

# Modeling potential habitats for Asian carp in Lake Michigan



## CORE QUESTION:

Where might Asian carp thrive if they successfully invade Lake Michigan?

## A LOOMING CHALLENGE

For the past 20 years, Great Lakes residents and managers have worried about potential invasion by Asian carp. Four species of invasive carp already thrive in major North American rivers, destabilizing food webs and edging out native species as they consume plankton, mussels, or aquatic plants. Silver carp are also notorious for springing from the water when startled by motors, endangering nearby vessels and boaters.

Bighead and silver carp (sometimes collectively called “bigheaded carp”) pose a particular threat to the Great Lakes, given their appetite for plankton, the microscopic creatures that sustain complex food webs. If established in the Great Lakes, bigheaded carp could endanger a multi-billion-dollar recreational fishing industry and further destabilize ecosystems already shifting due to climate change and prior invasive species.

## MODELING VULNERABLE HABITATS

Alongside efforts to prevent and detect invasive carp, scientists are working to predict where bigheaded might find favorable habitat if they successfully invade the Great Lakes. Current models for Lake Michigan have only

looked at temperature and food availability at the water’s surface. University of Michigan graduate student Peter Alsip will work with NOAA scientists to develop a three-dimensional model that accounts for the carps’ flexible diet and sub-surface food availability. The model will also factor in climate change, the invasive quagga mussel that competes for the same food resource, and other long-term shifts in lake conditions.

This work will help lake managers strategize their efforts to prevent, detect, and rapidly respond to potential Asian carp invasions in the lake.

## CONTACT

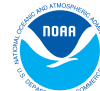
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