

Notchlip Redhorse

Moxostoma collapsum

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DESCRIPTION

Taxonomy and Basic Description

The Notchlip Redhorse is a member of the family Catostomidae and belongs to the genus *Moxostoma*. *M. collapsum* was formerly downgraded to a race of *M. anisurum*, the Silver Redhorse (Jenkins 1970). Jenkins and Burkhead (1994) reported that the Atlantic slope populations of *M. anisurum* appear to have a more elongate body form, smaller head parts, and perhaps a tendency to occupy smaller streams than the Mississippi Basin Silver Redhorse. Further, Warren et al. (2000) noted a forthcoming taxonomic rearrangement and recognized *M. collapsum* as a species distinct from *M. anisurum* (Nelson et al. 2004). Adult Notchlip Redhorse range in length from 350 to 450 mm (14 to 18 in.) and have a moderate to high-back form. These fish have a V-shaped lower lip with lip surfaces that are semipapillose. The dorsal fin has a slightly concave or straight margin and usually 14 or 15 dorsal rays. The upper tip of the caudal fin is often pointed with the lower tip usually rounded. The back is tan, brown or olive. The sides can be shiny silver, yellow, gold, copper, or mixtures of these. Scale bases are a pale iridescent green. Pale red can be present in the dorsal and caudal fins with orange-red present in the lower fins (Jenkins and Burkhead 1994).

Status

The Notchlip Redhorse is currently considered stable throughout its native range (Warren et al. 2000) and globally secure (G5) (NatureServe 2013); however, the secure designation was applied when Notchlip Redhorse was still considered a race of Silver Redhorse. Its status may be revised due to its limited range on the Atlantic Slope from Virginia to Georgia and population declines in several rivers such as the Neuse and Cape Fear Rivers. Throughout its range, the Notchlip Redhorse is considered common to abundant (NatureServe 2013). This species is not ranked (SNR) in South Carolina (NatureServe 2013).

POPULATION SIZE AND DISTRIBUTION

The Notchlip Redhorse occurs on the Atlantic Slope from the Roanoke–Chowan drainage in Virginia to the Altamaha River drainage, Georgia (NatureServe 2004). In South Carolina, the Notchlip Redhorse is found in the mainstem and larger tributaries of the Pee Dee, Santee, and Savannah Rivers. It is generally restricted to the Piedmont and Upper Coastal Plain (SCDNR unpublished data).

The Notchlip Redhorse is secure in North Carolina, although declining in the lower Neuse River, lower Cape Fear River, and lower Pee Dee River (W. Starnes, pers. comm.), and is apparently secure in Virginia and Georgia. Population size and trend data is under review in South Carolina (NatureServe 2004). Based on South Carolina Stream Assessment (2006-2011) data, the mean statewide density estimate for the Notchlip Redhorse in wadeable streams was 0.005 (95% confidence interval: 0.003 – 0.007) per 100 m².

HABITAT OR NATURAL COMMUNITY REQUIREMENTS

The Notchlip Redhorse inhabits medium to large rivers of moderate gradient (NatureServe 2004). Within a stream, the Notchlip Redhorse is a pool-dweller. It can also be found in natural and artificial lakes (Jenkins and Burkhead 1994).

CHALLENGES

Although the Notchlip Redhorse is currently stable throughout the majority of its range, habitat degradation such as deforestation and siltation represent a potential challenge to this species. This species may experience impacts from exotic catfish species like Blue and Flathead Catfish that likely prey on juvenile and adult redhorse (Guire et al. 1984; Bart et al. 1994); Buffalo also adversely affect this species through competition (W. Starnes, pers. comm.).

CONSERVATION ACCOMPLISHMENTS

South Carolina Stream Assessment (2006-2011) 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 Notchlip Redhorse.
- 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 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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