

Brook Floater

Alasmidonta varicosa

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DESCRIPTION

Taxonomy and Basic Description

The shell of the Brook Floater is oblong, long, and rhomboid with the anterior margin abruptly curved, the ventral margin long, and gently concave centrally. Growth is marked by concentric ridges. The outer surface is generally smooth except on the posterior slope; it is yellowish, greenish, or covered with dark greenish rays in juveniles. The outer surface becomes brownish with rays partially obscured or almost black in adults. The inner shell surface is whitish or bluish-white often with salmon, pink or purple in the beak cavity. Maximum shell length for this species is 70 mm (2.8 in.) (Bogan and Alderman 2004, 2008).

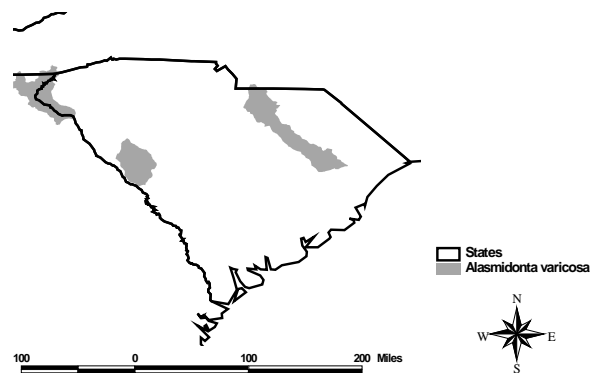


Status

The current global status for the Brook Floater is vulnerable (G3); it is not ranked in South Carolina (NatureServe 2011) but is currently a species of special concern in this state. It is recommended for a rank of S1 in South Carolina (John Alderman pers. comm.). Recently, the Brook Floater was included on a list of 404 species being petitioned for consideration as candidates for federal protection (USFWS 2011).

POPULATION SIZE AND DISTRIBUTION

The Brook Floater is found along the East Coast from eastern Canada to the Savannah River Basin in South Carolina and Georgia. In South Carolina, it occurs in several streams in the Steven's Creek Basin including Beaverdam, Stevens, Turkey, and Mountain Creeks. The most viable southern population may be in the Chattooga River near the South Carolina/Georgia state line. It is also found in Flat Creek and the Lynches River; however, the Brook Floater is only found in portions of this river with good water quality and stable streambanks.



HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The Brook Floater is found in high relief streams among boulders in sand (Taxonomic Expertise Committee 2004).

CHALLENGES

The Brook Floater may be particularly sensitive to sedimentation, flow alteration, and low oxygen conditions (Taxonomic Expertise Committee 2004).

CONSERVATION ACCOMPLISHMENTS

The Brook Floater is a species of federal concern and has been included in a petition for listing as a Federally Threatened or Endangered species (USFWS 2011). As such, the US Fish and Wildlife Service may conduct a status survey in order to determine its range and abundance in order to evaluate its status as a potential candidate for federal listing.

CONSERVATION RECOMMENDATIONS

- Conduct surveys to determine the presence and location of the Brook Floater in South Carolina.
- Explore the need to list the Brook Floater within South Carolina based on survey results.
- Continue conducting genetic investigations, particularly to compare Brook Floater populations in the Lynches River and Steven's Creek Basins.
- Protect Brook Floater habitat from future development and further habitat degradation by following Best Management Practices and protecting and purchasing riparian areas, especially those portions along Flat Creek in the Lynches River drainage.
- Promote land stewardship practices through educational programs both within critical habitats with healthy populations and in other areas that contain available habitat for the Brook Floater.
- 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.

MEASURES OF SUCCESS

Protecting land and maintaining healthy riparian habitat adjacent to streams with populations of Brook Floaters will indicate some success. We will know that land management practices have succeeded in helping the Brook Floater when numbers of this species increase.

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.

Bogan, A.E. and J.M. Alderman. 2008. Workbook and key to the freshwater bivalves of South Carolina (Revised Second Edition). i–ii + 1–66 pp. + 5 pls.

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

United States Fish and Wildlife Service (USFWS). 2011. Endangered and threatened wildlife and plants; partial 90-day finding on a petition to list 404 species in the southeastern United States as endangered or threatened with critical habitat. *Federal Register* 76: 59836–59862.