

Slow the Spread of Aquatic Invasive Species

By, Jodi Sulpizio, Natural Resources Educator for Penn State Extension in York

In these unfortunate times of practicing social distancing due to COVID-19, you may be spending more time enjoying the great outdoors. As you paddle on a local lake or cast a rod in a nearby stream, remember to take appropriate precautions necessary to slow the spread of aquatic invasive species (AIS).

To have a clear understanding of aquatic invasive species, it is important to know the difference between native, non-native and invasive species. Native species are plants or animals that normally live and thrive in particular ecosystems. They have evolved with the ecosystem and arrived without human actions. Non-native species are intentionally or unintentionally introduced to a new habitat, usually by humans, where they were not previously found. They are not able to reproduce or spread readily without continued human help. Invasive species are non-native plants, animals or pathogens that are brought from other ecosystems, either locally or abroad by artificial means, again usually by humans. These species successfully reproduce, become established and cause economic and environmental harm and can harm human or animal health. Aquatic invasive species are invasive species that impact our waterways. Their aggressive nature causes a myriad of problems.

AIS can often tolerate a wide range of environmental conditions and compete with native species for food, space, light and water. They often reproduce rapidly, prey on native species and are detrimental to food webs. There are often few diseases, parasites or predators to control them. These factors lead to a tremendous loss in biodiversity. AIS can be troublesome for boaters and anglers and have negative impacts on local waterways.

How do they get here? There are various pathways of invasion. Sometimes species are deliberately introduced, but more often they are unintentionally introduced. They can become inadvertent hitchhikers on or in boats, ballast water, packing materials, soil or gear. Aquatic plants can become tangled on boat engines, propellers, trailers and other equipment and can be taken to new bodies of water if not cleaned properly. Animals can be moved via bait and the pet, water garden and aquarium trades either by escaping or being released. They can also be attached to plant debris or carried in bilge water. Microscopic organisms like pathogens and algae can be transported in bait buckets and live wells or could cling to vegetation, mud or other debris stuck on boats and gear. Not all introduced species become invasive. If the organism arrives and environmental conditions are right, they may become established and eventually may become invasive.

There are many examples of aquatic animals that have become invasive. Following are just a few that can be found in the Susquehanna watershed: rusty crayfish, goldfish, red-eared sliders and northern snakeheads. The rusty crayfish were likely spread by anglers dumping bait after fishing. They have an enormous appetite and have devastated aquatic ecosystems. Goldfish were introduced for ornamental purposes to ponds, fountains and small lakes and are one of the world's most widespread invasive species. They disperse through connecting waters, are often used as live bait and are released by pet owners. Red-eared sliders are also released by pet owners who do not realize the environmental repercussions. Northern snakeheads, nicknamed "Frankenfish" due to its voracious appetite, were introduced through live seafood and aquarium trades. AIS not only threaten native species by stealing food and habitat, they can also spread disease and parasites.

Common invasive aquatic plants include hydrilla, Eurasian watermilfoil and purple loosestrife. Hydrilla and Eurasian watermilfoil were imported as aquarium plants and can be unwanted hitchhikers when purchasing water garden plants. Both spread through recreational activity, often found hanging on boats and trailers. A small fragment can grow and become established in a waterway. Purple loosestrife invades wetlands and was introduced for ornamental and medicinal reasons. Although pretty, it creates monocultures and decreases biodiversity. Although not a plant, be on high alert for didymo, also called rock snot. It is a diatom, a microscopic, single-celled algae, and has been found in Pennsylvania. It forms thick mats covering stream bottoms, and a single cell can live up to forty days in a damp environment such as a boot. It is unknowingly spread by boaters and anglers. Because these plants can spread quickly, it is much easier to prevent the spread of AIS rather than controlling them after they are established.

Prevention is key! Follow Pennsylvania Sea Grant's recommendations to slow the spread. Use the CLEAN, DRAIN, DRY principle. Clean all mud and plant material from boats and gear. Drain all equipment and boats. Disinfect or dry boots and all fishing and other recreational gear, boats and trailers for at least five days before moving into another water body.

Boat owners, be sure to drain the motor, bilge, bladder tank, livewell and portable bait containers before leaving a waterway. Scrub the hull of the boat with a stiff brush and if possible, rinse the boat, trailer and equipment with high pressure hot water.

Water gardeners, aquarium enthusiasts and pet owners should never dump aquarium water or release any plants or animals into a waterway. Anglers should not dispose of unwanted bait or fish on land or water unless it came from that water. Put it in the trash!

Invasive species control, eradication and prevention costs the commonwealth millions of dollars annually. Pennsylvania has abundant freshwater lakes and streams treasured by many boaters and anglers. To help protect the environment and the economy, be vigilant and stop the spread!

To report AIS visit: <https://pfbc.pa.gov/forms/reportAIS.htm>

To learn more, visit PA Sea Grant at <https://seagrant.psu.edu>.

Photo taken by Jodi Sulpizio