50 CFR Part 17

RIN 1018-AB56

Endangered and Threatened Wildlife and Plants; Threatened Status for Two Fish, the Goldline Darter (Percina Aurolineata) and Blue Shiner (Cyprinella Caerulea)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines the goldline darter (*Percina aurolineata*) and the blue shiner (*Cyprinella caerulea*) to be threatened species under the authority of the Endangered Species Act (Act) of 1973, as amended. The goldline darter occurs in the Cahaba River System, Alabama, and in fragmented populations in the upper Coosa River System, Georgia. The blue shiner has been extirpated from the Cahaba River System and occurs in fragmented populations in the upper Coosa River System, Alabama, Georgia, and Tennessee. These two fishes have declined due to the loss of habitat from reservoir construction and degradation of water quality, as well as the effects of habitat fragmentation. This rule implements the protection and recovery provisions afforded by the Act for the goldline darter and blue shiner.

EFFECTIVE DATE: May 22, 1992.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Fish and Wildlife Service, 6578 Dogwood View Parkway, suite A, Jackson, MS 39213.

FOR FURTHER INFORMATION CONTACT: Mr. James H. Stewart at the above address (601/965-4900 or FTS 490-4900).

SUPPLEMENTARY INFORMATION:

Background

The goldline darter, *Percina aurolineata*, was described in 1967 by Suttkus and Ramsey from specimens captured in the Cahaba and Coosawattee Rivers. This darter is historically known from 49 miles of the Cahaba River and almost 7 miles of the Little Cahaba River in Alabama (Stiles 1978, 1990). It has been collected in from Schultz Creek, a Cahaba River tributary (M.F. Mettee, *in litt.*, 1990). It has been collected from the upper Coosa River drainage in the Coosawattee, Ellijay and Cartecay Rivers (Freeman 1983). The latter two are tributaries that form the Coosawattee River. The goldline darter has also been collected in Mountaintown and Boardtown Creeks, tributaries of the Ellijay River, and from Talking Rock Creek, a tributary of the Coosawattee River below Carters Reservoir (Freeman 1983; Pierson, pers. comm., 1990; S.R. Layman, *in litt.*, 1990).

The blue shiner was described from tributaries of the Oostanaula River, Georgia, by Jordan in 1877 (Pierson and Krotzer 1987). The blue shiner is frequently mentioned in the literature as *Notropis caeruleus*. In the past, it has been recognized as a member of the subgenus *Cyprinella*. A revision of the genus *Notropis* elevated *Cyprinella* to generic status (Mayden 1989). The American Fisheries Society is revising "A List of Common and Scientific Names of Fishes from the United States and Canada" and is recognizing Mayden's elevation of *Cyprinella* to generic status (S.R. Layman, AFS Endangered Species Committee, *in litt.*, 1990).

This medium-sized minnow is historically known from the Cahaba and Coosa River systems. It was last collected from the Cahaba River system in 1971 (Ramsey 1976). The Alabama range for this species is Weogufka and Choccolocco Creeks and the lower reach of Little River (Pierson and Krotzer 1987). In Tennessee, the range includes the Conasauga River and a tributary, Minnewauga Creek. In Georgia, the blue shiner is found in the Conasauga and Coosawattee Rivers and the tributaries, Holly, Rock, Perry, and Turniptown Creeks (Freeman 1983). The species no longer exists in Big Wills Creek, a tributary of the upper Coosa River (Pierson and Krotzer 1987). Both species may have once occupied most of the upper Coosa and Alabama River drainages. The actual extent of the historic range and of the decline cannot be determined. Recent range reductions have been well documented.

The goldline darter is a slender, medium-sized fish, about 3 inches long with brownish-red and amber dorsolateral stripes. It differs from other members of the subgenus *Hadropterus* in the color pattern of the back (Kuehne and Barbour 1983). The goldline darter has a pale to dusky back. Its white belly has a series of square lateral and dorsal blotches that are separated by a pale or gold-colored longitudinal stripe. The goldline darter prefers a moderate to swift current and water depths greater than 2 feet (Howell *et al.* 1982). It is found over sand or gravel substrate interspersed among cobble and small boulders. Practically nothing is known about the life history of the goldline darter.

The blue shiner is a medium-sized minnow that may attain 4 inches in total length. It often appears to be dusky blue with pale yellow fins (Ramsey 1986). The scales are strongly diamond-shaped and outlined with melanophores. The lateral line is distinct. Some aspects of the life history in the Conasauga River, Georgia, have been studied (Krotzer 1990). The blue shiner occurs over a sand and gravel substrate among cobble in cool, clear water (Gilbert *et al.* 1979).

Federal Register publications for the goldline darter include the notice of review on March 18, 1975 (40 FR 12297), a proposed rule on November 29, 1977 (42 FR 60765), a notice of public hearing and extension of the comment period on February 6, 1978 (43 FR 4872), a correction of proposed critical habitat on April 7, 1978 (43 FR 14697), with a withdrawal of the proposed rule for administrative reasons on January 24, 1980 (45 FR 5782), and notice of reviews on December 30, 1982 (47 FR 58454), on September 18, 1985 (50 FR 37958), and on January 6, 1989 (54 FR 554). A public hearing was held in Birmingham, Alabama, on March 15, 1978. Several studies have been conducted on this species since the proposal was withdrawn. The goldline darter was again proposed for protection in the **Federal Register** (56 FR 16055) on April 19, 1991.

Federal Register publications on the blue shiner include the notice of review on September 18, 1985 (50 FR 37958) and on January 6, 1989 (54 FR 554). It has not been previously proposed for Federal protection. The blue shiner was proposed for protection, along with the goldline darter, in the **Federal Register** (56 FR 16055) on April 19, 1991.

Summary of Comments and Recommendations

In the April 19, 1991, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice was published in "The Advertiser," Montgomery, Alabama, on May 4, 1991, the "Chattanooga News-Free Press," Chattanooga, Tennessee, and "The Birmingham News," Birmingham, Alabama, on May 5, 1991,

"The Anniston Star," Anniston, Alabama, on May 8, 1991, and "The Daily Citizen-News," Dalton, Georgia on May 9, 1991, which invited general public comment. The Service received 19 comments on the proposal to list these two species as threatened. One Federal agency commented without expressing a position and one Federal agency concurred with the proposed rule. A local government agency expressed qualified support for the listing while discussing their continued need for the Cahaba River System as a water supply. The concerns of this agency center on impacts to the Little Cahaba River, Shelby County, Alabama. This is a different and smaller stream than the Little Cahaba River in Bibb County where the goldline darter occurs. A national conservation organization's Georgia office expressed support for the listing, as did two professional ichthyologist and 13 private individuals. There were no comments in opposition.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the goldline darter and blue shiner should be classified as threatened species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the goldline darter, *Percina aurolineata*, and the blue shiner, *Cyprinella caerulea*, are as follows:

A. *The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range*

The goldline darter no longer occurs upstream of Booths Ford in the Cahaba River (Howell *et al.* 1982) and populations seem to have declined throughout the Cahaba River System (Stiles 1990). The goldline darter continues to exist in fragmented populations in the Coosawattee River, Georgia (Freeman 1983), in about 7 miles of the Little Cahaba River, and in 27 miles of the 49 miles of historic range in the Cahaba River, Alabama (Howell *et al.* 1982, Stiles 1990). Three adult specimens have been collected from Schultz Creek, a Cahaba River tributary (M.F. Mettee, Geological Survey of Alabama, *in litt.*, 1990). It is not known if this represents an expansion of the range or if these darters are a part of the Cahaba River population.

The blue shiner has been extirpated from the Cahaba River System (Ramsey 1976, Pierson and Krotzer 1987, Pierson *et al.* 1989). It has not been collected from Big Wills Creek of the upper Coosa River System since 1958 (Pierson and Krotzer 1987). The blue shiner continues to exist in the Coosawattee and Conasauga River systems, Georgia, in the Conasauga River system, Tennessee, in Choccolocco and Weogufka Creeks, tributaries of the Coosa River, Alabama, and at one site in Little River, Alabama (Freeman 1983, Pierson and Krotzer 1987).

The reduction in range of the goldline darter and the extirpation of the blue shiner from the Cahaba River system is the result of water quality degradation (Howell *et al.* 1982, Ramsey 1982, Pierson and Krotzer 1987). Historic populations of the goldline darter and blue shiner have been seriously affected by urbanization, sewage pollution, and strip-mining activities in the upper Cahaba River basin. During their study of the upper Cahaba River, Howell *et al.* (1982) observed adverse impacts to water quality from the Cahaba River and Patton Creek Sewage Treatment Plants, limestone quarries on Buck Creek, and strip-mining in the area of Piney Woods Creek and Booth Ford. In recent years, the Patton Creek plant has been replaced by the upgraded Cahaba River plant. Adverse impacts from these plants have been reduced.

Since he began collecting on the Cahaba River in 1962, Ramsey (1982) has observed an increase in blue-green algae, an indicator of water quality degradation, at several localities. One location in particular, just below the Shelby County Highway 52 bridge, has been adversely affected by a diminution of vascular plants, apparently displaced by a substantial growth of blue-green algae on much of the rock and rubble substrate. This loss of vascular plants is correlated with the extirpation of Cahaba shiners, goldline darters, and blue shiners from this area since 1969. The affects on the fauna of water rich in dissolved nutrients can be magnified in still pools during low flows and high temperatures. Dissolved oxygen often drops to low levels. In some stretches of the river, virtually all of the water flow in the Cahaba River during low flows consists of treated sewage effluent.

O'Neil (1984) and the Environmental Impact Statement for the Cahaba River Wastewater Facilities, Jefferson, Shelby, and St. Clair Counties, Alabama, (U.S. Environmental Protection Agency (EPA) 1979) identified and projected water quality problems in the Cahaba River. Relatively high levels of total inorganic nitrogen and total phosphorus were found at several locations throughout the basin. Increased algal biomass, high diurnal oxygen fluctuations, and decreased oxygen were found when water levels were low. The EPA found water flow in the Cahaba River was insufficient to handle sewage needs and that alternative water supplies to increase flow could have an adverse effect on the biota.

In the Cahaba River basin, there are 10 municipal wastewater treatment plants, 35 surface mining areas, one coalbed methane and 67 other permitted discharges (Alabama Department of Environmental Management *in litt.* 1990). Since the EPA study, some of the wastewater treatment plants have been upgraded. However, this has not eliminated the problem of enrichment in the Cahaba River. Sewage that has received tertiary treatment is still high in nutrients and can contribute to eutrophication of an aquatic system. Not all plants provide tertiary treatment to their wastewater, nor are many capable of treating the heavy inflow that occasionally occurs. The Centerville-Brent plant is designed for 702,000 gallons per day. The only treatment is a three cell series of lagoons for settling. The actual flow of the Centerville-Brent plant has not been determined. The Helena waste treatment plant is designed for 250,000 gallons per day with an actual flow of 262,000 gallons per day. While this plant provides more treatment than just settling lagoons, the inflows that exceed the capacity of the plant must be bypassed. The Cahaba Wastewater Treatment Plant is designed for 12 million gallons per day and receives an average of 9 million gallons per day (Jack Swann, Jefferson County Director of Environmental Services, pers. comm. 1990). During periods of heavy inflows, i.e. rainfall, etc., the capacity of the plant is exceeded and some wastewater bypasses at least some treatment stages. During the period of December 1987 to June 1990, there were 14 reported periods when some wastewater bypassed the treatment at the Cahaba River plant (Leigh Pegues, *in litt.*, 1990). These reported periods were of 1 to 14 days duration with an estimated bypass of 520 million gallons of untreated wastewater. This release of untreated wastewater has continued into 1991 with a reported 118.5 million gallons bypassed in just over four months. Unreported and unmonitored releases of untreated wastewater continue to adversely affect the biota of the Cahaba River. The periodic influx of organic matter to the Cahaba River indicates

that many of the problems identified by the EPA continue to exist.

There is considerable interest in methane gas extraction in the Cahaba River Basin. The 2-year extension of tax incentives for methane gas extraction is expected to increase interest in that activity in the Cahaba River basin. Permitted discharge limits (based on chlorides, pH, and dissolved oxygen) are designed to maintain the fish and wildlife quality of the Cahaba River. However, the potential for the discharge of wastewater from these wells in excess of permitted levels and the subsequent impact on the goldline darter is a concern. There is also the possibility for adverse impact from other pollutants that may be in wastewater from methane gas wells. The basis for establishing water quality limits and monitoring permitted discharge is also a concern. The fish species used for toxicity testing and monitoring is the fathead minnow, *Pimephales promelas*. This species is known to be very hardy and tolerant of water quality degradation. It is not native to the Cahaba River system and may not be representative of native species. There are no mollusks used in the toxicity testing and this important group may serve as food for some fish during some life stages.

In 1978 (Howell *et al.* 1982, Stiles 1990), the goldline darter was abundant in some stretches of the Little Cahaba River. In the Little Cahaba River, there has been an increase in sediment since 1987 and a fish kill (Stiles 1990). The increase in sediment is apparently the result of road construction and clearing for a wood treatment plant, and the operation of limestone quarries and cement plants (Stiles 1990). The 1987 fish kill was possibly a result of clearing a hillside, stacking treated lumber, and the subsequent influx of sediments and wood preservatives into the Little Cahaba River by a heavy rain (Stiles 1990). In the stretch of the Little Cahaba River affected by sediment, Stiles (1990) has only collected or observed four goldline darters since 1987. In intensive collecting since September 1989, the Geological Survey of Alabama has collected only seven goldline darters in the Cahaba River system, with none of them from the Little Cahaba River (Mettee, *in litt.*, 1990). No blue shiners have been collected in that effort.

Any populations that historically occupied the upper Alabama and Coosa Rivers were undoubtedly extirpated by the near total impoundment of both rivers. Upstream of the confluence with the Cahaba River, the Alabama River has been impounded for hydropower, navigation and flood control. With the exception of about three miles below Jordan Dam, the Coosa River is completely impounded for hydropower and flood control. In addition to extirpating any historic populations by inundation, these reservoirs have isolated tributary populations as discussed under Factor E. While the Service is unable to determine how many tributaries of the Coosa River system once contained populations of either of these species, there is no reason to conclude that the historic range did not include other tributaries.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Collecting of these two species is not a likely threat. However, when the population of a species is adversely impacted by habitat degradation, the removal of individuals by a collector can become more significant than if the population was healthy.

C. Disease or Predation

Both of these fish are prey species and are subject to natural disease outbreaks. As with collecting, this is not a likely threat to healthy populations. However, if a population is stressed by other factors like eutrophication, then disease and predation can be significant to the species' survival, even if they are a natural occurrence.

D. The Inadequacy of Existing Regulatory Mechanisms

Neither of these species are given any special consideration when project impacts are reviewed for compliance with various environmental laws and regulations. All the States where these species occur require scientific collecting permits. Violators of these permit requirements are very difficult to apprehend.

E. Other Natural or Manmade Factors Affecting its Continued Existence

The range of both species has been reduced and fragmented by many reservoirs for flood control and hydropower. This has resulted in several isolated populations. Isolating populations make them very susceptible to environmental changes, may result in decreased genetic diversity and may make finding mates difficult for short-lived species, such as these species appear to be.

Impoundment of the upper Alabama and Coosa Rivers has isolated the goldline darter populations in the Cahaba River System from all other populations. Talking Rock Creek joins the Coosawattee River in a pump storage reservoir downstream of Carters Reservoir and isolates a population of goldline darters from all other populations. The other populations of the goldline darter in the Coosawattee River System, other than in Talking Rock Creek, are not isolated by reservoirs from each other. However, they are separated by many river miles and it is unlikely there is much genetic exchange between them and improbable that a population, if extirpated, would be naturally replaced. The reason(s) for this isolation is not clear. These streams have habitat that would appear suitable, yet the species has only been collected at intermittent sites. This could be from topography or from some other reason that is not apparent. Regardless, this isolation makes a population more susceptible to environmental disturbance.

The blue shiner occurs in the Coosawattee River (one site), Turniptown Creek (one site, a tributary of the Ellijay River), at seven sites on the Conasauga River, and at single sites in three tributaries of the Conasauga River (Freeman 1983). The Coosawattee River System populations are isolated from all other populations by Carters Reservoir. Populations in the Conasauga River tributaries, Holly and Rock Creeks, are probably isolated from all other populations by distance, topography or other unknown reasons. The mainstem Conasauga River and Minnewauga Creek populations are likely accessible to each other but isolated from all other populations by distance, topography or other reasons. The blue shiner occurs in Little River and in Choccolocco and Weogufka Creeks, all Coosa River tributaries (Pierson and Krotzer 1987). The only known site in Little River is near its confluence with Weiss Reservoir. Due to the difficulty of sampling that stream, the population may be more widespread in Little River than indicated. Regardless of the extent of the Little River population, it is isolated from all other populations by Weiss Reservoir. The small population in Weogufka Creek is isolated by Lake Mitchell. There are four known sites for the blue shiner in Choccolocco Creek. The populations in Choccolocco Creek are restricted to sites above Anniston, Alabama, possibly by water quality degradation. Drainage from Anniston Army Depot enters Choccolocco Creek and there is a history of contaminant problems on that installation (Schalla *et al.* 1984, Environmental Science and Engineering, Inc. 1986, Kangas 1987). While the blue shiner still exists at several sites in the

Coosa River System, most of the populations are isolated from other populations and vulnerable to environmental changes. Any event that adversely affects an isolated population, has the potential to eliminate it.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to make this rule final. Based on this evaluation, the preferred action is to list the goldline darter and blue shiner as threatened. Threatened status was chosen because both species still exist in several fragmented populations that are apparently reproducing. These fragmented populations preclude a single event from endangering either species.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. In the proposed rule, the designation of critical habitat was considered to be not prudent due to a lack of benefit over that accrued by the listing. However, since publication of the proposed rule, consideration of a not prudent finding within the Service has resulted in a determination that designation of critical habitat may be prudent but that it is not now determinable. Section 4(b)(6)(C) of the Act provides that a concurrent critical habitat determination is not required, and that the final decision on designation may be postponed for 1 additional year beyond the period specified in section 4(b)(6)(A), if the Service finds that a prompt determination of endangered or threatened status is essential to the conservation of the species. The Service believes that a prompt determination of threatened status for the goldline darter and blue shiner is essential to their conservation. Listing these species will provide immediate protection while also allowing the Service additional time to evaluate critical habitat needs. In the coming months, a proposed rule for the designation of critical habitat will be published for review and comment by all interested parties. Following the public review period, the Service will make a decision on the appropriate area to designate as critical habitat, if any. Adequate protection will be provided during the interim through the recovery process and the Section 7 jeopardy standard.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

The Corps of Engineers will consider these species in project planning and permit regulation. The Environmental Protection Agency will consider both species in administering the provisions of the Clean Water Act. The Federal Highway Administration will consider these species when highway and bridge maintenance and construction is in proximity to the known range. The Federal Energy Regulatory Commission will consider both species when relicensing hydropower plants.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 17.32. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. For threatened species, there are also permits for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

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Author

The author of this rule is James H. Stewart (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Regulations Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.11(h) by adding the following, in alphabetical order under FISHES, to the List of Endangered and Threatened Wildlife.

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
FISHES							
*	*	*	*	*	*		
Darter, goldline	Percina aurolineata	U.S.A. (AL,GA)	Entire	T	462	NA	NA
*	*	*	*	*	*		
Shiner, blue	Cyprinella (=Notropis) caerulea.	U.S.A. (AL,GA,TN)	Entire	T	462	NA	NA
*	*	*	*	*	*		

(Final: Goldline darter, *Percina aurolineata*, and blue shiner, *Cyprinella caerulea*—*threatened)*

Dated: April 15, 1992.

Richard N. Smith,

Acting Director, Fish and Wildlife Service.

[FR Doc. 92-9393 Filed 4-21-92; 8:45 am]

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