

Fieryblack Shiner*Cyprinella pyrrhomelas*

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

The Fieryblack Shiner is also a member of the *Cyprinella* genus in the family Cyprinidae (minnows). Adult Fieryblack Shiners range in length from 47 to 110 mm (1.8 to 4.4 in.). This attractive species has a red snout, a black bar behind the opercle and a black margin on the caudal fin (Rohde et al. 1994). Breeding males display bright red and white bands on the caudal fin (Rohde et al. 1994).

Status

The Fieryblack Shiner is not listed federally or within the State of South Carolina as a fish of special concern. They are apparently secure globally (G5) (NatureServer 2013); however, there is some concern for their long-term status based on their limited distributions. The Fieryblack Shiner is considered apparently secure (S4) in North Carolina and is not ranked (SNR) in South Carolina (NatureServe 2013).

POPULATION SIZE AND DISTRIBUTION

The Fieryblack Shiner is completely restricted to the Santee and Pee Dee River systems above the Fall Line in North Carolina and South Carolina. Information on population size and status is limited. However, this species appears to currently be stable in South Carolina (SCDNR unpublished data). Based on South Carolina Stream Assessment (2006-2011) data, the mean statewide density estimate for the Fieryblack Shiner in wadeable streams was 0.015 (95% confidence interval: 0.009 – 0.021) per 100 m².

HABITAT OR NATURAL COMMUNITY REQUIREMENTS

The Fieryblack Shiner requires cool, clear water in creeks and small to moderately sized rivers. The species is generally associated with rocky runs and pools below riffles (Page and Burr 1991; Rohde et al 1994). As with other *Cyprinella* species, the Fieryblack Shiner is a crevice spawner, depositing eggs in crevices of logs and rocks and thus requires coarse substrates and in-stream structures such as logs to deposit its eggs (Rohde et al. 1994).

CHALLENGES

The Fieryblack Shiner is currently stable with relatively large distributions throughout the State. They are of conservation concern because they are only found within a few major drainages.

Approximately one-half of the global distributions of the Fieryblack Shiner occur in South Carolina. Therefore, conservation efforts within South Carolina are critical to the global preservation of this species. Challenges to this species are similar to those faced by other aquatic fauna and include point and nonpoint source pollution, deforestation and loss of riparian corridors, impoundment, development, siltation from poor land use practices, and unplanned or poorly planned urban and suburban development. Development of the Interstate 85 corridor between Charlotte, North Carolina and Greenville, South Carolina could also result in adverse impacts to this and several other species.

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 of the Fieryblack Shiner.
- Identify critical habitats and areas with healthy populations of the Fieryblack Shiner.
- 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 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

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. 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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