U.S. Fish & Wildlife Service

Threatened and Endangered Species

This mussel survives in less than 5 percent of its former range.

Northern Riffleshell

(*Epioblasma torulosa rangiana*)

The Northern Riffleshell is a federally *endangered species*. Endangered species are animals and plants that are in danger of becoming extinct. *Threatened species* are plants and animals 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.

Habitat

This mussel is found in a wide variety of streams from large to small. It buries itself in bottoms of firmly packed sand or gravel with its feeding siphons exposed.

Behavior

Reproduction requires a stable, undisturbed habitat and a sufficient population of host fish to complete the mussel's larval development. When the male discharges sperm into the current, females downstream siphon in the sperm in order to fertilize their eggs, which they store in their gill pouches until the larvae hatch. The females then expel the larvae. Those larvae that manage to find a fish host to clamp onto by means of tiny clasping valves, grow into juveniles with shells of their own. At that point they detach from the host fish and settle into the streambed, ready for a long (possibly up to 50 years) life as an adult mussel.

Why It's Endangered

Dams and reservoirs have flooded most of this mussel's habitat, reducing its gravel and sand habitat and probably affecting the distribution of its fish hosts. Reservoirs act as barriers that isolate upstream populations from downstream ones.

Erosion caused by strip mining, logging and farming adds silt to many rivers, which can clog the mussel's feeding siphons and even smother it. Other threats include pollution from agricultural and industrial runoff. These chemicals and toxic metals become concentrated in the body tissues of such filter-feeding mussels as the northern riffleshell, eventually poisoning it to death.

Zebra mussels, an exotic (non-native) species which is spreading rapidly throughout the eastern U.S., also pose a threat. By attaching in great numbers to native mussels such as the northern riffleshell, zebra mussels suffocate and kill the native species.

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