



US Army Corps
of Engineers
St. Paul District

Information Paper

Endangered Species: Conservation of Native Mussels



Federally endangered mussels - winged mapleleaf and Higgins eye.

Contact

Dan Kelner, Project Manager
(651) 290-5277 (651) 290-5805 (fax)
daniel.e.kelner@usace.army.mil

Location/Description

The U.S. Army Corps of Engineers is the lead agency on the Mussel Coordination Team (MCT). Other members of the MCT include the U.S. Fish and Wildlife Service, the U.S. Geological Survey, the National Park Service, the U.S. Coast Guard and the Departments of Natural Resources from Minnesota, Wisconsin, Iowa and Illinois.

MCT biologists, including Corps biologists from St. Paul and Rock Island District, are working 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. These biologists also monitor the health and status of endangered and other native mussels by sampling various locations on the river. Data are entered into a geographic information system to facilitate long-term monitoring, data sharing and species management activities. MCT biologists annually remove zebra mussels manually from hundreds of Higgins eye mussels to increase their survival. Development of a relocation plan for the federally endangered winged mapleleaf mussel (*Quadrula fragosa*) was initiated in 2006. Public outreach is being conducted.

The Higgins eye relocation plan was developed in response to the Fish and Wildlife Service'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 Fish and Wildlife Service determined that operation and maintenance of the navigation pools and project-dependent commercial barge transportation would encourage continued zebra mussel dispersion throughout the system. Zebra mussels negatively affect the survival and recovery of these endangered mussels. The 10-year Higgins eye relocation plan reestablishment phase has been completed, with long-term (20 years) monitoring afterward and augmentation of populations.

Status

Higgins eye relocation and monitoring efforts are in the 17th year of the implementation phase and the 10th year of monitoring. As of 2016, more than 42,000 2-3 year-old sub-adults have been placed in Mississippi River Pools 2, 3, 4 and 16 and the Wisconsin and Rock Rivers. Nearly 500 adults have been moved to relocation sites in Pools 2 and 3. More than 4.5 million juveniles from more than 33,000 infested fish were free released or placed in open bottom cages from 2001 to 2012 in the Wisconsin, Iowa, Cedar and Wapsipinicon Rivers. Propagation and stocking was completed in 2010 for the northern strain. Propagation and stocking for the southern strain was completed in 2012. Monitoring populations for potential augmentation began in 2006 and will continue.

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 Years 2000-2016

Funding through fiscal year 2016	\$8.5 million
Fiscal year 2016 funds	\$280,000