



**U.S. Army Corps  
of Engineers  
St. Paul District**

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**Public Affairs**

# Corps Facts

## Conserving native

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### **Relocation plan for the endangered Higgins' eye pearlymussel**

The U.S. Army Corps of Engineers, St. Paul District, began a 10-year effort to reestablish the endangered, native Higgins' eye pearlymussel in the Upper Mississippi River system in May 2002. The objective is to establish a minimum of five new and viable populations, with a minimum of 500 mussels each, in the river system or its tributaries. Attempts to establish new populations are happening at 10 sites in Iowa, Minnesota and Wisconsin.

The relocation plan involves collecting adult Higgins' eye pearlymussels from areas heavily infested with zebra mussels, the enemy of the Higgins' eye, and cleaning and moving them to an area with little or no zebra mussels. Relocation efforts will also involve raising juvenile mussels on host fish species and at hatcheries, with subsequent stocking at selected relocation sites. A monitoring program to evaluate the long-term effectiveness of the relocation is included in the plan. The Corps of Engineers additionally began, in a separate yet interrelated effort, a feasibility study on how to control the zebra mussel for the long-term.



**Federally endangered Higgins' eye  
pearlymussel**

### **Project accomplishments to date**

As of July 2004, more than 500 3-year-old sub-adults grown in cages have been placed in Mississippi River Pools 3 and 4 at their final relocation site, and 8,500 1- and 2-year-old sub-adults presently are being grown in cages. Nearly 500 adults have been moved to relocation sites in Pools 2 and 3. More than 17,000 fish, each capable of producing around 70 juvenile Higgins eye, have been held in open bottom cages or released at the relocation sites from 2000 to 2004. Stocking should be completed by 2007, with augmentation thereafter.

A long-term program to monitor trends in abundance and distribution of Higgins eye and other native mussels in essential habitat areas and secondary habitats has been ongoing since 2000. Seven to eight areas are sampled annually. Trends in abundance and distribution of zebra mussels in the Upper Mississippi River are also being collected at these areas. Zebra mussel veliger densities are being monitored on the river's main stem from above the head of navigation in Minneapolis to Pool 24 and all major tributaries.

### **Project background and cooperating agencies**

The Corps' \$2.4 million relocation plan took two years to develop. It stems from an April 2000 U.S. Fish and Wildlife report that stated continued operation of the nine-foot channel on the Upper Mississippi River system would likely jeopardize the continued existence of the Higgins' eye. To explain, the Asian native zebra mussels were transported up the Upper Mississippi River by commercial barges and recreational craft. These zebra mussels cover the native mussels completely, so the native mussels can't open up and they die.

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The Corps of Engineers is the lead agency in this relocation effort, as well as a partner in the government-sponsored Mussel Coordination Team that looks at all mussel-related activities. The members include the National Park Service, the U.S. Army Corps of Engineers, the U.S. Coast Guard, the U.S. Fish and Wildlife Service, the U.S. Geological Survey and the departments of natural resources from Illinois, Iowa, Minnesota and Wisconsin, as well as the Science Museum of Minnesota.

**Project authority**

The River and Harbor Act of July 3, 1930, which authorizes the nine-foot channel navigation project on the Upper Mississippi River, provides authority for the project. Section 7(a)(2) of the 1973 Endangered Species Act requires federal agencies to insure that actions authorized, funded or carried out by them are not likely to jeopardize the continued existence of endangered or threatened species.