



US Army Corps
of Engineers
St. Paul District

Information Paper

Asian Carp Barrier System, Upper Mississippi River



Silver carp specimen

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Description of Problem

Plankton-feeding bighead and silver carp (Asian carp) are continuing to move into the Upper Mississippi River. Bighead and silver carp grow rapidly up to 60 pounds or more, potentially outcompeting native fish species for food. Both species have established populations at least as far north as southeastern Iowa. A bighead carp was captured near the mouth of the St. Croix River in 2011, elevating the issue of the potential spread of Asian carp into central Minnesota waters. In 2011, the Minnesota Department of Natural Resource tested water samples from the Mississippi and St. Croix Rivers for environmental DNA (eDNA). DNA of silver carp was found in the St. Croix River and the Mississippi River above Coon Rapids Dam and Pools 1 and 2, suggesting silver carp DNA may be in the river. But it does not necessarily indicate the presence of live fish or provide any information on the number of fish present, their size or whether they are breeding.

Status

Technologies for limiting upriver invasion of Asian carp were examined as part of the Upper Mississippi River-Illinois Waterway Navigation Study and independently by the Minnesota Department of Natural Resources. A sound projection array/acoustic bubble curtain system was identified as one option that could be installed at an

Upper Mississippi River dam to test effectiveness in deterring fish from moving through the navigation locks. In 2012 the Minnesota Department of Natural Resources and other stakeholders have voiced a preference for electronic barriers similar to those operating in the Chicago Area Waterway System.

The State of Minnesota has issued an action plan that calls for, in part, evaluation of a deterrent barrier on the Mississippi River in Minnesota waters. The St. Paul District is working with other Federal and State partners to discuss options to slow or prevent the spread of Asian carp; however, the Corps has received no funds to formally investigate alternatives. The St. Paul District is engaged with the Minnesota Department of Natural Resources regarding the potential of a deterrent barrier at a Corps lock that would be designed, constructed and operated by the State of Minnesota. The state plans to have an engineering firm under contract by fall 2012 to prepare and evaluate plans for a deterrent barrier at Lock and Dam 1. A non-Corps operated barrier at a Corps lock requires Corps approval of engineering documents and an environmental assessment. Approval level is with the Chief of Engineers in Washington, D.C. The project proponent would also be responsible for obtaining Section 10/404 regulatory permits from the Corps.

Authority

Section 5016 of the Water Resource Development Act of 2007 authorized the Corps to plan, design, construct and operate a demonstration project for an aquatic nuisance species deterrent barrier on the Upper Mississippi River. It is not an authorization to close any existing locks. The authorization is for \$4,000,000. No funds have been appropriated to initiate this project.

33 U.S.C. 408 (Section 408) authorizes the Corps to permit alterations/modifications by others to existing Corps projects, such as a Corps lock and dam, in certain circumstances. Any request for approval needs detailed engineering design, safety and security assurance; National Environmental Policy Act (NEPA) compliance; navigation compatibility; and possibly a real estate license.