50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status and Critical Habitat for the Railroad Valley Springfish

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines the Railroad Valley springfish (*Crenichthys nevadae*) to be a threatened species with critical habitat. This action is being taken because suitable habitat for this species has decreased since its discovery and the publication of the original description in 1932. Primary threats to the species include the presence of exotic fishes, habitat alterations, and ground water depletion in the Railroad Valley basin. The Railroad Valley springfish occurs only in thermal springs located in Railroad Valley, northeastern Nye County, Nevada. The final rule would provide protection to all populations of this species. Critical habitat is designated for those habitats within the species' native range. A special rule is included which would allow take for certain purposes in accordance with Nevada State laws and regulations.

EFFECTIVE DATE: April 30, 1986.

ADDRESS: The complete file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Suite 1692, Lloyd 500 Building, 500 NE. Multnomah Street, Portland, Oregon 97232.

FOR FURTHER INFORMATION CONTACT: Mr. Wayne S. White, Chief, Division of Endangered Species, at the above address (503/231–6131 or FTS 429–6131).

SUPPLEMENTARY INFORMATION:

Background

Hubbs (1932) described the genus *Crenichthys* and the species (*Crenichthys nevadae*) based on specimens collected from thermal springs in the Duckwater area of Railroad Valley in central Nevada. Since Hubbs described the genus *Crenichthys*, a second species, *C. baileyi* from the White River of eastern Nevada, has been placed in the genus (La Rivers 1962, Williams and Wilde 1981). Thus, *Crenichthys* consists of two species confined to separate valleys in central and eastern Nevada.

The Railroad Valley springfish is native to four thermal springs near Locke's Ranch (Big, North, Hay Corral, Reynolds) and two thermal springs on the Dockwater Shoshone Indian Reservation (Big Warm and Little Warm), all in Railroad Valley, Nye County, Nevada. Additionally, the species has been introduced into Chimney Springs, approximately six miles south of Locke's Ranch, a seepage area which forms small thermal ponds at Sodaville in Mineral County, Nevada, and into springs at the source of Hot Creek, approximately 40 miles west of Locke's Ranch. In these springs, it inhabits the springpools, their outflow, and adjacent marshy areas.

The long term threat to the Railroad Valley springfish is the alteration of its thermal spring habitats and the introduction of exotic organisms, especially fishes. All of the springs historically inhabited by the Railroad Valley springfish have been altered by man's activities, and springfish populations have decreased in all habitats throughout its range. Diking of springpools, diversion of outflows, and channelization of outflow creeks have reduced suitable habitat for the Railroad Valley springfish at Big, Hay Corral, Big Warm, and Little Warm Springs. Aquatic and riparian habitat around North Spring is also subject to being trampled by the large number of cattle watering in the spring and outflow. The thermal spring habitat of the Railroad Valley springfish is further threatened by pumping of underground aquifers, which may result in spring failures. The threat of reduced spring flows was realized during 1981 when the habitat of the introduced springfish population at Chimney Springs was lost after spring discharge decreased. Springfish were subsequently reintroduced into Chimney

Springs when flows resumed. Several other springs to the south of Locke's Ranch also failed during 1981. The adverse effect of increased ground water pumping on the Railroad Valley springfish countinues to threaten this species. Threats to the survival of the Railroad Valley springfish were reviewed by Williams and Williams (1981) and Hardy (1979). The Nevada Fish and Game Commission lists the species as protected (NRS 503.065).

The presence of exotic fishes in the extremely limited habitat of the Railroad Valley springfish represents a serious threat to this species. Guppies *(Poecilia reticulata)* have become established in Big Warm Spring and have nearly eliminated springfish from the main springpool area. Development of one outflow channel of Big Warm Spring as a catfish farm has resulted in escape of catfish into the spring system. The presence of guppies and channel catfish *(Ictaclurus punctatus)* in Big Warm Spring greatly increases the possibility that these species will be introduced into nearby Little Warm Spring.

On December 30, 1982, the Service published a Notice of Review of Vertebrate Wildlife for Listing as Endangered or Threatened Species (47 FR 58454). The Railroad Valley springfish was included in the review as a category 1 taxon, indicating that the Service has substantial information on hand to support the proposal of this fish for protection under provisions of the 1973 Endangered Species Act, as amended. On April 12, 1983, the Service was petitioned by the Desert Fishes Council to list the Railroad Valley springfish. The Service reviewed and evaluated the petition and determined that it did present substantial information that the petitioned action might be warranted. The notice of finding for this petition was published in the **Federal Register** on June 14, 1983 (48 FR 27273). The proposed rule to list the Railroad Valley springfish as threatened with critical habitat was published in the **Federal Register** on April 17, 1984, and represented the Service's finding that the petitioned action is warranted in accordance with section 4(b)(3)(B)(ii) of the Act.

Summary of Comments and Recommendations

In the April 17, 1984, proposed rule (49 FR 15109) 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. Newspaper notices were published in the *Las Vegas Review Journal* (May 25, 1984) and the *Tonopah Times Bonanza* and *Goldfield News* (May 31, 1984), which invited general public comment. A total of seventeen letters were received and are discussed below. A public hearing was requested by Nye County, and was held at the Duckwater Shoshone Indian Reservation, Duckwater, Nevada, on August 16, 1984. The hearing announcement was published on July 31, 1984 (49 FR 30554) and the comment period extended until August 31, 1984. Comments received during the public hearing are also included and discussed.

Comments opposing the proposed action came from Nye County, the Duckwater Shoshone Tribe, Nevada Fish Growers, Inc., Nevada Department of Wildlife, and Nevada Executive Office. Comments in support of the proposed action were received from the Nevada Division of State Parks, International Union for Conservation of Nature and Natural Resources (IUCN), a graduate student at Sacramento State University, Toiyabe Chapter of the Sierra Club, the Desert Fishes Council, Professor of Biology at the University of Nevada, Las Vegas.

Additional comments, voicing neither support nor opposition, were received from the Bureau of Land Management, Nevada Lieutenant Governor, Nevada Division of State Lands, Nevada Division of Historical Preservation and Archaeology, Nevada Division of Water Resources, and research associate at the University of Nevada, Las Vegas.

Opposition to the proposed rule by Nevada Department of Wildlife, Nevada Fish Growers, Inc., Nye County, Duckwater Shoshone Tribe, and Nevada Executive Office was primarily focused on the potential effects of the listing and critical habitat designation on the existing commercial catfish rearing facility at Big Warm Spring, on existing and future oil production in the area, and on general economic development on the Duckwater Shoshone Indian Reservation and other private lands. The Service responds that the 1982 Amemdments to the Endangered Species Act (ESA) require that determinations to list species as threatened or endangered be based solely on the best available scientific and commercial information available for the species. Thus, economic impacts are not to be considered when determining biological justification for listing. The ESA specifies, however, that the economic impact(s) of designating a particular area as critical habitat must be considered. Critical habitat designation may then be modified by excluding any area if it is determined that the benefits of such exclusion outweigh the benefits of specifying the area as part of the critical habitat. However, the area may not be excluded from critical habitat if it is determined, based on the best scientific and commercial data available, that failure to designate an area as critical habitat will result in extinction of the species concerned. The Service has accordingly prepared an economic analysis of these areas determined in this rule to be critical habitat.

Critical habitat designations only affect Federal actions (see Critical Habitat section of this rule). The designated springfish critical habitat occurs on private lands on the Duckwater Reservation and at Locke's Ranch and has no impact under section 7(a)(2) of the Act when purely private actions are involved

The Service states the designation of critical habitat will have no effect on the existing catfish facility since this facility is privately owned and is on private land. This enterprise could be affected by the designation only if Federal permits or funds are involved in its operation. No Federal interest in acquisition of water rights is implied by the listing action. Therefore, economic development by the Tribe and/or other private land owners which utilize water from Big Warm or Little Warm Springs would proceed without section 7 consultation with the Service when Federal actions are not involved.

Nye County and the Duckwater Tribe stated that they were not properly notified of the proposal and also requested that an Environmental Impact Statement (EIS) be prepared. The Service replies that all of the notice requirements in section 4(b)(5) of the Act have been satisfied for the proposed rule. Furthermore, notification of the proposal was made public through newspaper notices published in the *Las Vegas Review-Journal, Tonopah Times-Bonanza,* and the *Goldfield News.* Certified letters were sent notifying Nye County, the Duckwater Tribe, and the owners of the Locke's Ranch property of the proposed rule. On May 30, 1984, Fish and Wildlife Service biologists from the Great Basin Complex office assured Nye County officials that Fish and Wildlife Service would honor Nye County's request for a public hearing. With respect to preparation of an EIS, the Service replies that NEPA documentation need not be prepared for regulations adopted under section 4(a) of the Act. See 48 FR 49244 (October 25,

1983). Therefore, the development of an EIS is not required for this action.

Nevada Fish Growers, Inc., Nevada Executive Office, Nevada Department of Wildlife, and Nevada Division of State Lands stated that the presence of natural populations of springfish in at least six individual springs in Railroad Valley, and in three habitats outside the known native range, was sufficient to insure the species' survival. Nevada Fish Growers, Inc., also stated that listing the springfish as threatened was unjustified since no springfish population estimates had been conducted and thus no decline in numbers of fish could be demonstrated. The Service replies that the ESA specifically identifies factors which the Secretary is to utilize in determining whether a species is threatened or endangered. One of these is "the present or threatened destruction, modification, or curtailment of its habitat or range." The Service has received comments stating that all springs where the springfish is known to occur naturally have been modified by channelization, diking, etc.; one is occupied by exotic fishes known to displace other fishes closely related to the Railroad Valley springfish by competition and predation; and four are threatened by ground water pumping. These comments were presented by a Professor of Biology and a graduate student, both of whom have conducted field research on springfish habitats in Railroad Valley. Service biologists are also familiar with proposals for additional ground water removal in Railroad Valley and observations by investigators who have documented a decline in range and numbers of springfish of both Big and Little Warm Springs on the Duckwater Indian Reservation since introduction of guppies and channel catfish (D.W. Sada and J.E. Williams, U.S. Fish and Wildlife Service, pers. comm., September 1984; G.L. Vinyard, Biology Department, University of Nevada, Reno, pers. comm., July 1984).

The Service also notes that documentation of a decline in numbers of individuals or populations is not required for consideration for listing. In this case, the identified threats to the springfish's habitats and the limited extent of natural habitat are sufficient justification under the Act to list the species as threatened.

Nye County, the Duckwater Shoshone Indian Tribe, and Nevada Fish Growers, Inc., commented that guppies and channel catfish have not detrimentally influenced springfish in Big Warm Spring. The Service replies that comments provided by its own personnel, personnel from the University of Kentucky, Universities of Nevada at Reno and Las Vegas, and private individuals have reported a decline in the numbers of springfish in the springpool and outflows since the introduction of catfish and guppies. Nevada Fish Growers, Inc., also questioned the predatory nature of catfish by stating that analysis of stomachs from catfish within Big Warm Spring failed to identify the presence of any springfish or other prey items. The Service replies that predation by channel catfish on other similar desert fishes has been well documented (Stevens 1959, Bell 1959, Minckley 1973, Busbee 1968, Miller 1966, Jerald and Brown 1971).

The Duckwater Tribe also commented that "existing habitat on the reservation is being maintained and protected adequately to insure survival." The Service replies that recent actions by the Tribe resulted in severe channelization and alteration of the Little Warm Spring's system, until then the most pristine springfish habitat within Railroad Valley. These types of actions, in fact, resulted in alterations occurring at several springfish habitats and are identified in the proposed rule as some of the primary threats to the species' continued survival. The biology professor from the University of Nevada, in his comment letter, referenced the habitat alteration of Little Warm Spring and noted that "recent drainage of the marsh system connected to the spring has severely decimated the population."

Nye County asked if the Service was "positive the springfish does not occur in any other area in the world" and whether the Desert Fishes Council is, in fact, a "convenient cover" for Service-initiated petitions. The Service replies that the Desert Fishes Council is an international organization composed of approximately 400 individuals including professional biologists from many colleges and universities; State wildlife agencies; Federal agencies such as the Bureau of Reclamation, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, and the National Park Service; private conservation organizations; and interested private citizens. The Council petitioned the Service to list the Railroad Valley springfish; the Service did not initiate the petition process, nor did it use the Council as a "cover" to begin the procedure for listing this species. The Service has reviewed, and concurs with, scientific literature accepted by ichthylogists, fishery managers, and other scientists, as correctly identifying the Railroad Valley springfish as a unique species endemic to a limited number of habitats within Railroad Valley, Nye County, Nevada. No scientific information has ever been presented to the contrary.

During the public hearing, one individual raised the issue of conflict of interest if Fish and Wildlife Service biologists working on the proposed listing of the springfish were also members of the Desert Fishes Council, the petitioning organization. Several Service biologists, including some associated with this final rule, are members of the Desert Fishes Council. However, no Fish and Wildlife Service biologist participated in any way in the decision made by the Council's executive committee to petition for the listing of the springfish. The Service's biologists have participated in Council meetings only in a general way through the preparation and presentation of various scientific papers and through other scientific activities appropriate for general membership in a professional society given only a general involvement by Service employees in the Desert Fishes Council's activities. The Service concludes that there has been no conflict of interest under these circumstances for this rulemaking.

Nevada Fish Growers, Inc., stated that the "record of action" by the Nevada Department of Wildlife invalidated the Service's conclusion that listing is necessary to protect the species because of the inadequacy of existing regulatory mechanisms. The Service replies that protection of the springfish under a "protected" classification by the Nevada Department of Wildlife prohibits taking without a scientific collecting permit, but does not afford any habitat protection. Furthermore, no management or recovery plan exists or is planned for this species. Listing would provide greater habitat protection, mandate development or a recovery plan, and also provide the opportunity for ESA Section 6 funds to be utilized by the Nevada Department of Wildlife for identified recovery actions.

The Nevada Division of State Parks (NDSP) supported the proposed listing as being in the best interest of the citizens of Nevada. NDSP stated that the Duckwater area is listed in the Nevada Natural Heritage Program, a program designed to identify and preserve areas which contain the "best representative examples of Nevada's natural heritage including plants, animals, and geologic formations, as well as scenic and scientific areas." Other letters from the biology professor, Toiyabe Chapter of the Sierra Club, Desert Fishes Council,

IUCN, and the graduate student supported the proposal because of the springfish's vulnerability to identified threats of habitat alteration, ground water depletion, and introduced species.

The Nevada Department of Wildlife (NDW) and the Nevada Executive Office commented that monitoring of springfish populations and implementation of measures to enhance the species' status should be undertaken in lieu of listing. The Service recognizes the value of population surveys and has discussed this with NDW and presented proposals to the Duckwater Shoshone Indian Tribe. Such estimates have not occurred, partially because access to Big and Little Warm Springs on the Duckwater Reservation was denied Service biologists by the Tribal Council. The Service does not believe, however, that specific information regarding population size is a prerequisite to competently analyze the present status of this springfish.
This status is well presented in information which shows that the species has undergone severe declines in several of its habitats, and that there are serious threats to the livelihood of each population posed by competition and predation by exotic species, habitat alteration, and/or ground water depletion.

Nye County, the Duckwater Shoshone Indian Tribe, and the Nevada State Lands Division questioned whether livestock grazing had impacted any spring areas and commented that any detrimental effects of grazing on spring habitats could be controlled in some way other than listing. The Service replies that although grazing does not currently appear to be a problem at Big or Little Warm Springs, livestock continues to have a major impact on the habitat at North Spring and its outflow, a portion of which is on public land. The Service recognizes that overgrazing around the springs and outflow would be controlled by management practices that do not require listing in order to be accomplished. However, listing is necessary to address the primary threats of habitat alteration, ground water pumping, and introduction of exotic species.

Nye County and the Nevada State Lands Division commented that the identified threat of ground water pumping was not justified because the Nevada State Engineer controls use of the ground water resource. The Service replies that it recognizes the jurisdiction of the State Engineer and his regulatory authority to prevent ground water removal in excess of natural recharge for a basin. However, the possibility that pumping may result in local "cones of depression" in ground water levels, consequently affecting spring discharge, is recognized by the State Engineer's well spacing requirements for ground water pumps, such as anticipated in Desert Land Entry and Carey Act applications to the Bureau of Land Management (BLM).

Despite the controls exercised by the State Engineer, local spring failure or decreased discharge due to ground water depletion has been documented in such areas as Ash Meadows and the Pahrump Valley in southern Nevada. Discharge of Big Spring at Locke's Ranch has decreased from 1,500 gallons per minute (gpm) to 520 gpm, a decrease of 65 percent since drilling of a nearby flowing well (Mifflin 1968).

Evidence of the influence this may have on adjacent spring discharge is well presented in the State Engineer's comment letter (Nevada Division of Water Resources) stating that although "ground water depletion is not occurring at the present time . . . there may be some lowering of the ground water table or depletion in localized areas due to a concentration of pumping." The potential for localized, detrimental effects of ground water pumping in Railroad Valley is recognized since the letter also states that the State Engineer has received a large number of applications to appropriate ground water in Railroad Valley. This comment letter goes on to state that "these applications, if allowed, could possibly have some effect on the habitat of the Railroad Valley springfish." Similarly, the BLM's Environmental Assessment for Classification of Agricultural Lands in Northern Railroad Valley (BLM 1984) recognizes the possibility that "for Locke's Station area, it is uncertain what the minimum long-term average discharge can be without adversely affecting the wildlife habitat . . . a moderate impact could be adverse."

The Nevada Division of State Lands also commented that the proposed listing and designation of critical habitat could lead to public land withdrawals to prevent ground water extraction, and could decrease values of the limited private lands in the area. The Service replies that the designation of critical habitat is not anticipated to require the withdrawal of any public lands. Apart from critical habitat, however, the Act does not permit the Service to consider the impacts posed by a proposed listing to a particular economic activity.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the Railroad Valley springfish should be classified as a threatened species. Procedures found at 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) 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 Railroad Valley springfish (*Crenichthys nevadae*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* All of the habitats occupied by the Railroad Valley springfish have been altered by human activities. Some of these activities have resulted in greater population declines than others; all have, however, concomitantly reduced the total habitat and population throughout the species' range. Activities planned for the future also threaten habitats and populations.

In the spring of 1984, the outflow channel from Little Warm Spring was channelized and its bordering marsh dried and burned to modify and improve diversions to nearby agricultural lands. Population surveys have not been conducted since this alteration; however, research conducted in many stream environments throughout North America show that channelization decreases the size and biomass of fish populations, and changes aquatic species' composition (Menzel and Fierstine 1976, Griswold *et al.* 1978). This indicates the existing springfish population is likely to be much smaller than that existing prior to channelization. Prior to this action, habitat in Little Warm Spring was the most stable environment occupied by the springfish. Springfish habitat in the channel was approximately 400 yards long, 2 yards wide, and 1 yard deep, lightly vegetated, and bordered by deeply recessed undercut banks supporting mature marsh vegetation. Since channelization, this quality habitat is approximately 20 yards long and 1 yard wide.

Alterations at Big Warm Spring have been both physical and biological. Physically, the habitat has been reduced by alterations occurring in both the north and south outflow channels. Available habitat in the north channel was reduced from an estimated 0.27 acre (a channel 0.38 mile long) to 0.16 acres (a channel 0.21 mile long) by installing a delivery pipe diverting the entire flow carried by this channel. The south

outflow channel has been altered by construction of facilities for channel catfish aquaculture. These facilities, located approximately 0.38 mile downstream from the springpool, initially consisted of plastic-lined raceways placed in the stream channel. Observations made shortly after this construction sighted no springfish either in or downstream from this area (Sada fieldnotes 1980, 1981, 1983). It is doubtful that construction of this facility eliminated the springfish; the piscivorous food habits of channel catfish make it more likely that disappearance of the springfish resulted from catfish predation (Miller 1966). J.E. Williams (pers. comm. 1982) stated that the greatest concentration of springfish in the Big Warm Spring system prior to construction of this facility was located at the site of the facility. Location and design of facility raceways has changed since initial construction. They are now concrete and located off-channel. Efforts to control entrance of catfish into the spring system have been unsuccessful, and numerous 12-inch to 15-inch individuals reportedly reside throughout the system (Sada fieldnotes 1983, Vinyard pers. comm. 1984). Observations made since 1979 note a continual decline in this springfish population. Hardy (1979) recorded the presence of a large springfish population. Sada (fieldnotes 1981, 1983) recorded the decline of this population and Vinyard (pers. comm. 1984) reported the virtual elimination of the springfish in this spring. This decline is believed to be largely attributable to the introduction of channel catfish and guppies. During 1983 and 1984, Nevada Department of Wildlife personnel noted springfish only in portions of the spring outflow. Estimates of population size were not made at this time. No comparison of the population before and after introduction of catfish resulted from these observations. The impacts of exotic species on this springfish are discussed further in the section entitled "Disease or Predation."

Springfish habitat in the outflow channel from Big Spring at Locke's Ranch was reduced by an estimated 10 percent (to 0.1 acre) during the recent construction of diversion canals directing springflow away from good quality habitat and into narrow, steeply-sloped channels and a plastic-lined pool. The impact of this action on this springfish population was great not only because occupied habitat was decreased, but because high water temperatures eliminate the use of much of the upstream aquatic habitat for springfish reproduction. Diversion removed water from downstream areas where water temperature had cooled adequately to permit spawning and placed it into poor quality habitats. Although 90 percent of occupied habitat remains, excessive water temperatures and poor quality habitat combine to support a much smaller portion of spawning habitat. Spawning habitat has been reduced approximately 20 percent (J.E. Williams pers. comm. 1983).

Other habitats at Locke's Ranch (North, Reynolds, and Hay Corral Springs) are small (discharging between 200 and 425 gallons per minute or gpm) and presently impacted mostly by overgrazing. This activity is not known to eliminate springfish populations; however, numerous investigations show how overgrazing degrades the quality of aquatic habitats (BLM 1975, Platts 1982).

Future viability of discharge from springs occupied by Railroad Valley springfish is questionable. Mifflin (1968) reported that Big Spring has decreased from 1500 gpm to 520 gpm because of the drilling of a nearby flowing well. Decreases in discharge for Hay Corral Spring have also been recorded over the past several decades (Mifflin 1968). The BLM is presently considering releasing land in northern Railroad Valley through its Desert Land Entry program. Hydrology reports, prepared to analyze the impact of this release and the resulting utilization of ground water for agriculture, state that there is a potential for a moderate to extreme impact on discharge from springs at Locke's Ranch.

The species occurs in three spring habitats outside of its historic distribution. Two of these habitats, Chimney Spring and Hot Creek, are located within the pluvial Lake Railroad basin, and an unnamed spring at Sodaville, Mineral County, Nevada, is located approximately 200 miles west of Railroad Valley. Little security is afforded these populations. Chimney Spring is located on public domain lands approximately six miles south of Locke's Ranch. It supports a sizable population, established in 1978, in artificial pools. However, varying hydrologic conditions influence spring discharge to the extent that the population was extirpated during the summer of 1981. The population was reestablished upon resumption of spring discharge.

The population in Hot Creek was established by transplant from populations existing at Lockes Ranch during the past several years. Recent surveys record the population as sizable and doing well in waters diverted for agricultural irrigation (Pedretti *et al.* 1984). The population occurs only on private land.

Railroad Valley springfish were introduced into a small thermal spring at Sodaville by Nevada Department of Wildlife personnel during 1947 (La Rivers 1962). This small spring (50 gpm) is located on private land where it is frequently disturbed by channelization activities intended to increase the efficiency of water movement. This water is used for recreation and culinary purposes.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* There is no indication that the Railroad Valley springfish is overutilized for any of these purposes.

C. *Disease or predation.* The development of a catfish farming operation at Big Warm Spring in 1982 has permitted the introduction of channel catfish (*Ictalurus punctatus*) into this spring. Operation of the catfish farm adjacent to Big Warm Spring has permitted introduction of predaceous channel catfish into the spring and its outflow, which could result in the total loss of Railroad Valley springfish in Big Warm Spring. A naturally steep gradient apparently prevents the movement of channel catfish from the Big Warm Spring outflow into Little Warm Spring, which is located approximately one mile away. Channel catfish are opportunistic feeders and are known to prey on fishes (Stevens 1959, Bell 1959, Minckley, 1973, Busbee 1968). In the upper Gila River in Arizona, catfish were a significant predator on young razorback suckers (Paul Marsh, Assistant Professor for Research, Arizona State University, pers. comm., November 1984).

D. *The inadequacy of existing regulatory mechanisms.* The State of Nevada lists the Railroad Valley springfish as a protected species. This classification by the Nevada Department of Wildlife prohibits taking without a scientific collecting permit. However, no protection of the habitat is included in such a designation and no management or recovery plan exists for this species.

E. *Other natural or manmade factors affecting its continued existence.* Guppies (*Poecilia reticulata*) have become established in Big Warm Spring and appear to have almost eliminated Railroad Valley springfish from the springpool area. Guppies compete with the Railroad Valley springfish for habitat and food resources. Establishment of exotic fishes in numerous aquatic habitats of the southwestern United States often results in the elimination or severe decrease of native fish populations (Deacon *et al.* 1964; Hubbs and Deacon 1964; Williams and Wilde 1981; Schoenherr 1981).

Exotic fishes are increasing in Nevada waters, especially in spring systems in the southern portion of the state (Courtenay and Williams 1982; Courtenay and Deacon 1983; Deacon and Williams 1984).

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 rule final. Based on this evaluation, the preferred action is to list the Railroad Valley springfish as threatened with critical habitat. Threatened status is appropriate because of the restricted and reduced range of the species, and because of the threats to the fish and its remaining habitat. If this species is not protected pursuant to the Endangered Species Act, it could reasonably be expected to become endangered within the foreseeable future and thus not listing would be a violation of the Act's intent. Since the species is still extant in several locations and the threats to the species are generally localized, the species is not currently in danger of extinction and thus endangered status would not be appropriate at this time. An explanation of the critical habitat designation is presented in the "Critical Habitat" section of this rule.

Critical Habitat

Critical habitat, as defined by section 3 of the Act means: (i) the specific areas within the geographical area occupied by a 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) that may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrently with the determination that a species is endangered or threatened. Critical habitat is being designated for the Railroad Valley springfish. It includes six springs within the native range of the species, their outflow pools, associated streams and marshes, and a 50-foot riparian zone around the springs, their outflow pools, and associated streams and marshes located in two areas of northeastern Nye County, Nevada. The riparian zone is necessary to protect and maintain the physical and chemical characteristics, such as temperature, clear water, pH, etc., of the aquatic environment. The Service believes that the riparian area is essential for the conservation of the Railroad Valley springfish and it is, therefore, included as critical habitat. The designated critical habitat is located in the Duckwater area (Big Warm and Little Warm Springs) and Lockes Ranch area (Big, North, Hay Corral, and Reynolds Springs).

The area designated does not include the entire habitat of this species. Railroad Valley springfish occur in marginal habitat in the outflow creek of Big Warm Spring downstream from the designated critical habitat. Also, no critical habitat is designated for the introduced populations near Sodaville in Mineral County, Nevada, and in Chimney Springs and Hot Creek in Nye County, Nevada.

Section 4(b)(8) requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public or private) which may adversely modify such habitat or may be affected by such designation. Any activity lessening spring flows or significantly altering the natural outflow channels and temperature regimes in springs inhabited by the Railroad Valley springfish could adversely impact its critical habitat. Such activities include, but are not limited to, excessive ground water pumping, impoundment, and water diversion. Any activity extensively altering the channel morphology in these springs could adversely impact the critical habitat. Such activities include, but are not limited to, channelization, grazing and other watershed disturbances that result in excessive sedimentation, impoundment, deprivation of substrate source, and riparian destruction. Any activity which would significantly alter the water chemistry in these springs could adversely impact the critical habitat. Such activities include, but are not limited to, release of chemical or biological pollutants into the waters at a point source or by dispersed release.

Federal agencies which might be planning to construct, fund, authorize, or license projects in the future that could adversely impact the critical habitat of the Railroad Valley springfish include the Bureau of Land Management (BLM) and the Bureau of Indian Affairs (BIA).

The only known activities of BLM that might affect the proposed critical habitat of the Railroad Valley springfish are leasing of public lands near North Spring for cattle grazing and leasing for geothermal and oil and gas exploration. Currently, cattle graze extensively in a marshy area along the outflow of North Spring. This marshy area is inhabited by springfish where they are subjected to excessive silt loads, trampling, increased turbidity, and water pollution by the presence of cattle. Virtually all public land in Railroad Valley is leased for oil and gas, including the land around North Spring, although there has been no activity within several miles of the critical habitat area and none is foreseen.

Activities of BIA that might be affected by the designation of critical habitat include funding and permitting of programs proposed by the Duckwater Shoshone Tribe that might affect the outflows of Big and Little Warm Springs and that could thus render these habitats unsuitable for the springfish.

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of designating a particular area as critical habitat. The Service has carefully considered all information obtained during the comment period before proceeding with the critical habitat designation. An economic analysis was accordingly prepared, which determined that the critical habitat designation, as defined in the proposed rule, did not bring forth any significant economic or other impacts to warrant consideration of adjusting the boundaries of the proposed critical habitat designation.

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. 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)(2)

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. 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. Possible Federal involvement with respect to the Railroad Valley springfish was discussed in the above "Critical Habitat" section.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of prohibitions and exceptions that generally 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, 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 had been taken illegally. Certain exceptions would apply to agents of the Service and State conservation agencies. General regulations governing the issuance of permits to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances are set out at 50 CFR 17.32.

The Secretary has discretion under section 4(d) of the Act to issue such special regulations as are necessary and advisable for the conservation of a threatened species. The springfish is threatened primarily by habitat disturbance or alteration, not by intentional, direct taking of the species or by commercialization. Given this fact, and the fact that the State regulates direct taking of the species through the requirement of State collecting permits, the Service has concluded that the State's collection permit system is adequate to protect the species from excessive taking, so long as such takes are limited to: educational purposes, scientific purposes, the enhancement of propagation or survival of the species, zoological exhibition, and other conservation purposes consistent with the Endangered Species Act. Therefore, the special rule allows take to occur for the above-stated purposes without the need for a Federal permit if a State collection permit is obtained and all other State wildlife conservation laws and regulations are statisfied. It should be recognized that any activities involving the taking of this species not otherwise enumerated in the special rule are prohibited. Without this special rule all of the prohibitions under 50 CFR 17.31 would apply. The Service believes that this special rule will allow for more efficient management of the species, thereby facilitating its conservation. For these reasons, the Service has concluded that this regulatory action is necessary and advisable for the conservation of the Railroad Valley springfish.

National Environmental Policy Act

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

Regulatory Flexibility Act and Executive Order 12291

The Department of the Interior has determined that designation of critical habitat for this species will not constitute a major action under Executive Order 12291 and certifies that this designation will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C 601 *et seq.*). The Department of the Interior has determined that, although the critical habitat designation as defined in the proposal may affect or be affected by some BLM and BIA activities, the proposed rule did not bring forth any significant economic or other impacts to warrant consideration of adjusting the boundaries of the critical habitat designation. The critical habitat designation is not expected to affect privately-funded or implemented activities on private lands or Indian Reservation lands. This rule contains no information collection or recordkeeping requirements as defined by the Paperwork Reduction Act of 1980. These determinations are based on a Determination of Effects that is available from the Regional Director, U.S. Fish and Wildlife Service, Suite 1692, Lloyd 500 Building, 500 NE. Multnomah Street, Portland, Oregon 97232

Literature Cited

Bell, R. 1959. The fishery of San Vicente Reservoir, San Diego County, California. California Dept. Fish and Game, Inland Fish. Report No. 59–12, 62 pp.

Bureau of Land Management, USDI. 1975. Effects of livestock grazing on wildlife, watershed, recreation, and other resource values in Nevada.

Busbee, R.L. 1968. Piscivorous activities of the channel catfish. Prog. Fish. Cult. 30(1):32–38.

Bureau of Land Management, USDI. 10984. Environmental assessment for classification of agricultural lands in northern Railroad Valley. Ely and Battle Mountain District Offices, Nevada. 31 pp. and appendices.

Courtenay, W.R. and J.E. Deacon. 1982. Status of introduced fishes in certain spring systems in southern Nevada. Great Basin Nat. 42(3):361–366.

Courtenay, W.R. and J.E. Deacon. 1983. Fish introductions in the American southwest: A case history of Rogers Spring, Nevada. Southwest. Nat. 28(2):221–224.

Deacon, J.E., C. Hubbs, and B.J. Zahuranec. 1964. Some effects of introduced fishes on the native fish fauna of southern Nevada. Southwest. Nat. 12:31–44.

Deacon, J.E. and J.E. Williams. 1984. Annotated list of the fishes of Nevada. Proc. Biol. Soc. Washington. 97(1):103–118.

Griswold, B.L., C. Edwards, L. Woods, and E. Weber. 1978. Some effects of stream channelization on fish populations, macroinvertebrates, and fishing in Ohio and Indiana. U.S. FWS, Washington, DC FWS/OBS–77/46:64 pp.

Hardy, T. 1979. The Inter-Basin Area report. U.S. FWS contract No. 14–16–001–6319–FS, amendment No. 4.

Hubbs, C. 1932. Studies of the fishes of the order Cyprinodontes: XII. A new genus related to *Empetrichthys*. Univ. Michigan Museum Zool. Occ. Pap. 252:1–5.

Hubbs, C. and J.E. Deacon. 1964. Additional introduction of tropical fishes into southern Nevada. Southwest. Nat. 9:249–251.

Jerald, A. and B.E. Brown. 1971. Food of the channel catfish *(Ictalarus punctatus)* in a southern Great Plains Reservoir. Amer. Midl. Nat. 86(1):110–115.

La Rivers, I. 1962. Fishes and fisheries of Nevada. Nevada State Fish and Game Comm. 782 pp.

Menzel, B.W. and H.L. Fierstine. 1976. A study of effects of stream channelization and bank stabilization of warmwater sport fish in Iowa: subproject No. 5. Effects of long reach stream channelization on distribution and abundance of fishes. U.S. Fish and Wildl. Serv., Washington, DC FWS/OBS–76/15: 75 pp.

Mifflin, M.D. 1968. Delineation of ground water flow systems in Nevada. Desert Research Institute Technical Report Series H–W. Pub. 4:89 and appendix Table 4.

Miller, E.E. 1966. Channel catfish. Pages 440–463 in A. Calhoun (Ed.), Inland fisheries management. State of California Resources Agency, Dept. of Fish and Game. 546 pp.

Minckley, W.L. 1973. Fishes of Arizona. Arizona Game and Fish Dept. Phoenix, Arizona 177–179.

Pedretti, J.W., T.M. Baugh, and J.E. Deacon. 1984. Population status and distribution of *Gila* complex in Hot Creek Valley, Hot Creek Canyon, and Little Fish Lake Valley. Unpub. Report, Endangered Fishes Research Cent., Dept. Biol. Sciences, University Nevada, Las Vegas.

Platts, W.S. 1982. Livestock and riparian-fishery interactions: what are the facts. Trans. 47th N. Amer. Wildl. Nat. Res. Conference, 1982:507:515.
Schoenherr, A.A. 1981. The role of competition in the replacement of native fishes by introduced species. Pages 173–203 in R.J. Naiman and D.L. Soltz (Eds.), Fishes in North American Deserts. John Wiley and Sons, New York.
Stevens, R. 1959. The white and channel catfishes of the Santee-Cooper reservoir and tailrace sanctuary. 13th Annual Conference S.E. Assoc. Game and Fish Comm. Proc., pp. 203–219.
Williams, C.D. 1984. Life history of the Railroad Valley springfish, *Crenichthys nevadae*, Hubbs (Cyprinodontidae) of east-central Nevada. M.S. thesis manuscript. Sacramento State University.
Williams, C.D. and J.E. Williams. 1981. Distribution and status of native fishes of the Railroad Valley system, Nevada. California Nevada Wildlife Trans. 48–51.
Williams, J.E. and G.R. Wilde. 1981. Taxonomic status and morphology of isolated populations of the White River springfish, *Crenichthys baileyi* (Cyprinodontidae). Southwest. Nat. 25:485–503.

Author

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List of Subjects in 50 CFR Part 17

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

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: 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. 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							
Springfish, Railroad Valley	*Crenichthys nevadae*	U.S.A. (NV)	Entire	T	224	17.95(e)	17.44(n)

3. Add the following as special rules to § 17.44.

§ 17.44 Special rules—fishes.

* * * * *

(n) Railroad Valley springfish *(Crenichthys nevadae).*

(1) No person shall take the species, except in accordance with applicable State fish and wildlife conservation laws and regulations in the following instances: for educational purposes, scientific purposes, the enhancement of propagation or survival of the species, zoological exhibition, and other conservation purposes consistent with the Act.

(2) Any violation of applicable State fish and wildlife conservation laws or regulations with respect to the taking of this species will also be a violation of the Endangered Species Act.

(3) No person shall possess, sell, deliver, carry, transport, ship, import, or export, by any means whatsoever, any such species taken in violation of these regulations or in violation of applicable State fish and wildlife conservation laws or regulations.

(4) It is unlawful for any person to attempt to commit, solicit another to commit, or cause to be committed, any offense defined in paragraphs (n)(1) through (n)(3) of this section.

* * * * *

4. Amend § 17.95(e) by adding critical habitat of the Railroad Valley springfish as follows: (The position of this entry under Section 17.95(e) will follow the same sequence as the species occurs in § 17.11).

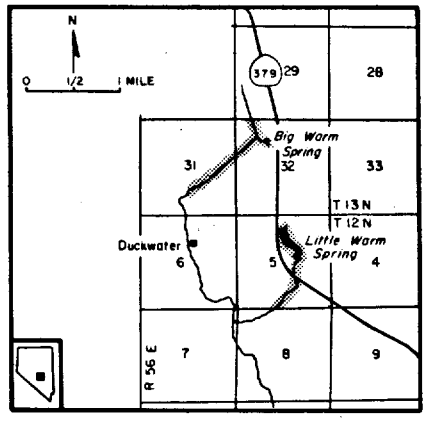
§ 17.95 Critical habitat—fish and wildlife.

(e) * * *

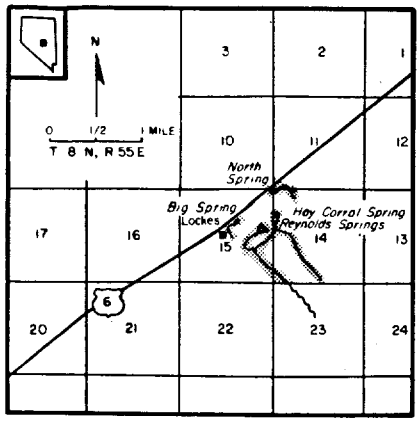
* * * * *

Railroad Valley Springfish *(Crenichthys nevadae)*

1. Nevada, Nye County, Duckwater area. Big Warm Spring and its outflow pools, streams, and marshes and a 50 foot riparian zone around the spring, outflow pools, streams, and marshes in T13N, R56E, NE¼ Sec. 31, SE¼ Sec. 31, NW¼ Sec. 32. Little Warm Spring and its outflow pools, streams, and marshes, and a 50-foot riparian zone around the spring, outflow pools, streams, and marshes in T12N, R56E, Sec. 5.



1. Nevada, Nye County, Lockes Area. North, Hay Corral, Big, and Reynolds Springs and their outflow pools, streams, and marshes, and a 50-foot riparian zone around the springs, outflow pools, streams, and marshes in T8N, R55E, SW¼ Sec. 11, NW¼ Sec. 14, SW¼ Sec. 14, SE¼ Sec. 15, NE¼ Sec. 15, SW¼ Sec. 15.



Known constituent elements for all areas of critical habitat of the Railroad Valley springfish include clear, unpolluted thermal spring waters ranging in temperature from 29° to 36°C in pools; flowing channels; marshy areas with aquatic plants, insects, and mollusks.

* * * * *

Dated: February 28, 1986.

P. Daniel Smith,

Deputy Assistant Secretary for Fish and Wildlife and Parks.

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