

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for Independence Valley Speckled Dace and Clover Valley Speckled Dace**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes endangered status for the Clover Valley speckled dace (*Rhinichthys osculus oligoporus*) and Independence Valley speckled dace (*Rhinichthys osculus lethoporus*), pursuant to the Endangered Species Act of 1973, as amended. The former is known from only two small springs in northwestern Nevada and the latter from only one spring in the same area. Both are in jeopardy because of their extremely limited distribution, the vulnerability of their habitats to perturbation by human irrigation practices, and the introduction of non-native aquatic species.

Such activities have eliminated one population of the Clover Valley speckled dace and caused extinction of another fish, the Independence Valley tui chub (*Gila bicolor isolata*), formerly found in the spring inhabited by the Independence Valley speckled dace. The Service seeks comments from the public on this proposal.

DATES: Comments from all interested parties must be received by November 17, 1987. Public hearing requests must be received by November 2, 1987.

ADDRESSES: Comments and materials concerning this proposal should be sent to the U.S. Fish and Wildlife Service, 500 N.E. Multnomah Street, Lloyd 500 Building, Suite 1692, 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. Wayne S. White, Chief, Division of Endangered Species, at the above address (503/231-6131 or FTS 429-6131).

SUPPLEMENTARY INFORMATION:

Background

The Clover Valley speckled dace was first collected on September 14, 1934, by Dr. C.L. Hubbs and his family (Hubbs *et al.* 1974). It was not recognized as a unique form of speckled dace until Drs. Hubbs and Miller (1972) described it as a subspecies endemic to two springs in Clover Valley, Elko County, Nevada. The Independence Valley speckled dace was not collected until August 25, 1965. It was also described by Hubbs and Miller (1972) as a distinct subspecies of speckled dace found only in Independence Valley.

Speckled dace are members of the minnow family of fishes (Cyprinidae), which is found in many waters of western North America. They are able to occupy a wide variety of habitats, ranging from cold streams and rivers with rocky substrates to small thermal springs with silt substrates. Their adaptability to a broad range of environments has allowed them to persist in habitats too harsh for the survival of many other fish species. Isolation of populations has permitted genetic divergence and resulted in a number of morphologically distinct forms recognized as subspecies. Their diet consists primarily of insects, and their maximum length rarely exceeds 4 inches.

Speckled dace are distinguished from other minnows by, among other characters, the shape and arrangement of pharyngeal teeth (usually slightly curved and hooked in a 1, 4-4, 1 formula) and the presence of well-developed radii completely around the scales. Coloration is typically olive-green on the back, fading to silver/gold on the stomach. As the vernacular name suggests, black spots may be randomly arranged over the body. A distinct black lateral stripe usually extends from the forebody to the caudal fin.

The Clover Valley speckled dace and Independence Valley speckled dace are believed to be derived from an ancestral form similar to the Lahontan speckled dace (*Rhinichthys osculus robustus*), which presently occupies the Humboldt River system in northern Nevada. They are distinguished from the latter by their less developed lateral line system on both the body and head. The Clover Valley speckled dace is further distinguished by the anterior location of its pectoral fins and a lower number of pelvic fin rays (6 versus typically 8 for speckled dace) (Hubbs and Miller 1972). The Independence Valley speckled dace is dwarfed, with a more laterally compressed body than is characteristic of speckled dace in general. Its lateral line is less developed, its caudal peduncle is deeper, and its pectoral fin rays are fewer than in the Clover Valley speckled dace. It is also distinguished from the latter by its straighter and more oblique mouth (Hubbs and Miller 1972).

Both of these speckled dace are restricted to small springs and their outflows. Vinyard (1983) and Hubbs *et al.* (1974) located the Clover Valley speckled dace in small irrigation impoundments and in ditches radiating from them into irrigated pasture land. Hubbs *et al.* (1974) also recorded the dace in isolated portions of spring-fed streams located upstream from these impoundments. Vinyard (1983) and Hubbs *et al.* (1974) recorded the Independence Valley speckled dace from shallow marshlands spreading away from deep pools associated with spring sources.

All habitats of both species are situated on private land supporting ranch operations. Neither of these speckled dace have been widespread in historic times. Early collections made in 1934 did not locate the Independence Valley speckled dace, and located only one Clover Valley speckled dace population (Hubbs *et al.* 1974). Subsequent surveys conducted in 1965, however, located the Independence Valley speckled dace and an additional population of Clover Valley speckled dace (Hubbs *et al.* 1974). Both dace were noticeably scarce when these surveys were conducted.

Hubbs *et al.* (1974) attributed the rarity of these speckled dace to habitat alterations to facilitate irrigation, and to the presence of rainbow trout (*Salmo gairdneri*) and largemouth bass (*Micropterus salmoides*) introduced for sport fisheries. Population sizes of these speckled dace have been known to fluctuate in response to the presence of the non-native fish species. For example, in 1964 numerous Clover Valley speckled dace were present in a spring-

fed impoundment that had recently been stocked with rainbow trout; however, a 1965 survey of the same locality found the dace scarce and restricted to a small portion of stream near the spring source where they could best avoid rainbow trout (Hubbs *et al.*, 1974). Vinyard (1983) failed to locate any dace at this site during several surveys in 1983.

Hubbs *et al.* (1974) noted the scarcity of the Independence Valley speckled dace in its sole habitat during 1965, the first time this fish was collected. Vinyard (1983) also observed its scarcity and recorded dace only in shallow water not inhabited by bass and bluegill (*Lepomis macrochirus*). That the presence of the latter threatens the Independence Valley speckled dace is evident by the extinction of the Independence Valley tui chub (*Gila bicolor isolata*). This chub was endemic to the same spring inhabited by the dace, and disappeared following the introduction of the bass and bluegill.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act 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 Clover Valley speckled dace (*Rhinichthys osculus oligoporus*) and Independence Valley speckled dace (*Rhinichthys osculus lethoporus*) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

As presented in the "Background" section, several factors have affected the decline of these speckled dace. Neither the dace nor their habitats were known before settlers moved into the area and began manipulating springs to facilitate irrigation. Therefore, precise limits of their historical ranges are unknown. However, information gathered about other dace occupying other springs within northern Nevada indicates these speckled dace occupied all of the streams and wetlands maintained by local spring discharge. The quantity of habitat was probably never large, because the springs utilized are small; none of these habitats are supported by springs discharging more than 2,000 gallons per minute (Garside and Schilling 1979).

Initial surveys for the Clover Valley speckled dace in 1934 found that springs occupied by the dace had been altered at a much earlier date. The outflows were impounded in small reservoirs prior to being distributed to various irrigated pastures (Hubbs *et al.* 1974). The ditched habitats existing down gradient from these reservoirs varied from watered to dried depending on where irrigated lands were situated relative to the location of reservoirs. The variable water application regime, which continues today (Vinyard 1983), prohibited the long-term presence of dace and their habitat in areas downstream from the reservoirs and was probably responsible for the scarcity of dace in these streams.

Manipulation of habitats downstream from the reservoirs relegated dace populations to reservoirs and the small sections of stream between the impoundments and the springs. Vinyard (1983) reported a heavy growth of aquatic vegetation in these reservoirs, which was controlled in the past by application of aquatic herbicides. Use of these particular herbicides has not continued to the present, because they are no longer manufactured. Many of these types of chemicals are toxic and, unless carefully applied are lethal to fish life. It is possible, therefore, that populations of Clover Valley speckled dace were further reduced during aquatic weed control. Continued interest in controlling aquatic vegetation indicates that these populations may be affected by future herbicide applications.

Viability of dace populations has also been affected by introductions of non-native fishes. Hubbs *et al.* (1974) reported low dace populations when rainbow trout were introduced into reservoirs. Large dace populations were, however, reported at times when trout had not been stocked and were, therefore, scarce or absent. Courtenay and Stauffer (1984) reviewed the detrimental impacts of introduced fishes on native fish populations throughout the world.

The manipulation of reservoir levels may also adversely affect dace populations by effectively decreasing the amount of pond habitat and forcing the fish to take refuge in downstream irrigation ditches. There the dace are vulnerable to extirpation when their habitat is dried by water management practices that require continuous changes in the water flow in the ditches being used to irrigate different pastures.

The known distribution of the Clover Valley speckled dace has changed over the past 20 years. It presently occurs in two springs, but has been eliminated

from Warm Springs in Clover Valley (Hubbs *et al.* 1974, Vinyard 1983). Both of the existing populations are restricted to local habitats within impoundments and seasonally in their tributary streams (Vinyard 1983). The size of these populations is unknown, but each is believed to exceed several hundred individuals during the summer when they reach their maximum levels.

The Independence Valley speckled dace has never been known to be abundant and has always been known from a single spring system. Hubbs *et al.* (1974) reported the dace to be so scarce during their attempts to collect it in 1965 that it was difficult to locate the number required for taxonomic analysis. Vinyard (1983) confirmed its existence in only one spring and noted that the dace was only in those areas not occupied by largemouth bass and bluegill. Therefore, the dace presently occupies less habitat than it did in 1965. The limited habitat occupied by this speckled dace implies that any increase in ranch operations, which adversely affects its habitat, is likely to cause a population decline.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The small population size and limited distribution of these fish makes them vulnerable to deleterious depletion by collection.

C. Disease or Predation

Neither of these speckled dace have been examined for disease. A number of diseases are known to occur naturally in other speckled dace populations in the Great Basin; however, these are not believed to have a substantial impact on population viability. The establishment of non-native fishes in these habitats may have provided an avenue for foreign diseases to be introduced. Such introductions of disease have occurred in other portions of Nevada. Minckley and Deacon (1968) reported the introduction of foreign parasites into the Moapa River system in southern Nevada, which apparently accompanied the establishment of exotic fishes in the local springs and streams. Analysis of native fishes in the Moapa Valley showed that these parasites have successfully infected the local fish community and may be depressing populations. No introduced parasites or diseases are known to infect these two speckled dace.

Sport fishes introduced into North America have frequently been reported as preying upon or competing with native fishes. In many instances exotic species have caused the native fishes to

be eliminated (Minckley 1973, Moyle 1976, Taylor *et al.* 1984). Extinction of the Independence Valley tui chub following introductions of largemouth bass and bluegill provides strong evidence that such introductions have significantly impacted the native fishes occupying springs in northeastern Nevada. The presence of predatory species in springs occupied by these two speckled dace is noted as being a major factor depressing their populations (Hubbs *et al.* 1974).

D. The Inadequacy of Existing Regulatory Mechanisms

These species are not protected by any known regulatory mechanisms.

E. Other Natural or Manmade Factors Affecting its Continued Existence

Vandalous acts have never been known to affect rare aquatic species in Nevada; however, threats of vandalism were made that, if carried out, would have reduced or eliminated populations of rare species.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to propose this rule. Based on this evaluation, the preferred action is to list both the Clover Valley speckled dace and Independence Valley speckled dace as endangered. The restricted distribution of these species, and the immediate and potential problems jeopardizing their continued existence, indicate that endangered, rather than threatened, is the appropriate classification. Critical habitat is not being proposed for the reasons discussed below.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. With regard to the two speckled dace, the Service finds that designation of critical habitat is not prudent at this time. As discussed under Factors A, B, and E, in the "Summary of Factors Affecting the Species," these fish are vulnerable to unlawful collection and vandalism. Designation of critical habitat would entail publication of precise habitat locations, delineating the distribution of these fishes and, therefore, would make the species more susceptible to unlawful collection and vandalism. All involved parties and landowners will be notified of the location and importance of

protecting the habitat of these species. Protection of habitat will be addressed through the recovery process and the section 7 consultation process, as explained below.

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. Some actions may be initiated prior to listing, circumstances permitting. Recovery actions that may be beneficial to these species include conservation easements and consequent effective management of the springs where the fish live, and protective measures to prevent vandalism, habitat disturbance, and introduction of predatory fish. Specific management actions that might be negotiated pursuant to conservation easements with private landowners would be leaving sufficient water in springs and outflows during irrigation work, leaving some vegetation intact in the course of clearing irrigation canals, and not using herbicides. 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) 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 Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

The restriction of the two speckled dace to private land indicates that the involvement of Federal activities regarding these species will be minimal. The U.S. Army Corps of Engineers may

be required to issue permits, in compliance with section 404 of the Clean Water Act, for activities that dredge and fill wetlands occupied by the fish. No other Federal activities are known to be involved.

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

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

Public Comments Solicited

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

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to the subject species;
- (2) The location of any additional populations of these 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 and distribution of these species; and
- (4) Current or planned activities in the subject area and their possible impacts on these species.

Final promulgation of the regulations on these species will take into

consideration the comments and any additional information received by the Service, and such communications may lead to adoption of final regulations that differ from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to U.S. Fish and Wildlife Service, 500 NE., Multnomah Street, Suite 1602, Portland, Oregon 97232.

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

- Courtenay W.R., Jr., and J.R. Stauffer, Jr. (eds.). 1984. Distribution, biology, and management of exotic fishes. Johns Hopkins University Press, Baltimore.
- Garside, L.J., and J.H. Schilling. 1979. Thermal waters of Nevada. Nevada Bureau of Mines and Geology, Bulletin 91.
- Hubbs, C.L., and R.R. Miller. 1972. Diagnoses of new cyprinid fishes of isolated waters in the Great Basin of western North America. *Transactions of the San Diego Society of Natural History*, 7(8):101-106.
- Hubbs, C.L., R.R. Miller, and L.C. Hubbs. 1974. Hydrographic history and relict fishes of the north-central Great Basin. *Memoirs of the California Academy of Sciences*, Volume VII.
- Minckley, W.L. 1973. Fishes of Arizona. Arizona Game and Fish Department, Phoenix.
- Minckley, W.L., and J.E. Deacon. 1968. Southwestern fishes and the enigma of "endangered species." *Science*, 159:1424-1432.
- Moyle, P.B. 1976. Inland fishes of California. University of California Press, Berkeley.
- Taylor, J.N., W.R. Courtenay, and J.A. McCann. 1984. Known impacts of exotic fishes in the continental United States. Pages 322-353. In: W.C. Courtenay, Jr., and J.R. Stauffer (eds.), Distribution, biology and management of exotic fishes. Johns Hopkins University Press, Baltimore.
- Vinyard, G.L. 1983. A status report about the Independence Valley speckled dace (*Rhinichthys osculus lethoporus*), Independence Valley tui chub (*Gila bicolor isolata*), and Clover Valley speckled dace (*Rhinichthys osculus oligoporus*): three fishes restricted to the northeastern portion of Nevada. Unpublished report to the U.S. Fish and Wildlife Service, Reno.

Author

The primary author of this proposed rule is Mr. Donald W. Sada, U.S. Fish and Wildlife Service, Great Basin Complex, 4600 Kietzke Lane, Reno, Nevada 89502 (702/784-5227).

List of Subjects in 50 CFR Part 17

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

Proposed Regulations Promulgation

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:

PART 17—[AMENDED]

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

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat.

3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

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:							
Dace, Clover Valley speckled	<i>Rhinichthys osculus oligoporus</i>	U.S.A. (NV).....	Entire.....	E	NA	NA
Dace, Independence Valley speckled	<i>Rhinichthys osculus lethoporus</i>	U.S.A. (NV).....	Entire.....	E	NA	NA

Dated: August 26, 1987.

Susan Recce,

Assistant Secretary for Fish and Wildlife and Parks.

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