



Invasive Species Program

Snakeheads - The Newest Aquatic Invader

What Are Snakeheads?

Recently, a non-native air-breathing freshwater fish known as a Snakehead has generated national media attention as the latest invasive species to threaten native fish and wildlife resources and the economic sectors that depend on them. In scientific terms, snakeheads are divided into two distinct genera:

- * *Channa* (snakeheads of Asia, Malaysia and Indonesia), and
- * *Parachanna* (African snakeheads).

What Do They Look Like?

Snakeheads look very similar to the North American native Bowfin. Within the two genera, twenty-eight separate species are recognized; however, due to similar physical characteristics, these species are difficult to differentiate.



USGS Photo - *Channa argus*

Overall, these fish are long and cylindrical with enlarged scales on their head, hence the common name of snakehead. They have a large mouth with a protruding lower jaw that typically contains canine-like teeth. Their coloration and size vary, with the largest one recorded being four feet in length.

Where Are They From?

As a family, snakeheads have a native range that includes parts of Asia and Africa. However, fisheries scientists have found four species in the U.S. in the states of California, Florida,

Hawaii, Maine, Massachusetts, Maryland and Rhode Island. Reproducing populations have been documented in Florida and Maryland.

How Did They Get Here?

Experts agree that the various species most likely came into the U.S. via two different pathways. Due to the presence of specific species, experts believe that some entered U.S. waters via releases by aquarium owners and some via the live food fish trade by individuals releasing these fish to establish a local food source.

Currently, snakeheads are being sold in live fish food markets and some restaurants in Boston and New York. Live specimens have been confiscated by authorities in Alabama, California, Florida, Kentucky, Texas and Washington; all states where possession of these fish are illegal. Also, snakeheads are readily available for purchase over the Internet.



Florida Fish and Wildlife Conservation Commission photo

What are the Potential Impacts to Our Native Ecosystems?

At all of their life stages, snakeheads will compete with native species for food. As juveniles, the food they seek includes zooplankton, insect larvae, small crustaceans and the fry of other fishes. As adults, these fish become voracious predators, feeding upon other fishes, crustaceans, frogs, smaller reptiles and sometimes birds and mammals.

If snakeheads become established in North American ecosystems, their predatory behavior could drastically modify the array of native species. As a result, they could disrupt the ecological balance and forever change native aquatic systems.



STOP AQUATIC HITCHHIKERS!
Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net

The recent discovery of snakeheads by a Maryland angler underscores the need for all recreational users of our aquatic resources to become more knowledgeable about the aquatic invasive species issue.

Recently, the FWS unveiled its new **Stop Aquatic Hitchhikers!** social marketing and public awareness campaign that targets the recreational community. Designed to increase awareness about the aquatic invasive species issue and empower recreational users to become part of the solution in preventing the spread of these species to unaffected waters, **Stop Aquatic Hitchhikers!** is a national campaign that is a multi-organizational effort involving the entire conservation community.

If you have Internet access and would like to learn more about this campaign, go to the **Stop Aquatic Hitchhikers!** web site. The address is:

www.ProtectYourWaters.net

In addition to the threat of their predatory behavior and its resulting impacts, there is concern about snakeheads' transference of pathogens to native fish. Snakeheads carry a disease known as Epizootic Ulcerative Syndrome. Fisheries scientists need

to study this disease to determine if it can be transferred to North American species.

Why Should We Care About Snakeheads?

The three biggest reasons to be concerned about snakeheads are:

- 1) these fish are very predatory and could alter the balance of our ecosystems,
- 2) these fish are air-breathers and are capable of overland migration,
- 3) these fish are very aggressive in their efforts to protect their young.

When these factors are combined, snakeheads pose a significant threat to native fish and wildlife resources.

What is the FWS Doing About Snakeheads?

The mission of the Service is to work with others to conserve, protect and enhance fish, wildlife, and plants for the continuing benefit of the American people. Since the recent discovery of snakeheads in a Maryland pond, the Service is working with the state DNR to support them in trying to eradicate these fish. Also, the Service worked collaboratively with the Biological Resources Division of the USGS to conduct a risk assessment for snakeheads. This analysis has provided the basis for the Service to evaluate snakeheads as potentially injurious fish.

Under the authority of the Injurious Wildlife Provisions of the Lacey Act, the Service is proposing to list the snakehead family as injurious. This action would prohibit the importation and interstate transport of 28 snakehead species. After conducting an exhaustive analysis of the best available information, the Service has deemed that this action is necessary to protect the interests of wildlife and wildlife resources from the purposeful or accidental introduction of snakehead species into the ecosystems of U.S.

What are the Negative Impacts of this Action?

As part of the research conducted by the USGS and the Service, a cost-benefit analysis

was included. The best available data show that there is a tradeoff between damage avoided by not letting snakeheads into the U.S. and the economic benefits received by the specialized sectors that currently import these fish. Data collected by the Service indicate that \$85,000 worth of snakeheads were imported into the U.S. over a four-year period from 1997 to 2000. The potential damage that could be done by snakeheads if they become established in U.S. waters would likely be in the millions of dollars and would appear to significantly outweigh the benefits generated by the current market.

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