting purple loosestrife and spotted knapweed. Using a National Forest Foundation grant, the Yellow Dog Watershed Preserve controlled invasive plants in McCormick Wilderness. Approximately 284 new invasive plant sites were mapped.

Great Lakes Restoration Initiative (GLRI)

There were several GLRI projects to prevent the spread of aquatic invasive species.

- 4 portable pressure washers staffed at boat launches across the Western Upper Peninsula. A total of 6,893 people received "Clean Boats/Clean Waters" education; 1,554 boats were washed.
- 41 large aquatic invader signs installed at boat launches.
- 2 "Stop Aquatic Hitchhikers!" highway billboards.
- A construction contract was awarded for a permanent, self-service, boat washer at Hagerman Lake.
- Surveys in 22 lakes for Aquatic Invasive Species were contracted.



Gogebic Conservation District and FS haul away cut glossy buckthorn stems.

Gogebic & Ontonagon Title II Resource Advisory Committees

Four grants for invasive species projects were approved by these committees. Friends of Sylvania hired 3 seasonal employees to survey and control invasive plants in Sylvania Wilderness, treating 185 sites and mapping 108 new sites. Long and Thousand Island Lake associations treated 150 acres of Japanese barberry. Langford Lake Association treated 39 acres of Eurasian watermilfoil. Duck Lake association treated 3.5 acres of milfoil.

Partners/Cooperators

Gogebic Conservation District, Iron County Conservation District, Western UP Invasives Coalition, Keweenaw Invasive Species Management Area, Invasive Species Control Coalition of Watersmeet, Friends of Sylvania, Yellow Dog Watershed Preserve.

More information about the Ottawa National Forest's Invasive Species Program can be found at <http://fs.usda.gov/goto/ottawa/invasive>.



Partners provide AIS education and boat washing

Fund Code	Funding	Acres	Comments
CWK2	\$10,000	158.5	Funded 1 seasonal
CWKV	\$3,900	20.9	Glossy buckthorn
FRRE	\$2,802	32.1	Employee cross-training
NFND	\$0	0.2	Volunteers
NFTM	\$4,374	9.6	Treat barberry pre-sale
NFVW	\$114,131	632.2	Main program; 2 seasonals
NFWF	\$2,640	61	Rusty crayfish trapping
SRS2	\$24,275	216.3	Four RAC grants
NFXF	\$141,172	0	Great Lakes projects
Total		1130.8	

Partners/Cooperators: Gogebic Cons. District, Iron County Cons. District, Western UP Invasives Coalition, Keweenaw Invasive Species Management Area, Invasive Species Control Coalition of Watersmeet, Friends of Sylvania, Yellow Dog Watershed Preserve.

Ottawa National Forest
E 6248 US Hwy 2
Ironwood, MI 49938

Contact: Ian Shackleford, 906-932-1330 x 331.or
ishackleford@fs.fed.us



Shawnee National Forest

2011 Invasive Species Accomplishments

Accomplishments

Our core target was 310 acres of the highest priority invasive species on the Forest. We emphasized control of garlic mustard, Japanese stiltgrass, and exotic honeysuckles. We treated 120 acres by mechanical means (mainly hand-pulling and torching), 60 acres with herbicides and 130 acres with prescribed fire. Similarly, we accomplished 335 acres of integrated target with prescribed fire.

In addition to the target-specific burning, we accomplished an additional total of about 3,900 acres of prescribed fire. Fire sets back some species like Japanese honeysuckle and multiflora rose, but it can also encourage many undesirable grass species. Overall, in most cases, fire has a net positive effect in controlling invasive species. We also had about 500 acres of wildfire that help retard invasive species.

Invasive Species Program

In addition to target accomplishment, we also published an environmental assessment of the proposed Forest-wide treatment of invasive species. The decision to implement the proposal was appealed and, following a review of the appeals, the Forest Supervisor withdrew his decision in order to clarify the proposal and refine our analysis.



Openland burning benefits warm season grasses, reduces invasive species and improves habitat for quail, turkey and the Henslow's sparrow.

River-to-River Cooperative Weed Management Area

The River-to-River Cooperative Weed Management Area (CWMA) is a partnership of 12 federal and state agencies, organizations and universities that coordinates efforts and programs for addressing the threat of invasive plants in southern Illinois. The CWMA was established in 2006 and addresses both terrestrial and aquatic invasive plant species through collaborative projects and activities focused in the following areas:

- Education / Public Awareness
- Early Detection and Rapid Response
- Prevention
- Control and Management
- Research

The Shawnee works closely with the CWMA and the Illinois Invasive Species Plant Council to educate people and increase knowledge of invasives in the landscaping industry. We also have three native pollinator gardens that highlight the importance and usefulness of native plants, including the use of natives in landscaping.



Shawnee National Forest

50 Hwy 145 South

Harrisburg, IL 62946

Contact: Mathew Lechner, 618.253.1016 or

mlechner@fs.fed.us



Superior National Forest

2011 Invasive Species Accomplishments

Seasonal crews focused non-native invasive plant treatments on tansy, Canada thistle, spotted knapweed, and St. Johnswort near roadsides, gravel pits, and Boundary Waters Canoe Area Wilderness (BWCAW) entry points. Additionally, scoping was completed for the BWCAW Non-native Invasive Plant (NNIP) Management Project, which proposes to treat invasive plants in the BWCAW using a combination of herbicides and hand pulling.

American Recovery and Reinvestment Act funding: During the second year of a three year agreement funded by ARRA, the Student Conservation Association manually treated 30 acres of NNIP at priority sites in the BWCAW.

Aquatic Invasive Species: The Superior used volunteers from the White Iron Chain of Lakes Association to monitor over 175 sites for rusty crayfish. The Forest also surveyed seven lakes for spiny waterflea.

Great Lakes Restoration Initiative projects: Secured GLRI funding to partner with MN SeaGrant for AIS education and outreach. GLRI funding to the Cook County Invasives Team was used for:

- County-wide naturalist programs about NNIP.
- Herbicide application seminar for private land owners.
- Invasive species program at Grand Portage Band of Lake Superior Chippewa.
- Installation of boot brushes at seven trailheads.
- Over 1700 hours of NNIP control



Conservation Corps of Minnesota students helping to clear debris and pull invasive plants at the Devil Track River Wildflower Sanctuary. (Photo: Michael Lynch).

Secure Rural Schools: This funding was used to contract NNIP treatments on the Superior National Forest Scenic Byway.

Earthworms: About 75 employees attended a training to learn to conduct rapid assessments to detect earthworm presence/absence and severity of earthworm impacts. Field-going employees started integrating this into their data collection protocols.



Student Conservation Association crew pulling NNIP in BWCAW

Fund Code	Funding	Acres	Comments
SPFH	\$9,000	30,981	Gypsy Moth treatments
NFRW	\$500	1	NNIP treatments in BWCAW
NFVW	\$141,468	310	Main program; 6 seasonals
NFWF	\$4,773	11	Purple loosestrife treatments
SRS2	\$9,000	16	SNF Scenic Byway treatment
NFXF	\$50,000	5	Great Lakes projects
WRHR	\$92,000	30	BWCAW treatments, count toward 2010 treatment accomplishment
Total		31,354	

Partners/Cooperators: Cook County, Cook County Soil and Water, MN Dept. of Transportation, Grand Portage National Monument, Grand Portage Band of Lake Superior Chippewa, MN Dept. of Natural Resources, Gunflint Trail Scenic Byway Committee, Sugarloaf: The North Shore Stewardship Association, Ely Naturalists, Cook County Invasives Team, Friends of the Boundary Waters.

Superior National Forest
8901 Grand Avenue Place
Duluth, MN 55808

Contact: Jack Greenlee, 218.229.8817 or jackgreenlee@fs.fed.us



Wayne National Forest

2011 Invasive Species Accomplishments

This year invasive species control efforts focused on: garlic mustard, Japanese stiltgrass, tree-of-heaven, princess tree, Japanese knotweed, autumn olive, fescue and kudzu. Treatment priorities were four Special Interest Areas and other areas scheduled for prescribed burning and timber harvest. Five new invasive species control contracts were created:

- Japanese stiltgrass control in post-timber harvest areas and mechanical control of Japanese stiltgrass on timber haul roads prior to timber harvest.
- Tree-of-heaven and princess tree control near an old wildfire site.
- Tree-of-heaven and princess tree control in Bluegrass Ridge Special Interest Area.
- Autumn olive and fescue control in reclaimed mineland areas to protect RFSS bird habitat.
- Tree-of-heaven control along a horse trail.

Integrated Pest Center (NCIPM) are to ground-truth the aerial mapping efforts, search for the potential biological control for ailanthus (*Verticillium albo-atrum*), treat areas of ailanthus and have educational workshops.



Aerial view of female Ailanthus holding seeds in winter



WNF employees at annual Garlic Mustard Contest

In 2011, the Wayne National Forest and Ohio Division of Forestry (ODOF) signed a Challenge Cost Share Agreement to aerially map the invasive tree-of-heaven (*Ailanthus altissima*). A helicopter and pilot with two ODOF spotters performed Digital Aerial SketchMapping. Surveys were conducted in early to mid-winter (leaf-off) to map female ailanthus seed-bearing trees. During the first year of the agreement 163,256 acres were surveyed. Using initial funds as leverage, members of a local Cooperative Weed Management Area wrote two grants to further fund the project and add components to the project.

One grant from the USFS State and Private funded two more years of aerial mapping. Funds through the North Central

Fund Code	Funding	Acres	Comments
CWK2	\$4850	13	Contract and seasonals
CWKV	\$18563	33	Seasonals
NFN3	\$1600	10	Native plant production
NFTM	\$3650	5	Contract and seasonals
NFVW	\$78652	1185	Seasonals and FT staff
WFW3	\$30000	121	Contract
NFIM	\$17284	maps	NNIS Mapping-seasonals
WFHF	\$19576	130	Contract
NFRG	\$4106	45	Mechanical control
SPS5	\$8000	40	Contract with S&P grant
NCIPM	\$35000	maps	Aerial Ailanthus mapping
Total		1592	

Partners/Cooperators: Iron Furnace Cooperative Weed Management Area, Southeast Ohio NNIS Interest Group (CWMA), Ohio Division of Forestry, Northern Research Station, Buckeye Hill RC&D, contractors, volunteers.

Wayne National Forest
 13700 US Highway 33
 Nelsonville, OH 45764

Contact: Cheryl Coon, 740.753.0101 or ccoona@fs.fed.us



White Mountain National Forest

2011 Invasive Species Accomplishments

Each year botany and wildlife staff work tirelessly to perform early detection and rapid response actions on priority invasive plant species infestations on the White Mountain National Forest (WMNF) and at New Boston Air Force Station via an inter-departmental agreement with the Department of Defense. In 2011, the Forest achieved approximately 58 acres of non-native invasive species (NNIS) control on the WMNF and 105 acres at New Boston Air Force Station. The Forest accomplishment is down slightly from previous years, but was still a roughly 18 acre over accomplishment from the 40 acre target received in May 2011. It is likely that a 78 acre accomplishment would have been achieved, if it were not for the end of the season disruption caused by Tropical Storm Irene.

We continue to make excellent progress in controlling, and in some cases eradicating, NNIS on the forest. Most infestations treated in 2010 were found to be reduced by 80 to 90 percent. Five small infestation locations were completely eradicated. To foster and enable greater cooperation in the treatment of NNIS on state lands surrounding the WMNF, a participating agreement between the New Hampshire Department of Resource and Economic Development and the forest was signed in September 2011. The WMNF has begun to participate and lead efforts in regional early detection and rapid response activities. To this end, the extensive NNIS data gathered by the WMNF over the past decade was uploaded into both EDDMaps and iMapInvasives online invasives mapping programs so it can be more readily analyzed in regional planning efforts.

Early detection efforts by staff and partners discovered two infestations of a new invasive plant on the WMNF. Garlic mustard (*Alliaria petiolata*) was discovered at two recreation sites. One is a very popular rock climbing site and the other at a back country shelter location. In both cases it is clear that the seeds were transported to this location by recreationists. Control efforts began at both locations immediately upon discovery thanks to the Forest-wide Invasive Plant Control Environment Assessment being signed and in place.



Foliar application to Japanese knotweed (Polygonum cuspidatum) in a wildlife opening on WMNF



Garlic mustard (Alliaria petiolata) infestation at Rumney Rocks climbing area. The sign informs climbers that the infested area is closed to foot travel

Fund Code	Funding	Acres	Comments
NFVW	\$71,958	58	Main program; 1 seasonal New Boston Air Force Station
NFXF	\$45,000	105	Does not count towards target
Total		163	58 acres target
Partners/Cooperators: New Boston Air Force Station, NH Department of Resource and Economic Development, NH Department of Transportation, Appalachian Mountain Club, NH Botanical Club, New England Wildflower Society, Invasive Plant Atlas of New England, EDD Maps, and iMap Invasives			

White Mountain National Forest
71 White Mountain Drive
Campton, NH 03223
Contact: Chris Mattrick, 603.536.6225 or
cmattrick@fs.fed.us

For more information on the Forest Service, Eastern Region's Non-Native Invasive Species program, visit:

http://www.fs.usda.gov/detail/r9/forest-grasslandhealth/invasivespecies/?cid=fsm91_054674



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For more information on the Forest Service, Eastern Region's Non-Native Invasive Species program, visit:

http://www.fs.usda.gov/detail/r9/forest-grasslandhealth/invasivespecies/?cid=fsm91_054674



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