Dated: October 16, 1991.
Richard N. Smith,
Acting Director, Fish and Wildlife Service.
[FR Doc. 91-27818 Filed 11-18-91; 8:45 am]
BILLING CODE 4310-55-M

50 CFR Part 17

RIN 1018-AB73

#159-91

Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for the Oregon Chub

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) proposes to determine the Oregon chub (*Oregonichthys crameri*) an endangered species throughout its range, pursuant to the Endangered Species Act of 1973, as amended (Act). The Oregon chub is a small cyprinid fish that formerly inhabited sloughs and overflow ponds throughout the Willamette River drainage in Oregon. The only remaining established populations are restricted to a 30 kilometer (18.6 mile) stretch of the Middle Fork Willamette River drainage. Remaining populations occur near rail, highway, and power transmission corridors and within public park and campground facilities. These populations continue to be threatened by (1) direct mortality from chemical spills; (2) competition or predation from nonindigenous fishes; and (3) loss of habitat from siltation, unauthorized fill activities, and changes in water level or flow conditions. This proposed rule, if made final, would extend the Act's protection to the Oregon chub. The Service seeks data and comments from the public on this proposed rule.

DATES: Comments from all interested parties must be received by January 21, 1992 Public hearing requests must be received by January 3, 1992.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, Portland Field Station, 2600 S.E. 98th Avenue, suite 100, Portland, Oregon, 97266. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Russell D. Peterson, Field Supervisor, at the above address (503/231-6179 or FTS 429-6179).

SUPPLEMENTARY INFORMATION:

Background

Taxonomy and Life History Summary

The genus *Oregonichthys* has recently been recognized as taxonomically distinct from *Hybopsis* (Mayden 1989) and is thus the only endemic genus of fish in the State of Oregon. In the past, the common name "Oregon chub" has been used to refer to all *Oregonichthys* from both the Umpqua and Willamette River drainages. However, the Umpqua River form of *Oregonichthys* has been formally described (Markle *et al.* 1991) as a full species (Umpqua chub, *O. kalawatseti*) distinct from the *Oregonichthys* in the Willamette River drainage which retains the earlier name *O. crameri*. Use of the term "Oregon chub" therefore refers only to *O. crameri*.

The Oregon chub was formerly distributed throughout the lower elevation backwaters of the Willamette River drainage (Pearsons 1989). Known established populations of the Oregon chub are now restricted to a 30 kilometer (18.6 mile) stretch of the Middle Fork Willamette River in the vicinity of Dexter and Lookout Point Reservoirs in Lane County, Oregon. Small numbers of chubs (one to four fish) have also been observed in recent years on the lower North Santiam River which forms the boundary between Linn and Marion Counties and in Gray Creek within the Finley National Wildlife Refuge in Benton County. The size and viability of the potential Gray Creek and North Santiam River populations remain unknown.

Decline of the Oregon chub is attributed to changes in and elimination of its backwater habitats. The mainstem of the Willamette River was formerly a braided channel with numerous secondary channels, meanders, oxbows, and overflow ponds which may have provided habitat for the chub. However, the construction of flood control projects and revetments have altered historical flooding patterns and eliminated much of the braided channel pattern of the river (Corps of Engineers 1970, Li *et al.* 1987). The period of construction of flood control structures coincides with the period of decline. In addition, the introduction of nonindigenous species (e.g., bass, crappie, mosquito fish) may have exacerbated the species decline and limit the potential for the Oregon chub to expand beyond its present restricted range.

Habitat at all remaining population sites of the Oregon chub is typified by low- and zero-velocity water flow conditions, depositional substrates, and abundant aquatic vegetation. Life history information on the Oregon chub was derived primarily from observations made at the Shady Dell Pond in Lane County, Oregon (Pearsons 1989). Spawning occurred from the end of April through early August when water temperatures ranged from 16° to 28°C. Males greater than 25 mm in standard length (SL) were involved in spawning. Males over 35 mm SL defended territories in or near aquatic vegetation (mostly *Fontinalis antipyretica*). The number of eggs produced per female ranged from 147 to 671. During the May sampling period, adult Oregon chub (27 to 58 mm SL) fed most heavily on copepods, cladocerans, and chironomid larvae (Markle *et al.* 1991).

Petition and Listing History

On April 10, 1990, the Service received a petition to list the Oregon chub, *Oregonichthys crameri*, as an endangered species and to designate all waters and tributaries of the Middle Fork of the Willamette River from the base of Dexter Dam upstream to its confluence with the North Fork of the Middle Fork as critical habitat. The petition and supporting documentation were submitted by Dr. Douglas F. Markle and Mr. Todd N. Pearsons, both of Oregon State University. The petitioners submitted taxonomic, biological, distributional, and historic information and cited numerous scientific articles in support of the petition. The petition and accompanying data described the Oregon chub as endangered because of a 98 percent reduction in the range of the species and potential threats at existing known population sites. The Service made a 90-day finding that substantial information had been presented which indicated that the requested action may be warranted and published this finding in the **Federal Register** on November 1, 1990 (55 FR 46080). A status review was initiated at that time.

The Service included the Oregon chub on the December 30, 1982, Notice of Review for vertebrate wildlife as a category 2 candidate species (47 FR 58454). A category 2 candidate species is one for which information contained in Service files indicates that proposing to list is possibly appropriate but additional data is needed to support a listing proposal. The Oregon chub was also included in the September 18, 1985 (50 FR 37958) and January 6, 1989 (54 FR 554) Animal Notices of Review as a category 2 candidate. All inclusions on the Notice of Review have been under the earlier name *Hybopsis crameri*. Important new data on the ecology, distribution, and taxonomic status of

Oregonichthys crameri (Pearsons 1989, Markle *et al.* 1991) has provided the Service with substantial information to support this proposed rule. The best available scientific and commercial data have now been analyzed and evaluated as a result of the recent status review for the Oregon chub. The review included pertinent data available from both published and unpublished sources. Unpublished sources include solicited draft reports, letters, and personal contacts with agencies, organizations, and individuals. This proposed rule to list the Oregon chub as endangered constitutes the 12-month finding that the petitioned action is warranted, in accordance with section 4(b)(3)(B) of the Act.

Summary of Factors Affecting the Species

Section 4 of the Endangered Species Act (16 U.S.C. 1533) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. 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 Oregon chub (*Oregonichthys crameri*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Based on a 1987 survey (Markle *et al.* 1989) and compilation of all known historical records, it is apparent that presently established populations of the Oregon chub (Dexter Reservoir, Shady Dell Pond and Buckhead Creek near Lookout Point Reservoir, and possibly Elijah Bristow State Park) represent a small fraction (estimated as 2 percent based on stream miles) of their formerly extensive distribution within the Willamette River drainage.

Based on the date of last capture at a site, Pearsons (1989) estimated that the most severe decline of the Oregon chub occurred during the 1950s and 1960s. Eight of 11 flood control projects in the Willamette River drainage were completed between 1953 and 1968 (Corps of Engineers 1970). Structural changes along the Willamette River corridor such as revetment and channelization, diking and drainage, and the removal of floodplain vegetation may also have removed or altered the slack water habitats of the Oregon chub. Other threats to remaining habitat include siltation from logging and construction activities; direct loss of habitat from unauthorized fill activities; and changes in water level or flow conditions from construction, diversions, or natural dessication.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Not known to be applicable.

C. *Disease or predation.* The establishment of nonindigenous species in Oregon may have contributed to the decline of the Oregon chub and limit the ability of the species to expand beyond its current restricted range. Nonindigenous fishes and amphibians (bass, crappie, mosquito fish, bullfrogs) are now a significant element of the pond and slough habitats of the Willamette River drainage. Many sites formerly inhabited by the Oregon chub are now inhabited by nonindigenous species (Markle *et al.* 1989). Of the sites where remaining populations occur, Shady Dell Pond and Buckhead Creek are not known to have nonindigenous fish populations and Elijah Bristow State Park had only a single juvenile largemouth bass (Oregon Department of Fish and Wildlife 1990). Though a number of otherwise similar habitats were sampled on Finley National Wildlife Refuge, the site where the single Oregon chub was collected was apparently the only site within the refuge where nonindigenous fishes were absent. Nonindigenous fish populations are present in Dexter and Lookout Point Reservoirs. However, the Oregon chub population in Dexter is relatively isolated and the population in Lookout Point "has diminished greatly since the 1950s" (Oregon Department of Fish and Wildlife 1990).

The specific interactions responsible for this relative mutual exclusivity in the distributions of the Oregon chub and nonindigenous species is not clear in all cases. for game fishes, such as bass, crappie, and bullhead, predation seems likely. However, the failure to find Oregon chub in waters also inhabited by mosquito fish (Dr. Douglas Markle, Oregon State University, pers. comm., 1990), is not understood. Nonindigenous fishes may also serve as sources of parasites and diseases. However, disease and parasite problems of the Oregon chub need further study.

D. *The inadequacy of existing regulatory mechanisms.* The Oregon chub is not currently listed under Oregon's Endangered Species Act. The Oregon chub is listed as a "sensitive" species by the Oregon Department of Fish and Wildlife (ODFW Adm. Rule 635-100-040). This designation is similar to the Service's category 2 designation in that it highlights the possibly precarious status of a species but provides no protection measures. The Oregon chub is listed as a sensitive species by Region 6 of the U.S. Forest Service and as a threatened species by the American Fisheries Society (Williams *et al.* 1990). All of these designations were made when the Oregon chub was believed to include populations from the Umpqua River drainage as well as those of the Willamette River drainage.

The Oregon chub has been considered a candidate species by the Service (54 FR 554). Candidate species receive no legal protection under the Act. Federal agencies whose projects may affect candidate species are not required to consult with the Service. This proposed rule, if made final, would extend the Act's protection to the Oregon chub.

E. *Other natural or manmade factors affecting its continued existence.* All known extant populations of the Oregon chub occur near rail, highway, and power transmission corridors and within public park and campground facilities. These populations are threatened by chemical spills from overturned truck or rail tankers, runoff or accidental spills of brush control chemicals, and overflow from chemical toilets in campgrounds. There is public pressure to develop additional sport fisheries in Lookout Point and Dexter Reservoirs for larger piscivorous game species than are now present. Because all remaining population sites are easily accessible, there also continues to be a potential for unauthorized introductions of nonindigenous species, particularly mosquito fish and game fishes such as bass and walleye.

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. The distribution of the Oregon chub has declined to 2 percent of its historic range and remaining populations continue to be threatened by direct mortality from chemical spills, competition or predation from nonindigenous fishes and amphibians, and loss of habitat from siltation, unauthorized fill activities, and changes in water level or flow conditions. Based on this evaluation, the preferred action is to list the Oregon chub as endangered.

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 concurrently with determining a species to be endangered or threatened. The Service finds that designation of critical habitat is not presently determinable for this species.

The petitioners recommended that "all waters and tributaries of the Middle Fork of the Willamette River from the base of Dexter Dam upstream to its confluence with the North Fork of the Middle Fork be designated as critical habitat." Since the petition was received, one additional population of the Oregon chub has been located in this same vicinity but downstream of the Dexter Dam within Elijah Bristow State Park. Special management of a diversity of areas within the geographical range of a species is important for effective contingency planning for the conservation and recovery of a species. At present, the suitability of Elijah Bristow State Park and the sites of possible remnant populations on Finley National Wildlife Refuge and in the North Santiam River as habitats which might support the long-term survival of the species are not known. The Service provided funding to the Oregon Department of Fish and Wildlife to determine, during fiscal year 1991, the suitability of these habitats for the conservation of the Oregon chub. Therefore, the Service finds that designation of critical habitat is not presently determinable for this species. The Service will be able to effectively determine the critical habitat of the Oregon chub within 1 year from the date of this proposed rule. During the comment period on the proposed listing, the Service will also seek additional agency and public input on critical habitat, along with information on the biological status of and threats to the Oregon chub.

Available Conservation Measures

Conservaton 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 activities. 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)(4) of the Act 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 insure 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. Road construction activity, timber sales, and alterations of current campgrounds on the Willamette National Forest and water management practices of the Army Corps of Engineers at Dexter and Lookout Point Reservoirs may require section 7 consultations with the Service.

The Act and implementing regulations found at 40 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to take (including harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt any such conduct), import or export, transport in interstate or foreign 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, delivery, 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, to alleviate economic hardship in certain circumstances, and/or for incidental take in connection with otherwise lawful activities.

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments are sought particularly concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(3) Additional information concerning the range, distribution, and population size of this species; and

(4) Current or planned activities in the subject area and their possible impacts on this species.

Any final decision on this proposal will take into consideration the comments and any additional information received by the Service, and such communications may lead to 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 received within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to the Field Supervisor, Portland Field Station (see ADDRESSES section).

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

Corps of Engineers. 1970. Flood plain information, Willamette River, Johnson, Kellogg and Mt. Scott Creeks. U.S. Army Engineering District, Portland, Oregon. 55pp.

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Mayden, R.L. 1989. Phylogenetic studies of North American minnows, with emphasis on the genus *Cyprinella* (Teleostei: Cypriniformes). University of Kansas Mus. Nat. Hist. Misc. Pub. 80.

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Williams, J.E., J.E. Johnson, D.A. Hendrickson, S. Contreras-Balderas, J.D. Williams, M. Navarro-Mendoza, D.E. McAllister and J.E. Deacon. 1990. Fishes of North America endangered, threatened, or of special concern: 1989. Fisheries 14(6):2–20.

Author

The primary author of this proposed rule is Dennis R. Lassuy, U.S. Fish and Wildlife Service (see ADDRESSES section); telephone 503/231–6179 or FTS 429–6179.

List of Subjects in 50 CFR Part 17

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

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

2. It is proposed to 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							
Chub, Oregon	*Oregonichthys crameri*	U.S.A. (OR)	Entire	E		NA	NA

Dated: October 15, 1991.

Richard N. Smith,

Acting Director, U.S. Fish and Wildlife Service.

[FR Doc. 91–27787 Filed 11–18–91; 8:45 am]

BILLING CODE 4310–55–M