

“Carolina” Redhorse*Moxostoma* sp. cf. *erythrurum*

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

The “Carolina” Redhorse is a member of the family Catostomidae, which is represented by 8 genera and 25 species in the mid-Atlantic region (Rohde et al. 1994). This family is characterized by soft-rayed fins, a mouth located on the underside of the head, thick fleshy distensible lips and paired fins attached low on the body (Rohde et al. 1994).

The “Carolina” Redhorse is an undescribed member of the catostomid family. When officially described, the “Carolina” Redhorse will be placed in the genus *Moxostoma*. Currently, there are approximately 12 species in this genus known as the “typical Redhorses” (Jenkins and Burkhead 1994; W. Starnes, pers. comm.); 2 of these have not been described (Carolina and Sicklefin). The “Carolina” Redhorse is most similar to the Golden Redhorse (*M. erythrurum*).

Status

The “Carolina” Redhorse is listed as threatened in North Carolina (NCWRC 2013). It is not listed in South Carolina where it only occurs in the stretch of the Pee Dee river immediately below the State’s boarder with North Carolina.

POPULATION SIZE AND DISTRIBUTION

The “Carolina” Redhorse range is currently restricted to the Pee Dee and Cape Fear River drainages in North and South Carolina. In South Carolina, this species is only found in the Pee Dee River within 24 to 32 km (15 to 20 mi.) of the North Carolina State line and is likely recruiting from Piedmont sections of the river in NC (W. Starnes, pers. comm.). The “Carolina” Redhorse has likely decline considerably from its historic distribution based on the disparate nature of currently known populations, almost certainly remnants of a formerly broad range. However, it does seem to be locally stable in some isolated river reaches in the Pee Dee and Cape Fear drainages (W. Starnes, pers. comm.).

HABITAT OR NATURAL COMMUNITY REQUIREMENTS

Specific habitat requirements for “Carolina” Redhorse are not well known. This fish occupies medium-sized rivers with moderate gradient (NatureServe 2004) and prefers the deep pool areas along the shore that contain woody debris, but moves into shoal areas to spawn in late April to May (W. Starnes, pers. comm.).

CHALLENGES

The population of “Carolina” Redhorse is limited to one short section of the Pee Dee River in South Carolina. Even small alterations to that river reach or to the upstream reaches in North Carolina could lead to the extirpation of the species from South Carolina.

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

- Continue to define “Carolina” Redhorse habitat in the upper reaches of the Pee Dee River.
- Continue to advocate for responsible development and the adoption of Best Management Practices (BMPs) in timber and agricultural land use, especially in the upper Pee Dee system.
- 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 these fish could assist in determining the effectiveness of those measures. A success criterion would be the cooperation of SC landowners in achieving the foremost goal of the Southeastern Aquatic Resource Partnership's 2008 Southeast Aquatic Habitat Plan which states that 85% of lands within 30 m (100 ft.) of streams or rivers be maintained in natural vegetation. Preservation of large tracts of forested landscapes would represent a major accomplishment.

LITERATURE CITED

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