PUT SOME MUSSEL INTO IT

Mussel Conservation at the I-74 Bridge

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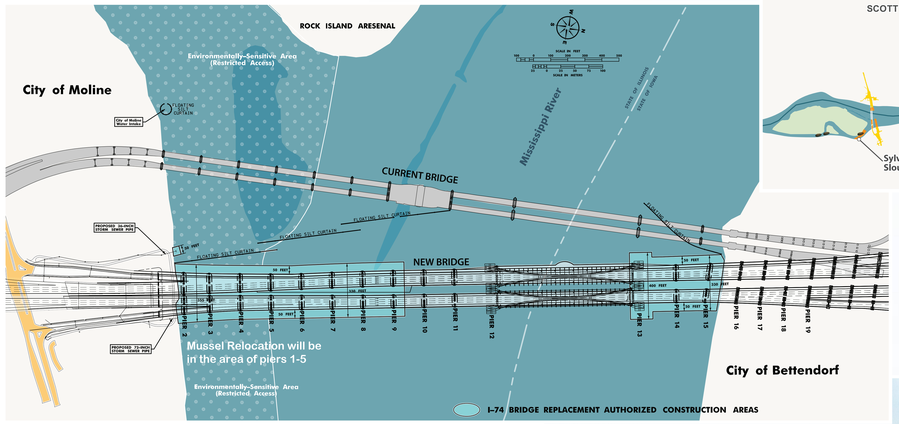
Mussel illustrations courtesy of Taylor Brown.

ABOUT THE PROJECT

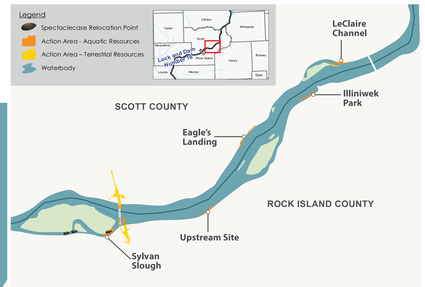
The Iowa and Illinois Departments of Transportation worked together with the U.S. Fish and Wildlife Service and the Illinois and Iowa Departments of Natural Resources to develop a plan to relocate mussels to facilitate construction of the new Interstate 74 bridge located between Bettendorf, Iowa, and Moline, Illinois.

As a result of this cooperation, direct impacts to threatened and endangered mussel species were avoided and minimized.

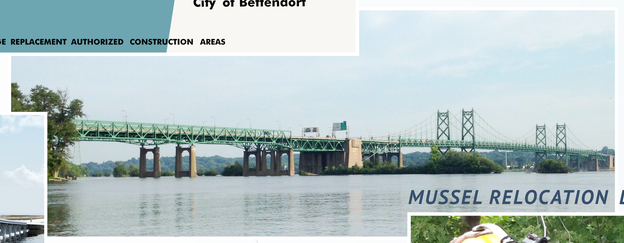
CONSTRUCTION AREA



MUSSEL RELOCATION AREA



EXISTING BRIDGE



NEW I-74 BRIDGE CONCEPT

MUSSEL RELOCATION DIVER

MUSSEL WORK BARGE

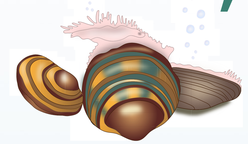
Mitigation for the I-74 bridge project includes preservation of existing Pier K; a comprehensive study of Pool 15 on the Mississippi River including a pool-wide mussel survey to document existing mussel resources; a study to investigate the effects of increasing resident mussel density in the I-74 relocation areas; host fish inoculated with mussel larvae will be introduced into the action area.

THE IMPORTANCE OF MUSSELS

Mussels filter water which improves water quality; and mussel beds create microhabitats on river bottoms that provide food and cover for other aquatic life.

More than 150,000 mussels comprised of 32 species were relocated from the direct impact zone of the new bridge piers to predetermined relocation areas in preparation for construction to begin summer 2017.

150,000



MUSSELS
COMPRISED OF
32 SPECIES
WERE RELOCATED FROM THE DIRECT IMPACT ZONE

Spectaclecase

Large mussel that can grow up to 9 inches in length. The shape of the shell is elongated, sometimes curved, and somewhat inflated. Spectaclecase mussels are found in large rivers where they live in areas sheltered from the main force of the river current. This species often clusters in firm mud and in sheltered areas, such as beneath rock slabs, between boulders, and even under tree roots.

Higgins Eye

Freshwater mussel with a rounded to slightly elongate smooth-textured shell that is usually yellowish brown with green rays. The shell, made up of 2 hinged, inflated halves, is up to 4 inches long. The habitat is in larger rivers where the mussel is usually found in deep water with moderate currents. The animals bury themselves in sand and gravel river bottoms with just the edge of their partially opened shells exposed. Their food source is current derived and consists of microorganisms such as algae and bacteria.

Sheepnose

Medium-sized mussel that grows to about 5 inches in length. The shell is thick and solid, and the overall shape is slightly longer than wide and somewhat inflated. The sheepnose shell is smooth, shiny, and light yellow to a dull yellowish brown, without lines or rays but with dark concentric ridges. The ridges result from periods when growth stops or slows. Sheepnose mussels live in larger rivers and streams where they are usually found in shallow areas with moderate to swift currents that flow over coarse sand and gravel.

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