



US Army Corps of Engineers
St. Paul District

Endangered Species - Conservation of Native Mussels

Location/Description

The Corps of Engineers is engaged in several projects related to native freshwater mussel conservation and management in the Upper Mississippi River system. St. Paul (MVP) and Rock Island (MVR) District biologists are working with the Mussel Coordination Team (MCT), made up of 11 Federal, State, and private agencies, to establish five new populations of the federally endangered Higgins' eye (*Lampsilis higginsii*) mussel. Relocation sites have been established in Minnesota, Wisconsin, Illinois, and Iowa using a variety of

propagation and relocation techniques. The MCT members include the Corps, serving as lead agency; U.S. Fish and Wildlife Service (USFWS); U.S. Geological Survey; National Park Service; U.S. Coast Guard; and Departments of Natural Resources from Minnesota, Wisconsin, Iowa, and Illinois. MCT biologists monitor the health and status of native mussels by sampling various locations on the Upper Mississippi River. Data are entered into a Geographic Information System to facilitate long-term monitoring, data sharing, and species management activities.



Federally endangered mussels -
winged mapleleaf and Higgins' eye

MCT biologists are annually removing zebra mussels from around 600 Higgins' eye to increase their survival. The Corps is also evaluating the opportunity for fish passage at locks and dams for fish species that are hosts of the Higgins' eye and other native mussel young. Public outreach is also being conducted. The development of a relocation plan for the federally endangered winged mapleleaf mussel (*Quadrula fragosa*) was initiated in 2006.

The Higgins' Eye Relocation Plan was developed in response to the USFWS's 2000 Biological Opinion, which stated that continued operation of the 9-Foot Navigation Channel project on the Upper Mississippi River system would likely jeopardize the continued existence of the federally endangered Higgins' eye and result in the incidental take of winged mapleleaf. The USFWS determined that operation and maintenance of the navigation pools and project-dependent commercial barge transportation would encourage continued zebra mussel dispersion throughout the Upper Mississippi River system. Zebra mussels negatively affect the survival and recovery of these endangered mussels. The Higgins' Eye Relocation Plan will take 10 years to fully implement, with long-term (20 years) monitoring continuing after the implementation period.

Status

Higgins' eye relocation and monitoring efforts are in the sixth year of the implementation phase. As of September 2006, more than 10,000 2- to 3-year-old sub-adults grown in cages have been placed in Mississippi River Pools 2, 3, and 4 and the Wisconsin and Rock Rivers at their final relocation sites. Over 40,000 1- to 3-year-old sub-adults are being grown in cages. Nearly 500 adults have been moved to relocation sites in Pools 2 and 3. Potentially more than 2.5 million juveniles from more than 27,000 infested fish were free released or placed in open bottom cages from 2001 to 2006. Stocking should be completed by 2008, with augmentation and monitoring thereafter.

A winged mapleleaf relocation feasibility study was initiated in fiscal year 2006. Pilot propagation efforts were completed in 2005 and 2006.

Authority

Formal authorization for the Corps to perform operation and maintenance activities on the Upper Mississippi River System was given in the Rivers and Harbors Acts of 1927, 1930, 1932, and 1935.

Fiscal (St. Paul and Rock Island Districts)

Fiscal Year Source Funding

2006 O&M \$420,000

2007 O&M \$480,000

Note: Financial data are for the Corps contribution only and do not include staff time and other costs contributed by other Federal and State agencies.

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