



Reconnect with your environment

Learn about environmental issues, their effect on your community and actions for your involvement.



Snakehead, Bowfin, or Burbot
Know the difference

SNAKEHEAD NON-NATIVE

Head long, pointed and flattened
Pelvic fins beneath pectoral fins
Anal fin long (2/3 of the length of the dorsal fin)

BOWFIN NATIVE

Head rounded, broad
Lower fins often with greenish tint
Pelvic fins set back under dorsal fin
Anal fin short (less than 1/4 length of the dorsal fin)
Often with an "eye" spot near the tail

BURBOT NATIVE

Head flattened with chin barbel
Pelvic fins beneath pectoral fins
Two distinct dorsal fins
Anal fin long

WISCONSIN DNR/Contributed photo

Learn to identify the differences between invasive snakehead and native species that may be confused with it. Snakehead, top, are highly invasive and have the potential to disrupt recreational and commercial fishing, harm native fish and wildlife, and impact our economy. Pennsylvania prohibits possession, sale, barter and transport of live snakehead fish (genus *Channa* and *Parachanna*) and their viable eggs. Importation and interstate transport of snakeheads is prohibited under the federal Lacey Act. Bowfin, center, most commonly found in Lake Erie and western Pennsylvania waters are listed as a "candidate species" meaning anglers are strongly encouraged to return any caught to the waters from which they were taken. Burbot, bottom, are listed as an "endangered species." Anglers are required to immediately return them to the water unharmed. It is illegal to take, kill, possess, import or export, sell, offer for sale or purchase any burbot, alive or dead.



WIKIMEDIA.ORG, BRIAN GRATWICKE/Contributed photo

Never release aquarium pets or live food into the environment. Doing so can wreck ecosystems and your life. In the case of the northern snakehead, they outcompete important native species and are impossible to eradicate. Breaking the laws that prohibit their live possession, or importing, exporting or transporting them can get you stiff fines and time in prison.

Monster cache

Invasive snakeheads pose danger to our ecosystem

By ANNA MCCARTNEY
Contributing writer

This fish tale is unfortunately true and all the characters are real.

It involves monster fish, a greedy pet dealer, an international smuggling operation, undercover agents, mobile surveillance teams and a cross-border investigation.

While the fish has generated two science fiction monster movies, "Snakehead Terror" and "Frankenfish," the real horror is the possible introduction of snakeheads in the Great Lakes ecosystem. This invader could have devastating consequences for native and commercially important fish species and cause serious ecological and economic harm to this region.

The northern snakehead has no known enemies outside its native habitat in Southeast Asia. Once established, it is impossible to eradicate. These fierce, voracious predators eat mostly fish. They are long-lived (up to eight years) and reproduce at an alarming rate. Sexual maturity is reached by two to three years of age and females produce eggs up to five times each year, releasing 22,000 to 51,000 eggs per spawn. They survive freezing temperatures by hibernating, become dormant in mud during drought and can even live out of water in a moist environment for up to four days by breathing with an air bladder (a primitive lung).

Because northern snakehead can tolerate poorly oxygenated water, they also have an edge over other fish like pike and bass that require higher oxygenation. This extraordinary adaptability to survive, along with the ability to wriggle over land short distances, gives the snakehead the edge in securing habitat and expanding its range. Their ability to disrupt the food chain is a serious concern.

Officials are therefore on the alert for the illegal trade market that is fed by the desire for the fish as pets and for consumption. These fish can create havoc when people dump pets that have grown too big for their fish tank or have become too expensive to feed or when live-food specimens are placed



USGS.GOV/Contributed photo

This voracious, predatory fish with sharp teeth can seriously disrupt a food chain. To watch a National Geographic video about snakeheads go to www.youtube.com/watch?v=nmU7etsYyqI.



USGS.GOV/Contributed photo

Wildlife officials are concerned that the northern snakehead could decimate native fish populations that fishermen currently depend upon for their livelihoods and for recreation. To report a sighting, call the Aquatic Nuisance Species Hotline at (877) STOP-ANS or (877)786-7267.

in local waterways. The import and interstate transport of the northern snakehead is banned without a permit from the U.S. Fish and Wildlife Service.

New York and other states, including Pennsylvania, also have laws that prohibit their possession, sale and live transport.

Government officials from the U.S. and Canada were able to shut down an operation that put the Great Lakes at risk for an invasion of this worrisome fish. On Nov. 9, 2012, a Toronto pet dealer selling live prohibited snakehead fish smuggled from Thailand to a U.S. undercover

agent in Buffalo was sentenced to jail time (120 days) and a fine (more than \$90,000).

However, they were not able to stop the invasion, which was discovered in Maryland in 2002 when an angler pulled a snakehead out of a Crofton pond where another man had set a male and female free two years earlier.

Attempts to eradicate them failed and snakehead fish have become established in the Potomac River/Chesapeake Bay region of Maryland, Virginia and the District of Columbia. Some snakeheads have also been found in Massachusetts, New York, New Jersey, Delaware, North Carolina and Florida.

In Pennsylvania, they have been documented in a lake in FDR Park in Philadelphia, and in the nearby Delaware River.

Wildlife officials ask that you report any snakehead you see and kill any you catch. Do not release any back to the water or throw them in the grass or weeds.

Put them in the trash or bury them and report your findings to Pennsylvania Fish and Boat Commission biologist Mike Kaufmann at (610) 847-2442 or mkaufmann@pa.gov.

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CONTRIBUTED PHOTO

John E. Horan Garden Apartment Earth Action students and Gannon University students cleaned up McDannell Run for the 2012 ICC.

Students aid ICC cleanup; I inspired to write haiku

By ANNA MCCARTNEY
Contributing writer

Twenty students from the John E. Horan Garden Apartments Earth Action after-school program, under the direction of Pat Lupo, O.S.B., did their part in the 2012 International Coastal Cleanup.

With help from Gannon University, student volunteers picked up 489 pounds of garbage and 103 pounds of recyclables near McDannell Run. Once more, cigarette butts were at the top of the list of items they collected — 844. Also high on the list were plastic bags, plastic beverage bottles and food wrappers.

A bed frame, four tires, and a tent were also picked up during

the cleanup. This data has been added to the local results and will be sent to Washington, D.C., to be tabulated with the international data by the Ocean Conservancy. Collecting the data will help in finding solutions to the rising trash in the ocean.

The following is a haiku poem (Japanese verse) by Neighborhood Art House student Isaias about his participation in the ICC event:

*I save ruined nature
Handle all nature with care
Clean the neighborhood*

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Check out these websites to learn more:

- www.seagrant.psu.edu/publications/fs/snakehead2007.pdf
- http://nas.er.usgs.gov/taxgroup/fish/docs/dont_rel.asp
- www.fws.gov/northeast/news/2012/snakeheads.html
- www.habitattitude.net/

Laws that prohibit the live possession, import, export or transport of Northern snakeheads can lead to stiff fines and time in prison.

Look for examples of other laws that have been broken and the harm that has been caused to people, animals, property or the environment. Would people do the right thing without laws? Share your ideas about why laws are important. Send them to axm40@psu.edu for possible publication in "your space."