

APPENDIX 2: (HYPOPHTHALMICHTHYS MOLITRIX), BIGHEAD CARP (HYPOPHTHALMICHTHYS NOBILIS), BLACK CARP (MYLOPHARYNGODON PICEUS), AND GRASS CARP (CTENOPHARYNGODON IDELLA): AN ESCALATING THREAT TO THE GREAT LAKES

THE DISCOVERY

In Canada and the United States, the term “Asian carp” refers to four species of invasive fishes from Asia including grass carp, black carp, bighead carp, and silver carp. Asian carp were imported to the southern United States in the 1970s for use in aquaculture and wastewater treatment ponds where they fed on algae and weeds to keep ponds clean. Flooding quickly allowed all four species to escape and expand their range rapidly. By the late 1980s, Asian carp were seen throughout the lower Mississippi River Basin, including the Missouri and Illinois Rivers. The Chicago Sanitary and Shipping Canal is a man-made connection from these infested river systems to the Great Lakes, and is currently the last stop before two of the four species, silver and bighead carps, invade Lake Michigan.

THE DAMAGE

Asian carp are a highly destructive species that consume vast amounts of food suspended in the water column, targeting plankton and algae, as well as along the bottom, targeting aquatic vegetation and macroinvertebrates. These invasive fishes quickly out-compete native species, grow very rapidly thereby avoiding most natural predation, show high fecundity, and populations can grow to the point where no other species can persist in the environment. High densities of Asian carp in the wild also pose risks to humans—silver carp often jump out of the water in response to boat engine vibration and can strike people at high speeds.



Adult bighead carp. ACRCC. Photo by Ryan Hagerty USFWS

THE POLICY RESPONSE

The first major policy response to the Asian carp threat was initiated through the USFWS, which hosted an Asian Carp Workshop in 2000. The purpose of the workshop was to consolidate all science related to the distribution, biology, impacts, and control methods related to Asian carps. A few years later, the Aquatic Nuisance Species (ANS) Task Force, established by Congress through the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) in 1990 and reauthorized with the signing of the National Invasive Species Act (NISA) in 1996, requested a national management and control plan be developed by the federal government (USFWS) to take action against Asian carps. The Asian Carp Working Group, organized in 2004, brought partners from a wide range of jurisdictions to collaborate and develop an action plan, which included representatives and AIS specialists from academia, aquaculture industry, environmental and NGO groups, and natural resource managers from federal, state, tribal, and provincial agencies.

ACTION TAKEN

The Working Group has focused on prevention of accidental (and deliberate) introductions of Asian carps, containment of current carp populations, facilitation of research for control and removal methods, communications linking science with public and stakeholders, and development of policy. Three types of physical barriers were installed to stop Asian carps from entering the Great Lakes through the Chicago Area Waterway System—all of which are operated by the U.S. Army Corps of Engineers.

CURRENT STATUS

Invasive silver and bighead carps have not yet entered the Great Lakes (as of spring 2019); yet, are established at just over 40 miles and two separate lock structures from Lake Michigan. Black carp are currently in the process of invading the Illinois River, while grass carp have already been found in tributaries to Lake Erie. Resources can be found online to learn more about this invasion threat (<https://www.asiancarp.us/AsianCarpProblem.html>).



Adult grass carp. ACRCC. Photo by Ryan Hagerty of USFWS.