Whitemouth Shiner

Notropis alborus

Contributor (2005): Ross L. Self and Jason Bettinger [SCDNR]
Reviewed and Edited (2013): Mark Scott, Andrew R. Gelder, and M. Troy Cribb [SCDNR]

DESCRIPTION

Taxonomy and Basic Description

The Whitemouth Shiner is a member of the genus *Notropis*. Containing about 71 species, *Notropis* is considered the genus of true shiners (Rohde et al .1994). The true shiners are generally small and nearly all lack a barbel. Silver color is dominant; breeding males of many species have bright colors (chiefly red) and some are boldly black-patterned. A great deal of variation occurs across the genus in morphology, color, and biology.

The Whitemouth Shiner exhibits a body profile that is moderate to somewhat elongate (Jenkins and Burkhead 1994). The species has a jagged-edged midlateral stripe that continues around the snout or upper lip (Rohde et al. 1994). The mid-lateral stripe is confluent with the caudal spot (Jenkins and Burkhead 1994). These fish have 8 dorsal rays and 7 anal rays (Jenkins and Burkhead 1994). Adults range in size from 40 to 50 mm (1.6 to 1.9 in.) in length (Jenkins and Burkhead 1994).

Status

The Whitemouth Shiner is considered to be apparently secure globally (G4) (NatureServe 2013). Its status, however, does vary from apparently secure to critically imperiled as one moves across its range. In South Carolina, the status of the Whitemouth Shiner is uncertain (SNR) (NatureServe 2013).

POPULATION SIZE AND DISTRIBUTION

The Whitemouth Shiner is known from the Roanoke, Cape Fear, Pee Dee and Santee River drainages in North Carolina and South Carolina, and the Chowan and Roanoke River drainages in Virginia. However, it has apparently been extirpated from the Chowan drainage. It is found largely on the outer half of the Piedmont Province, where it is fairly common in some drainages. The Whitemouth Shiner is apparently absent from intervening Tar and Neuse drainages (NatureServe 2004). In South Carolina, its distribution is apparently restricted to the Slate Belt in the upper Lynches and Pee Dee River systems. The most viable populations of Whitemouth Shiner likely occur in Thompson Creek, Chesterfield County, SC.

The Whitemouth Shiner is considered fairly common across its range, with a very limited distribution in South Carolina, the southern-most extreme portion of its range. Conservation

actions in South Carolina may have little impact on the overall status of these fishes. However, due to the limited habitat available for this species in South Carolina, and if it is to be maintained as part of South Carolina's fauna, then it is essential that the habitat requirements for these fishes be better understood and actions taken to protect and preserve appropriate sites for the survival of this species. The Whitemouth Shiner was not collected at any randomly selected wadeable stream sites in the 2006-2011 South Carolina Stream Assessment.

HABITAT OR NATURAL COMMUNITY REQUIREMENTS

The Whitemouth Shiner occurs in small- to medium-sized warm water streams like headwaters, creeks and small rivers. These streams typically have colorless to slightly stained, clear to turbid water, no vascular plants, a sand-rubble-bedrock substrate, and a swift current with alternating pools and riffles (NatureServe 2004).

CHALLENGES

This species is vulnerable in South Carolina due to its very limited distribution, but is currently stable throughout much of its range. Challenges to this species are similar to those of other aquatic fauna and include point and non-point source pollution, deforestation, and loss of riparian corridors, impoundment development, channelization and siltation from poor land use practices, and unplanned or poorly planned urban and suburban development. Because of its limited distribution, it is also vulnerable to habitat losses due to anthropogenic influences such as water withdrawals or environmental disturbances such as drought.

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

- Survey Thompson Creek and surrounding areas in Chesterfield County to determine the status of the Whitemouth Shiner as this stream likely houses the strongest populations of this species and may have been severely impacted by the drought of 2002. Protect these areas, once identified.

- Describe life history and habitat requirements of the Whitemouth 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 these fish could assist in determining the effectiveness of those measures.

LITERATURE CITED

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