

## Pinewoods Darter

*Etheostoma mariae*

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### DESCRIPTION

#### Taxonomy and Basic Description

The Pinewoods Darter is a member of the family Percidae and placed in the genus *Etheostoma*. This family includes 4 genera of darters. One of these, *Etheostoma*, is the largest genus of freshwater fishes in North America; it contains approximately 115 species (Etnier and Starnes 1993). These fish are characterized by having two dorsal fins, relatively large pectoral fins and an elongate body. The Pinewoods Darter is a member of the subgenus *Belophlox*, which can be separated from most other darters by the presence of a broad dark stripe on its side and a contrasting light lateral line (Rohde et al. 1994). The Pinewoods Darter has roughly 10 elongate dark blotches on its side and a red marginal or submarginal band in its first dorsal fin. Pinewoods Darters reach a maximum length of about 74 mm (2.9 in.) (Page and Burr 1991).

#### Status

The Pinewoods Darter received as a federal species of concern and as state endangered in South Carolina and of special concern in North Carolina, the only other state where it occurs. It was identified as a species vulnerable to imperilment in an assessment of Southeastern freshwater fishes (Warren et al. 2000) and is considered vulnerable (S3) in North Carolina and critically imperiled (S1) in South Carolina while globally vulnerable (G3) (NatureServe 2013). The Pinewoods Darter was considered vulnerable in a recent assessment of North American freshwater fishes (Jelks et al. 2008).

#### POPULATION SIZE AND DISTRIBUTION

The Pinewoods Darter is restricted to the Little Pee Dee River system in North and South Carolina. The species is found only in the Sandhills, just below the Fall Line. In South Carolina, the Pinewoods Darter has only been found in Panther and Beaverdam Creeks near McColl, SC. The Pinewoods Darter, though common in a very localized area of the Sandhills region in North Carolina, is believed to be extirpated from South Carolina. Development pressures in the Sandhills give this fish an uncertain future; there have been no recent collections of the Pinewoods Darter in SC (F. Rohde, pers. comm.).

## HABITAT OR NATURAL COMMUNITY REQUIREMENTS

Pinewoods Darter adults occupy shallow streams with clear or tannin-stained water. They often position in moderate current with gravel or rubble substrates. Young inhabit pools with vegetation and sand or silt substrates that have little flow (NatureServe 2004).

## CHALLENGES

Challenges to the Pinewoods Darter include sedimentation of stream bottoms and loss of habitat. Residential development, timber harvest, and road construction/maintenance have likely led to increased sedimentation of Pinewoods Darter habitat. Further, both dam construction on streams to create ponds for golf courses and golf course irrigation has led to a direct loss of habitat and favor competitive and often highly predacious species like the Redbreast Sunfish, Bluegill, and Largemouth Bass (NatureServe 2004).

## 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

- Determine the statewide distribution, population status, life history and habitat requirements for the Pinewoods Darter with statewide stream surveys.
- Survey streams in the Sandhills Ecoregion of the Little Pee Dee River system to determine the existence or extirpation of Pinewoods Darter. Previous positive locations in Panther Creek and Beaver Dam Creek should be re-surveyed. Protect any identified areas.
- 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.
- Educate aquarists as to the adverse impacts of removing fish from the wild.

## 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.

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