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**DEPARTMENT OF THE INTERIOR**
**Fish and Wildlife Service****50 CFR Part 17**
**Endangered and Threatened Wildlife and Plants; Proposed Endangered Status and Critical Habitat for Two Fish Species of the Nevada White River System**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Proposed rule.

**SUMMARY:** The Service proposes to determine *Crenichthys baileyi baileyi* (White River springfish) and *Crenichthys baileyi grandis* (Hiko White River springfish) to be endangered species and to designate their critical habitats. This action is being taken because the one known population of *C. b. baileyi* and the single remaining population of *C. b. grandis* are threatened by habitat alteration and the introduction of exotic species, which compete with and prey upon the springfish. The springfish occur in remnant waters of the pluvial White River system in eastern Nevada. *C. b. baileyi* is presently known to occur only in Ash Springs while *C. b. grandis*, extirpated from Hiko Spring, now exists as a single population in Crystal Springs. All three spring areas are located in the Pahranaagat Valley of Lincoln County, Nevada. This proposal, if made final, would implement Federal protection provided by the Endangered Species Act of 1973, as amended. The Service seeks data and comments from the public on this proposal.

**DATES:** Comments from all interested parties must be received by July 6, 1984.

Public hearing requests must be received by June 21, 1984.

**ADDRESSES:** Comments and materials concerning this proposal, preferably in triplicate should be sent to the Regional Director, U.S. Fish and Wildlife Service, Lloyd 500 Building, Suite 1692, 500 NE Multnomah Street, Portland, Oregon 97232. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

**FOR FURTHER INFORMATION CONTACT:** Mr. Don Sada, U.S. Fish and Wildlife Service, Great Basin Complex, 4600 Kietzke Lane, Building C, Reno, Nevada 89502, (702/784-5227).

**SUPPLEMENTARY INFORMATION:****Background**

*Crenichthys baileyi* is one of the two species within the genus *Crenichthys*. Hubbs (1932) recognized the distinct qualities of these fishes when he described *Crenichthys* and *C. nevadæ* from Railroad Valley in central Nevada. Distinctive characteristics of the genus include a lack of pelvic fins, uniserial bifid teeth, a long and coiled intestine, and restricted range. Fishes of the genus *Crenichthys* have been of particular scientific interest because of their adaptation to extremes in temperature and dissolved oxygen (Hubbs and Hettler, 1964; Hubbs *et al.*, 1967; Sumner and Sargent, 1940).

*Crenichthys baileyi* is endemic to the remnant waters of the White River system in eastern Nevada. During pluvial times, 10,000 to 40,000 years before present, the White River was a much larger river that flowed into the Colorado River by way of the Virgin River (Hubbs and Miller, 1948). As the White River desiccated in response to the more xeric recent climate, springfish were restricted to remaining permanent waters, such as springs. By this method, Hiko, Crystal, and Ash Springs as well as the other springs throughout the White River drainage provided natural refugia for the springfish.

*C. b. baileyi* and *C. b. grandis* were described by Williams and Wilde (1981) as two of five subspecies of *C. baileyi* with *C. b. baileyi* restricted to Ash Springs and *C. b. grandis* restricted to Hiko and Crystal Springs. The springs are located in the Pahranaagat Valley of Lincoln County. Both of the proposed species are threatened by habitat alteration as well as the introduction of exotic species which are detrimental to the springfish because of increased competition, predation, and parasitism (Deacon and Bradley, 1972; Hubbs and Deacon, 1964; Wilson *et al.* 1966; Deacon, 1979).

Ash Springs consists of several small source springs that supply water to a main pool area just downstream. The main pool has been enlarged by a small dam and is now used extensively as a swimming hole and center for picnicking and camping. The main pool formerly provided extensive habitat for *C. b. baileyi* but is now inhabited almost entirely by exotic fishes. The remaining individuals occur principally in the source spring area but are occasionally found in the downstream areas.

*C. b. grandis* was extirpated from Hiko Spring in 1967 when largemouth bass (*Micropterus salmoides*) invaded the spring by swimming up an irrigation ditch from the Key Pittman Wildlife Management Area where they had been introduced. The remaining population in Crystal Springs is threatened by habitat alteration. Channelization and diversion of spring flows have decreased potential habitat at both spring systems. The presence of exotic fishes, such as convict cichlids (*Cichlasoma nigrofasciatum*) is also a threat to *C. b. grandis*.

On December 30, 1982, the Service published a notice of review in the **Federal Register** (47 FR 58454-58460) of vertebrate animal taxa being considered for addition to the List of Endangered and Threatened Wildlife. The White River springfish and the Hiko White River springfish were included in this notice as category 1 species indicating that the Service had substantial information to support the biological appropriateness of proposing their listing.

On April 12, 1983, the Service received a petition from the Desert Fishes Council requesting that the White River springfish and the Hiko White River springfish along with 15 other fish species be added to the List of Endangered and Threatened Wildlife. The Service published in the **Federal Register** (48 FR 27273-27274) on June 14, 1983, a finding that the petition presented substantial information that the petitioned action may be warranted. Publication of this rule constitutes the required 1-year finding in accordance with Section 4(b)(3)(B)(ii) of the Act.

**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; under revision to accommodate 1982 amendments) 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) of the Act.

These factors and their application to *C. b. baileyi* (White River springfish) and *C. b. grandis* (Hiko White River springfish) are as follows:

A. *The present or threatened destruction, modification, or curtailment of their habitat or range.* The main pool area of Ash Springs, which formerly provided excellent habitat for *C. b. baileyi*, has been extensively altered. Surrounding vegetation has been cleared and the size of the main pool has been increased by a small dam. The main pool is now used extensively as a swimming hole and center for picnicking and camping. Since alteration of the habitat and the introduction of exotic fishes, the springfish are almost totally restricted to the small source spring area. The source springs have remained in a relatively natural condition.

Potential habitat for *C. b. grandis* has been reduced by habitat alteration at Hiko and Crystal Springs. Outflow creeks have been particularly vulnerable to destruction because of channelization and diversion activities. These changes can eliminate water in natural drainages, reduce invertebrate and plant foods, eliminate habitat structure such as pool and riffle formation, and provide a pathway for exotic fishes to enter springs from downstream areas.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* None apparent.

C. *Disease or predation.* See comments below under criterion E.

D. *The inadequacy of existing regulatory mechanisms.* The State of Nevada lists the entire White River springfish species (*Crenichtys baileyi*) as rare. However, this action does not provide protection to the species of Federal land, or from federally funded or approved projects on private land.

E. *Other natural or manmade factors affecting their continued existence.* The introduction of exotic organisms, especially fishes, into Ash, Hiko, and Crystal Springs has been detrimental to the springfish. Introduced fishes often compete with and prey on the native springfish. Introduced fishes have also been implicated as the source of parasites in native fishes of the region (Wilson *et al.*, 1966; Deacon, 1979).

#### Critical Habitat

Critical habitat as defined by Section 3 of the Act and the Section 4 regulations means: (i) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are

found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. The Act requires that at the time of proposal, critical habitat be determined to the maximum extent prudent and determinable. Critical habitat is being proposed for *C. b. baileyi*, and *C. b. grandis* to include the entire range of the species.

The proposed critical habitat for *C. b. baileyi* is in western Lincoln County, Nevada, and consists of Ash Springs and the associated outflows.

The proposed critical habitat for *C. b. grandis* is also in western Lincoln County, Nevada, and consists of Crystal Springs and Hiko Spring as well as the associated outflows of each of these spring systems.

The areas proposed as critical habitat for these two species satisfy all known criteria for their ecological, behavioral, and physiological requirements. *C. b. baileyi* still reproduces successfully in the source spring area of Ash Springs. *C. b. grandis*, now extirpated from Hiko Spring, is known to occur only in Crystal Springs although numbers there are reduced.

The most critical elements to survival of the proposed springfish are the consistent quality and quantity of springflows. These critical habitats include the springs and associated outflows that are the only known habitats for these fishes. The critical habitats also include land areas immediately surrounding these aquatic land areas. These land areas provide vegetative cover that contributes to providing the uniform water conditions preferred by the springfish and provides habitat for insects and other invertebrates which constitute a substantial portion of their diet.

Activities that may adversely affect the critical habitats of *C. b. baileyi* and *C. b. grandis* include pollution of the springwater, introduction of exotic species, excessive mining of water from nearby aquifers, and further physical modification of Ash, Hiko, or Crystal Springs such as channelization and diversion of springflows or clearing of the surrounding vegetation.

Currently, there are no known Federal activities believed to be affected by the designation of critical habitats for these species.

#### Available Conservation Measures

Conservation measures provided to *C. b. baileyi* and *C. b. grandis*, if they are listed as endangered under the Endangered Species Act, would provide Federal recognition to the problems faced by them and thereby facilitate Federal, State, and private efforts for protection and conservation of the species and their habitats.

In addition, the Act requires that recovery actions be carried out for all listed species. These are initiated by the Service and include the development of a recovery plan for the conservation and survival of listed species. Such a plan for *C. b. baileyi* and *C. b. grandis* may be developed and if necessary the services of appropriate public and private agencies and institutions and other qualified persons may be procured.

Listing *C. b. baileyi* and *C. b. grandis* as endangered would bring Section 6 of the Endangered Species Act into effect. Therefore, the U.S. Fish and Wildlife Service would be able to grant funds (if they become available under existing budgetary constraints) to the State of Nevada for management actions aiding the protection and recovery of these springfish.

Additional conservation measures provided to *C. b. baileyi* and *C. b. grandis* under the Endangered Species Act include requirements for Federal protection and prohibitions against certain practices. These are discussed in detail below.

Subsection 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species which is proposed or listed as endangered or threatened. Section 7(a)(4) requires Federal agencies to informally confer with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat. When species are listed, 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 these species or result in the destruction or adverse modification of their critical habitats. If a "may affect" determination is made, the Federal agency must enter into formal consultation with the Service. However, no such Federal involvement or impact is known or expected for these species.

The Act and implementing regulations found at 50 CFR 17.21 for endangered species set forth a series of general prohibitions and exceptions which apply

to all endangered wildlife species. These prohibitions, in part, would 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 also would be illegal to possess, sell, deliver, carry, transport, or ship any such wildlife which was illegally taken. 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 species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes for incidental take pursuant to an approved conservation plan, or to enhance the propagation or survival of the species. 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. Section 10(a) of the Act also provides for permits for incidental taking endangered species under limited circumstances.

**Public Comments Solicited**

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

- (1) Biological or other relevant data concerning any threat (or the lack thereof) to the species included in this proposal;
- (2) The location of any additional populations of *C. b. baileyi* and *C. b. grandis* and the reasons why any habitat of these species should or should not be determined to be critical habitat as provided by Section 4 of the Act;
- (3) Additional information concerning the range and distribution of these species;
- (4) Current or planned activities in the subject areas and their possible impacts on these species; and

(5) Any impacts resulting from determining critical habitat.  
 Final promulgation of the regulations on *C. b. baileyi* and *C. b. grandis* 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 filed within 45 days of the date of the proposal. Such requests should be made in writing and addressed to the Regional Director, U.S. Fish and Wildlife Service, Lloyd 500 Building, Suite 1692, 500 Northeast Multnomah Street, Portland, Oregon 97232.

**National Environmental Policy Act**

In accordance with a recommendation from the Council on Environmental Quality (CEQ), the Service has not prepared any NEPA documentation for this proposed rule. The recommendation from CEQ was based, in part, upon a decision in the Sixth Circuit Court of Appeals which held that the preparation of NEPA documentation was not required as a matter of law for listings under the Endangered Species Act. *PLF v. Andrus*, 657 F.2d 829 (6th Cir. 1981).

**Authors**

The primary authors of this proposed rule are Dr. Jack E. Williams, Endangered Species Staff, U.S. Fish and Wildlife Service, Room E2740, Federal Building, 2800 Cottage Way, Sacramento, California 95825. Dr. James E. Deacon, Biology Department, University of Nevada, Reno, Nevada 89557 (under contract to the Service) and Ms. Linda M. Hurley, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

**References**

Deacon, J. E. 1979. Endangered and Threatened Fishes of the West. *Gt. Basin Nat. Mem.* 3:41-64.  
 Deacon, J. E. and W. G. Bradley. 1972. Ecological distribution of the fishes of the Moapa (Muddy) River in Clark County, Nevada. *Trans. Am. Fish. Soc.* 101:408-419.  
 Hubbs, C. and J. E. Deacon. 1934. Additional introductions of tropical fishes into southern Nevada. *Southwestern Nat.* 9:249-251.

Hubbs, C. and W. F. Hettler. 1964. Observations on the toleration of high temperature and low dissolved oxygen in natural waters by *Crenichthys baileyi*. *Southwestern Nat.* 9:245-248.  
 Hubbs, C., R. C. Baird, and J. W. Gerald. 1967. Effects of dissolved oxygen concentration and light intensity on activity cycles of fishes inhabiting warm springs. *Am. Midl. Natur.* 77:104-115.  
 Hubbs, C. L. 1932. Studies of the fishes of the order Cyprinodontes. XII. A new genus related to *Empetrichthys*. *Occ. Pap. Mus. Zool., Univ. Michigan* 252:1-5.  
 Hubbs, C. L. and R. R. Miller. 1948. The zoological evidence/correlation between fish distribution and hydrographic history in the desert basins of the western United States. *In* The Great Basin, with emphasis on glacial and postglacial times. *Bull. Univ. Utah* 38:17-166.  
 Sumner, F. B. and M. C. Sargent. 1940. Some observations on the physiology of warm springs fishes. *Ecology* 21:45-54.  
 Williams, J. E. and G. R. Wilde. 1981. Taxonomic status and morphology of isolated populations of the White River springfish, *Crenichthys baileyi* (Cyprinodontidae). *Southwestern Nat.* 25:485-503.  
 Wilson, B. L., J. E. Deacon, and W. G. Bradley. 1966. Parasitism in the fishes of the Moapa River, Clark County, Nevada. *Trans. California-Nevada Sec. Wildl. Soc.* 1966:12-23.

**List of Subjects in 50 CFR Part 17**

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

**Proposed Regulations 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 reads 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 two entries alphabetically to the List of Endangered and Threatened Wildlife under the heading "Fishes:"

**§ 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:							
Springfish, Hiko White River	<i>Crenichthys baileyi grandis</i>	U.S.A. (NV)	Entire	E		17.95(e)	NA
Springfish, White River	<i>Crenichthys baileyi baileyi</i>	U.S.A. (NV)	Entire	E		17.95(e)	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						

3. It is further proposed to amend § 17.95(e) *Fishes*, by adding critical habitat of the Hiko White River springfish and the White River springfish in the same alphabetical order as they are listed in § 17.11(h), as follows:

\* \* \* \* \*  
 (e) \* \* \* \* \*  
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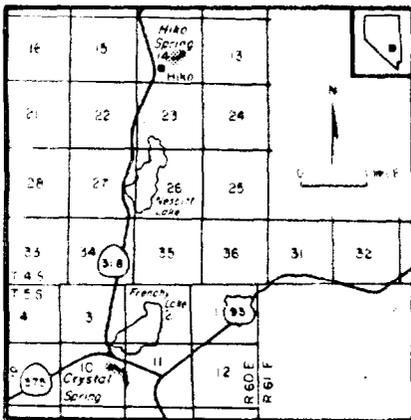
**Hiko White River springfish**

*(Crenichthys baileyi grandis)*

Nevada, Lincoln County. Each of the following springs and outflows plus surrounding land areas for a distance of 50 feet from these springs and outflows:

Hiko Spring and associated outflows within T4S, R60E, SW¼ of NE¼ Sec. 14 and NW¼ of SE¼ Sec. 14.

Crystal Springs and associated outflows within T5S, R60E, all of NE¼ Sec. 10 except NW¼, NE¼ of SE¼ Sec. 10, SW¼ of NW¼ Sec. 11, and NW¼ of SW¼ Sec. 11.

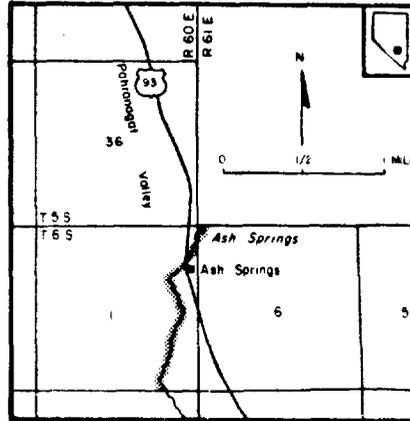


Known constituent elements include warmwater springs and their outflows and surrounding land areas that provide vegetation for cover and habitat for insects and other invertebrates on which the species feeds.

**White River springfish**

*(Crenichthys baileyi baileyi)*

Nevada, Lincoln County. Ash Springs and associated outflows plus surrounding land areas for a distance of 50 feet from the springs and outflows within the following areas: T6S, R60E, E½ of E½ Sec. 1 and T6S, R61E, NW¼ of NW¼ Sec. 6.



Known constituent elements include warmwater springs and their outflows and surrounding land areas that provide vegetation for cover and habitat for insects and other invertebrates on which the species feeds.

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 Dated: April 13, 1984.

**G. Ray Arnett,**  
*Assistant Secretary for Fish and Wildlife and Parks.*

[FR. Doc. 84-12304 Filed 5-4-84; 8:45 am]  
**BILLING CODE 4310-55-M**

**ADDRESS:** U.S. Fish and Wildlife Service, 18th and C Sts., NW., Washington D.C. 20240.

**FOR FURTHER INFORMATION CONTACT:**

Rollin R. Sparrowe,  
 Mr. Coughlin. (202) 653-8762.

Dated: May 1, 1984.

**Robert A. Jantzen,**  
*U.S. Fish and Wildlife Service.*

[FR Doc. 84-12244 Filed 5-4-84; 8:45 am]

**BILLING CODE 4310-55-M**