

Tidewater Mucket

Leptodea ochracea

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DESCRIPTION

Taxonomy and Basic Description

The shell of the Tidewater Mucket is elliptical to ovate with a rounded anterior margin and an evenly rounded ventral margin. The posterior ridge is well developed and ends in a blunt point about halfway up from the base. Shells of males are more elliptical with the posterior margin somewhat pointed; shells of females are more ovate with a truncated posterior margin. The outer surface of the shell is a dull yellowish/grayish/greenish- or brownish-olive, sometimes with fine grayish or greenish rays. The inner surface of the shell is white to reddish pink. The shell is usually small but may be up to 100 mm (4 in.) in length (Bogan and Alderman 2004, 2008).



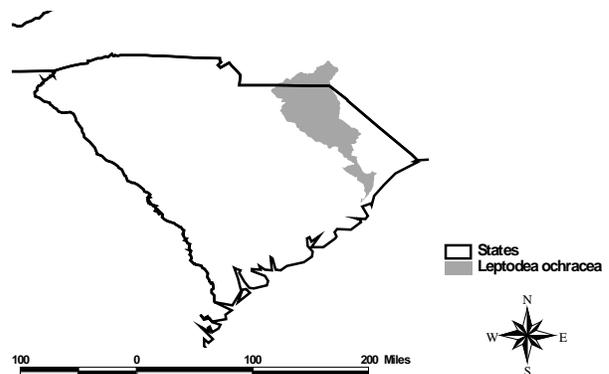
photo by John Alderman

Status

The Tidewater Mucket is currently assigned a global ranking of vulnerable to apparently secure (G3/G4) (NatureServe 2011). This mussel is ranked as critically imperiled (S1) in North Carolina and as imperiled (S2) in South Carolina (NatureServe 2011).

POPULATION SIZE AND DISTRIBUTION

The Tidewater Mucket is found in coastal rivers from Nova Scotia to the Savannah River in Georgia. Historically, it has been found in the Waccamaw and Savannah Rivers in South Carolina (Bogan and Alderman 2004, 2008). Recently, it was found in the Pee Dee River in North Carolina just above the South Carolina State Line and in the lower Little Pee Dee River in South Carolina. This species was reported to be extremely abundant in the early 1800s, but it has declined throughout its range (Taxonomic Expertise Committee 2004).



HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The Tidewater Mucket tends to be found on the Lower Coastal Plain, often in water with tidal influence, but always in fresh water. It has been typically found in pristine rivers (Taxonomic Expertise Committee 2004).

CHALLENGES

Observations suggest that this species is sensitive to channel modification, pollution, sedimentation, and low oxygen conditions, but we do not know how the relative sensitivity of the Tidewater Mucket to these challenges compares to other species. This mussel also appears to be particularly sensitive to dams, channelization, and dredging, which can cause saltwater intrusion into the Tidewater Mucket's habitat (Taxonomic Expertise Committee 2004).

CONSERVATION ACCOMPLISHMENTS

There are no significant conservation accomplishments specifically for the Tidewater Mucket at this time.

CONSERVATION RECOMMENDATIONS

- Explore the need to list the Tidewater Mucket within South Carolina based on survey results.
- Conduct additional surveys of Coastal Plain rivers to better determine the population range and life history requirements for the Tidewater Mucket.
- Carefully monitor existing populations of the Tidewater Mucket.
- Discourage structural alteration of rivers such as damming, channelization, and dredging.
- Determine habitat restoration methods that will benefit the Tidewater Mucket.
- Protect critical habitats for the Tidewater Mucket from future development and further habitat degradation by following Best Management Practices and protecting and purchasing riparian areas.
- Promote land stewardship practices through educational programs both within critical habitats with healthy populations and in other areas that contain available habitat for the Tidewater Mucket.
- Encourage responsible land use planning.
- Consider this species' needs when participating in the environmental permit review process.
- Educate off-road motor vehicle operators of the negative effects of crossing streams at multiple locations and using stream bottoms as trails.
- Conduct further research to determine the degree of sensitivity of the Tidewater Mucket to various point and non-point sources of pollution and land use impacts.

MEASURES OF SUCCESS

Persistence of known populations of the Tidewater Mucket and an increase in numbers where this mussel is currently rare will indicate success of habitat management.

LITERATURE CITED

Bogan, A.E. and J.M. Alderman. 2004. Workbook and key to the freshwater bivalves of South Carolina. i-ii + 1-64 pp. + 5 pls.

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NatureServe. 2011. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>.