

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposal To Determine the Loach Minnow To Be a Threatened Species and To Determine Its Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service proposes to list a fish, *Tiaroga cobitis* (loach minnow), as a threatened species under the authority contained in the Endangered Species Act of 1973, as amended. Critical habitat is being proposed. A special rule allowing take in accordance with New Mexico and Arizona State laws and regulations, for educational or scientific purposes, enhancement of survival or propagation of the species, zoological exhibition, and other conservation purposes, is proposed. Historically, *Tiaroga cobitis* occurred in the Gila River system upstream from Phoenix, Arizona. Presently it is found only in Aravaipa Creek, Graham and Pinal Counties, Arizona; portions of the Gila River upstream from the Middle Box canyon, Grant and Catron Counties, New Mexico; the San Francisco and Blue Rivers upstream from their confluence, Greenlee County, Arizona, and Catron County, New Mexico; the lower Tularosa River, Catron County, New Mexico; and the lower 1.5 kilometers of Whitewater Creek, a tributary of the San Francisco River, Catron County, New Mexico. The distribution and numbers of *Tiaroga cobitis* have been reduced by habitat destruction, impoundment, channel downcutting, substrate sedimentation, water diversion, ground water pumping, the spread of exotic predatory and competitive species. The species continues to be threatened by proposed dam construction, water losses, habitat alteration, and exotic species. Of the approximately 2,600 kilometers of stream habitat historically occupied by *Tiaroga*, 2,220 kilometers no longer supports the species. A final determination of *Tiaroga cobitis* to be threatened species would implement the 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 August 19, 1985. Public hearing requests must be received by August 2, 1985.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Regional Director, U.S. Fish and Wildlife Service, P.O. Box 1306, 500 Gold Avenue, S.W., Room 4000, Albuquerque, New Mexico 87103. Comments and materials received will be available for public inspection during normal business hours by appointment, at the above address.

FOR FURTHER INFORMATION CONTACT: Mr. Gerald L. Burton, Endangered Species Biologist, Office of Endangered Species, U.S. Fish and Wildlife Service, Region 2 (See ADDRESSES above) (505/766-3972 or FTS 474-3972).

SUPPLEMENTARY INFORMATION:**Background**

Tiaroga cobitis was first collected in 1851 from the Rio San Pedro in Arizona, and was described from those specimens in 1856 by Girard. It is a small (less than 80 millimeters), slender, elongated fish, olivaceous in color with dirty white spots at the base of the dorsal and caudal fins. It has a highly oblique terminal mouth and its eyes are markedly upward directed. Breeding males develop vivid red-orange markings. *Tiaroga cobitis* inhabits small to large perennial streams, using shallow turbulent riffles with primarily cobble substrate, swift currents, and growths of filamentous algae. Recurrent flooding is very important to *Tiaroga* biology, keeping the substrate free of embedding sediments, and helping to maintain the competitive edge over invading exotic fish species (Minckley, 1973).

Tiaroga cobitis was once locally common throughout much of the Verde, Salt, San Pedro, San Francisco, and Gila (upstream from Phoenix) River systems, occupying both the mainstream and perennial tributaries up to about 2,200 meters elevation (Minckley, 1973). Because of habitat destruction, and competition and predation by exotic fish species, its range has been reduced and it is now restricted to approximately 24 kilometers of Aravaipa Creek, Graham and Pinal Counties, Arizona; approximately 93 kilometers of the upper Gila River upstream from the Middle Box canyon through the Cliff-Gila Valley, and the area of the confluence of the East, West, and Middle Forks of the Gila, Grant and Catron Counties, New Mexico; approximately 167 kilometers of the San Francisco and Tularosa Rivers, Catron County, New Mexico; the lower 1.5 kilometers of Whitewater Creek, a tributary of the San Francisco River, Catron County, New Mexico; and approximately 95 kilometers of the Blue

River, Greenlee County, Arizona. (Anderson, 1978; Barber and Minckley, 1966; Britt, 1982; Silvey, 1978; Propst, in prep.; USDA, 1979). The 380 kilometers of range presently occupied by *Tiaroga* represents approximately 15 percent of its former range.

Land ownership in existing *Tiaroga cobitis* habitat is mixed and is as follows:

Aravaipa Creek

1. USDI Bureau of Land Management—About 75 percent of the perennial length of the stream, most of which is designated as the Aravaipa Canyon Wilderness.

2. Defenders of Wildlife—Most of the perennial stream upstream and downstream from the wilderness area is owned or leased as the George Whittell Wildlife Preserve.

3. Other privately owned—A few scattered parcels along the perennial stream length.

Gila River

1. Privately owned—Most of the Cliff-Gila Valley, and also near Gila Hot Springs and along the East Fork.

2. The Nature Conservancy—A small portion of river upstream from the town of Gila.

3. New Mexico Department of Game and Fish—Approximately 6½ kilometers of river just downstream from the confluence of the West and Middle Forks.

4. U.S. Forest Service—A large portion of the river is in the Gila National Forest with sections flowing through the Gila Wilderness, the Lower Gila River Bird Habitat Management Area, and the Gila River Research Natural Area.

San Francisco and Tularosa Rivers and Whitewater Creek

1. Privately owned—Substantial areas near the towns of Cruzville, Glenwood, Reserve, and Alma.

2. U.S. Forest Service—The major portions of these rivers flow through the Gilda and Apache-Sitgreaves National Forests.

Blue River

1. U.S. Forest Service—The river is almost entirely contained within the Apache-Sitgreaves National Forest, with a large portion flowing through the Blue Range Primitive Area.

2. Privately owned—Interspersed inholdings within Forest Service lands.

The native fish fauna of the Gila River system, including *Tiaroga cobitis*, has been drastically affected by man's alteration of that system, with 35 percent presently federally listed as

endangered and another 35 percent considered to be threatened or endangered by the States of Arizona and New Mexico and/or the American Fisheries Society. *Tiaroga cobitis* has been extirpated from much of the system and was last found in the San Pedro River (except Aravaipa Creek) in 1961, and the Verde River drainage in 1938. It has also retreated at least 60 kilometers upstream in the Gila River in the last 50 years. It was last found in the White River of the Salt River drainage in 1967, however, since then no extensive fishery surveys have been conducted in that area and it may still persist.

The continuing decline in the distribution of *Tiaroga cobitis* has evoked concern over its survival from many sources. It was included by the American Fisheries Society's Endangered Species Committee on their 1979 list (Deacon, *et al.*, 1979) as a species of special concern due to habitat destruction and to competition/predation from exotic species. Prior to that it was listed as rare and endangered on a 1972 list of threatened freshwater fish of the United States, published by the American Fisheries Society and the American Society of Ichthyologists and Herpetologists (Miller, 1972). It has also been listed by the International Union for the Conservation of Nature and Natural Resources in their Red Data Book (Vol. 4) in 1977. Both the States of Arizona and New Mexico include *Tiaroga cobitis* on their lists of threatened and endangered species (New Mexico State Game Comm., 1985; Arizona Game and Fish Comm., 1982). It was included in the Service's December 30, 1982, Vertebrate Notice of Review (47 FR 58454-58460) in category 1. Category 1 includes those taxa for which the Service currently has substantial information on hand to support the biological appropriateness of proposing to list the species as endangered or threatened. Because of concern over the survival of and to provide protection for native species, including *Tiaroga cobitis*, land has been acquired on the upper Gila River by The Nature Conservancy and on Aravaipa Creek by the Defenders of Wildlife.

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; revised to accommodate the 1982 amendments—see final rule at 49 FR 38900, October 1, 1984) set forth 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 *Tiaroga cobitis* (loach minnow) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Much of the historic native habitat of *Tiaroga cobitis* has been drastically altered or destroyed by human uses of the rivers, streams, and watersheds. These alterations include: Conversion of flowing waters into still waters by impoundment; alteration of flow regimes (including conversion of perennial waters to intermittent or no flow, and the reduction, elimination, or modification of natural flooding patterns); alteration of water temperatures (either up or down); alteration of silt and bed loads; loss of marshes and backwaters; and alteration of stream channel characteristics from well-defined, surface level, heavily vegetated channels with a diversity of substrate and habitats, into deeply cut unstable arroyos with little riparian vegetation, uniform substrate and little habitat diversity. Causes of such alterations include: damming, water diversion, channel downcutting, excessive groundwater pumping, lowering water tables, channelization, riparian destruction, erosion, mining, timber harvest, grazing, and other watershed disturbances. Of the approximately 2,600 kilometers of stream habitat historically occupied by *Tiaroga*, 2,200 kilometers no longer support populations of this fish. This loss reduces the range of *Tiaroga* by approximately 85 percent.

The biology of *Tiaroga cobitis* is not well enough understood to determine what specific effects each of these habitat changes or losses have had on the survival of the species. However, the conversion of a large portion of the habitat into intermittent or lacustrine waters or totally dewatered channels has had an obvious effect on *Tiaroga* populations by totally eliminating usable habitat in those portions of the streams. Because it lives among the cobble on the stream bottom, *Tiaroga cobitis* is also sensitive to the sedimentation that is a common feature of the habitat alteration occurring throughout historic and existing *Tiaroga* habitats. These habitat changes, together with the introduction of exotic fish species (see factors C and E) have resulted in the extirpation of *Tiaroga cobitis* throughout much of its historic range.

Some of the major reasons for specific *Tiaroga* habitat losses are easily identifiable. The San Pedro River, once a perennial stream, is now severely downcut and has only intermittent flow. The lower Salt and Verde Rivers now have a very limited flow or no flow during portions of the year, due to agricultural diversion and upstream impoundments, and both rivers have multiple impoundments in their middle reaches. The Gila River, after leaving the Mogollon Mountains in New Mexico, is affected by agricultural and industrial water diversion, impoundment, channelization, and has been subjected to use of chemicals for fish management from the Arizona border downstream to San Carlos Reservoir. The San Francisco and Tularosa Rivers have suffered from erosion and extensive water diversion and at present have an undependable water supply in much of their length. The Blue River has been subjected to channel downcutting and erosion, particularly in its lower reaches.

Remining *Tiaroga cobitis* habitat is still threatened with further habitat destruction. Aravaipa Creek is relatively protected from further habitat loss because of its status as the USDI Bureau of Land Management Aravaipa Canyon Wilderness. Access and land uses are limited in the canyon and it is managed primarily for natural values and recreation. However, extensive ground water pumping is occurring upstream in the watershed resulting in a continued lowering of the water table that could eventually reduce or eliminate perennial flow in Aravaipa Creek. Channelization and mesquite clearing that is occurring upstream creates excessive sediment which is carried downstream into *Tiaroga* habitat.

Lands along the Gila, San Francisco, Blue, and Tularosa Rivers are primarily owned by the U.S. Forest Service, however, there are significant stretches of privately owned land. *Tiaroga* habitat receives some protection on Forest Service lands that are designated for special uses and thus subject to access and use restrictions. These are the Gila Wilderness and Primitive Areas, the Blue Range Primitive Area, the lower Gila River Bird Habitat Management Area, and the Gila river Research Natural Area. Habitat in multiple use Forest Service portions of these rivers is affected, often adversely, by many past and present uses in the watershed and riparian zone, and by water diversion and water development projects. On privately owned lands along the river there is no statutory control of habitat alteration or destruction. Agricultural use, water diversion, highway and

bridge construction, and flood control measures in these areas impact the habitat. At present, the San Francisco River often goes dry near the town of Glenwood, due to upstream diversion. The U.S. Army Corps of Engineers has recently completed some work in the Cliff-Gila and Glenwood-Reserve areas on the Gila and San Francisco Rivers, under their Emergency Authority, which allows them to replace or restore damaged flood control structures. Other flood control alternatives considered for this area is the past by the Corps have been set aside; the only current plans for flood control in the New Mexico portion of the Gila Basin are in cooperation with the Bureau of Reclamation's Conner Dam study (U.S. Army Corps of Engineers, 1984).

Of particular importance to *Tiaroga cobitis* survival in the Gila River, is the proposed construction of a dam on the Gila River mainstream, as part of the Central Arizona Project Upper Gila Water Supply Study by the U.S. Bureau of Reclamation (USDI, 1972). Currently the Bureau of Reclamation is studying four alternatives (USDI, 1985): a high dam and reservoir at the Conner site on the mainstream Gila River near the lower end of the Middle Box canyon; a small dam and reservoir at the Conner site with a offstream storage reservoir; floodplain storage basins in the Cliff-Gila Valley; and direct pumping from the river in the Cliff-Gila Valley to an offstream storage reservoir. A former alternative, which included a dam on the San Francisco River just downstream from its confluence with the Blue River, has been dropped from current planning. A high dam at the Conner site on the Gila River could have major negative impacts on *Tiaroga cobitis*. Up to 29 kilometers of river, 31 percent of the existing range in the Gila River, would be inundated and thus would no longer support *Tiaroga cobitis*, which lives only in flowing waters. The presence of a dam on the river could also adversely alter habitat downstream from the dam by changing the temperature, bedload, and flow regimes, including the elimination of natural flooding, which is an important factor in riparian and channel maintenance and in the maintenance of the competitive edge of native fish over exotic fish species. Major dam and reservoir construction in the past, on the Salt, Verde, and Gila Rivers, has resulted in the complete extirpation of all *Tiaroga cobitis* downstream of the dam and for up to 65 kilometers above the reservoir. Even with extensive planning for natural flow and temperature maintenance downstream, the construction of a dam

on the upper Gila would have a strong impact on *Tiaroga cobitis*. A small dam at the Conner site would inundate an estimated 14 kilometers of river, and would also affect populations upstream and downstream from the reservoir. The effects of direct pumping from the river to offstream storage are not completely known, but may include entrapment of fish in pipelines, impingement of fish on intake screens, and depletion of stream flow below the diversion point. The fourth alternative of floodplain storage basins would require removal of 484 acres of riparian vegetation along the river and would eliminate 18 kilometers of aquatic habitat due to construction of the basins and to channelization and diversion of the river. Downstream from the storage area adverse impacts to *Tiaroga* may include increased sediments and changes in temperature and flow regimes, including the elimination of natural flooding.

B. Overutilization for commercial, recreational, scientific, or educational purposes. No threat from overutilization of this species is known to occur at this time.

C. Disease or predation. Historically, predation probably was not a significant factor affecting *Tiaroga cobitis* populations; however, in the past 100 years, introduction of exotic predatory fishes has increased the role that predation plays in *Tiaroga* biology. In Aravaipa Creek, there are only two potential predators—the native roundtail chub and the exotic green sunfish, the latter being primarily restricted to side channel pools and kept at low populations by frequent flooding. Neither are known to be having a significant effect on *Tiaroga cobitis*. Potential predators known to exist in the Blue River are few and include rainbow and brown trout in the upper reaches and channel catfish near the mouth. In the Gila, San Francisco, and Tularosa Rivers, the native roundtail chub and several exotic fish (black and yellow bullhead, channel catfish, green sunfish, flathead catfish, small and large mouth bass, rainbow and brown trout) are probable predators on *Tiaroga cobitis*. Although predation does not seem to be a threat to *Tiaroga* in good habitat conditions, it is probable that it is a negative factor on their populations under the altered conditions present in much of the existing habitat. The depletion of native fishes in the East Fork of the Gila River, noted in 1983–84 by Propst (in prep.), is probably due to increased numbers of smallmouth bass and catfish in that portion of the river. Construction of dams and reservoirs exacerbates the predation problem by

increasing the habitat desirable to exotic predators, decreasing the habitat suitable for *Tiaroga cobitis*, and supplying a ready source of exotic predators from the reservoir. The impact of predation on *Tiaroga* in the Gila River could increase significantly if a dam is constructed as part of the Upper Gila Water Supply Project.

D. The inadequacy of existing regulatory mechanisms. *Tiaroga cobitis* is protected by the States of New Mexico and Arizona. It is listed by New Mexico as an endangered species, Group 2 (New Mexico State Game Comm., 1985), which are those species "... whose prospects of survival or recruitment within the State are likely to be in jeopardy within the foreseeable future." This provides the protection of the New Mexico Wildlife Conservation Act (Sections 17–2–37 through 17–2–46 NMSA 1978) and prohibits taking of such species except under the issuance of a scientific collecting permit. *Tiaroga cobitis* is listed by the State of Arizona as a threatened species, Group 3 (Arizona Game and Fish Comm., 1982), which are those species "... whose continued presence in Arizona could be in jeopardy in the foreseeable future." This listing does not provide any special protection to the species listed. Protection provided in the Arizona Game and Fish regulations prohibits taking of *Tiaroga cobitis*, except by angling, an unlikely possibility. Neither State provides any protection for the habitat upon which the species depends.

New Mexico water law does not include provisions for the acquisition of instream water rights for protection of fish and wildlife and their habitat, and Arizona water law has only recently recognized such rights. This deficiency has been a major factor in the survival of those species who are dependent upon the presence of that instream water.

State Game and Fish regulations in New Mexico and Arizona allow the use of the red shiner and other live minnows as bait fish in the Gila and San Francisco Rivers in areas containing *Tiaroga cobitis*. This has encouraged the spread of detrimental exotic species, specifically the red shiner, which appears to replace *Tiaroga cobitis* under certain conditions (see factor E).

E. Other natural or manmade factors affecting its continued existence. Existing populations of *Tiaroga cobitis* are threatened by the continued introduction and dispersal of exotic species, particularly *Notropis lutrensis* (red shiner), throughout the Gila River system. Although it is not known by what mechanisms these exotic species

affect *Tiaroga*, it is known that the spread of exotic species throughout the Gila system correlates closely to the declining numbers and distribution of *Tiaroga cobitis* and other native species. It has been demonstrated with other native fish that competitive and/or predatory interactions with exotic species have been a major factor in the declining numbers and distribution of those natives. Although *Notropis lutrensis* and *Tiaroga cobitis* generally utilize different habitats, it appears that they are competitors for some habitat factors (Minckley and Carufel, 1967). In suitable unaltered habitat, it is possible that *Tiaroga* is able to hold its own against invasion of *Notropis lutrensis* or other exotic species; however, this balance may be destroyed in extensively altered habitat where *Tiaroga* populations are already under stress. A major factor in the displacement seems to be the disturbance of natural flooding patterns, since native species such as *Tiaroga cobitis* are adapted to and thrive under a regime of frequent moderate to severe flooding, and *Notropis lutrensis* and other exotic species do not. The controlled flow of flood waters, resulting from impoundment, interrupts this natural pattern in downstream reaches and encourages the spread of *Notropis lutrensis* and other exotics at the expense of *Tiaroga cobitis*. The presence of reservoirs also increases the likelihood and rapidity of the spread of *Notropis lutrensis* and other exotics by supplying a ready source of exotic species from the reservoir and its fishery. At present, *Notropis lutrensis* is not found in Aravaipa Creek or the Blue River, but is found in the San Francisco River at least as far upstream as Frisco Hot Springs, and is found in the upper Gila River as far upstream as the Highway 180 bridge near Cliff, New Mexico. In 1978, *Notropis lutrensis* had not yet been found in the Gila River in New Mexico.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Tiaroga cobitis* as threatened. Threatened status seems appropriate because of the greatly reduced and fragmented range of the species, and because of the threats to this fish and its remaining habitat. If the loach minnow is not proposed for listing, it could reasonably be expected to become endangered within the foreseeable future. However, since this species is still extant in 380 kilometers

of stream it does not appear to be in danger of extinction within the foreseeable future and thus endangered status would not be appropriate.

Critical Habitat

Critical habitat, as defined by Section 3 of the Act means: (i) The specific area 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 geographic 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 concurrent with the determination that a species is endangered or threatened. Critical habitat is being proposed for *Tiaroga cobitis* to include:

1. Aravaipa Creek, Graham and Pinal Counties, Arizona. The approximately 24 kilometer long perennial section, which includes both Bureau of Land Management and privately owned lands.
2. Gila River, Catron and Grant Counties, New Mexico. Four sections of river totaling approximately 93 kilometers in length. The first section, approximately 37 kilometers long, extends from from the north side of St. Peters Rock (south boundary Section 21; T17S; R17W) upstream to the confluence with Mogollon Creek; A second section, approximately 12 kilometers long, extends up the West Fork from the confluence with the East Fork upstream to the west boundary of Section 22; T12S; R14W. A third section, approximately 18 kilometers long, extends up the Middle Fork from the confluence with the West Fork upstream to the confluence with Brothers West Canyon. The fourth section, approximately 26 kilometers long, extends up the East Fork from the confluence with the West Fork upstream to the north boundary Section 11; T12S; R13W. These river sections flow through U.S. Forest Service, Bureau of Land Management, New Mexico Department of Game and Fish, and privately owned lands.
3. San Francisco River, Catron County, New Mexico and Greenlee County, Arizona. Two sections of river totaling approximately 21 kilometers in length. The first section, approximately 15 kilometers long, extends from the U.S. Highway 180 bridge upstream to Kelly

Flat. The other section, approximately 6 kilometers long, extends from the confluence with Hickey Canyon upstream to the confluence with the Blue River. These areas include U.S. Forest Service and privately owned lands.

4. Tularosa River, Catron County, New Mexico. Approximately 24 kilometers of river from the confluence with Negrito Creek upstream to the town of Cruzville. This area includes U.S. Forest Service and privately owned lands.

5. Blue River, Greenlee County, Arizona and Catron County, New Mexico. Approximately 78 kilometers of river from its confluence with the San Francisco River upstream to the confluence with Dry Blue Creek and Campbell Blue Creek. This area includes U.S. Forest Service and privately owned lands.

6. Campbell Blue Creek, Greenlee County, Arizona and Catron County, New Mexico. An approximately 18 kilometer reach of stream from its junction with Blue River upstream to the confluence with Coleman Creek. This area includes U.S. Forest Service and privately owned lands.

7. Dry Blue Creek, Catron County, New Mexico. Approximately 3 kilometers of stream from its confluence with the Blue River upstream to the springs located in Section 32; T6S; R21W. This area is entirely on U.S. Forest Service lands.

Section 4(b)(8) of the Act requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public and private) which may adversely modify such habitat or may be affected by such designation. Any activity that would lessen the amount of the minimum flow or would significantly alter the natural flow regime in the Blue, San Francisco, Tularosa, or Upper Gila Rivers, or Aravaipa Creek could adversely impact the proposed critical habitat. Such activities include, but are not limited to, excessive groundwater pumping, impoundment, and water diversion. Any activity that would extensively alter the channel morphology in the Blue, San Francisco, Tularosa, or Upper Gila Rivers or Aravaipa Creek could adversely impact the proposed critical habitat. Such activities include, but are not limited to, channelization, excessive sedimentation from mining, timber harvest, grazing, and other watershed disturbances, impoundment, deprivation of substrate source, and destruction of riparian vegetation. Any activity that would significantly alter the water

chemistry in the Blue, San Francisco, Tularosa, or Upper Gila Rivers or Aravaipa Creek could adversely impact the proposed 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. The introduction, advertent or otherwise, of exotic predatory and competitive fish species could adversely affect *Tiaroga cobitis* populations and could reduce or eliminate them within the critical habitat.

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 will consider the critical habitat designation in light of all additional relevant information obtained at the time of final rule.

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 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 prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402, and are now under revision (see proposal at 48 FR 29990; June 29, 1983). Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of *Tiaroga cobitis* or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species, the responsible

Federal agency must enter into formal consultation with the Service.

No Federal activities are known or expected to be affected on Bureau of Land Management lands on Aravaipa Creek, because the Aravaipa Canyon Wilderness is presently being managed to protect and enhance natural values, including *Tiaroga cobitis*.

On U.S. Forest Service lands, little effect is expected from Federal activities from this proposal; however, section 7 consultation may be needed if changes occur in current grazing, mining, timbering, recreational, and other activities affecting *Tiaroga cobitis* and its habitat, or if continuation of present activities are determined to be adversely affecting the species and its critical habitat.

Proposed dam construction or alternative water projects on the upper Gila River, which have been authorized for study as part of the Bureau of Reclamation's Central Arizona Project Upper Gila Water Supply Study, could be affected by this proposal. Any such project would become subject to section 7 consultation and changes in proposed operations of such projects, changes in proposed sites, or a change in choice of alternatives may be necessary to comply with the Act. Proposed projects could be constructed only if such activities were determined not to jeopardize the species or adversely impact its critical habitat.

Known Federal activities on private lands that might be affected by this proposal would be future flood control work funded by the Federal Emergency Management Agency, or carried out by the U.S. Army Corps of Engineers on the Gila River in the Cliff-Gila Valley or on the San Francisco and Tularosa Rivers and Whitewater Creek; federally funded highway and bridge construction; or future federally funded irrigation projects. Federal funding has been used in the past and is expected to be used in the future for pipeline, water diversion, and land-leveling projects on private agricultural lands in the Cliff-Gila Valley, and along the Tularosa and San Francisco Rivers.

The Act and its implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. The 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 that had been taken illegally. Certain exceptions would apply to agents of the Service and State conservation agencies.

The above discussion generally applies to threatened species of fish or wildlife. However, the Secretary has the discretion under section 4(d) of the Act to issue special regulations for a threatened species that are necessary and advisable for the conservation of the species. *Tiaroga cobitis* is threatened primarily by habitat disturbance or alteration, not by intentional direct taking or by commercialization. Since the States currently regulate direct and intentional taking of the species through the requirement of State collecting permits, the Service has concluded that the States' scientific collection permit system is adequate to protect the species from excessive taking so long as such taking is 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. A separate Federal permit system is not required to address the current threats to this species, therefore, the special rule allows taking 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 satisfied. The special rule also acknowledges the fact that incidental take of the species by State licensed recreational fishermen is not a significant threat to this species. In fact, angling is an unlikely mode of capture of this species. Therefore, such incidental take would not be violation of the Act if the fisherman immediately returned the individual fish taken to its habitat. It should be recognized that any activities involving the taking of this species not otherwise enumerated in the special rule (including, but not limited to, take resulting from habitat disturbance or alteration) are prohibited. Without this special rule, all of the prohibitions of 50 CFR 17.31 would apply. This special rule would allow for more efficient management of the species, and thus would enhance the conservation of the species. For these reasons, the Service concludes that this regulatory proposal is necessary and advisable for the conservation of the species.

General regulations governing the issuance of permits to carry out otherwise prohibited activities involving threatened animal species, under certain

circumstances, are set out at 50 CFR 17.22, 17.23, and 17.32.

Public Comments Solicited

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

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Tiaroga cobitis*;
 - (2) The location of any additional populations of *Tiaroga cobitis* and the reasons why any habitat of this 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 this species;
 - (4) Current or planned activities in the subject area and their possible impacts on *Tiaroga cobitis*; and
 - (5) Any foreseeable economic and other impacts resulting from the proposed designation of critical habitat.
- Final promulgation of the regulations on *Tiaroga cobitis* will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests should be made in writing and addressed to the Regional Director, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined by the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of

1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

Literature Cited

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Authors

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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 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	Common name	Scientific name	Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
FISHES								
	Minnow, loach	<i>Tiaroga cobitis</i>	U.S.A. (AZ, NM); Mexico	Entire	T		17.95(e)	17.44()

3. It is further proposed to add the following as a special rule to § 17.44 (the position of this special rule will be determined at the time the final rule is published in the **Federal Register**):

§ 17.44 Special rule—fishes.

() Loach minnow, *Tiaroga cobitis*.

(1) No person shall take the species, except in accordance with applicable State fish and wildlife conservation laws and regulations in the following instances: (i) For educational purposes, scientific purposes, the enhancement of propagation or survival of the species, zoological exhibition, and other conservation purposes consistent with the Act or, (ii) incidental to State permitted recreational fishing activities, provided that the individual fish taken is immediately returned to its habitat.

(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 () (1) through () (3) of this section.

4. It is proposed to amend § 17.95(e) by adding the critical habitat of *Tiaroga cobitis* as follows (the position of this entry under § 17.95(e) follows the same sequence as the species occurs in 17.11):

§ 17.95 Critical habitat—fish and wildlife.

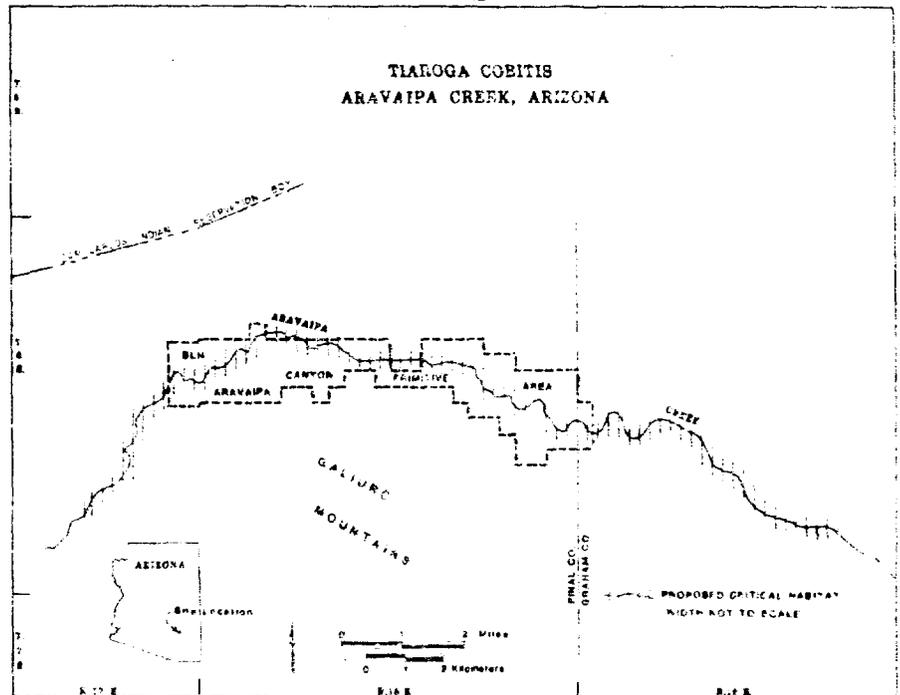
(3) * * *

Loach Minnow

(*Tiaroga cobitis*)

Arizona:

1. *Grant and Pinal Counties*: Aravaipa Creek, approximately 24 kilometers of stream, extending from the N¹/₂ of the SW¹/₄ Section 26; T6S; R17E upstream to the W¹/₂ of the NE¹/₄ Section 35; T6S; R19E.



2. *Greenlee County*:

a. Blue River, approximately 78 kilometers of river, extending from the confluence with the San Francisco River (SE¹/₄ Section 31; T2S; R31E) upstream to the confluence of Campbell Blue and Dry Blue Creeks (SE¹/₄ Section 6; T7S; R21W) in Canyon County, New Mexico.

b. Campbell Blue Creek, approximately 14 kilometers of stream, extending from the confluence with the Blue River (SE¹/₄ Section 6; T7S; R21W) upstream to the confluence with Coleman Creek (SW¹/₄ of the NE¹/₄ Section 32; T8N; R31E). Approximately 0.8 kilometers of this stretch are located in Catron County, New Mexico.

c. San Francisco River, approximately 6 kilometers of river, extending from the confluence with Hickey Canyon (west boundary of Section 12; T3S; R30E) upstream to the confluence with the Blue River (SW¹/₄ Section 31; T2S; R31E).

New Mexico:

1. *Catron County*:

a. Dry Blue Creek, approximately 3 kilometers of stream, extending from the confluence with the Blue River (SE¹/₄ Section 6; T7S; R21W) upstream to the west boundary of the SE¹/₄ Section 32; T6S; R21W.

b. San Francisco River, approximately 15 kilometers of river, extending from the U.S. Highway 180 bridge (NE¹/₄ of the SW¹/₄

Section 8; T10S; R20W) upstream to the east boundary Section 14; T9S; R20W.

c. Tularosa River, approximately 24 kilometers of river, extending from the confluence with Negro Creek (SW¹/₄ of the NW¹/₄ Section 19; T7S; R16W) upstream to the town of Cruzeville (S¹/₂ of the SW¹/₄ Section 1; T6S; R18W).

2. *Grant and Catron Counties*:

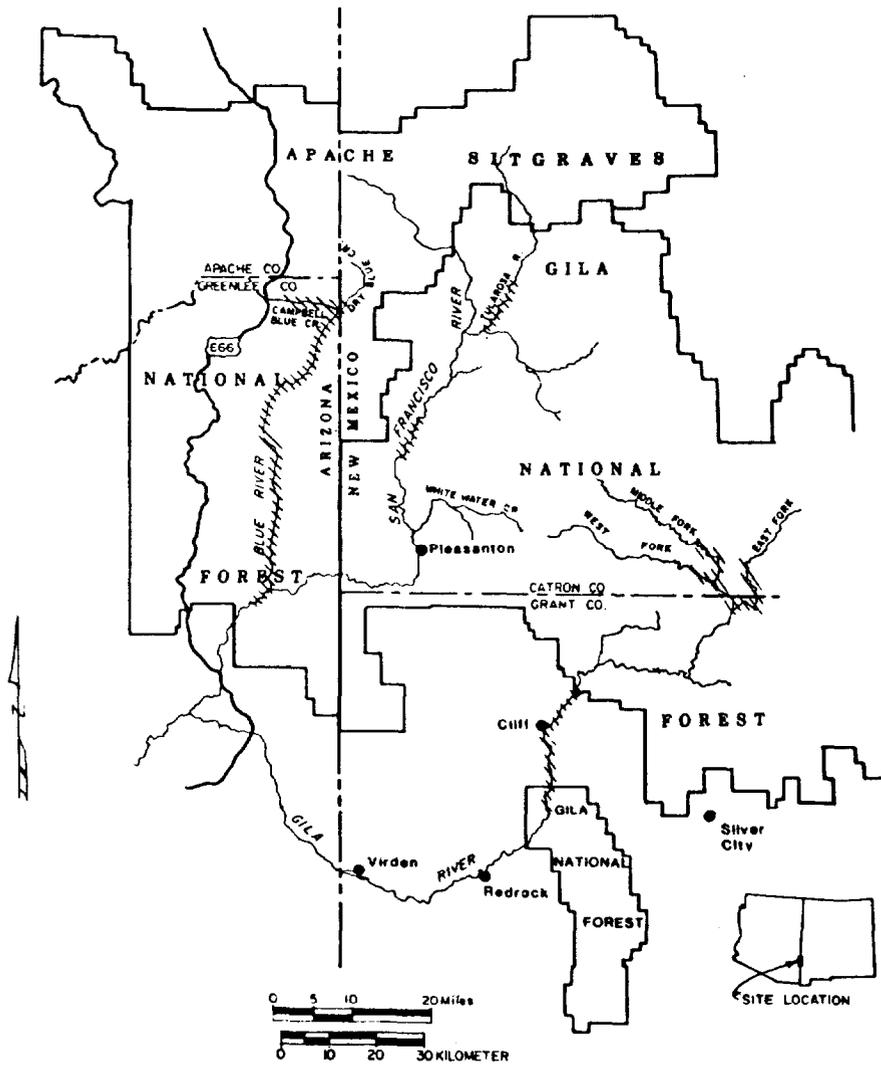
a. East Fork Gila River, approximately 26 kilometers of river extending from the confluence with the West Fork (center of Section 8; T13S; R13W) upstream to the north boundary of Section 11; T12S; R13W).

b. West Fork Gila River, approximately 12 kilometers of river extending from the confluence with the East Fork (center of Section 8; T13S; R13W) upstream to the west boundary Section 22; T12S; R14W.

c. Middle Fork Gila River, approximately 18 kilometers of river, extending from the confluence with the West Fork (SW¹/₄ Section 25; T12S; R14W) upstream to the confluence with Brothers West Canyon (NE¹/₄ Section 34; T11S; R14W).

3. *Grant County*: Gila River, approximately 37 kilometers of river, extending from the south boundary Section 21; T17S; R17W upstream to the confluence with Mogoloin Creek (NE¹/₄ Section 31; T14S; T16W).

**TIAROGA COBITIS
BLUE, GILA, SAN FRANCISCO, & TULAROSA RIVERS
NEW MEXICO AND ARIZONA**



Known constituent elements of all areas proposed as critical habitat are permanent stream flow, unpolluted water, swift turbulent riffles, a depth of at least 3 centimeters over cobble and gravel substrate, and growths of filamentous algae. Periodic flooding is necessary to maintain habitat quality.

Dated: May 28, 1985.

Susan Recce,
Acting Assistant Secretary for Fish and Wildlife and Parks.

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