

# The Asian Silver Carp Invasion





WHAT IS THE "SILVER CARP"?

It's likely you've encountered the shocking videos of the silver carp jumping like crazy, slamming into boats and passengers.

The silver carp is a **clear and present danger** to bodies of water, boating and fishing.

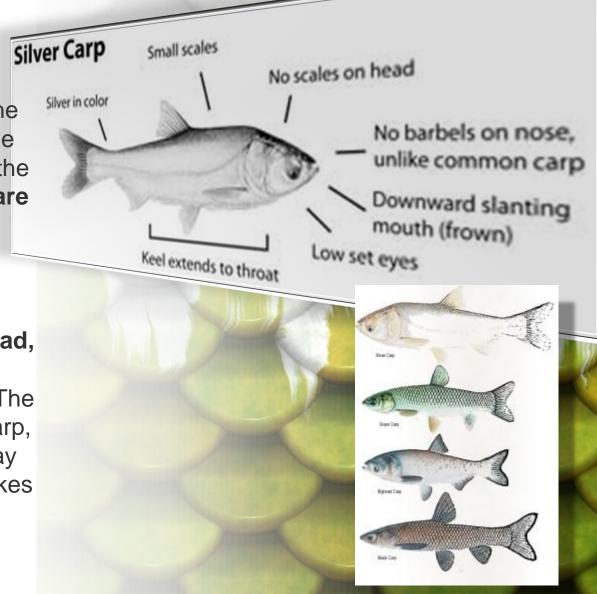
But exactly what is the silver carp, what is the threat, where did the fish come from and how do we control the spread?

Those are the questions we will take a look at in this class

### The Asian Carp

Young Asian carp closely resemble other baitfish like the skipjack herring, gizzard shad, and threadfin shad, The most identifying feature of the silver carp is the position of the eyes. The **eyes of the fish are located far lower** than the similar baitfish.

The Asian Carp has four species: grass carp, big head, black carp, and the most troubling, the silver carp. The problem variety, the silver carp, has managed to make its way into many waterways and lakes and are concentrated in the central U.S.



Silver Carp: Public enemy number one

The infestation of Asian Carp into America's rivers and lakes may be the biggest threat to our water ecology, boating, and fishing we have ever faced.

Asian Carp are a non-native, invasive species of fish in North America. Asian Carp in the Tennessee River includes the grass, black, bighead, and silver carp. **Silver carp are of the most concern.** The Ohio River, Mississippi River, Cumberland River, and the Tennessee River are threatened by this invasion.

Silver carp have been discovered in Alabama as far upstream as Pickwick and Wheeler Lakes.



#### Silver Carp Feeding

The silver carp is a filter feeder. The carp filters not only zooplankton but also phytoplankton, the microscopic plants. So, they're feeding right at the bottom of the food chain. By doing so, they're competing with every other fish species in that body of water for the food supply. If they're cropping off that zooplankton, that's taking food out of the mouths of the native species, like the shad and bluegills.

Another problem with silver carp is they **don't disperse but stay in large schools**, which can overwhelm some systems. Effect Of Silver Carp Population

Once the silver carp establish a heavy population in an area they literally eat themselves out of house and home. There won't be anything left but silver carp.

Well over 90 percent of the biomass in a recent study was silver carp, Basically, the only thing left was silver carp. They can literally take over the habitat.

Kentucky Lake and adjacent Barkley Lake have been hit hard with a burgeoning silver carp population that has severely impacted the sportfishing on the lakes.



# Facing The Threat

Because of the threat, Alabama has joined forces with the Tennessee Wildlife Resources Agency and the Mississippi Department of Wildlife Fisheries and Parks to work collectively on mitigating the spread of silver carp.

A multiple-state group called the Mississippi Interstate Cooperative Resources Association (MICRA) has been formed by the 28 states in the Mississippi basin. The U.S. Fish and Wildlife Service, U.S. Geological Service, Tennessee Valley Authority, U.S. Bureau of Reclamation and two Native American tribes are also members of the coalition.

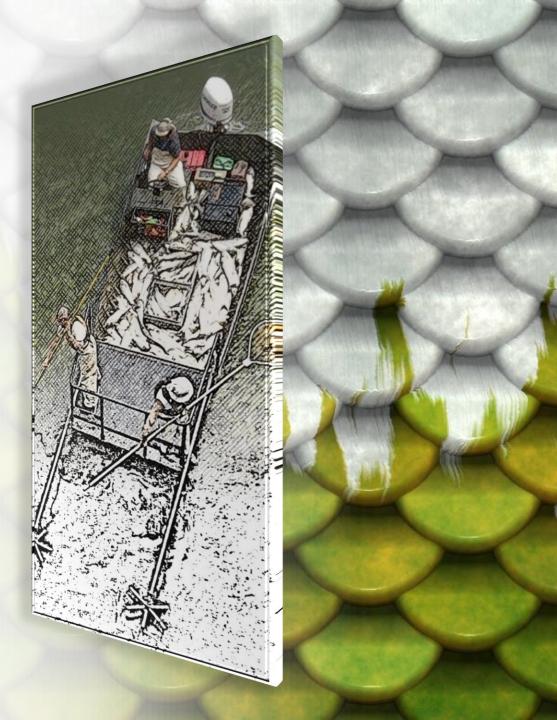


#### Controlling The Invasion

Different methods are being evaluated in deterring the migration of silver carp.

Among the intervention methods being tested and developed at locks and dams are the Bio-Acoustic Fish Fence (sound, bubbles, and light), net barriers, mass removal methods, contracting with fishermen to remove the carp, electroshocking, acoustic deterrent system, carbon dioxide system, electric barrier, or a combination, deployed at pinch-points at dam locks.

Asian carp are vulnerable to underwater sound and avoid underwater pressure waves.



#### The USGS In The Fight

The USGS Asian Carp monitoring will be accomplished with seasonal gill net sampling, electrified dozer trawling in summer, and collection of biological samples to determine population density.

Early detection will be made using eDNA and electrofishing. The USGS is surgically implanting acoustic telemetry tags in carp to identify movement patterns through locks and dams.

The Tennessee Valley Authority (TVA) is managing a Programmatic Environmental Assessment (PEA) for fish barriers at 10 TVA dams.

# TVA's Efforts

The TVA will also be conducting "FluEgg" modeling. This research is to determine where Asian carp eggs can hatch. The results of this research will provide resource managers information to target areas where spawning is likely and areas where Asian carp fry may be found. This information will also tell TVA River Management of options to help reduce the likelihood of successful fry hatching by manipulating water flows.

Annual valley-wide fish and benthic macroinvertebrate assessments will be conducted by TVA to determine **the effects of silver carp on aquatic communities.** 

#### What Can Anglers Do

Small, silver carp look very similar to skipjack herring, gizzard shad, and threadfin shad. Live bait anglers that capture their own bait **WILL NOT** transport bait fish to other bodies of water but instead "**Use** 'em only where you catch 'em".

Asian carp caught by anglers, bow fishermen, and commercial fishermen **MUST BE** removed.

Report Asian carp captures in Alabama to the D-1 Fisheries Office (256-353-2634) or to D-1 Fisheries Supervisor, phil.ekema@dcnr.alaba ma.gov.

Take several pictures if possible, especially of their ventral (belly/chest) area and the gill filaments.



# THE LAST WORD (right now)

Silver carp have been compared to feral hogs in the damage done to an ecosystem. Feral hogs outcompete native wildlife for food and habitat resources. When silver carp become established in an area, they interrupt the natural food chain and native species end up negatively impacted.

Stopping, or at least **controlling, a silver carp infestation** is still a work in progress.

Anglers need to join the fight to preserve bass fishing for future generations.





#### **INFORMATION SOURCES**

The photos and images in this presentation were originated and provided by the Alabama, Tennessee and Kentucky State Wildlife Agencies, TVA and the USGS. The data and narrative is also the product of those same agencies.



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