USACE Natural Resource Management
Freshwater Mussels

Fluted Kidneyshell

Fluted Kidneyshell (*Ptychobranchus subtentus*): This is a relatively large mussel which grows to a length of 5 inches. The shell is solid and elongated oval in shape. The outer shell is greenish yellow and browns with age. The inner shell is bluish white to dull white with pink in the older part of the shell. (USFWS)

Status: Endangered, listed 2013

NatureServe: Imperiled

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Imperiled

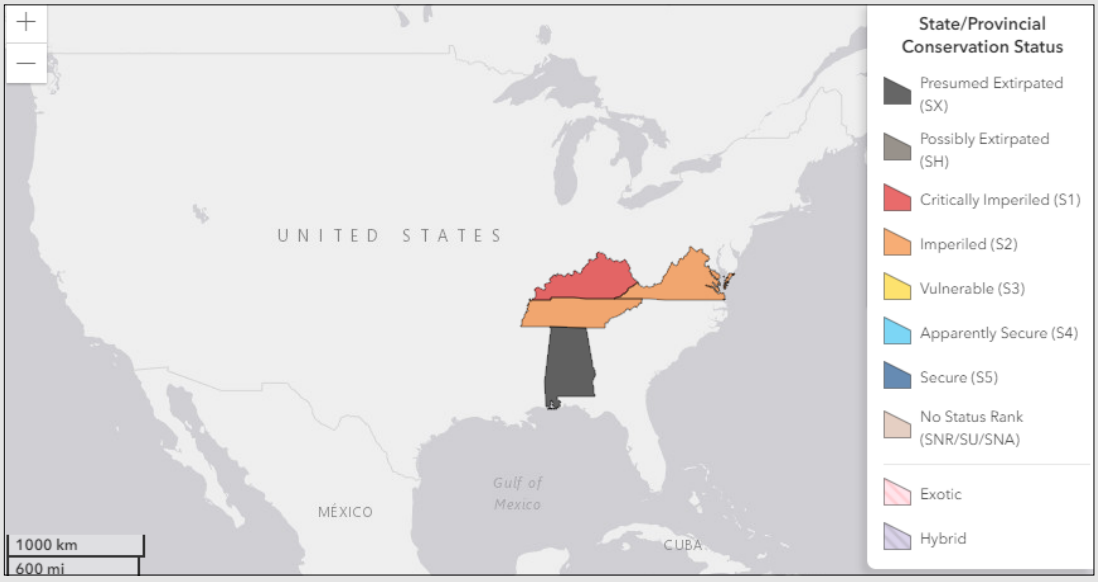


Photo: NatureServe map of species' status by state.

Genus: *Ptychobranchus* is a genus of freshwater mussels in the family *Unionidae.* Currently there are six taxonomically valid species in the genus. (Integrated Taxonomic Information System)

Range: This mussel was historically found within the Cumberland and Tennessee River drainages of the Ohio River basin in Alabama, Kentucky, Tennessee, and Virginia. (USFWS)

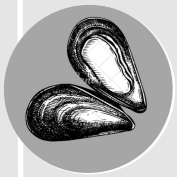
Photos Left to Right:

Outer Shell, Bret Ostby of Virginia Tech; Inner and Outer Shell, M. Compton; and Outer Shell, Tim Lane

Management and Protection:

- The species typically occupies riffle and run habitat in small to large rivers in substrates mixed with sand and gravel and is occasionally associated with cobble and boulder substrates.
- Threats to the fluted kidneyshell include degradation of water quality due to heavy metals, endocrine disruptors, nutrients, and organic pollutions as well as habitat degradation stemming from sedimentation, channel alteration, gravel mining, and the construction of impoundments and barriers. (USFWS)
    - Populations need to be able to withstand stochastic events or disturbances. To be resilient populations need to have a large number of individuals, cover a large area, and be distributed in multiple non-linear waterways or watersheds. (USFWS)

USACE ROLE: According to the Engineering Research and Development Center's Threatened and Endangered Species Team Cost Estimates, the USACE has expended over $33,000 on efforts related to the fluted kidneyshell since 2012. These funds have been expended by multiple business lines including Environmental Stewardship, Flood Risk Management, Planning and Program Management, Recreation, and Regulatory.



Fluted Kidneyshell = $33,451 (2012)

In the 2020 NRM Assessment, the fluted kidneyshell was listed by two projects within the Nashville District of the Great Lake and Ohio River division. Dale Hollow Lake was noted to have the potential for the fluted kidneyshell to occur while Wolf Creek Dam and Lake Cumberland was noted to have rare occurrences of the species. Across that species range the USACE works diligently to ensure the fluted kidneyshell and other special status species are not negatively impacted by current or proposed work.

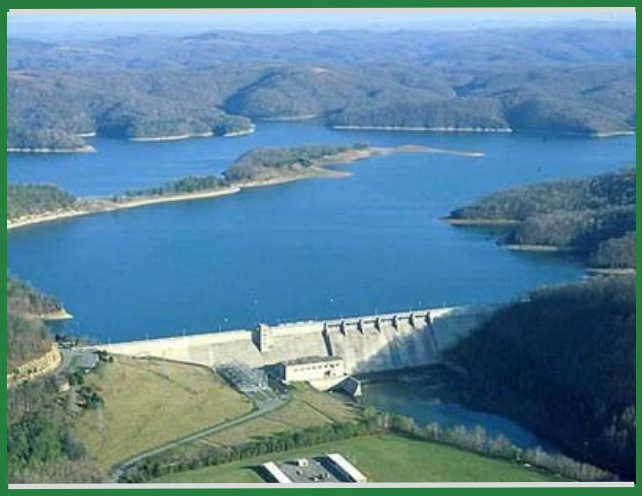


Photo: Image of Dale Hollow Lake which was noted to have the potential for the fluted kidneyshell to occur.

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.