



GSARP Outreach Materials

Aquatic Invasive Species (AIS):

A problem for ALL Mississippi residents

Once considered an issue for natural resource managers only, AIS have become a problem for all citizens and lack a national management strategy.

Aquatic invasive species are non-native species that are a major problem in the U.S. and represent a threat to the environment, as well as a threat to water suppliers, industry, power generation, recreation, and ultimately, the U.S. economy. The negative impacts of AIS include:



AIS are threatening US wildlife AND people

- Clogged municipal, agricultural, and industrial water intakes, water delivery systems, and damaged power generating equipment
- Increase flooding risk due to clogging of water control structures
- Decreased recreational opportunity
- Physical danger to water users
- Changes in water quality
- Decreased property value
- Damage to boats and marina infrastructure

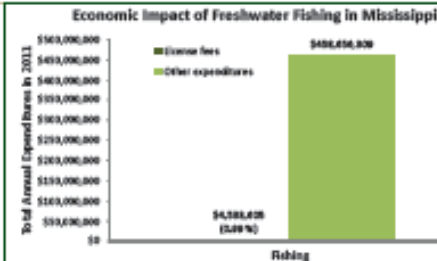
What is being done in Mississippi?

With the recent arrivals of Asian tiger shrimp and the highly invasive Indo-Pacific lionfish, the need for a comprehensive aquatic invasive species program in Mississippi has never been greater. Over eighty exotic aquatic animal and plant species have been documented in Mississippi and new arrivals are turning up faster than ever. Mississippi has experienced environmental disasters such as hurricanes, floods, tornadoes and oil spills that can increase the rate of infestation and amount of damage from exotic invasive organisms. Funding for on-going, coast-wide efforts that have successfully contained one of the world's most invasive plants, giant salvinia is running out. On-going implementation of existing programs as well as creation of new pro-active programs is essential to help protect the environment, economy as well as our national security from the potential destruction of aquatic invasive species.



More information?

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Lake shore covered in zebra mussels

Aquatic Invasive Species (AIS):

A problem for ALL Americans

AIS are not just a problem for fish and wildlife, AIS are a problem for recreational boaters, anglers, and other water based outdoor recreation. Reduced recreation and tourism that result from AIS are a problem for businesses, communities, and local and national economies.



The stakes are high:

Anglers support over 1 million jobs with \$45 billion in retail sales injecting over \$125 billion into the Nation's economy, with \$7.4 billion generated for state and local taxes. The continual introduction and spread of AIS will greatly damage the American economy and way of life.

"The spread of invasive species ... has significantly impacted the Nation's ecosystems: the cost to the Nation in economic and environmental harm is in the tens of billions of dollars, and is second only to habitat destruction as a cause of declining biodiversity." Source: U.S. Fish and Wildlife Service, 2013 Greenbook

National Leadership Needs:

- A federal government commitment to make aquatic invasive species (AIS) prevention and control a high priority national issue for relevant agencies
- Reauthorize and strengthen the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA) and the National Invasive Species Act of 1996 (NISA)
- Full appropriation of \$4 million annually for the state AIS management plan grant programs authorized in Section 1301(c) of NANPCA
- Implementation of national strategies and approved AIS prevention and control plans
- Increase federal funding for federal and state agency AIS prevention and control efforts
- National policies and programs to prevent importation of new AIS by requiring risk screening and risk assessments
- Federal leadership in the development of integrated pest management programs to control established AIS

More information?



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Economic Impact of Sportfishing by MICRA member States ¹

State	Retail Sales	Total Economic Impact	Salaries and Wages	Jobs	Federal Tax Revenues	State and Local Tax Revenues
Alabama	\$514,154,996	\$776,012,671	\$231,866,667	7,845	\$51,356,071	\$47,232,865
Arkansas	\$507,855,831	\$725,249,570	\$222,334,267	7,549	\$49,830,096	\$49,462,412
Colorado	\$836,049,866	\$1,314,006,542	\$408,940,231	9,942	\$98,445,119	\$81,477,253
Georgia	\$993,650,535	\$1,607,081,758	\$487,200,968	12,536	\$116,498,117	\$87,783,143
Illinois	\$933,451,515	\$1,572,737,782	\$489,634,660	12,359	\$123,703,047	\$108,596,388
Indiana	\$663,443,749	\$1,008,810,558	\$305,769,530	9,805	\$74,639,593	\$73,766,433
Iowa	\$323,260,844	\$475,156,512	\$140,198,334	4,427	\$32,357,375	\$29,249,470
Kansas	\$217,603,874	\$310,007,835	\$96,152,266	2,949	\$23,345,989	\$21,514,041
Kentucky	\$854,326,602	\$1,240,022,840	\$351,612,169	11,852	\$80,542,340	\$68,902,310
Louisiana	\$603,081,322	\$912,819,899	\$286,114,887	8,363	\$58,543,402	\$58,539,594
Minnesota	\$2,320,146,413	\$3,979,217,295	\$1,221,563,596	33,209	\$298,670,300	\$250,000,060
Mississippi	\$458,656,309	\$628,772,461	\$176,510,964	5,637	\$37,179,379	\$38,483,041
Missouri	\$669,761,464	\$1,085,076,122	\$340,945,086	10,344	\$80,313,790	\$71,249,964
Montana	\$304,116,923	\$429,227,798	\$121,015,027	4,550	\$31,965,362	\$31,747,501
Nebraska	\$210,607,924	\$323,918,163	\$100,219,885	3,076	\$22,334,717	\$20,600,233
New York	\$839,301,301	\$1,391,576,734	\$458,897,320	9,296	\$109,158,992	\$108,124,836
North Carolina	\$749,934,465	\$1,217,456,822	\$401,839,252	11,193	\$90,604,288	\$80,734,150
North Dakota	\$72,738,103	\$103,821,939	\$33,397,440	1,172	\$7,332,526	\$9,298,340
Ohio	\$1,391,620,187	\$2,119,747,271	\$557,269,663	18,811	\$149,620,126	\$148,527,683
Oklahoma	\$807,515,605	\$1,139,429,364	\$289,927,606	11,087	\$82,215,304	\$76,125,399
Pennsylvania	\$416,652,083	\$699,865,663	\$242,733,277	8,037	\$58,514,838	\$49,157,022
South Dakota	\$306,541,212	\$410,560,590	\$118,778,351	3,558	\$27,307,291	\$24,780,875
Tennessee	\$1,260,605,320	\$2,016,625,907	\$668,289,864	17,075	\$145,112,186	\$111,056,978
Texas	\$851,982,068	\$1,523,351,447	\$473,541,236	12,363	\$109,709,319	\$87,191,653
Virginia	\$864,064,448	\$1,295,588,707	\$385,885,573	11,496	\$101,313,898	\$86,658,382
West Virginia	\$442,571,467	\$617,811,663	\$193,105,034	7,063	\$44,293,906	\$44,918,702
Wisconsin	\$1,302,884,529	\$2,005,402,272	\$565,658,587	18,696	\$143,422,987	\$132,312,905
Wyoming	\$458,137,962	\$637,595,532	\$219,406,253	8,623	\$50,788,226	\$27,681,561
Totals	\$20,174,716,917	\$31,566,951,717	\$9,588,807,993	282,913	\$2,299,118,584	\$2,025,173,194

¹ - Southwick Associates. Sportfishing in America: An Economic Force for Conservation. Produced by the American Sportsfishing association (ASA) under a U.S. Fish and Wildlife Service (USFWS) Sport Fish restoration Grant (F12AP00137, VA M-26-R) awarded by the Association of Fish and Wildlife Agencies (AFWA), 2012.

HELP STOP Aquatic Hitchhikers



**STOP AQUATIC
HITCHHIKERS!**

Prevent the transport of nuisance species.
Clean all recreational equipment.

www.ProtectYourWaters.net

CONTACTS

State Regulations and Information Sources

Many states have regulations that prohibit the transportation of some or all species of aquatic plants as well as the possession and transport of prohibited species.

To learn more contact your state natural resource agency(s) or visit the Web sites listed below.



Mississippi Department of
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<http://nas.er.usgs.gov/>



<http://mis.gsmfc.org/>



In memory of Bruce Thompson
a man of conservation and passion

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DRAIN

DRAIN water from your boat, motor, bilge, live wells, and bait containers before leaving the water access.

Many types of invasive species are very small and easily overlooked. For example, green mussel larvae are invisible to the naked eye. Seeds or small fragments of invasive plants, eggs of fish and small aquatic animals, and fish diseases can be carried in water. Draining water before you leave the access area will effectively reduce the chance that any remaining plants and animals survive.



REPORT

REPORT new sightings. If you suspect a new infestation of an invasive plant or animal, save a specimen and report it to a state natural resource or Sea Grant office. Many agencies have "ID" cards, Web sites and volunteer monitoring networks to help you identify and report invasive species.



Island Applesnails, native to South America, have been released from aquariums. They can cause extensive damage to rice plants.

DISPOSE

DISPOSE of unwanted bait and other animals or aquatic plants in the trash.

Releasing live animals and plants in a lake, river, or along the shore often causes invasive species to become established. Identifying fish when they are small is difficult and it is hard to be absolutely sure there are no invasive fish in your bait bucket. Many baits are not native and should not be dumped in the water or on the ground. Likewise, other aquatic plants or animals that you collect, or buy in a pet store, should never be released into the wild.



Silver Carp (pictured) and bighead carp from Asia are threats to aquatic ecosystems and water recreation. Silver carp can jump into boats and hit boaters and waterskiers. Because young silver carp look similar to native minnows they could accidentally be spread via live bait.

SPRAY, RINSE, or DRY

SPRAY, RINSE, or Dry boats and recreational equipment to remove or kill species that were not visible when leaving a waterbody. Before transporting to another water:

Spray/rinse with high pressure, and/or hot tap water (above 104° F or 40° C), especially if moored for more than a day.

— or —

Dry for at least five days.



Green Mussels, above, native to marine waters of the Indo-Pacific region of Asia, were introduced from ship ballast water. They can clog water intake pipes in marine waters.

Consult

Do-it-yourself control treatments could be illegal and can make matters worse by harming native fish, wildlife and plants. **It is best to contact your natural resource agency before you try to control an invasive species or add new plants along your shoreline.** These agencies can provide recommendations and notify you what permits are required.



Nile Tilapia have escaped from fish farms where they are cultured for food. They have been found in Alabama, Georgia, Florida, Mississippi and Texas.

ADDITIONAL STEPS

are recommended for the following activities.

Shore and fly-fishing

Remove aquatic plants, animals and mud from waders and hip boots.

Drain water from bait containers.



Australian Spotted Jellyfish, native to the tropical western Pacific Ocean, were introduced from ship ballast water. In 2000, large numbers in the northern Gulf of Mexico clogged shrimp nets, causing a direct economic impact on the shrimp fishery.

Personal watercraft

Avoid running watercraft through aquatic plants.

Run engine for 5-10 seconds on the trailer to blow out excess water and vegetation from internal drive, then turn off engine.

Remove aquatic plants and animals from water intake grate, steering nozzle, watercraft hull and trailer.

Sailing

Remove aquatic plants and animals from hull, centerboard or bilgeboard wells, rudderpost area and trailer.

Scuba diving

Remove aquatic plants, animals and mud from equipment. **Drain** water from buoyancy compensator (bc), regulator, tank boot and other containers. **Rinse** suit and inside of bc with hot water.

Waterfowl hunting

Remove aquatic plants, animals and mud from boat, motor, trailer, waders or hip boots, decoy lines and anchors (elliptical and bulb-shaped anchors can help reduce snagging aquatic plants). **Cut** cat-tails or other plants above the waterline when they are used for camouflage or blinds.



REPORT

CONSULT

REMOVE

Discussion

