

USACE Natural Resource Management

Freshwater Mussels



Spectaclecase

Spectaclecase (*Margaritifera monodonata*) aka *Cumberlandia monodonta*): This is a large mussel that can grow up to 9 inches in length with a shell shape reflective of its name. The shell color is often brown in juveniles and black in adults.

Status: Endangered, listed 2012

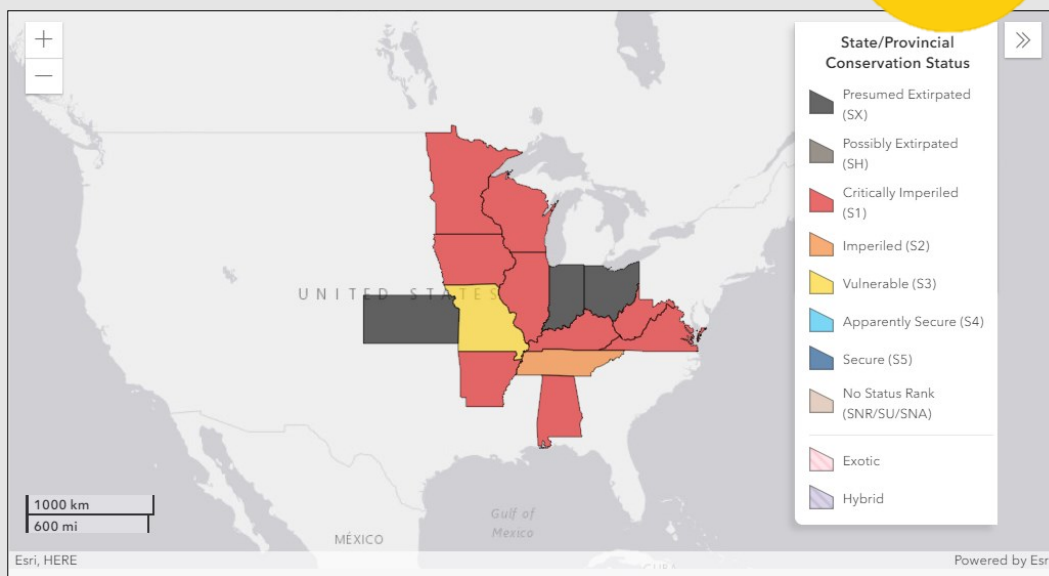
NatureServe: Critically Imperiled



Genus: First described in 1816 by Schumacher, this is a genus in the family *Unionoidea*. Currently there are 13 taxonomically valid species assigned to the *Margaritifera* genus. (Integrated Taxonomic Information System)

Range: Currently the spectaclecase populations are highly fragmented and restricted to short stream reaches within the Mississippi, Missouri, and Ohio River basins. (USFWS)

Photos Left to Right: A young and a mature spectaclecase mussel (USFWS-Nick Rowse), Exterior shell (Illinois State Museum), Exterior and interior shell (Missouri.gov)



Map: NatureServe map of species' status by state.

Management and Protection:

- Threats to the spectaclecase mussel are similar to those of other freshwater mussel species and include the construction of dams, degraded water quality from pollution, channelization, and introduction of invasive species.
- This is primarily a large river species of mussel. The spectaclecase is typically located in microhabitats sheltered from the main current of these large systems, aggregated under slabs and bedrock shelves.
- Comparative to other freshwater mussel species, the spectaclecase is considered to be a sessile species, rarely moving which can lead to stranding in drought conditions.
 - In 2017, two fish hosts for spectaclecase were confirmed; the mooneye and goldeye.



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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 \$248,000 on efforts related to the spectaclecase. These funds have been expended by multiple business lines including Environmental Stewardship, Hydropower, Navigation, Planning and Program Management, Recreation, and Regulatory. Expense types primarily include Coordination and Determination, Site Visits and Inspections, and Inventory, Survey, and Moni-



Spectaclecase = \$463,752 (2007)

According to the 2019 NRM Assessment, 11 projects reported either the potential for the spectaclecase mussel to occur or have rare occurrences of the species.

Studies, such as The Great Lakes and Mississippi River Interbasin Study—Brandon Road Integrated Feasibility Study (GLMRIS-Brandon Road), look at the impacts of proposed actions on numerous mussel species including the spectaclecase. This Feasibility Report identifies the Federal interest in preventing the upstream transfer of aquatic nuisance species from the Mississippi River Basin to the Great Lakes Basin through the Chicago Area Waterway System I the vicinity of the Brandon Road Lock and Dam.

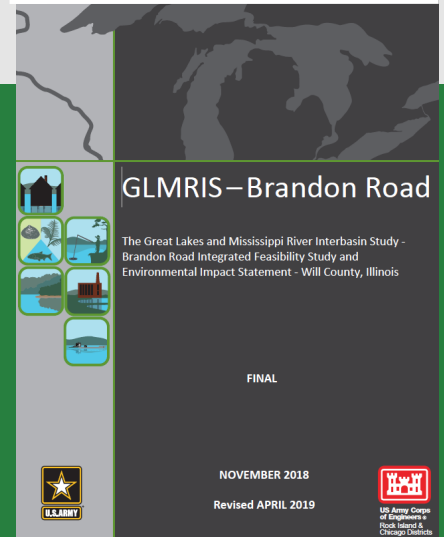
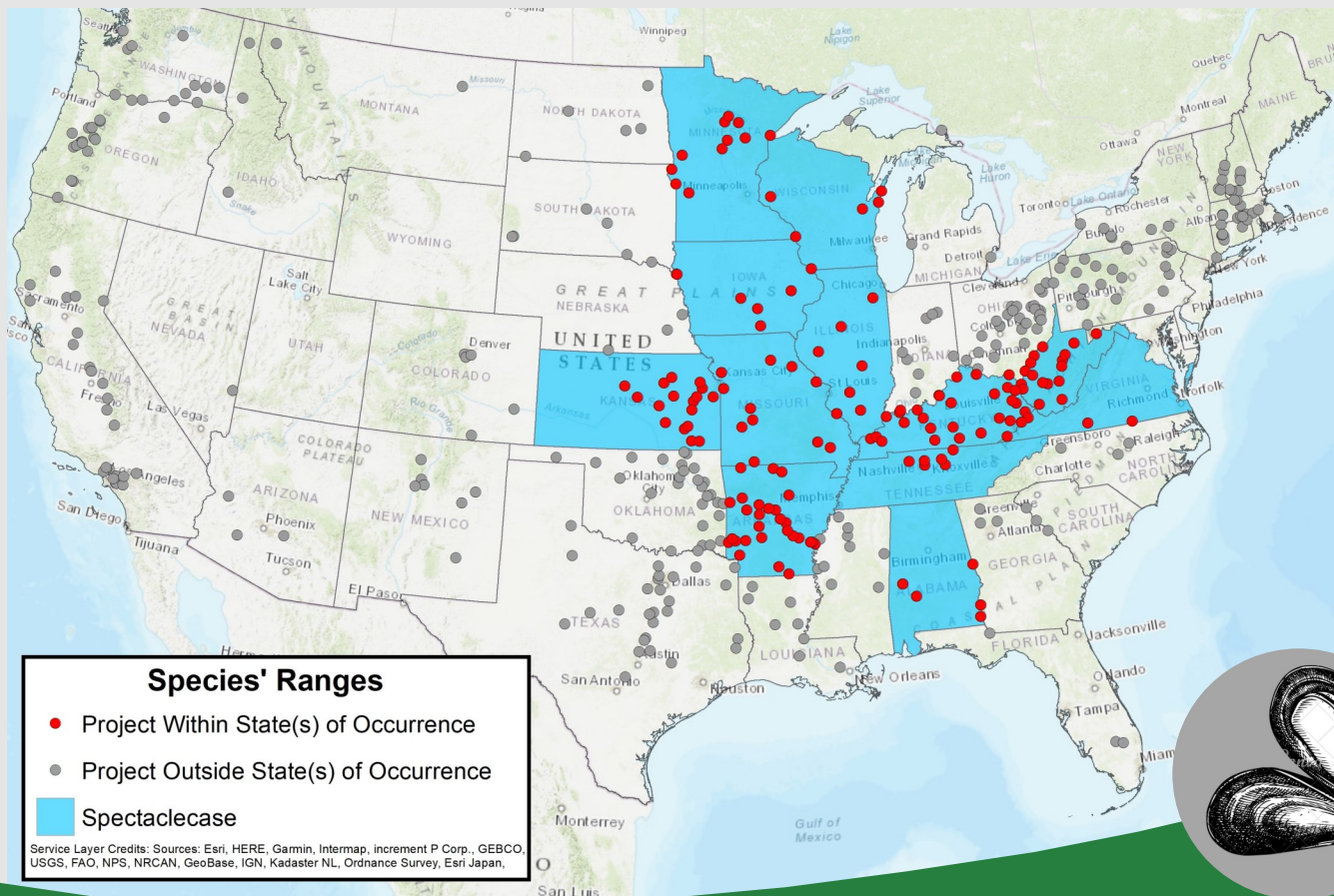


Photo: Cover, GLMRIS-Brandon Road.

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
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