

USACE Natural Resource Management Freshwater Mussels



Ouachita Rock Pocketbook

Ouachita Rock Pocketbook (*Arkansia wheeleri*): This mussel grows to a maximum shell length of 4.5 inches. The shell is moderately inflated and has a subovate outline. The outer shell has a silky luster and is brown or black in color.

Status: Endangered, 1991

NatureServe: Critically Imperiled

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Critically
Imperiled

Genus: *Arkansia* was first described as a monotypic genus by Ortmann and Walker in 1912. It is part of the Unionidae family. (Williams et. al. 2017)

Range: This mussel occurs in the Kiamichi River in southeastern Oklahoma, the Little River in southeastern Oklahoma and southwestern Arkansas, and the Ouachita River in central Arkansas.

Photo Left to Right:
Patricia Mehlhop (USFWS), Susan Rogers (USFWS), & Susan Oetker (USFWS)



Photo: NatureServe map of species' status by state.

Management and Protection:

- Due to human degradation of habitat, this mussel has experienced declines in abundance as well as loss of range. Specific factors in the degradation of habitat include construction and operation of large impoundments, channelization, water quality degradation from point and nonpoint sources of pollution, gravel excavation, and the operation of land vehicles in streams. (USFWS)
- Many of the current threats are expected to continue or increase. Additionally, impacts from invasive species and the predicted impacts of climate change may pose further threats in the future. (USFWS)
- This mussel benefits from the maintenance of ample buffers along stream channels. Eroding roads, slopes, and other sources contributing sediments to streams should be treated to reduce sediment load. Additionally, installing fencing to prevent livestock from entering streams is beneficial. (USFWS)
- Reduce or eliminate the use of lawn-care/agricultural chemicals to reduce in-stream pollution.



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USACE ROLE: According to the Engineering Research and Development Center's Threatened and Endangered Species Team Cost Estimates, the USACE has expended over \$2,237,849 on efforts related to the Ouachita rock pocketbook. Funds have been expended by the Environmental Stewardship and Regulatory Business Lines. Expense types include Coordination and Determination, Site Visits and Inspections, Research, Inventory, Survey, and Monitoring, and Habitat Construction, Creation, Restoration, and/or Protection.



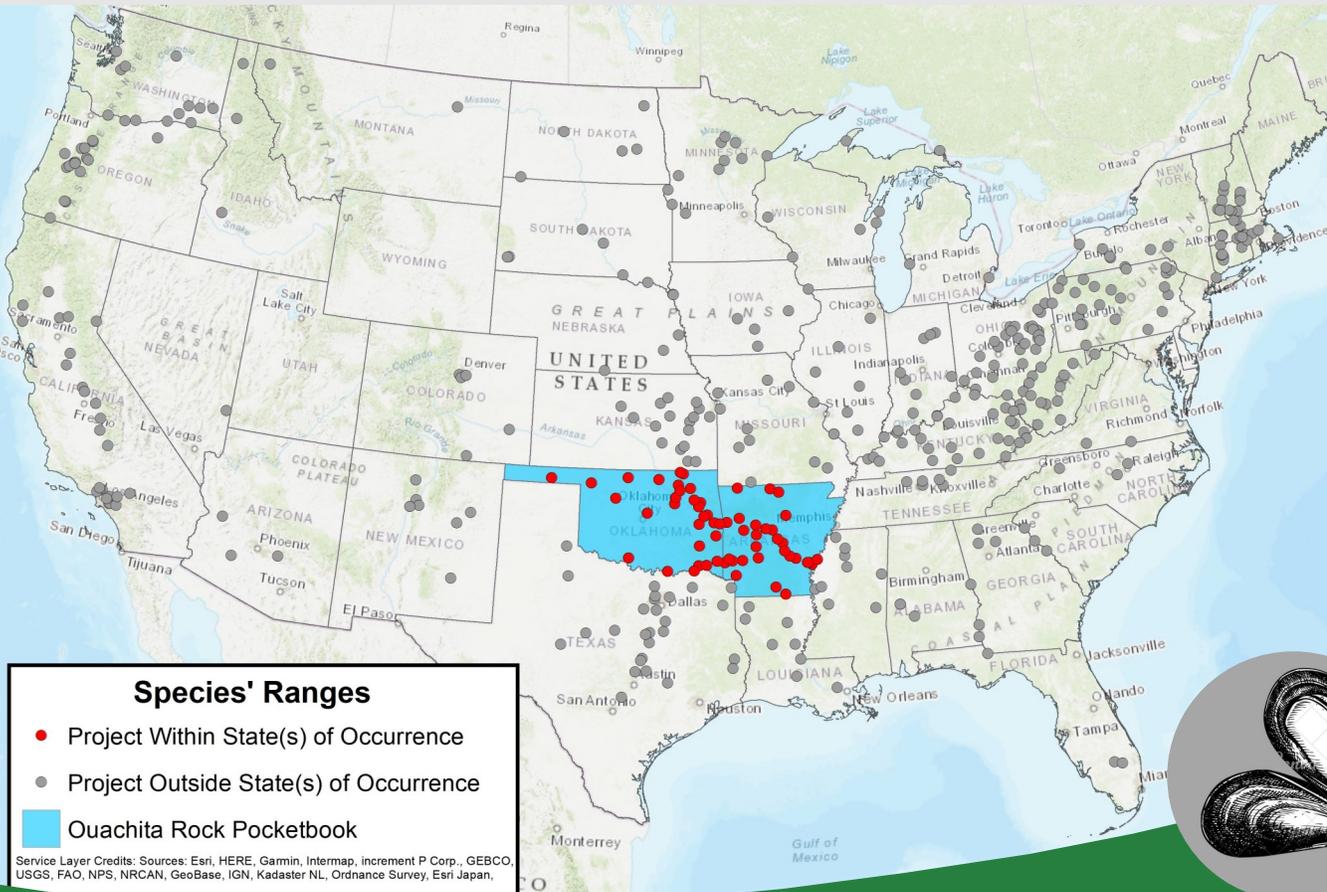
Ouachita Rock Pocketbook = \$2,237,849 (2005)

In 2011 the Oklahoma Water Resources Board, the Oklahoma Department of Wildlife Conservation, and the U.S. Army Corps of Engineers cooperated in the joint decision aimed at protecting the threatened mussel beds of the Kiamichi River. The Kiamichi River is situated below Tulsa District's Sardis Lake and contains two endangered mussels: the scaleshell and the Ouachita rock pocketbook. During the summer of 2011, extended drought conditions resulted in mussel beds being exposed to drying and excessive heat. To mitigate the impacts of the drought and protect mussel species small water releases from Sardis Lake were initiated. Flows, water quality, and the endangered mussels were closely monitored and decisions regarding the water releases were made jointly by involved agencies. Water resource and wildlife agencies maintain close communications during extreme drought conditions to effectively manage water conservation storage.



Photo: The sun setting over Sardis Lake of Tulsa District.

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

