

TIMELY INFORMATION

Agriculture & Natural Resources

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Aquatic Nuisance Species

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Nonnative, pest species living in or near water are often called aquatic nuisance species because of the ecological and economic damage they cause:

- Estimates of the damages and losses associated with nonnative species in the United States add up to nearly \$120 billion per year; and
- Exotic species and their impacts are responsible for listing about 42% of species on the Threatened or Endangered list (from Pimentel et al. 2004).

What are Invasive, Exotic Species?

Exotic species, also called **non-native** or non-indigenous, have been introduced outside of their natural range either intentionally or accidentally by human activity. Exotic species include plants, fish, mammals, and insects. Only a small percentage of introduced species may be able to thrive in the environment. When they successfully reproduce, become established, and begin to compete with (or out-compete) native species, these individuals are considered **invasive**. Invasive, exotic species typically have low predator pressure and traits such as prolific reproduction that can lead to drastic changes in local communities and have been noted as the second leading threat to threatened and endangered species after habitat loss. Well-known invasive, exotic species in Alabama include kudzu, fire ants, and wild hogs.

A species is considered a **nuisance** when it is perceived as threatening, causes economic damage, or is linked to environmental degradation. The perception of nuisance may vary depending upon who is asked. For example, some people enjoy feeding ducks and geese around water features in parks, beaches, and lakes. Other groups consider them to be a nuisance due to their abundant fecal waste, aggressive behaviors, and links to water quality contamination.

Not all nuisance species are exotic; however, nuisance invasive, exotic aquatic species are a special concern for Alabama waters. We have an amazing amount of aquatic biodiversity in our streams, rivers, lakes, and bays – the greatest in North America! Protecting our native species from pressures such as nuisance species, habitat loss, and degraded water quality is critical.

How do these invasive, exotic species get introduced to our waters?

- Release or escape of privately or commercially owned animals including aquarium plants and animals;
- Intentional and accidental introductions from stocking;

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- Release of bait species;
- Escape from aquaculture facilities;
- Discharge of ballast water from ships; and
- Fouling of boats and boat trailers.

What are the potential impacts of these nuisance species?

- Displacement, reduction, or extinction of native species;
- Competition with native species for food and habitat;
- Transmission of diseases or parasites;
- Habitat alteration;
- Disruption of the natural balance among native organisms;
- Added costs to municipal and industrial water users; and
- Interbreeding of exotic species with native species.

How can you protect Alabama's waters?

Prevention is the best way to protect our waters from the impacts of aquatic nuisance species. Once introduced into a body of water, aquatic nuisance species are very difficult, if not impossible, to control.

Boaters and anglers can do their part by:

- Removing any plants and animals from their boats, motors, trailers, and fishing gear before moving from one water body to another;
- Draining water from motor, live well, bilge, and transom wells on land that does not immediately drain into the water body;
- Emptying bait buckets in an area that will not drain to the water body; and
- Washing and drying boat, trailer, tackle, and other boating equipment.

Aquarium owners and water gardeners can help by:

- Never dumping the contents of an aquarium into a body of water--not even a puddle or ditch
- Disposing aquatic plants in the garbage or drying and composting
- Responsibly handling the disposal of pet fish or other animals. It is recommended that they be placed in a bag and put in the freezer or taken to a veterinarian for humane disposal.

For more information on simple tips to protect local water quality and stream health visit:
www.aces.edu/waterquality

For more information on aquatic invasive, exotic species visit:
www.outdooralabama.com/education/generalinfo/ans/aquatics.pdf

Some information adapted from the ACES Publication: Aquatic Nuisance Species in Alabama, ANR-1108, New June 1998. Richard K. Wallace, Extension Marine Specialist, Associate Professor, and William Hosking, Extension Marine Economist and Marine Programs Coordinator, Professor, both in Fisheries and Allied Aquacultures, and J.J. Bachant, Field Research Technician VII, all with Auburn University

Pimentel, D., R. Zuniga, and D. Morrison. 2004. Update on the environmental and economic costs associated with alien-invasive species in the United States. *Ecological Economics* 52 (2005) 273–288