

Attachment A

U.S. FISH AND WILDLIFE SERVICE DIVISION OF ENDANGERED SPECIES

SPECIES ACCOUNTS

Source: Endangered and Threatened Species of the Southeastern United States (The Red Book) FWS Region 4 -- As of 2/91

ALABAMA CAVEFISH

(Speoplatyrhinus poulsoni)

FAMILY: Amblyopsidae

STATUS: First listed as threatened on October 11, 1977 (42 Federal Register 45526); reclassified as Endangered (Federal Register, September 28, 1988).

DESCRIPTION AND REPRODUCTION: The Alabama cavefish is a blind, white, cave dweller distinguishable from other cavefish by its long, anteriorly-depressed head with flat snout, absence of bifurcate fin rays, notably incised fin membranes, and other features. The maximum known size is 58.3 millimeters standard length. This species' diet probably includes copepods, isopods, amphipods, and small cavefish.

Little information is available on the reproductive cycle of the Alabama cavefish. As their range becomes more restricted, most cavefish show a concurrent decrease in reproductive potential and population growth. However, the longevity of adult cavefish may increase. Of the small percentage of females which reproduce, only a few eggs are produced per female, and reproduction does not occur in some years. Because the Alabama cavefish is endemic to only one cave, all of these life history features are probably more extreme in the Alabama cavefish than in some other amblyopsids.

RANGE AND POPULATION LEVEL: This species is apparently restricted to Key Cave, Lauderdale County, Alabama (Tennessee River drainage). Extensive surveys have been conducted in other area caves with no results. The caves west of Key Cave were inundated by Pickwick Lake. This species' former distribution is unknown. However, this species appears to be the rarest of all American cavefish and one of the rarest freshwater fish. (U.S. Fish and Wildlife Service 1985). Cooper (1985) estimated the Alabama cavefish population in Key Cave to be fewer than 100 individuals. No more than 10 cavefish have ever been observed on a single visit.

HABITAT: Key Cave is a large multi-level cave with over 10,000 feet of mapped passage (Dept. of Interior 1988). Water depths may rise to about 20 feet in late spring (U.S. Fish and Wildlife Service 1985). This cave has a stable environment with low temperature and a lack of visible incident radiation. An underwater species, the Alabama cavefish is less affected by photoperiod and temperature changes within the cave than are surface species. However, seasonal flooding is necessary to trigger hormonal changes within the cavefish for growth and reproduction. Gray bat guano contributes essential nourishment for all species involved in Key Cave's food chain.

CRITICAL HABITAT: Key Cave in Lauderdale County, Alabama. More specific locality data for Federal agencies fulfilling their obligations under Section 7 of the Endangered Species Act can be obtained from the U.S. Fish and Wildlife Service, Post Office Drawer 1190, Daphne, Alabama 36526. Alabama Cavefish 2/91

REASONS FOR CURRENT STATUS: One of the primary threats is interference with the associated bat populations which indirectly contribute to the fish's food chain. Another serious threat is groundwater contamination from agricultural operations and a sewage disposal project for the City of Florence, Alabama. Most of Key Cave's recharge area is in row crops, and the sludge disposal project is also within the recharge area. Natural factors contributing to the vulnerability of this species are its small population size and low reproductive potential. Competition with the more numerous and aggressive southern cavefish for food and space is also a problem. Cave crayfish, a known predator of this species, are also abundant in Key Cave.

MANAGEMENT AND PROTECTION: The Tennessee Valley Authority owns the two entrances to Key Cave, and has erected a fence to minimize human disturbance. Key Cave and nearby Bone Slough Cave have been mapped. Other needed measures include further research on the biology and distribution of the species; monitoring of the Key Cave population; and physicochemical monitoring of its habitat. Recovery efforts also need to be implemented or continued to protect the endangered gray bat, an essential link in the cave's ecosystem.

REFERENCES:

Cooper, John E. and R.A. Kuehne. 1974. *Speoplatyrhinus poulsoni*, a New Genus and Species of Subterranean Fish from Alabama. *Copeia*, No. 2, pp. 486-493.

Department of the Interior. U.S. Fish and Wildlife Service. September 28,

1988. Endangered and Threatened Wildlife and Plants: Reclassification of the Alabama Cavefish from Threatened to Endangered. *Federal Register*, 53:188. pp. 37968-37970

Federal Register, Vol. 42, No. 175. September 9, 1977.

**U.S. Fish and Wildlife Service. 1985. Revised Recovery Plan for the Alabama Cavefish, *Speoplatyrhinus poulsoni* Cooper and Kuehne 1974. Prepared by John E. Cooper, North Carolina Museum of Natural History. U.S. Fish and Wildlife Service, Atlanta, Georgia. 66 pp.

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Also Available Online at: <http://www.fws.gov/endangered/i/e/sae1c.html>