

# AIS

## Aquatic Invasive Species

### GRASS CARP



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**COMMON NAME:** Grass Carp

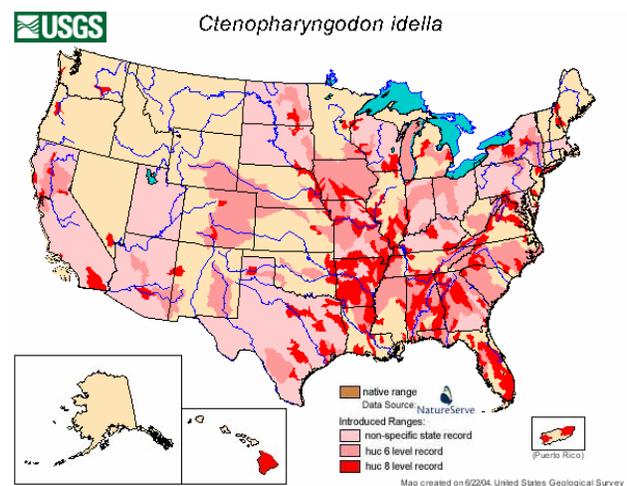
This species may also be referred to as a white amur.

**SCIENTIFIC NAME:** *Ctenopharyngodon idella*

Grass carp belong to the minnow and carp family, Cyprinidae. Its genus *Ctenopharyngodon* is made up of the Greek word “ktenos” meaning “comb”, the Greek word “pharynx” meaning “throat”, and the Greek word “odous” meaning “teeth”. Referring to this fish’s pharyngeal teeth.

**DISTRIBUTION:** Grass carp are native to eastern Asia from the Amur River in Russia to the West River in southern China. Currently the grass carp’s range has significantly increased. They have been introduced into about 70 countries around the world including the United States. Grass carp can now be found in 45 states.

**Indiana:** Grass carp are common in Indiana. It is legal to stock grass carp in private lakes and ponds through licensed dealers under the condition that they are triploid, meaning reproductively sterile. Stocking of triploid grass carp into public waters requires a permit. Diploid (fertile) grass carp may not be stocked into any public or private waters. Aquaculture permit holders may possess diploids in a closed aquaculture system, but only for the purpose of producing triploid fish. Triploid grass carp are in many private waters and a number of intentionally stocked public waters throughout the state. There are reproducing grass carp populations in Indiana’s



large rivers. This is likely due to escaped diploids from other states that allow the use of the fertile variety.

**DESCRIPTION:** The grass carp has an oblong body, a round belly and a broad head. Its color is a silvery dark grey above, the sides are lighter with a gold sheen, and the belly is whitish. The dorsal fin begins in front of the fish's pelvic fins. It has large scales that resemble a chain link fence. There are no teeth in the grass carp's jaw but it does have pharyngeal teeth. The maximum-recorded length of a grass carp is 5 feet and the maximum-recorded weight is 100 pounds. The largest grass carp caught by an Indiana angler weighed 65 pounds 2 ounces.



This 65 lb. 2 oz., 46.9-inch grass carp was landed by David Hughes of Indianapolis in a private lake in Morgan County. Hughes' record carp beat the previous Indiana grass carp record by nearly 24 lbs!

**LIFE CYCLE BIOLOGY AND LIFE HISTORY:** Grass carp can be found in lakes, ponds, and the pools and backwaters of large rivers. It prefers to have large standing or slow-flowing water with vegetation. They are a hearty species that can tolerate temperatures from freezing to over 100° F, brackish water, and low oxygen situations. Female carp release their eggs in flowing water when the water temperature is between 60° F and 70° F, and when the water level is rising. In order to survive, the eggs must remain suspended for 2 to 4 days until they hatch. The maximum age of a grass carp is 21 years old. Grass carp primarily eat aquatic vegetation but they will eat detritus, insects, and other invertebrates if vegetation is scarce. Because they eat aquatic plants, grass carp are frequently stocked as a biological control of vegetation.

**PATHWAYS/HISTORY:** The grass carp was first described by Valenciennes in 1844. In 1963, this species was introduced into aquaculture facilities in Alabama and Arkansas. The first report of these fish escaping into open waters was in 1984 from the facility in Arkansas. However, stocking had been made in Arkansas into lakes that were open to stream systems and by 1970 there were reports of grass carp being caught in the Mississippi River and the Missouri River. The species is now widespread due to the legalization of stocking in many states, the escapement from stocking locations, and natural reproduction. There have been recorded grass carp sightings in 45 states. Well

established populations of grass carp can be found in Arkansas, Kentucky, Illinois, Louisiana, Missouri, Mississippi, Tennessee, Texas and Minnesota. Reproduction has been confirmed in some of the larger rivers in the Mississippi River basin. Most states that allow the release of grass carp only approve triploid stockings, however, a few states allow both diploid and triploid fish.

**DISPERSAL/SPREAD:** Originally grass carp were introduced into aquaculture facilities and farm ponds to control aquatic vegetation. They have escaped these ponds due to flooding and moved into other waters. Some stockings have occurred in lakes with access to rivers and streams that has allowed the grass carp to spread into new waters. Federal and state agencies have participated in stockings as well as private pond owners. Escapees from these introductions have contributed to the rapid range expansion of the grass carp.

**RISKS/IMPACTS:** In large numbers, grass carp can remove all aquatic vegetation from a body of water. If this happens valuable habitat for fish is lost which can cause fish population imbalances. The loss of all vegetation also reduces the food base for other fishes as some aquatic invertebrates rely on aquatic vegetation. Some waterfowl also rely on aquatic plants, so an overabundant grass carp population that eliminates all plants can impact waterfowl use of a body of water.

Grass carp can affect water quality. If grass carp are too dense and all vegetation is eliminated, the available nutrients could proliferate planktonic or filamentous algae blooms. Grass carp do not effectively feed on either form of algae. Dense algae levels can result in wide swings in oxygen levels. Also, the foraging behavior of grass carp can result in muddy water and the destruction of spawning beds. Another risk that grass carp pose is that they may carry non-native parasites or diseases that could be transmitted to our native fishes.

**MANAGEMENT/PREVENTION:** To try to control the spread of grass carp, all 50 states have restrictions on their use. There was an effort to try to create all female populations so that no breeding would take place. These females were still fertile so if there happened to be an accidental introduction of a male, they could become a reproducing population. Since then scientists have created triploid individuals that are sterile and therefore unable to breed. A number of states prohibit stocking any form of grass carp. Many states allow only triploid grass carp to be stocked. A few states allow the stocking of both diploids and triploids.

While grass carp are legal to stock in private waters in Indiana without a permit and only in public waters when a permit has been obtained, people should take every precaution possible to prevent the species from invading waters where they are not intended to be.

- ✓ Consider using approved aquatic herbicides instead of grass carp for aquatic vegetation control.
  - Some herbicides can be used to selectively target certain plants species.
  - Herbicides can be used to selectively treat certain areas of a water body.

- When the label is followed, aquatic herbicides are safe.
- ✓ Do not use grass carp if there is a high likelihood of escape.
- ✓ If you catch a grass carp from a body of water where it was not stocked, do not release the fish alive.
- ✓ Do not move grass carp from one body of water to another.
- ✓ Stock only triploid grass carp in Indiana, the supplier will provide you with certification that they are triploid. IT IS THE LAW!

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