



US Army Corps
of Engineers
St. Paul District

Information Paper

St. Croix River Feasibility Study: Endangered Mussel Conservation



Zebra mussels covering a native mussel

Contact

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Location/Description

Zebra mussels (*Dreissena polymorpha*) in the Upper Mississippi River are a significant threat to the endangered Higgins eye pearl mussel (*Lampsilis higginsii*) and winged mapleleaf (*Quadrula fragosa*). Management of zebra mussels may include measures to reduce/manage zebra mussels already present and prevent future spread of zebra mussels and/or other exotics. Alternatives to be studied will include large- and small-scale alterations of the habitat conditions, closing portions of the system to recreational and/or commercial traffic, cleaning/coating technologies, barriers to prevent transport of zebra mussels, relocation of winged mapleleaf, juvenile seeding of winged mapleleaf, and modification of reservoir operations to improve winged mapleleaf habitat.

The St. Paul District and Engineer Research and Development Center are conducting the study in cooperation with the U.S. Fish and Wildlife Service; National Park Service; Departments of Natural Resources from Minnesota, Wisconsin, and Iowa; and Great Lakes Indian Fish and Wildlife Commission. Recommended management alternatives outside the Corps' existing authorities would need to be implemented by others.

Status

A feasibility study for the management of zebra mussels in the St. Croix River and connecting Mississippi River pools began in 2006. A risk-based model was developed to evaluate likely pathways for further zebra mussel invasion, estimate long-term population characteristics, and identify sensitive areas and potential ecological consequences. Potential management actions have been identified, such as controlling dispersal and managing existing zebra mussel populations in the St. Croix River basin. Management actions have also been identified for relocation and artificial propagation of winged mapleleaf mussels if zebra mussel control is only partially effective and/or determined to be not feasible.

Public meetings were held in the St. Croix River basin to assist in the development of identified management alternatives for zebra mussels and winged mapleleaf. Suitable reintroduction sites for winged mapleleaf have been identified and genetic studies of the species provided guidance on establishing new winged mapleleaf populations. Life history studies of the species have identified host fish species and reproductive requirements to facilitate artificial propagation. A final feasibility report is planned for completion in 2013.

Authority

The study is being conducted under the authority of Section 216 of the Flood Control Act of 1970 and in conformance with the final biological opinion for the operation and maintenance of the Upper Mississippi River 9-foot navigation channel, which recommended a feasibility study at full Federal expense.

Fiscal Years 2006-2012

Through fiscal year 2012	\$1,751,000
Fiscal year 2013 funds	\$0
Balance to complete	\$0
Total est. cost (100% Federal)	\$1,751,000