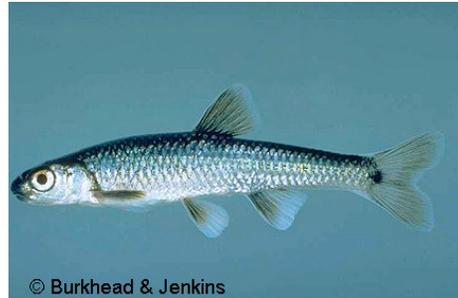


Mirror Shiner*Notropis spectrunculus*

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DESCRIPTION

Taxonomy and Basic Description

The Mirror Shiner is also in the cyprinid family and a member of the genus *Notropis*. The Mirror Shiner is identified by its slender body, broad head, small subterminal mouth, and upward-directed eyes (Rohde et al. 1994). During breeding season, the males of this otherwise bland fish display red-orange fins with white margins. Adults range in length from 43 to 75 mm (1.7 to 3 in.) (Rohde et al. 1994).

Status

The Mirror Shiner has received legal status as a species of concern in South Carolina. Globally, this species is considered to be stable (Warren et al. 2000) and secure (G5) (NatureServe 2013). It is not ranked (SNR) in South Carolina (NatureServe 2013).

POPULATION SIZE AND DISTRIBUTION

The upper Savannah River contains several fish species that are typically found in the Tennessee drainage and not on the Atlantic Slope. The presence of the Mirror Shiner in the Savannah River of the southern Atlantic Slope is likely due to a stream capture from the Tennessee River (Ross 1970). In South Carolina, this species occurs only in—and is restricted to—the Chattooga and Seneca River systems of the upper Savannah River drainage. Outside of South Carolina, the Mirror Shiner occurs in the upper Tennessee River drainage of western Virginia, western North Carolina, eastern and southern Tennessee, and northern Georgia. The Mirror Shiner was not collected at any randomly selected wadeable stream sites in the South Carolina Stream Assessment (2006-2011).

HABITAT OR NATURAL COMMUNITY REQUIREMENTS

The Mirror Shiner inhabits clear, cool water streams and rivers with moderate to high gradients (Jenkins and Burkhead 1994) and gravel and rubble substrates. This species is generally found in the slower moving areas associated with pools, slow runs, and riffle margins.

CHALLENGES

Although the Mirror Shiner is currently stable throughout the majority of its range, its limited distribution in South Carolina makes it vulnerable to imperilment within the state. Because of its limited distribution within South Carolina, it is especially vulnerable to development within the

Chattooga River system. The major challenges to this species are deforestation, loss of riparian cover, siltation, and impoundments.

CONSERVATION ACCOMPLISHMENTS

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

- Describe life history and habitat requirements of the Mirror Shiner.
- Protect critical habitats 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.
- 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

- Jenkins, R.E., and N.M. Burkhead. 1994. *Freshwater Fishes of Virginia*. American Fisheries Society. Bethesda, Maryland. 1079 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, 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.
- Ross, R.D. 1970. The Distributional History of the Biota of the Southern Appalachians. Pp 29-37. *In: Research Division Monograph 4*, P.C. Holt, Editor. Virginia Polytechnic Institute and State University. Blacksburg, Virginia.
- 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.