

Savannah Darter

Etheostoma fricksium

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DESCRIPTION

Taxonomy and Basic Description

The Savannah Darter is a member of the family Percidae (perch) and placed in the genus *Etheostoma*. Percidae is a large family containing approximately 176 species, 162 of which occur in North America (Jenkins and Burkhead 1994). *Etheostoma*, comprising approximately 115 species, is the largest genus of freshwater fishes in North America (Etnier and Starnes 1993). Percids include some of the most beautifully and brightly colored North American fishes. Darters are benthic species that spend most of their lives in close contact with the substrate. Although most darter species have very specific habitat requirements, as a group they occupy a myriad of habitats. Darters can be found in torrential mountain streams, lowland swamps, and just about every habitat in between. Darters are characterized by having two dorsal fins, relatively large pectoral fins and an elongate body. The Savannah Darter is characterized by a broad dark stripe on its side and a red marginal or submarginal band on its first dorsal fin. This colorful darter also displays alternating green and orange bars on its lower side as well as orange on its belly. Savannah Darters reach a length of 74 mm (2.9 in.) (Rohde et al. 1994).

Status

The Savannah Darter carries no legal status in South Carolina or Georgia, the only states where it occurs. Globally, it is apparently secure (G4), but it is considered imperiled (S2) in the State of Georgia, and not rated (SNR) in South Carolina (NatureServe 2013).

POPULATION SIZE AND DISTRIBUTION

The Savannah Darter is only found in the Savannah River drainage of Georgia and South Carolina and the upper Edisto and Combahee River drainages in South Carolina. Furthermore, this species appears to be restricted to the Coastal Plain; however, there is one record for Savannah Darter from above the Fall Line in Rocky Creek, McCormick County, SC. It is not clear if this record is a misidentification, possibly the very similar Christmas Darter, or if the Savannah Darter occurs above the Fall Line. Most of the occurrences for the Savannah Darter are in the Sandhills and the southern loam plains of the Upper Coastal Plain.

Savannah Darter population size and trends are not well known. Based on South Carolina Stream Assessment (2006-2011) data, the mean statewide density estimate for Savannah Darter in wadeable streams was 0.06 (95% confidence interval: 0.03 – 0.08) per 100 m².

HABITAT OR NATURAL COMMUNITY REQUIREMENTS

The Savannah Darter inhabits clear or tannin-stained creeks and small rivers where it occupies areas with strong current and sand or gravel substrates. It is generally found in or near aquatic vegetation or woody debris (Layman 1993; Rohde et al. 1994).

CHALLENGES

Although the Savannah Darter is currently considered stable (Warren et al. 2000), its limited distribution is cause for concern. Of the Savannah Darter's global distribution, 75% occurs in South Carolina. Loss of habitat in South Carolina from development, point and non-point source pollution, and poor land management practices would threaten the species global existence.

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.
- Describe life history and habitat requirements for the Savannah Darter.
- Conduct genetic assessments to determine appropriate taxonomy for the Savannah Darter.

- Protect critical habitats for the Savannah Darter from future development and further habitat degradation by following Best Management Practices (BMPs) 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 Savannah Darter.
- 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 fish species and their ecological importance to the natural history of South Carolina's aquatic habitats.
- 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

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.

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