

Blackbanded Sunfish*Enneacanthus chaetodon*

Contributor (2005): David Allen, Chris Thomason, and Jason Bettinger [SCDNR]
Reviewed and Edited (2013): Mark Scott, Andrew R. Gelder, and M. Troy Cribb [SCDNR]

**DESCRIPTION****Taxonomy and Basic Description**

The Blackbanded Sunfish is a member of the family Centrarchidae. The 30 species of this family include the sunfishes, crappies and black basses. Blackbanded Sunfish are a deep-bodied, extremely compressed fish with a small mouth and 6 black bars on a silvery body. They generally reach an adult length of 50 to 82 mm (2 to 3.2 inches). The caudal fin is rounded. The pelvic fins are pink to red, anteriorly (Rohde et al. 1994).

Status

The Blackbanded Sunfish is considered apparently secure (G4) to vulnerable (G3) globally. It is not ranked (SNR) in South Carolina, but is considered as at least vulnerable (S3) in 7 of 9 states where it historically occurred (NatureServe 2013). It is presumed extirpated (SX) from Pennsylvania and is considered critically imperiled (S1) in Virginia, Maryland and Georgia (NatureServe 2013). Additionally, the Blackbanded Sunfish was considered vulnerable in South Carolina in a recent assessment of North American freshwater fishes (Jelks et al. 2008).

POPULATION SIZE AND DISTRIBUTION

The Blackbanded Sunfish is widely distributed in the Coastal Plain from New Jersey to Florida, as well as in streams of Gulf Slope drainages of Georgia and Florida (NatureServe 2013). The range of this species is fragmented; this species is often missing from areas where appropriate habitat is seemingly present (Rohde et al. 1994). In South Carolina, the Blackbanded Sunfish is found predominantly in the Upper Coastal Plain from the Little Pee Dee River south to the Savannah River. The Blackbanded Sunfish is currently considered secure. Although this species is sometimes locally common, it is more often uncommon in field collections (Rohde et al. 1994). Its fragmented range and noticeable absence in appropriate habitats give the impression that it is a species in decline. Based on South Carolina Stream Assessment data (2006-2011), the mean statewide density estimate for the Blackbanded Sunfish in wadeable streams was 0.004 (95% confidence interval: 0.0004 – 0.009) per 100 m².

HABITAT OR NATURAL COMMUNITY REQUIREMENTS

The Blackbanded Sunfish is found in quiet, shallow, densely vegetated margins of lakes, ponds, swamps, roadside ditches, and streams with sand or mud bottoms (Shute et al. 1981; Jenkins and Burkhead 1994). They are largely restricted to stained, but not turbid, acidic water with a pH of

4.0 to 5.0. In the lotic systems of the Middle Savannah River Basin, adults seasonally migrate into beaver ponds to spawn (Marcy et al. 2005).

CHALLENGES

The Blackbanded Sunfish is adversely affected by the practice of draining of ponds and swamps as well as by pesticide contamination (Burkhead and Jenkins 1991). Additionally, the potential for this species to be collected for the aquaria trade could result in adverse impacts to populations (Burkhead and Jenkins 1991).

CONSERVATION ACCOMPLISHMENTS

South Carolina Stream Assessment (2006-2011) 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 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 and protecting and purchasing riparian areas.
- Promote land stewardship practices through educational programs both within critical habitats with healthy populations and 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 other 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.
- Educate aquarists as to the adverse impacts of removing fish from the wild.

MEASURES OF SUCCESS

Determining the distribution, life history, habitat needs, and Southeastern population structure and trends would represent a measure of success for this species. Methods that protect water quality are also likely to protect this species and others. In the event that more protective BMPs are implemented, population studies of this fish could assist in determining the effectiveness of those measures.

LITERATURE CITED

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