

USACE Natural Resource Management Freshwater Mussels



Scaleshell Mussel

Scaleshell Mussel (*Leptodea leptodon*): Growing to a length of 1 to 4 inches, the scaleshell mussel is considered to be a relatively small freshwater mussel species. The shell is thin and fragile with faint green rays. The inside of the shell is pinkish white or light purple in color.

Status: Endangered, listed 2001

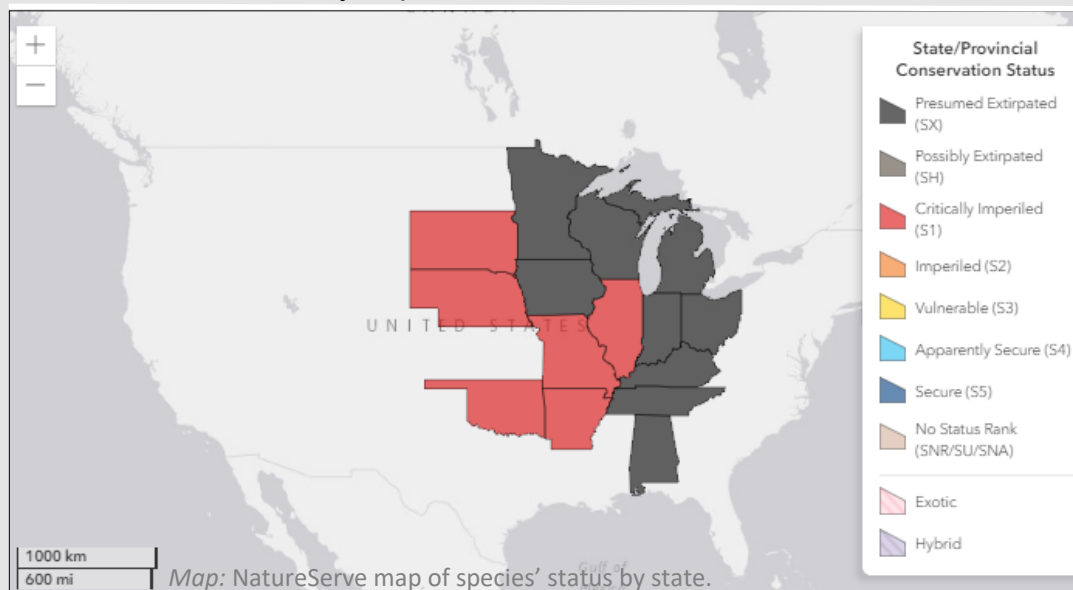
NatureServe: Critically Imperiled



Genus: With just a few species assigned to this genus, *Leptodea* is a genus of freshwater mussels in the family Unionidae (the river mussels).

Range: "Of the 55 historical populations, the scaleshell remains in 14 scattered populations within the Mississippi River basin, in Arkansas, Missouri, and Oklahoma." (USFWS)

Photos Left to Right:
USFWS (Dr. M.C.Barnhart), OutdoorNebraska.gov (M.C.Barnhart)



Management and Protection: Like many freshwater mussel species, conservation challenges stem from threats that include pollution, sedimentation, construction of dams, and exotic species. Many best management practices focus on minimizing sedimentation and runoff into waterbodies. Examples include:

- Minimization (or complete avoidance) of work conducted below the high bank of the stream from March 15 to October 15 which coincides with potential spawning periods of this mussel species to allow for successful reproduction and recruitment.
- Reducing erosion and capturing nutrient rich runoff by maintaining and re-establishing forested riparian corridors at least 100-foot wide along streams where the scaleshell mussel may occur.
 - Avoid constructing stream crossings. If avoidance is not possible, minimize fish passage obstructions by constructing stream and culvert crossings so that bottom elevations remain the same.



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USACE ROLE: According to the Engineering Research and Development Center's Threatened and Endangered Species Team Cost Estimates, from 2007 to 2011 the USACE has expended over \$57,000 on efforts related to the scaleshell mussel. These funds have been expended by multiple USACE business lines including Operations and Planning and Program Management related to inventory, survey, and monitoring efforts along with coordination and determination work.



Scaleshell = \$57,069

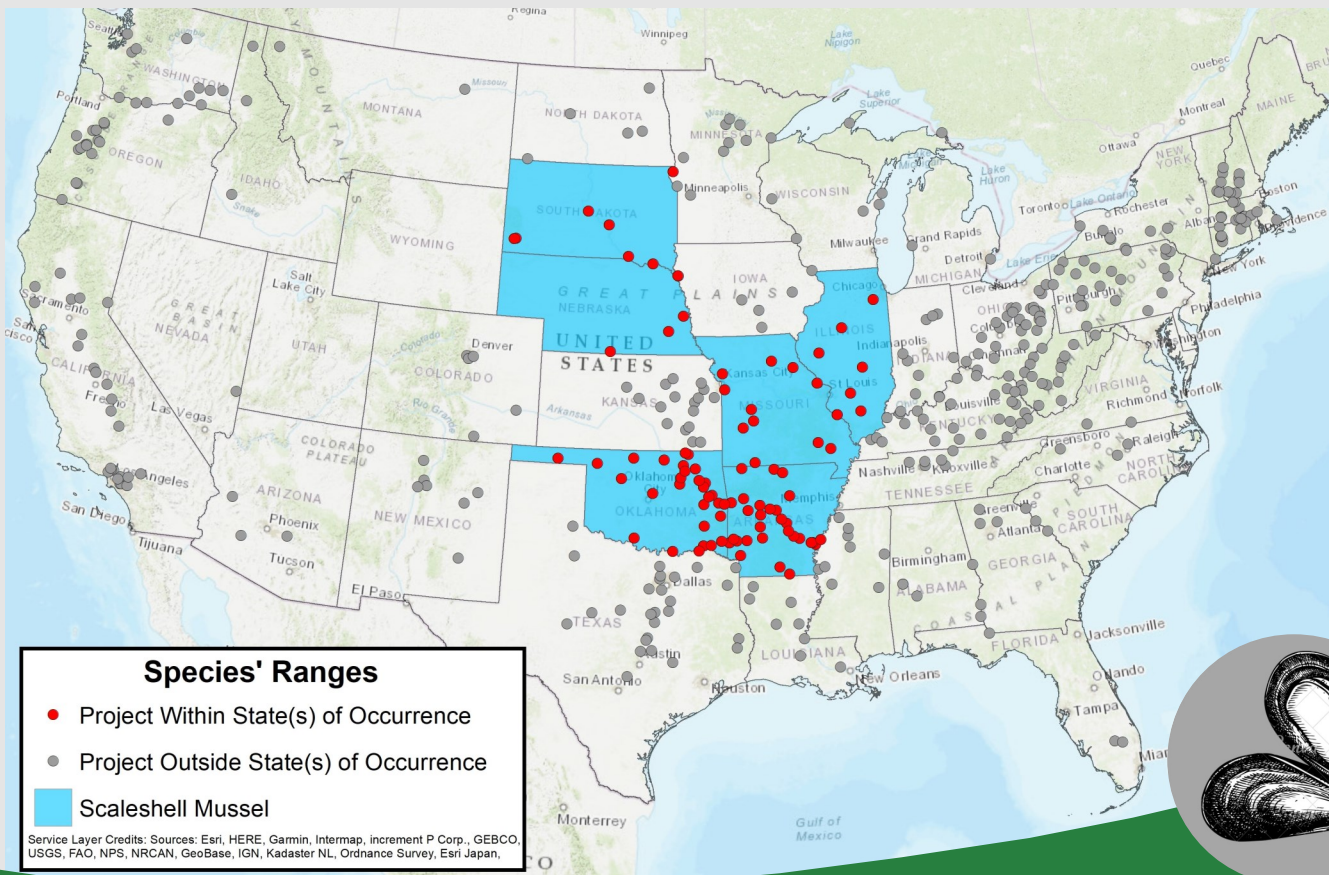


This scaleshell (*Leptodea leptodon*) was found on the Illinois River above Marseilles Dam in May during a mussel survey and relocation effort. Photo courtesy of Illinois Natural History Survey.

The Marseilles Dam, within the Rock Island District, required repair after several barges broke free during a towing operation in strong river conditions in 2013. As part of the repair efforts, a pool drawdown was necessary. USACE personnel worked with individuals from the Illinois Department of Natural Resources, Illinois Natural History Survey, USFWS, and Western Illinois University to search the exposed area of the lower Marseilles Pool for stranded mussels during the drawdown.

Photo: From Rock Island District's News Magazine, Tower Times, August-September 2013.

This fact sheet has been prepared as an unofficial publication of the U.S. Army Corps of Engineers (USACE). This online publication is produced to provide its readers information about best management practices related to special status species. Editorial views and opinions expressed are not necessarily those of the Department of the Army. Mention of specific vendors does not constitute endorsement by the Department of the Army or any element thereof.



Source: Map provided by Ashleigh Boss, ORISE Fellowship, Institute for Water Resources
Freshwater Mussels

