

MRBP Member Updates December 2011

Arkansas – 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 are working to address at this time.

We continue to have period 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.

There plans being made to attempt a partial eradication of Silver Carp in Lake Chicot, a Mississippi River oxbow in SE Arkansas. The lake has been divided into 4 sections. Silver carp will be netted from each of the four sections during the last week in February. The carp will be marked with a fin clip. Each section will be assigned a different fin clip location. Hopefully, in the spring (April or May), there will be enough rain to allow water to be let into the lake from the Connerly Bayou Dam. This flowing water will attract the fish up to the dam. Once fish have been attracted into the area, the inflow of water will be turned off and a block-off net will be placed downstream of the dam. Five to six electrofishing boat crews will then enter the area and collect the silver carp. There will be a crew on the bank that will count, measure and check for fin clips of the fish collected. The collected fish will be disposed. Netting crews will then return to the lake a few weeks after the kill and see if the kill has made any impact of the silver carp population.

Colorado – Elizabeth Brown, Colorado Parks and Wildlife

The Division of Wildlife and State Parks have been merged into a single agency, Colorado Parks and Wildlife, beginning July 1, 2011. An Invasive Species Committee has been working to determine the best methods to merge the Invasive Species and ANS Programs in the future to gain efficiencies, save money and improve customer service.

History

Zebra mussels were discovered in Pueblo Reservoir in November 2007 and verified through DNA testing in January 2008. Since then, zebra or quagga mussels have been detected in six additional waters (Lake Granby, Shadow Mountain Reservoir, Grand Lake, Willow Creek Reservoir, Tarryall Reservoir and Jumbo Reservoir), and a 7th reservoir (Blue Mesa) is being characterized as a “suspect” water. The only positive result for zebra or quagga mussels in Colorado in 2011 was at Lake Pueblo. There have been no detections for mussels anywhere else in the state since 2008. We have, however, found numerous other New Zealand Mudsnail, Rusty Crayfish and Eurasian watermilfoil sites in the last few years.

The ANS Program consists of four main components and is focused on all plants, animals and pathogens of concern; watercraft inspection and decontamination, sampling and monitoring, education and research.

Watercraft Inspection and Decontamination

The former Colorado Division of Wildlife (CDOW) and State Parks (Parks), now CPW, continued their expansive boat inspection and decontamination station system and the related certification/training program utilizing the *Colorado ANS Watercraft Inspection and Education Handbook* (2009) as the training manual for the third year. We have recently begun revising this manual for this upcoming winter, which will be available for the 2012 boating season.

There were a total of 112 watercraft inspection stations certified in 2010 and 2011. Of the 112 stations operated this year, CDOW operated 20 stations (including 5 positive waters), funded 2 Larimer County Stations (that serve over 60,000 boats a year), partnered with NPS to co-operate Blue Mesa, co-funded 3 sites operated by private industry, and supported 58 sites operated by other agencies or private industry (25 private industry, 13 private marinas, 11 municipalities, 6 private clubs and 3 private lakes). State Parks operated the remaining 28 stations. Colorado has a quality control program to ensure the various partners operating inspection stations are utilizing standardized protocols and providing good customer service. This program consists of visiting inspection station for on the job evaluation and training, secret shopping inspection stations, and evaluating customer service representatives.

Colorado has averaged approximately 420,000 inspections and 3,500 decontaminations per year since 2009. There are roughly 70 trainings conducted in the state annually to certify an average of 700 inspectors and decontaminators statewide.

There have been a total of 41 boats that were infested with zebra or quagga mussels from another state intercepted at boat inspection stations in Colorado since 2009. (There were 19 in 2009, 14 in 2010 and 8 in 2011.) The infested boats were from the Colorado River near the AZ-CA border, Lake Pleasant AZ, Lake Havasu AZ, Lake Mead NV, Lake Texoma TX, Lake St. Clair, Arizona, Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin.

An inspector at Boyd Lake State Park developed an electronic PDA system to record and share data across the state. This project was operated as a pilot in 2011 and will be expanded statewide in 2012, pending available funding. Colorado is very interested in sharing this system with other states, specifically positive water bodies, to assist with the risk assessment screening and speed up the inspections on the ramps.

Protocol Development for Watercraft Inspection and Decontamination

CDOW published two extensive protocol manuals in 2011: *the Colorado ANS Watercraft Decontamination Manual* and *the Colorado Boat Compendium for ANS Inspectors and Decontaminators*.

CDOW was granted funding through QZAP for the *Colorado Watercraft Containment Manual for Waters Positive with Zebra or Quagga Mussels*. During the 2011 boating season, there has been significant testing of field protocols and drafting of this manual. This project is scheduled for completion prior to March 2012.

Sampling and Monitoring

CDOW continued the ANS sampling and monitoring program which is averaging approximately 250 waters (standing and flowing) and all state hatcheries being monitored according to protocols outlined in *the Colorado ANS Sampling and Monitoring Manual* (2009).

All sample analysis is done at the CDOW aquatic animal health lab by teams of temporary technicians. In order for a water body to be declared positive for zebra or quagga mussel veligers, there must be positive results for microscopy, PCR and gene sequencing on the same sample. If one or two of the tests are positive, but not all three, it is declared suspect for mussels.

An electronic sampling database was developed jointly by CDOW and Reclamation over the last two years. This is a web based system that allows us to track a sample from collection to final identification, similar to how a UPS package is tracked online. This enables us to closely track our sampling efforts

and the results from microscopy, PCR testing and gene sequencing to make our early detection program more efficient. This database also enables us to better communicate with our partners and reservoir owners/managers regarding our efforts related to their specific water bodies.

Education

CDOW developed and published the *Aquatic Nuisance Species Pocket Guide* in partnership with the Colorado Department of Agriculture. This booklet combines all four prohibited species lists (in three state agencies) into a single book that instructs the reader how to report the species if they were to find it. CDOW also revised and republished *A Field Guide to Freshwater Mollusks of Colorado*.

There were four handouts developed for inspection stations and customer service centers in 2011: *Stop the Spread of Invasive Species* which outlines why invasives are a problem and provides an overview of the top four species of concern in addition to providing cleaning recommendation or waders and anglers; *ANS Tips for Boats with Ballast Tanks*; *ANS Tips for Pontoon Boats*; and *Tips for Handling Live Aquatic Bait*.

Lastly, CDOW completed and published the *Boater's Guide to ANS Inspections*. This brochure/booklet is a mini-handbook for boaters that provides them much needed details on why we do inspections, when inspections are required by law, where to get inspected, when decontamination is required by law, what the boater can do to make the inspection process faster on entry or exit, rules and procedures for live aquatic bait and standing water and cleaning recommendations for waders and boats. This has proven to be an invaluable tool for the inspectors, the public and our customer service representatives.

Research

Colorado State University completed the *Evaluation of Quagga Mussel Veliger Thermal Tolerance* study, commissioned by CDOW, which examined the length of time a veliger can live in a closed compartment and under what conditions.

CDOW and Reclamation completed the Hatchery Treatment Study being to ensure that veligers are not being transported through hatchery stocking processes (no veligers have ever been found in a Colorado hatchery).

Colorado's legislative report will be available in January and will be available to MRBP. This report will include final sampling data and final tallies on statewide boat inspection and decontamination data.

Iowa – Kim Bogenschutz, Iowa Department of Natural Resources

The Aquatic Nuisance Species Program (DNR–ANS) staff will consist of 1 full-time Coordinator/Natural Resources Biologist, 1 full-time Natural Resources Technician, and 5 seasonal Natural Resources Aides in 2011. The number of seasonal staff was down from 21 in 2010 due to a spending cap.

Major accomplishments in 2011 included the following.

- Surveyed vegetation in 63 waterbodies and discovered 4 new infestations of brittle naiad
- Chemically treated 18 waterbodies with Eurasian watermilfoil or brittle naiad
- Surveyed zebra mussels in Clear Lake and Lake Rathbun
- Placed 77 zebra mussel veliger settlement samplers in 25 lakes and reservoirs
- Sampled water for zebra mussel veligers in 11 lakes and rivers
- Documented Asian carp in tributaries and lakes within the Little Sioux River watershed as a result of Missouri River flooding
- Purchased equipment for DNR Fisheries management stations to prevent the spread of ANS during operations
- Conducted 3,644 watercraft inspections reaching over 9,000 people
- Leased 14 billboards with ANS prevention messages on interstate and state highways
- Distributed signs, brochures, identification cards, posters, tattoos, maps, and regulations booklets; broadcast radio advertisements, a travelers information system, and local television programming; and conducted press releases, radio and television interviews, and presentations
- Supported 17 partnerships and cooperative projects

Iowa has two interior lakes with known infestations of zebra mussels Clear Lake and Lake Rathbun. Survey data from 2011 indicate that the zebra mussel population in Clear Lake and adjacent Ventura Marsh may have peaked. Very low numbers of zebra mussel veligers (up to 1.0 per liter) continue to be sampled in Lake Rathbun; however, no live adults have been sampled since monitoring began in 2008. Lake Delhi was infested with zebra mussels before the dam failed in 2010 and eliminated the former lake on the Maquoketa River. No zebra mussels were observed in the river channel within the former lake in 2011. Zebra mussel veligers have been sampled in the Maquoketa River below Lake Delhi since 2007. When analyzed, samples taken in 2011 will help determine if there is a surviving population of zebra mussels within the Maquoketa River. No zebra mussels were detected in other lakes and reservoirs in 2011.

Bighead carp have been reported throughout the Mississippi and Missouri Rivers and in large and small tributaries of both in southern and central Iowa for the past 10 years. 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 Lake Rathbun. The major flooding along the Missouri River in 2011 allowed both bighead and silver carp to expand their range into the Little Sioux River and its tributaries. Bighead and/or silver carp were also collected from 4 natural lakes in the Little Sioux River watershed during the fall of 2011. Normal water levels have trapped any Asian carp remaining in the lakes. DNR staff and commercial fishermen plan to try to monitor Asian carp abundance in the lakes and evaluate any long-term changes.

Kansas – Jason Goeckler, Kansas Department of Wildlife, Parks, and Tourism

Roughly \$180,000 was spent on ANS management in Kansas during SFY11.

Activities supported are highlighted below:

- Continue to monitor zebra mussel reproduction in El Dorado Reservoir with monthly plankton tows. The first major die-off was observed in 2007 and the population has been slow to recover.
- Zebra mussels were discovered in Winfield City Lake in December 2006, Cheney Reservoir, and Perry Reservoir in 2007, Marion Reservoir and Lake Afton in 2008, Milford and Wilson Reservoirs in 2009, Council Grove City Lake and John Redmond Reservoir in 2010, and Council Grove and Melvern Reservoirs in 2011. Monitoring and outreach activities are underway including monthly veliger enumeration.
- Continue to monitor (Portland samplers and/or plankton tows) all department waters for the presence of zebra mussels. 191 plankton samples were processed (to date) for detection purposes.
- Research to evaluate zebra mussel ecological and environmental impacts on the Neosho River basin is underway.
- Support Statewide ANS Coordinator salary.
- Present ANS information to outdoor groups including anglers, boaters, sailors, and college students.
- Assist several communities with ANS infested water sources outline necessary management techniques.
- ANS Coordinator completed term as Co-Chair to the MRBP.
- Modified zebra mussel exclusion equipment for fisheries activities.
- Continue to distribute educational materials to users utilizing various media outlets.
- Conduct 100th Meridian boater surveys/inspections at selected KS waters.
- ANS press releases were produced to inform the public about various ANS. Continue to include large section in fishing regulations dedicated to ANS.

Minnesota – Jay Rendall, Minnesota Department of Natural Resources

Minnesota has been very active in the past year meeting and working with stakeholders to improve AIS prevention and management in the state. Stakeholder meetings lead to a major legislative proposal in 2011 and many new laws were passed and additional AIS funding was appropriated.

New Laws

Below is a summary of laws passed and how they apply to boaters, service providers, bait dealers and others.

Inspections:

- Compliance with AIS inspection requirements is an express condition of operating or transporting water-related equipment.
- Conservation Officers or Licensed Peace Officers may set up check stations at or near water access sites.
- Authorized inspectors can visually and tactilely inspect water related equipment.
- Inspections include the removal, drainage, decontamination, or treatment to prevent the transportation and spread of AIS, aquatic macrophytes, and water.
- Protocols for decontamination of water-related equipment will be developed utilizing recommendations outlined in the legislation.
- Authorized inspectors may prohibit the launching or operation of water-related equipment if a person refuses to allow an inspection or does not remove and dispose of AIS, aquatic macrophytes (plants), and water.
- Refusing to allow an inspection or follow a removal order may result in a civil citation and a one year suspension of the watercraft license.

Boating:

- All water-related equipment must be drained before leaving any waterbody. This includes portable bait containers.
- Transportation of aquatic macrophytes (plants) on all roads is prohibited unless specifically exempted. Past law only prohibited transportation on public roads.
- The changes allow for a criminal citation option for violations involving the transportation of aquatic macrophytes (plants), water and non-compliance with drain plug removal.
- Emergency response vehicles and equipment may be transported on a public road with the drain plug or other similar device replaced only after all water has been drained from the equipment upon leaving the water body.
- Watercraft owners or operators must obtain an AIS decal issued by the DNR and display the decal on the watercraft prior to launching, on, entering into, or operating on any waters of the state.

Property Owners:

- Docks, boat lifts, and other water-related equipment that are removed from infested waters and placed on riparian property on a seasonal basis or for short-term maintenance purposes can be returned to the same waters.

Service Providers:

- Service providers are individuals or businesses hired to install or remove water-related equipment or structures from waters of the state.
- Service providers must obtain a permit from DNR before providing any services and must have a valid permit in possession while providing services.
- Service providers must complete invasive species training and pass an examination in order to qualify for a permit. Permits are valid for 3 years.
- Persons working for service providers that have a permit are required to complete DNR aquatic invasive species training.

Bait Harvesting:

- Annual AIS training is required from DNR before receiving a bait harvest permit for working in infested waters or working for a permittee.
- Equipment authorized for minnow harvest in a designated infested water may not be transported to or used in any other waters unless specifically authorized by a permit.

Budget

The DNR Invasive Species budget was doubled from about \$4 million per year to about \$8 million per year. Funds will be used to increase enforcement, watercraft inspection and decontamination, prevention and management grants, public awareness, and staff to support efforts in these activities.

Decontamination Units

Three decontamination units were purchased and staff trained to run them for the last half of the boating season. Twenty more units will be purchased for 2012 and seasonal staff will be hired to run them. They will be used primarily at zebra mussel infested waters. Staff have developed new training manuals and materials for AIS Volunteers, AIS Watercraft inspection, and AIS Decontamination.

Prevention Grants

DNR has continued to issue AIS Prevention grants to help local entities implement the Stop Aquatic Hitchhikers! campaign and creative communication ideas have resulted. Examples include videos on YouTube, Burma Shave style signs on roads, and fish rulers with the Stop Aquatic Hitchhikers! message.

Infestations and Rapid Response

Two introductions of zebra mussels into lakes was linked to movement of boat lifts from infested waters to noninfested waters. Treatments were done with copper sulfate to try to kill any mussels in the areas near the lifts where mussels were found before they were large enough to reproduce.

Mississippi – Dennis Riecke, Mississippi Dept. of Wildlife, Fisheries & Parks

New Activities since May 2011

- Attended the October 2011 Gulf and South Atlantic Panel meeting in Austin, TX.
- Got appointed to represent my agency on the AFWA Invasive Species Committee.
- Coordinated collection of Silver Carp from Miss. River oxbow lake fish kills in September. One Silver Carp from Tunica Lake was sent for disease diagnosis. The cause of death was a gram-positive bacterium, *Lactococcus garvieae*. A quick search did not reveal that this organism had been found in Silver Carp but it is potentially zoonotic.
- As Southern Division, AFS Resolutions Chairman I worked to guide submission and consideration of an SDAFS *Resolution On The Federal Funding For Programs To Prevent, Control, And Manage Aquatic Invasive Species* by the SDAFS membership. The resolution was published in the summer 2011 SDAFS newsletter and advertised for comment. The comment period ended on Sept. 1, 2011 with no comments being received. The next step is submission to the SDAFS membership for a vote at their Jan. 2012 annual business meeting. The resolution calls for 59 million dollars in annual funding (53 million for state and interstate ANS plans and 6 million for Panel funding)
- The Mississippi Department of Marine Resource has secured Mississippi Coastal Impact Assistance Program funding authority to hire a Conservation Resource Biologist under a 4 year contract to form an Aquatic Nuisance Species Advisory Council and begin implementation of action items contained in the Mississippi State Management Plan for Aquatic Invasive Species. This position was filled in November 2011 and is based in Biloxi, MS

Ongoing Activities

- The *Mississippi State Management Plan for Aquatic Invasive Species* has undergone state review and public comments were received. It was sent to the National ANS Task Force in January 2010 for their review and extensive comments were received. The Mississippi Department of Environmental Quality (MDEQ) is the designated lead agency for plan development. The MDEQ was heavily involved in response to Deepwater Horizon oil spill event and this has prevented revision of the State Management Plan for Aquatic Invasive Species. The MDEQ did to hire a contractor to revise the plan for final submission to National ANS Task Force in the fall of 2011. I reviewed and responded to the comment received from the ANS Task Force review. The plan was not submitted for consideration at the Nov. 2011 ANS Task Force meeting.
- Represented the Mississippi Department of Wildlife, Fisheries & Parks on the Mississippi Aquatic Invasive Species Task Force. Last meeting was Nov. 2007.

- 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*) 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.
- Pursue licensing of retail bait outlets selling live freshwater fishing bait.
- Adopt 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 a 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.
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Missouri – Tim Banek, 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 equipment and supplies identified in the plans to prevent transferring non-target species or diseases into, within, and from Missouri fish hatcheries.
2. Participated on a team to develop a proposal for controlling/eradicating the White River crawfish (*Procambarus clarkii*) from Blind Pony Fish Hatchery. The final project proposal presentation was given this month. Hopefully, it will be approved.
3. 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.
4. Amended the Wildlife Code of Missouri to prohibit the sale of live crayfish for bait to be effective March 1, 2012
5. Added marbled crayfish (*Procambarus marmoratus*) to the Wildlife Code of Missouri's prohibited species list.
6. Prohibited the use of porous soled waders or wading boots in waters managed for trout.
7. Developed and posted signs related to potential bait bucket introduction of Asian carp into several reservoirs. After evidence of high numbers of grass carp in bow fishing tournaments and several credible reports of Asian carp observations, a proposal to study Asian carp in Harry S. Truman Reservoir, the most likely to have tributaries that would provide Asian carp with suitable habitat and conditions to successfully spawn was written and submitted. Unfortunately, the proposal was not chosen for further development.
8. Intensive sampling and independent laboratory analysis in 2011 confirmed that the 2009 samples that detected zebra mussel veligers in samples from Pomme de Terre Reservoir were false positives. The good news is that we were able to remove Pomme de Terre Reservoir from the short list of Missouri Reservoirs that contain zebra mussels. Nearly 100 hundred samples from over thirty reservoirs or streams were collected in 2011 and no zebra mussel veligers were detected.
9. Developed a promotion hand towel with the Clean Drain and Dry message focusing on containing the spread of zebra mussel by focusing on angler and boaters that frequently travel between waters within days.
10. Lastly, Missouri hosted the 100th Meridian Missouri River Basin and South Central Basin state's joint meeting at Bass Pro Shops in Independence, Missouri on July 19 & 20, 2011. About 25 representatives attended. The meeting was a success and even though it was very hot several folks went on the field trip to see Asian carp downstream from Blue Springs Reservoir and zebra mussels and Chinese mystery snails at Lake Lotawana.

imprint area

13"



Help Stop Aquatic Hitchhikers:

Clean, Drain & Dry

your boat between waterbodies

Always dispose of unused bait in the trash

22"

22"

image

It is ILLEGAL
to use bighead or silver carp
as **LIVE** bait in Missouri.

Bighead and silver carp are invasive fish spreading within the Mississippi and Missouri river basins and are causing harm to native fish and wildlife.



BIGHEAD CARP
Juvenile



SILVER CARP
Juvenile



GIZZARD SHAD (NATIVE)
Juvenile

What You Can Do

- Learn to identify bighead and silver carp. Juveniles are difficult to distinguish from local baitfish species such as gizzard shad.
- **Never release** live fish from one body of water into another.

Bighead & Silver Carp Characteristics

- Low-set eye; large upturned mouth without barbels
- Scaleless head; body scales very small
- Adults may weigh more than 60 lbs. and measure 4 ft. in length
- Silver carp may jump out of water when disturbed by boat motors

For more information contact the Missouri Department of Conservation (MDC) Invasive Species Coordinator at 573-522-4115, ext. 3371 or your regional MDC office.

Photo credit: Doug Hordley 12/09



Serving nature and you

Nebraska – Steve Schainost, Nebraska Game and Parks

Nebraska Game and Parks and the University of Nebraska (UNL) have been working cooperatively through the new state Invasive Species Council (formed as a result of a 2007 conference on invasive species sponsored by UNL). An Invasive Species Project Coordinator was hired (Karie Decker) and an Invasive Species Council (Council) has formed which conducts regular meetings. Ms. Decker spearheaded an effort to write the Nebraska Aquatic Invasive Species Management Plan, which was completed and approved by the ANS Task Force. Ms. Decker has also created an Invasive Species Project website, which can be viewed at <http://snr.unl.edu/invasives/>

Legislative bills have been submitted in the past three sessions to give official recognition to the Council and fund the project. Neither bill has passed yet. The hiring of a full-time Aquatic Invasive Species Coordinator will have to wait until a stable funding source is enacted.

A project to eradicate zebra mussels from Offutt Base Lake through the application of copper sulfate was completed in September of 2008 and April of 2009. Monitoring results were promising but lives were found in 2010. A second attempt to eradicate will not be done but the lake owners have moved to long-term management of the infestation.

A second zebra mussel population was discovered in Zorinsky Reservoir (a Corps flood control/recreation lake in western Omaha) in the fall of 2010. A work group consisting of Federal, State, and Local government was formed to attempt an eradication at Zorinsky Lake before they became established. The lake was lowered as far as possible (~20 feet) over the winter in the hope that desiccation/freezing might do the job. An intensive veliger monitoring program was conducted in 2011 and, to date, none have been found.

The discovery of zebra and quagga mussels in Colorado as well as the two infestations in eastern Nebraska has resulted in increased monitoring and outreach. A temporary employee was hired during the summer of 2010 to interview boaters and inspect boats at Lake McConaughy, a western Nebraska reservoir that is heavily visited by Colorado boaters. This will be continued in 2011. A monitoring program to collect veliger samples at a wide variety of lakes was initiated in 2010 and will continue in 2011. Power-washers were purchased for each of our Fisheries Management Districts to be used in cleaning equipment.

Tennessee – Bobby Wilson, Tennessee Wildlife Resources Agency

Asian carp seem to dominate the concerns of ANS in Tennessee for the past year. Reports of Asian carp sightings and capture from Kentucky Lake and Lake Barkley by anglers and commercial fishermen were more numerous in 2011 than ever before. Although not documented by Tennessee Wildlife Resources Agency (TWRA) biologists, there were reports of small Asian carp being observed and caught in dip nets in Kentucky Lake and below Cheatham Dam (Lake Barkley). TWRA fisheries biologists did observe several 10" to 12" silver carp that had been snagged below J. Percy Priest dam in Nashville in mid May 2011. These fish could have migrated through two dams from the Ohio River but in all likelihood they were spawned in Barkley or Cheatham lakes in 2010.

On a more positive note, a commercial fisherman from Camden Tennessee (Kentucky Lake area) has secured financing to retrofit an existing facility for processing fish into fish meal. The majority of fish to be used in this process will be Asian carp but other species of commercial fish can be used as well. This individual has a market for up to 13 million pounds of fish to be processed into meal. The facility should be up and running by February 2012.

Texas – Luci Cook-Hildreth, Texas Parks and Wildlife Department

1. Budget cuts reduce annual budget for the Aquatic Vegetation Program

There was a \$1.5 million reduction in general revenue that was cut from the Aquatic Vegetation Program over the biennium (\$750K each year). The 2011 budget was roughly \$1.7 million. The projected budget for 2012 is \$414K at this time. That figure could increase to about \$900K if local matching funds can be found

2. Increased volume of Hydrilla in Lake Austin – plans to stock grass carp

The last survey done on Lake Austin estimated the coverage of Hydrilla to be over 500 acres. This is the densest coverage of Hydrilla to be recorded on Lake Austin. Texas Parks and Wildlife has met with several partners including the City of Austin, a Lake Austin home owners association, and LCRA to discuss strategies for effectively reducing and managing the Hydrilla. It was agreed that 6 thousand grass carp would be stocked this fall and then a follow-up survey would be done in the spring of 2012. If, at the time of the survey, Hydrilla has not been reduced or has continued to grow, more fish could be stocked. Data from previous surveys and stockings suggest that 50 or more grass carp are needed per acre of Hydrilla to effectively manage the density. It is estimated that after the scheduled stocking of 6K fish in the fall there will be approximately 16K grass carp in Lake Austin.

3. Zebra mussel treatment in Sister Grove Creek

Initial concerns over the spread of zebra mussels from Lake Texoma in the Red River basin to the Trinity River Basin via inter basin water transfers caused pumps in Lake Texoma that would normally carry water to Lake Lavon to be shut down. Traditionally when water is pumped from Lake Texoma it runs, untreated, into Sister Grove Creek (also in the Trinity River Basin) and flows into Lake Lavon. The cessation of these water transfers, coupled with the stringent drought conditions created a unique opportunity to try some treatment options for zebra mussel eradication in an isolated system (no water was flowing to Lake Lavon at that time).

TPWD partnered with U.S. Fish & Wildlife Service and applied KCL to Sister Grove Creek over a 30 mile stretch this summer. Survey results after the initial application showed treatments to be successful. However, follow-up surveys, conducted 7-10 days after treatment, showed that zebra mussels had indeed survived the treatment and had continued to multiply. There is great concern over the economic and ecological damage an established zebra mussel population would cause in the Trinity River system which serves as the water supply for over 12 million Texas residences.

4. Giant reed *Arundo donax* management efforts on the Nueces and Sabinal Rivers

Late in 2010 and into 2011 the Nueces River Authority began to note the sudden rapid spread of *Arundo donax* throughout the headwaters of the Nueces and Sabinal Rivers. Sky Lewey, with the NRA organized several private local groups, nonprofits, state agencies and land owners along both rivers to address the issue. The campaign was known as Pull. Kill. Plant. The primary objective was to diminish the nutria population that was thought to be the catalyst to the sudden spread of the Arundo, while implementing an aggressive Arundo treatment effort involving herbicide sprays and sprout pulling.

The project total for FY11 was \$290K, and TPWD contributed \$150K of those funds. By August 30th of this year 122 acres of Arundo on the Sabinal and Nueces Rivers were treated, and 3/4ths of a million sprouting nodes were pulled from streambeds. Over 160 private landowners along 55 miles of river participated in the project. For more details please visit www.PullKillPlant.org.

5. ANS Management Plan for Texas – status up date

After an extensive internal review process, the Texas ANS Management Plan was submitted to the ANS Task Force for review. The plan has been tentatively accepted by the Task Force and is pending a formal letter of submittal by Governor Perry.

6. Giant salvinia has now been found in at least 19 Texas water bodies.

7. Texas Pollutant Discharge Elimination System (TPDES) General Permit

TPWD is currently in the process of developing a Notice of Intent (NOI) and Pesticide Discharge Management Plan (PDMP) for the new TPDES Pesticide General Permit under the new NPDES regulations. The Texas Commission on Environmental Quality approved the final version of the permit on November 2, 2011. All entities that apply pesticides in, over or near water in Texas are required to obtain coverage under this general permit within 90 days of November 2nd.

Sea Grant (Lower Basin) – Julie A. 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). These recently included a new focus on Giant Tiger Prawns.

LSG launched Giant Tiger Prawn and Bighead Carp & Silver Carp species profiles on their main site. This was accompanied by several press releases about each of the above species as well.

University of Minnesota – Peter Sorensen, University of Minnesota

An Asian carp was captured in the St Croix River this spring by commercial fishers, sparking a joint effort by the National Park Service, the University of Minnesota and Minnesota DNR to form an ad hoc Asian Carp Task force in Minnesota. The latter group sponsored two eDNA surveys in the Upper Mississippi River and St Croix River that have returned numerous positive hits for silver carp but none for bigheads. No additional Asian carp have been captured in spite of numerous efforts by the DNR. An Asian Carp Action Plan has also been written that addresses responses including lock closure. Three million dollars has also been set aside by the state legislature for possible barrier construction and this is being discussed by a subgroup of the Asian Carp Task Force which may be formalized by governor by the time we meet. Meanwhile, zebra mussels have spread to half a dozen prominent lakes, Lake Minnetonka in particular. The state has responded with a large increase in boat ramp inspections.