



## Endangered Species Facts



Of the 55 historical populations, the scaleshell remains in 14 scattered populations within the Mississippi River basin in Arkansas, Missouri, and Oklahoma.



### Scaleshell Mussel

The scaleshell mussel has been listed by the U.S. Fish & Wildlife Service as an *endangered species*. Endangered species are animals and plants that are in danger of becoming extinct. *Threatened species* are animals and plants that are likely to become endangered in the foreseeable future. Identifying, protecting, and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's endangered species program.

#### What is a Scaleshell Mussel?

**Scientific Name** - *Leptodea leptodon*

**Appearance** - The scaleshell is a relatively small freshwater mussel species with a thin, fragile shell and faint green rays. The shell grows to about three to ten centimeters (one to four inches) in length. The shells are elongate, very thin, and compressed. The inside of the shell is pinkish white or light purple and highly iridescent.

**Range** - Scaleshell mussels historically occurred across most of the eastern United States. During the last 50 years this species has become increasingly rare and its range reduced. Of the 55 historical populations, 14 remain scattered within the Mississippi River basin in Arkansas, Missouri, and Oklahoma.

**Habitat** - The scaleshell lives in medium-sized and large rivers with stable channels and good water quality. Scaleshells bury themselves in the sand and gravel river bottoms with just the edge of their partially-opened shells exposed. As river currents flow over the animals, they siphon the water for food which includes detritus, plankton, and other microorganisms. The roles of scaleshell mussels in the natural river ecosystems are as food for wildlife like muskrats, otters, and raccoons and as a filter which improves water quality.

**Reproduction** - Scaleshell mussels have an unusual type of reproduction. Their eggs develop into microscopic larvae (glochidia) within the gills of the female mussel. These glochidia must attach to the gills or fins of a fish to continue developing. Glochidia can only develop on certain species of fish which are called host fish. We know one host fish for the scaleshell is the freshwater drum. There may be other suitable host fishes. Glochidia continue growing on the fish and transform into juveniles, then they drop off the fish, and land on the river bottom where they mature into adults.

## Why is the Scaleshell Mussel Endangered?

**Pollution** - Adult mussels are easily harmed by toxins and changes in water chemistry from pollution because they are sedentary (stay in one place). Pollution that comes from specific, identifiable sources such as factories, sewage treatment plants and solid waste disposal sites may kill some mussels, reduce the ability of the surviving mussels to have young, and result in poor health or disappearance of the host fish. Pollution that comes from diffuse sources like runoff from cultivated fields, pastures, cattle feedlots, poultry farms, mines, and construction; private wastewater discharges; and road drainage harms mussels and host fishes by reducing water quality, decreasing oxygen concentration and causing other changes in water chemistry.

**Sedimentation** - Sediment is material suspended in water that usually is being moved as the result of erosion. Although sedimentation is a natural process, farming practices, dredging, impoundments, timber harvesting, heavy recreational use, and other activities cause high levels of erosion and increased sedimentation. A sudden or slow blanketing of stream bottom with sediment can suffocate freshwater mussels because it is difficult for mussels to move. Increased sediment levels may also make it difficult for them to feed, which can lead to decreased growth, reproduction, and survival.

**Dams** - Dams affect both upstream and downstream mussel populations by scouring river bottoms, changing water temperatures, and changing the habitat for host fish. Water impounded behind dams floods streams and creates lakes with still water rather than flowing water. Flowing water is necessary for most river mussels like the scaleshell. Water released below dams scours the river bottom which directly kills mussels. Additionally, dams are barriers to host fish movement and migration that the scaleshell and other mussels depend on for dispersal. Upstream mussel populations then become isolated from downstream populations. This isolation leads to small unstable populations which are more likely to die out.

**Exotic Species** - The recent invasion of the exotic zebra mussel poses a substantial threat, because it starves and suffocates native mussels by attaching to their shells in large numbers.

## What Is Being Done to Prevent the Extinction of the Scaleshell?

**Listing** - The scaleshell has been added to the U.S. List of Endangered and Threatened Wildlife and Plants, providing the protection of the Endangered Species Act.

**Recovery Plan** - The U.S. Fish and Wildlife Service will prepare a recovery plan that describes actions needed to help the scaleshell survive. The scaleshell's range overlaps with several other mussel species that are federally listed as endangered or threatened. Steps needed to conserve and recover the scaleshell are likely to be similar to measures already in place for those species. In general, recovery actions are likely to focus on best management practices and existing technology to control pollutants and sedimentation and minimize their impacts on mussels.

## What Can I Do to Help Prevent the Extinction of Species?

**Learn** - Learn more about the scaleshell and other endangered and threatened species. Understand how the destruction of habitat leads to loss of endangered and threatened species and our nation's plant and animal diversity. Tell others about what you have learned.

**Join** - Join a conservation group; many have local chapters.