

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Endangered Species Status for the Boulder Darter

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service designates a small fish, the boulder darter (*Etheostoma (Nothonotus) sp.*), formerly referred to by the Service as the Elk River darter, as an endangered species under the Endangered Species Act (Act) of 1973, as amended. This species is presently known from only about 25 miles (46 kilometers) of the lower Elk River system in Giles County, Tennessee, and Limestone County, Alabama. The species' decline has resulted primarily from habitat alteration associated with water impoundment. Due to the species' limited distribution, any factor that adversely modifies habitat or water quality in the short river reach it now inhabits could further threaten its survival. Determination of endangered species status implements the protection of the Act of the boulder darter.

EFFECTIVE DATE: October 3, 1988.

ADDRESSES: A complete file of this rule is available for public inspection, by appointment, during normal business hours at the Asheville Field Office, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801.

FOR FURTHER INFORMATION CONTACT: Mr. Richard G. Biggins at the above address (704/259-0321 or FTS 672-0321).

SUPPLEMENTARY INFORMATION:

Background

The boulder darter (*Etheostoma sp.*) is an undescribed species in the subgenus *Nothonotus* (a manuscript describing it is in preparation, Dr. David Etnier,

University of Tennessee, personal communications, 1988). It attains a maximum length of about 3 inches (7.6 centimeters) (Dr. David Etnier, personal communications, 1987). The body of males is olive to gray, and they lack the red spots that are characteristic of closely related species. The female's color is similar but lighter. Both sexes have a gray to black bar located below the eye and a similar colored spot behind the eye. Because of the species' rarity (less than 50 specimens have ever been collected), its biology is unknown. This darter has historically been collected from the Elk River as far upstream as Fayetteville, Lincoln County, Tennessee (at approximately river mile 90), and downstream through Giles County, Tennessee, into Limestone County, Alabama (at approximately river mile 30); from two Elk River tributaries, Indian Creek and Richland Creek, Giles County, Tennessee; and from Shoal Creek, Lauderdale County, Alabama (O'Bara and Etnier 1987). Based on knowledge of the species' preferred habitat (fast-moving water runs over large boulder and slab rock substrate), it is believed the species once also inhabited the southern bend of the Tennessee River, at least in areas near its confluence with the Elk River and Shoal Creek (Dr. David Etnier, personal communications, 1987).

Based on a recently completed status survey of the species' historic range and potential distribution in other Tennessee River tributaries in Tennessee and Alabama (O'Bara and Etnier 1987), the species is presently restricted to about 23 miles (43 kilometers) of the Elk River in Giles County, Tennessee (20 miles or 37 kilometers), and Limestone County, Alabama (3 miles or 6 kilometers), and just over 2 miles (3 kilometers) of Richland Creek and Indian Creek (Giles County, Tennessee). The species' extirpation from the upper Elk River, Lincoln County, Tennessee, was likely due to the impacts of cold water releases from Tims Ford Reservoir. The loss of the Shoal Creek population and any Tennessee River populations resulted from water impoundments behind Wheeler and Wilson Dams. The Shoal Creek population loss also may be partially attributed to past pollution from a large manufacturing plant.

Because of the species' present limited distribution (about 25 river miles or 46 kilometers) and the limited availability of boulder darter habitat (fast-moving water with boulder substrate) in the Elk River system, any factor that modifies or degrades the habitat or water quality in these short river reaches could further threaten the species' survival.

On September 18, 1985, the Service announced in the Federal Register (50 FR 37958) that the boulder darter (referred to as the Elk River darter in that notice), along with 136 other fish species, was being considered as a candidate for addition to the List of Endangered and Threatened Wildlife. On February 10, 1987, the Service notified Federal, State, and local governmental agencies by mail (State fish and wildlife agencies and affected county governments were also contacted by phone) that a status review of the boulder darter was being conducted and that the species could be proposed for listing. Four responses to the February 10, 1987, notification were received. Support for the proposal was received from the Tennessee Wildlife Resources Agency and the Tennessee Department of Conservation. The Tennessee State Planning Office stated that "State and local government evaluation . . . indicated no conflicts with existing activities." The Department of Housing and Urban Development indicated that it had no information on the species. The boulder darter was proposed for listing as endangered on November 17, 1987 (52 FR 43921).

Summary of Comments and Recommendations

In the November 17, 1987, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and interested parties were contacted and requested to comment. A newspaper notice was published in the Pulaski (Tennessee) Citizen on December 15, 1987. One written comment was received. The U.S. Army Corps of Engineers (Nashville

District) said that they had no programs that would be impacted beyond their normal regulatory programs. They also stated that they felt there were no imminent threats to the species at this time, but they added that the area was within the cotton belt and that the current resurgence in demand for cotton may lead to an increased risk of catastrophic fish kills and chronic pesticide problems.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the boulder darter should be classified as an endangered 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 boulder darter (*Etheostoma* sp.) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The boulder darter is presently known to occur in disjunct segments on about 23 miles (43 kilometers) of the Elk River (from river mile 29.7 to 52.5) in Giles County, Tennessee, and Limestone County, Alabama, and about 2 miles (3 kilometers) total in two Elk River tributaries (Richland Creek and Indian Creek) in Giles County, Tennessee (O'Bara and Etnier 1987). The present distribution represents a substantial reduction over its historically known range, and is only a fraction of the fish's likely range prior to the construction of impoundments on the Elk and Tennessee Rivers.

Historically the fish has been collected in the Elk River upstream as far as river mile 90 in Lincoln County, Tennessee. Recent surveys of the Elk River in Lincoln County have failed to recollect the fish in the county even though suitable habitat is still present (O'Bara and Etnier 1987). It is believed this population segment was extirpated and has not been repopulated because of the cold water releases from Tims Ford Reservoir. Historical records of this species also exist for Shoal Creek, Lauderdale County, Alabama. Sampling in this creek during the summer of 1983 and the fall of 1986 failed to verify presence of the fish. It is believed the Shoal Creek population was lost due to flooding of lower Shoal Creek by Wilson

Dam and due to pollution from an upstream industrial complex. Although this discharge has been substantially improved, the boulder darter apparently has not recolonized the area.

Although data are lacking, it is believed, based on the historical availability of suitable habitat, that the boulder darter once inhabited the Tennessee River and the lower portion of some Tennessee River tributaries in the southern bend area of the Tennessee River from the Paint Rock River downstream to at least Shoal Creek (Dr. David Etnier, personal communications, 1987). These main Tennessee River and tributary populations would have been eliminated when the Tennessee River impoundments (Wheeler and Wilson Dams) inundated the preferred habitat of the fish.

No water impoundments are planned for the Elk River in the area presently occupied by the species. However, other factors, such as increased levels of siltation from major land use changes, improper pesticide use, toxic chemical spills, and/or uncontrolled mining of phosphate in the watershed, could further threaten the species in the short river reaches and limited habitat it now occupies.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* The specific areas inhabited by the species are presently unknown to the general public. As a result, overutilization of the species has not been a problem. However, there is the potential for vandalism to become a problem because of publicity associated with listing.

C. *Disease or predation.* Although the boulder darter is undoubtedly consumed by predators, there is no evidence that predation is a threat to the species.

D. *The inadequacy of existing regulatory mechanisms.* The States of Tennessee and Alabama prohibit taking wildlife and fish for scientific purposes without a State collecting permit. However, these State laws do not protect the species' habitat from the potential impacts of Federal actions. Federal listing will provide the species additional protection under the Endangered Species Act by requiring a Federal permit to take the species and by requiring Federal agencies to consult with the Service when projects they fund, authorize, or carry out may affect the species.

E. *Other natural or manmade factors affecting its continued existence.* The boulder darter requires deep (greater than 2 feet or 0.6 meters), fast-moving water over boulder habitat. Because the Elk River's substrate is primarily sand

and gravel and many river reaches consist of long, slow pools, the boulder darter's required habitat is extremely limited. The scarcity of this fish's preferred habitat further restricts the species' range and increases its vulnerability to habitat alteration at these sites.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this final rule. Based on this evaluation, the preferred action is to list the boulder darter (*Etheostoma* sp.) as an endangered species. The species presently ranges over only about 25 river miles (46 kilometers), and within this river reach, it is restricted to very specific habitat areas that are scarce. This restricted range and habitat limitation makes the species vulnerable to extinction. Therefore, the listing of this species as endangered, as opposed to threatened, is most appropriate. See the following section for reasons why critical habitat is not being designated.

Critical Habitat

Section 7(a)(2) of the Endangered Species Act, as amended, requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. Section 4(a)(3) requires that critical habitat be designated, to the maximum extent prudent and determinable, concurrent with the determination that a species is endangered or threatened. The Service finds that a determination of critical habitat for the boulder darter is not prudent at this time. Such a determination would result in no known benefit to the species. As part of the development of and subsequent to the publication of the proposed rule, Federal agencies were notified of the boulder darter's distribution and requested to provide data on proposed Federal projects that might adversely affect the species. No projects were identified. Should any potential adverse effects arise from future projects, the involved Federal agencies will already have the species' distributional data needed to determine if the species may be impacted by their action. The listing of a species and the publicity that arises creates the potential for vandalism. Through the designation of critical habitat and the requirement for maps and specific habitat descriptions, the threat to this species from vandalism would increase. Protection of this

species' habitat will be addressed through the recovery process and through the section 7 jeopardy standard of the Act. Therefore, it would not be prudent to determine critical habitat for the boulder darter at this time.

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. Such actions are initiated by the Service following listing. 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 proposed or 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 adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. The Service has notified Federal agencies that may have programs that affect the species. As a result of this notification, no Federal agencies identified any current

programs that may impact the boulder darter. However, Federal activities that could occur in the future and impact the species include, but are not limited to, the carrying out of or the issuance of permits for hydroelectric facilities construction, reservoir construction, stream alteration, wastewater facility development, and road and bridge construction. It has been the experience of the Service, however, that nearly all section 7 consultations are resolved so that the species is protected and the project objectives are met.

The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take any listed species, import or export it, ship it in interstate commerce in the course of commercial activity, or sell or offer it for sale in interstate or foreign commerce. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions would apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. 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. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

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).

References Cited

O'Bara, C.J., and D.A. Etnier. 1987. Status survey of the boulder darter. Final report submitted to U.S. Fish and Wildlife Service, Asheville Field Office, 100 Otis Street, Room 224, Asheville, NC. May 1987. 13 pp.

Author

The primary author of this final rule is Richard G. Biggins, Asheville Field Office, 100 Otis Street, Room 224, Asheville, North Carolina 28801 (704/259-0321 or FTS 672-0321).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

PART 17—[AMENDED]

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

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*); Pub. L. 99-625, 100 Stat. 3500 (1986), 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.

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(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Fishes:							
Darter, boulder (=Elk River).	<i>Etheostoma</i> sp. (<i>Nothonotus</i>)	U.S.A. (TN,AL).....	Entire.....	E	322	NA	NA

Dated: August 11, 1988.

Susan Recce,
Acting Assistant Secretary for Fish and Wildlife and Parks.

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