

during normal business hours at the above address.

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

SUPPLEMENTARY INFORMATION:

Background

The Nashville crayfish (*Orconectes shoupi*), described by Hobbs (1948), is currently known only from Mill Creek and five of its tributaries in Davidson and Williamson Counties, Tennessee (O'Bara 1985, Bouchard 1984). Historic collection records indicate that the Nashville crayfish has been taken from three other Tennessee localities: (1) Big Creek (Elk River system), Giles County; (2) South Harpeth River (Harpeth River system), Davidson County; and (3) Richland Creek (a Cumberland River tributary), Davidson County.

The three historic localities outside the Mill Creek drainage were surveyed as part of a recently completed Service funded status survey (O'Bara 1985), but the Nashville crayfish was not found. O'Bara (1985) also surveyed crayfish populations at 96 other sites outside the Mill Creek watershed and found no additional Nashville crayfish populations. Bouchard (1976, 1984) collected extensively in the Nashville basin and elsewhere in Tennessee, but was unable to find the species outside of the Mill Creek watershed.

The Nashville crayfish, which attains a length of over 6 inches (15 centimeters), has been observed to inhabit riffle areas with moderate current. Very little is known concerning the species' biology, but, like related crayfish, it probably feeds on vegetation fragments and animal matters. Reproduction occurs in the winter months, and females have been observed carrying eggs in the spring.

The species' restricted range makes it vulnerable to toxic chemical spills. The species is also subjected to water quality and other habitat deterioration associated with urban runoff, land disturbance, and development within the Mill Creek watershed. A flood control project being planned for the Mill Creek basin by the U.S. Army Corps of Engineers (COE) could also impact the species.

The Nashville crayfish was proposed for listing as an endangered species on January 12, 1977 (42 FR 2507). That proposal was withdrawn on December 10, 1979 (44 FR 70796), under provisions of the 1978 amendments to the Endangered Species Act of 1973 that required withdrawal of all pending proposals that were not made final

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposal To List the Nashville Crayfish (*Orconectes shoupi*) as an Endangered Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to list the Nashville crayfish (*Orconectes shoupi*) as an endangered species under the Endangered Species Act of 1973, as amended. This species is currently known to exist only in the Mill Creek basin in Davidson and Williamson Counties, Tennessee. The species is threatened by flood control projects, siltation, stream alterations, and general water quality deterioration resulting from developmental pressures in the urbanized areas surrounding Nashville, Tennessee. The species' limited distribution also makes it vulnerable to a single catastrophic event, such as a toxic chemical spill or other contamination. Comments and information pertaining to this proposal are sought from the public.

DATES: Comments from all interested parties must be received by March 25, 1986. Public hearing requests must be received by March 10, 1986.

ADDRESSES: Comments and materials concerning this proposal should be sent to Field Supervisor, Asheville Endangered Species Field Station, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801. Comments and materials received will be available for public inspection, by appointment,

within two years of being proposed or within one year after passage of the amendments, whichever date came later. A notice of review was published on May 22, 1984 (49 FR 21664), announcing that the Service considered the Nashville crayfish a potential candidate for Endangered Species Act protection. On January 3, 1985, the Service notified Federal, State, and local governmental agencies and interested parties that the Service was reviewing the species' status. That notification requested information on the species' status and threats to its continued existence.

Three agencies, (1) U.S. Department of the Army, Corps of Engineers, Nashville District (COE), (2) Tennessee Valley Authority (TVA), and (3) Federal Energy Regulatory Commission (FERC), provided comments. COE informed the Service that it was conducting a flood protection study of Mill Creek. TVA and FERC stated that they were unaware of any of their projects that would be affected by listing the species.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR Part 424; 49 FR 38900, October 1, 1984) set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species owing to one or more of the five factors described in section 4(a)(1). These factors and their application to the Nashville crayfish (*Orconectes shoupi*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Results of recent studies indicate that the Nashville crayfish is restricted to Mill Creek and five of its tributaries in Davidson and Williamson Counties, Tennessee. The species has previously been reported from three other watersheds but has not been collected from these areas in recent years (O'Bara 1985, Bouchard 1976, 1984), as discussed in the Background section.

The species is endangered by water quality deterioration from development within the watershed. According to a COE report (COE 1984), about 40 percent of the Mill Creek watershed has been developed. The lower watershed lies within the highly urbanized Nashville, Tennessee, metropolitan area. The Tennessee Department of Public Health (TDPH 1976) characterized this area of Mill Creek as follows: "The stream's main problem stems from

urban-commercialization that is gradually overtaking the whole watershed." The TDPH also reported that the diversity of organisms in Mill Creek, "does not look good. The number of taxa found was severely limited and decreased as one moved downstream." The upper portion of the Mill Creek watershed has less residential and industrial development, but agricultural activity is extensive. COE (1981) concluded that the uppermost segment of Mill Creek was degraded by organic enrichment and had very poor water quality. In that same report, COE stated, concerning the entire Mill Creek system, that, "biological communities inhabiting Mill Creek during the 1981 survey indicated water of fair to very poor quality and the influence of moderate to extensive enrichment and disturbance."

The Nashville crayfish is also potentially endangered by a flood protection project being planned by COE. This project could involve the construction of two dry flood control dams within the watershed. These dams could, depending on project design, impact the crayfish by modifying stream flows, water temperatures, and silt loads during the construction and operational phases. Threats to the species could also come from other activities in the watershed such as road and bridge construction, stream channel modifications, impoundments, land use changes, and other projects, if such activities are not planned and implemented with the survival of this geographically restricted species in mind.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Crayfish are frequently taken in the southeast for food and bait. There is concern that overutilization could be a problem if the species' specific habitat were identified to the extent required for designation of critical habitat.

C. *Disease or predation.* Not applicable to this species.

D. *The inadequacy of existing regulatory mechanisms.* Tennessee State law provides limited protection for this species by requiring a State permit to collect crayfish for scientific purposes. However, there is currently no State law that provides specific protection for the species' habitat. Federal listing would provide additional protection for the species by requiring Federal agencies to consult with the Service when projects they fund, authorize, or carry out may affect a listed species.

E. *Other natural or manmade factors affecting its continued existence.* The Nashville crayfish's restricted range makes it very vulnerable to a single

catastrophic event, such as a chemical spill. Although the Service has no records of catastrophic spills occurring in Mill Creek, COE (1984) reported that occasional spills and discharges have occurred along Mill Creek in the past.

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 propose this rule. Based on this evaluation, the preferred action is to list the Nashville crayfish as an endangered species. The crayfish's restricted range, along with pressure on the species and its remaining habitat from the rapid development of the Mill Creek basin, makes the species in danger of extinction at the present time; therefore, threatened status is inappropriate. Critical habitat designation (see Critical Habitat section below) would not be prudent for the Nashville crayfish, as defining its exact range and specific habitat could further endanger the species by increasing the incidence of illegal take or vandalism. A decision to take no action would exclude the Nashville crayfish from needed protection available under the Endangered Species Act.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species that is considered to be critical at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time. Crayfish are frequently taken in the southeast for food and bait. Much of the Nashville crayfish's habitat is adjacent to a large human population. Considerable human interest in the species is expected to result from this proposed rule and subsequent Federal actions. The Service believes a detailed description of the species' habitat, including maps and text detailing the crayfish's specific habitat and constituent elements of that habitat, as required for any critical habitat designation, would increase the species' vulnerability to illegal taking and/or vandalism, increase the law enforcement problem, and further endanger the species. Therefore, it would not be prudent to designate critical habitat for this species at this time. Doing so would draw attention to the Nashville crayfish and risk further depletion of its populations.

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 States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. Protection required of Federal agencies and 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. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402, and are now under revision (see proposal at 48 FR 29990; June 29, 1983). Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, 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. Federal activities that could impact the species and its habitat include, but are not limited to, the carrying out of, or the issuance of permits for, hydroelectric facility, and reservoir construction, stream alteration, wastewater facility development, and road and bridge construction on Mill Creek or its tributaries. The construction and operation of flood control facilities on Mill Creek and its tributaries could likewise impact the species, as discussed above. 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 can be 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, import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce listed species. It is also 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 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.

Public Comments Solicited

The Service intends that any final rule adopted will be accurate and as effective as possible in the conservation of endangered or threatened species. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of this proposed rule are hereby solicited. Comments particularly are sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to the Nashville crayfish;
- (2) The location of any additional populations of the Nashville crayfish and the reason why any habitat should or should not be determined to be critical habitat as provided for by Section 4 of the Act;
- (3) Additional information concerning the range and distribution of this species; and
- (4) Current or planned activities in the subject area and their possible impact on the Nashville crayfish.

Final promulgation of the regulation on the Nashville crayfish will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to Mr. Warren T. Parker, Field Supervisor, Endangered Species Field Station, 100 Otis Street, Room 224, Asheville, North Carolina 28801.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined by 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).

Literature Cited

- Bouchard, R.W. 1976. Investigations on the status of fourteen species of freshwater decapod crustaceans in the United States Part I. Troglolithic shrimp and western North American crayfishes. Report to Office of Endangered Species, Department of the Interior. 26 pp.
- Bouchard, R.W. 1984. Distribution and status of the endangered crayfish *Orconectes shoupi* (Decapoda: Cambaridae). U.S. Fish and Wildlife Service, Tennessee Cooperative Fishery Research Unit, Tennessee Tech University, Cookeville, Tennessee. 27 pp.
- Hobbs, H.H., Jr. 1948. On the crayfishes of the *Limosus* section of the genus *Orconectes* (Decapoda, Astacidae). *Journal of the Washington Academy of Science* 38(1):14-21.
- O'Bara, C.J. 1985. Final report, status survey of the Nashville crayfish (*Orconectes shoupi*). Report to U.S. Fish and Wildlife Service, Asheville, North Carolina. 17 pp.
- Tennessee Department of Public Health. 1978. Mill Creek survey, Davidson County, Tennessee. Tennessee Department of Public Health, Division of Water Quality Control, Nashville Basin. Unpublished report. 7 pp.
- U.S. Army Corps of Engineers, Nashville District. 1981. Water quality along Mill Creek. Nashville, Tennessee. 35 pp.
- U.S. Army Corps of Engineers, Nashville District. 1984. Mill Creek, Wimpole Drive area, Nashville, Davidson County, Tennessee. Final detail project report and environmental assessment. 331 pp.

Author

The primary author of this proposed rule is Richard G. Biggins, Asheville Endangered Species Field Station, 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 species.
Fish, Marine mammals, Plants
(agriculture).

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter

I. Title 50 of the Code of Federal Regulations, as set forth below:

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.*).

2: It is proposed to amend § 17.11(h) by adding the following, in alphabetical

order under "CRUSTACEANS," 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						
CRUSTACEANS	.	.	.	.	.	.	.
Crayfish, Nashville.....	<i>Orconectes shoupi</i>	U.S.A. (TN).....	NA.....	E.....	.....	NA	NA

Dated: December 26, 1985.

P. Daniel Smith,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 86-1473 Filed 1-23-86; 8:45 am]

BILLING CODE 4310-55-M