Invasive Species Fact Sheet

Silver carp, *Hypophthalmichthys molitrix*

Silver carp
Photo by Indiana Department of Natural Resources

General Description

Silver carp are large, freshwater fish belonging to the minnow family. They are deep bodied and laterally compressed. Silver carp are grayish-black to olive green on their backs and silvery on their sides. Their eyes sit low on their head and they have a large, upturned mouth. Silver carp have fused gills that look like a sponge, which they use to filter feed their primary food source, phytoplankton (plant plankton). Silver carp can grow over 4 feet in length and weigh over 77 pounds. Silver carp closely resemble bighead carp, but can be distinguished by their uniformly-colored silver sides (no dark blotches) and sponge-like gills.

Current Distribution

Silver carp are not currently found, nor have they ever been reported, in California. They were first introduced into the United States in the 1970s. They have been reported in several locations in the central and southern United States, and are established and reproducing naturally in the Mississippi River Basin. Silver carp are native to the major Pacific Ocean drainages of eastern Asia, from China to far eastern Russia and possibly Vietnam. They have been introduced all over the world, including Mexico, Central America, South America, Africa, Greater Antilles, Pacific Islands, Europe, and throughout Asia outside of their natural range.

Habitat Preference

Silver carp occupy the middle and upper depths of large rivers and warm-water ponds, lakes, and backwaters that receive flooding or are connected to large rivers. They can also be found in reservoirs and canals, although they require riverine environments with long reaches, high water volume, turbulent flow, and warm water temperatures (66 to 84 °F) to successfully reproduce. Silver carp can tolerate a wide range of temperatures (32 to 104°F), low oxygen levels, and slightly brackish water.

Pathways

Silver carp were introduced into the United States, specifically to Arkansas, in 1973 for the purpose of controlling phytoplankton in catfish production ponds, reservoirs, and sewage lagoons. Soon after, they were being raised in government research facilities and private aquaculture facilities. By the 1980s, silver carp were found in open waters in the Mississippi River Basin, most likely due to escapement from aquaculture ponds during flood events. Silver carp are not currently being cultured in the United States. Current pathways for the introduction and expansion of silver carp in the United States include natural dispersal from occupied open waters, accidental inclusion in shipments of live bait or grass carp, transport for the live food fish industry, and intentional release during religious ceremonies. Silver carp are on California's list of restricted animals and cannot be imported, transported, or possessed without a permit.

Impacts

Silver carp consume large quantities of phytoplankton, which can lead to an increase in algal blooms, a reduction in water quality, and competition with native fish and other animals, such as mussels, that rely on phytoplankton for food. Silver carp are carriers of many diseases, such as Asian tapeworm, which can be transmitted to native species. Silver carp swim close to the water surface and are known to leap out of the water when disturbed; boat motor sounds have provoked silver carp to jump out of the water and collide with boaters, causing property damage and human injury.

Actions Taken if Found

If this species is found in California, **do not release it.** Preserve (freeze) the specimen and immediately contact the CDFW Invasive Species Program at (866) 440-9530 or Invasives@wildlife.ca.gov.

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References

Dill, W.A. and A.J. Cordone. 1997. *History and Status of Introduced Fishes in California, 1871-1996*. C.W. Haugen (Ed.). California Department of Fish and Game Fish Bulletin 178.

Global Invasive Species Database. 11 April 2006. *Hypophthalmichthys molitrix (fish)*. Retrieved 15 June 2012 from http://www.issg.org/database/species/ecology.asp?si=774&fr=1&sts=sss&lang=EN.

Kolar, C.S., D.C. Chapman, W.R. Courtenay Jr., C.M. Housel, J.D. Williams, and D.P. Jennings. 12 April 2005. *Asian Carps of the Genus Hypophthalmichthys (Pisces, Cyprinidae) – A Biological Synopsis and Environmental Risk Assessment*. Report to the U.S. Fish and Wildlife Service. Retrieved 15 June 2012 from the U.S. Fish and Wildlife Service website: http://www.fws.gov/contaminants/OtherDocuments/ACBSRAFinalReport2005.pdf.

Nico, L. 15 March 2012. *Hypophthalmichthys molitrix*. Retrieved 15 June 2012 from the U.S. Geological Survey Nonindigenous Aquatic Species Database: http://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=549.

Schofield, P.J., J.D. Williams, L.G. Nico, P. Fuller, and M.R. Thomas. 2005. *Foreign Nonindigenous Carps and Minnows (Cyprinidae) in the United States – A Guide to their Identification, Distribution, and Biology*. U.S. Geological Survey Scientific Investigations Report 2005-5041.