

## Rosyface Chub

### *Hybopsis rubrifrons*

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#### DESCRIPTION

#### Taxonomy and Basic Description

The Rosyface Chub is a member of the genus *Hybopsis* in the cyprinid family. The Rosyface Chub has the typical chub body, somewhat elongate with a long snout, upward-looking eyes, and a small barbel in the corner of its inferior mouth. Breeding males can be distinguished from other members of *Hybopsis* by the strong rosy-red coloration that develops on the anterior third of the body. Rosyface Chubs can attain a length of 84 mm (3.25 in.) (Rohde et al. 1994).

#### Status

The Rosyface Chub is not federally listed or a fish of special concern within the State of South Carolina. All are apparently secure globally (G4) (NatureServe 2013); however, there is some concern for their long-term status based on their limited distributions. The Rosyface Chub is considered critically imperiled (S1) in North Carolina largely due to its limited distribution within the State; Georgia has listed the Rosyface Chub as vulnerable to apparently secure (S3/S4) while there is no ranking (SNR) in South Carolina (NatureServe 2013).

#### POPULATION SIZE AND DISTRIBUTION

The Rosyface Chub is restricted to the Saluda, Savannah, Edisto, and Altamaha River drainages of Georgia and South Carolina, predominantly above the Fall Line (SCDNR unpublished data). Based on South Carolina Stream Assessment data (2006-2011), the mean statewide density estimate for Rosyface Chub in wadeable streams was 0.47 (95% confidence interval: 0.25 – 0.70) per 100 m<sup>2</sup>.

#### HABITAT OR NATURAL COMMUNITY REQUIREMENTS

The Rosyface Chub inhabits the pools and margins of riffles in small streams and the banks and eddies of larger streams. It is generally found over sand or gravel and requires clean gravel in fast riffles for reproduction (NatureServe 2013).

#### CHALLENGES

The Rosyface Chub 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 Rosyface Chub occur in South Carolina. Conservation efforts within South Carolina are critical to the global preservation of

these species. Challenges to this species are similar to those faced by other aquatic fauna and include point and non-point 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.

## 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 Rosyface Chub.
- Identify critical habitats and areas with healthy populations of the Rosyface Chub.
- 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

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, D.G. Lindquist and J.F. Parnell. 1994. Freshwater Fishes of the Carolinas, Virginia, Maryland, and Delaware. The University of North Carolina Press. Chapel Hill, North Carolina. 222 pp.