

Banded Sunfish

Enneacanthus obesus

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DESCRIPTION

Taxonomy and Basic Description

The Banded Sunfish belongs to the genus *Enneacanthus*, a group of small-bodied sunfishes (Centrarchidae). This genus is represented by only two species in addition to the Banded Sunfish: the Blackbanded Sunfish (*E. chaetodon*) and Bluespotted Sunfish (*E. gloriosus*), both of which also occur in South Carolina.



Adult Banded Sunfishes are small and stocky, ranging in total length from 50 to 95 mm (2.0 to 3.8 in.) (Rohde et al. 2009). The body is olive-brown to olive-green, with 5 to 8 dark vertical bars on the side and many small, irregularly-placed iridescent spots on the side and fins. Typically, there is a continuous iridescent bluish crescent under the eye and a large black spot (larger than the pupil) on the operculum (Rohde et al. 2009).

Status

The Banded Sunfish is considered secure (G5) on a global scale and is not currently ranked in South Carolina (SNR) (NatureServe 2013). It is currently stable according to Warren et al. (2000).

POPULATION SIZE AND DISTRIBUTION

The Banded Sunfish is found on the Atlantic Coastal Plain from southern New Hampshire to north-central Florida and along the Gulf Slope to Eastern Alabama (Rohde et al. 2009). It is found across all of South Carolina's Coastal Plain drainages, although it may be less common than is apparent on most range maps. Based on South Carolina Stream Assessment data, the mean statewide density estimate for Banded Sunfish in wadeable streams was 0.07 per 100 m² (95% confidence interval: 0.02 – 0.12).

HABITAT OR NATURAL COMMUNITY REQUIREMENTS

Banded Sunfish occur primarily in sluggish Coastal Plain streams and vegetated backwaters of lakes and ponds, often over silt or sand (Rohde et al. 2009). Based on 2006-2011 South Carolina Stream Assessment data, it was most strongly associated with streams exhibiting very low current velocity.

CHALLENGES

Primary threats to the Banded Sunfish include loss of forested land and especially the removal of riparian cover along Coastal Plain streams. Mature forest and riparian vegetation is an important source of large woody debris in Coastal Plain streams, which provides critical habitat for many endemic southern Atlantic Coastal Plain species including the Banded Sunfish (Marion 2008). Land development, siltation, and hydrologic alterations such as channelization and construction of impoundments also threaten this species. The conversion of naturally stagnant lowland swamps and streams into channelized, shallow drainage ditches with consistently high current velocities represents a principal threat to Banded Sunfish habitat.

Although it appears to have a wide range across the Coastal Plain of South Carolina, the Banded Sunfish generally occurs in low abundance where it is found.

CONSERVATION ACCOMPLISHMENTS

South Carolina Stream Assessment data have facilitated the calculation of standardized abundance (density) estimates for this species at multiple spatial strata including statewide, river basin, level-IV ecoregion, and “ecobasin” (ecoregion x river basin). These estimates, for the first time, provide an objective measure of current population status that will serve as a baseline for following future population trends and gauging the effectiveness of conservation actions.

Educational materials have been developed in order to raise public awareness of nongame species and their ecological importance to the natural history of South Carolina’s aquatic habitats, including:

- The Reel Art program creates a topic for secondary school students and judges the artists’ submissions (e.g. a list of the Piedmont Fishes of SC to select from as subjects for drawing or painting).
- We compiled information and photographs for the development of nongame fish description web pages which are currently in development.
- We developed the Blackwater River Guide and interactive Powerpoint.
 - <http://www.dnr.sc.gov/education/pdf/BlackwaterInteractivePoster.pdf>
 - <http://www.dnr.sc.gov/education/pdf/BlackwaterRivEdGuide.pdf>
- We developed and printed the Fish Species of Concern Coloring Book (2009).
 - <http://www.dnr.sc.gov/aquaticed/pdf/SCFishesofConcernColoringBook.pdf>

CONSERVATION RECOMMENDATIONS

- Use South Carolina Stream Assessment decision-support GIS modeling tools to identify levels and spatial distributions of critical habitat factors to sustain the species in geographic areas of interest.
- Use South Carolina Stream Assessment decision-support GIS modeling tools to identify priority regions and watersheds at greatest risk of decline in stream integrity.
- Protect critical habitats from future development and further habitat degradation by following Best Management Practices as well as 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.
- Encourage responsible land use planning.
- Consider this species' needs when participating in the environmental permit review process.
- Continue to develop educational materials in order to raise public awareness of nongame species and their ecological importance to the natural history of South Carolina's aquatic habitats.
- Educate motor vehicle operators of the negative effects of crossing streams at multiple locations and using stream bottoms as trails.

MEASURES OF SUCCESS

Successful conservation of Banded Sunfish habitats would produce expected population densities comparable to or exceeding those observed in the South Carolina Stream Assessment (2006 – 2011) for given ecoregions, river basins and ecobasins. A success criterion would be cooperation of SC landowners in achieving the foremost goal of the Southeastern Aquatic Resource Partnership's 2008 Southeast Aquatic Habitat Plan that 85% of lands within 30 m (100 ft.) of streams or rivers be maintained in natural vegetation. Preservation of large tracts of forested coastal plain landscapes would represent a major accomplishment.

LITERATURE CITED

- Marion, C.A. 2008. The effects of land use on sedimentation, inorganic substrate, organic substrate, and fish assemblages in south carolina's coastal plain streams. Master's Thesis, Clemson University. 200 pp.
- NatureServe. 2013. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: March 26, 2013).
- Rohde, F. C., R. G. Arndt, J. W. Foltz and J. M. Quattro. 2009. Freshwater Fishes of South Carolina. The University of South Carolina Press, Columbia. 544 pp.
- Warren, M.L., Jr., B.M. Burr, S.J. Walsh, H.L. Bart, Jr., R.C. Cashner, D.A. Etnier, B.J. Freeman, B.R. Kuhajda, R.L. Mayden, H.W. Robison, S.T. Ross and W.C. Starnes. 2000. Diversity, distribution, and conservation status of the native freshwater fishes of the southern United States. *Fisheries* 25(10):7-31.