



Questions and Answers: Gila Chub Listing and Critical Habitat Proposal

Arizona Ecological Services Field Office

<http://arizonaes.fws.gov>

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1. What is the Gila chub?

A: The Gila chub is a small-finned, chunky, darkly-colored minnow. Males reach 6 inches and females can exceed 8 inches in length. Gila chub are highly secretive, preferring quiet, deeper waters, especially pools, or remaining near cover including terrestrial vegetation, boulders, and fallen logs in smaller streams, springs, and cienegas (desert wetlands), and they can survive in small artificial impoundments.

2. Where is the Gila chub found?

A: Historically the chub was found throughout the Gila River basin in southern Arizona, southwestern New Mexico, and northeastern Sonora Mexico. Today only 34 populations remain – all but one are small, isolated, and threatened. The Gila chub now occupies about 10 to 15 percent of its historical range. Current populations of Gila chub are now scattered in small disjunct habitats in Yavapai, Maricopa, Gila, Coconino, Pinal, Graham, Pima, Santa Cruz, Cochise, and Greenlee counties in Arizona, and Catron and Grant counties, New Mexico.

The Gila chub lives in an environment of periodic drought and is adapted to streams that may experience periods of low flow or drying (i.e., intermittent streams). Gila chub are highly secretive, preferring quiet, deeper waters, especially pools, and typically remain near cover including terrestrial vegetation, boulders, and fallen logs in smaller streams, springs, and cienegas (desert wetlands), and can survive in small artificial impoundments.

3. How is the U.S. Fish and Wildlife Service (Service) proposing to protect the Gila chub?

A: We have proposed the listing of the Gila chub as an endangered species under the Endangered Species Act. We have also proposed designating 212 miles of stream segments as critical habitat in seven river areas, which covers approximately 10% to 15% of the historical range of the Gila chub. The stream reaches proposed as critical habitat all currently maintain, at a minimum, perennial pools considered to be preferred habitat of the Gila chub. Land ownership is primarily Federal. Of the total, 118 miles are lands managed by the Forest Service and the

Bureau of Land Management. A Small portion of the proposed designation is private land (43 miles) with ranching being the primary use.

Projects that may result in the taking of Gila chubs or modification of their designated critical habitat would need to be consulted on by the Service to assure that the effects of the project are minimized or offset before a permit to take the species is granted. Once listed, the Service would assemble a multidisciplinary team to determine recovery goals and map a plan for recovering the Gila chub.

3. What protection does a species receive under the Endangered Species Act (Act)?

A: Collection, trade, or transport of endangered species without a permit is illegal. Take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of listed animals without a permit is prohibited. Federal agencies that fund, authorize, or carry out actions that may affect a listed species or its critical habitat are required, in consultation with us, to ensure that their activities do not jeopardize the continued existence of the species or adversely modify its critical habitat. These protective responsibilities extend to Federal agencies that may fund, authorize, or carry out projects on private lands.

4. Why might the Gila chub need endangered status under the Endangered Species Act?

A: Under the Act, we use five factors to evaluate the level of threats and to determine whether species are endangered or threatened. These factors include: 1) present or threatened destruction, modification, or curtailment of the species' habitat or range, 2) overutilization for commercial, recreational, scientific, or educational purposes, 3) disease or predation, 4) inadequacy of existing regulatory mechanisms, and 5) other natural or manmade factors affecting the species' continued existence.

In this case, the Gila chub is known to have historically occurred in at least 44 rivers, streams, and spring-fed tributaries and even whole drainages, such as the Santa Cruz and Upper San Pedro rivers. Humans have affected southwestern riparian systems over a period of several thousand years. Before the 1800's, indigenous people and missionaries used these streams and their forested "riparian" banks for subsistence activities, including woodcutting, agriculture, livestock grazing, and food and fiber harvesting. By the late 1800's, many southern Arizona watersheds were in poor condition primarily due to a substantial increase in new immigrants that brought uncontrolled livestock grazing, mining, expanded irrigation agriculture, hay harvesting, timber harvesting, and other management practices, such as fire suppression. These events led to long-term stream, cienega (desert wetland), and riparian habitat degradation throughout southern Arizona and northern Mexico. Although these changes took place nearly a century ago, the ecosystem has not fully recovered, and in some areas may never recover. As a result, this once widespread southwest native is now confined to limited deep pools in the headwaters of some of our rivers and streams.

Today, riparian and cienega habitat and chub populations face additional threats, including increased groundwater pumping, nonnative fishes, crayfish introductions, urbanization, and recreation. Over 85 to 90 percent of the Gila chub's habitat has been degraded or destroyed, and

much of it is unrecoverable. Only 34 populations of Gila chub are known to remain; all are small, isolated, and threatened. These factors, as well as the introduction of diseases to chub populations, led to the listing proposal.

In summary, the Act defines an endangered species as one that is in danger of extinction throughout all or a significant portion of its range. Without protections, the Gila chub could become extinct in the foreseeable future based on the following: (1) 85 to 90 percent of its habitat has been degraded or destroyed; further degradation and destruction is ongoing; (2) remaining populations of Gila chub are small and occupy habitat that has become severely fragmented, thus reducing chances for recolonization; and (3) competition with, and predation from, nonnatives is a major and increasing threat. Since these circumstances have reduced this species to an imperiled status – we believe that the Gila chub meets the definition of an endangered species under the Act.

5. What is critical habitat?

A: Critical habitat is defined as areas of land and water with physical and biological features essential to the conservation of a threatened or endangered species, and which may require special management considerations or protection. The Endangered Species Act defines “conservation” as the actions leading towards the eventual recovery of a species to the point where it is no longer threatened or endangered.

Critical habitat provides protection from destruction or adverse modification through required consultation under section 7 of the Act with regard to actions carried out, funded, or authorized by Federal agencies only.

6. How would critical habitat affect my private land?

A: Requirements for consultation on critical habitat do not apply to entirely private actions on private lands. Critical habitat designations only apply to Federal lands, or federally funded or permitted activities on private lands. Activities on private or State lands that are funded, permitted or carried out by a Federal agency, such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act, will be subject to the section 7 consultation process with the Service if those actions may affect critical habitat or a listed species. Through this consultation, the Service would advise agencies whether the permitted actions would likely jeopardize the continued existence of the species or adversely modify critical habitat. Federal actions not affecting critical habitat or otherwise affecting Gila chubs or their habitat (e.g., suitable habitat outside of critical habitat), and actions on non-Federal lands that are not federally funded, permitted or carried out, will not require section 7 consultations.

7. Would a “critical habitat” designation mean an area is considered a wildlife refuge or sanctuary?

A: Critical habitat is not designated to stop development or to establish a nature preserve. A critical habitat designation identifies areas that are important to the conservation of federally listed threatened or endangered species. A critical habitat designation requires Federal agencies

to consult with the Service on any of their actions that may affect critical habitat in designated areas. The Service can then recommend ways to minimize any adverse effects. It imposes no requirements on State or private actions on State or private lands where no Federal funding, permits or approvals are required.

8. What is the Service proposing to designate as critical habitat for the Gila chub?

A: We have proposed designating 212 miles of New Mexico and Arizona cienegas, headwaters, spring-fed streams, and perennial streams as critical habitat. While the designation wouldn't establish chub preserves it would assist in gaining the support of other Federal agencies in the conservation of the Gila chub's habitat.

We have proposed designating critical habitat for 27 of the 34 populations along headwater streams or cienegas of seven rivers (Upper Verde, Agua Fria, Middle Gila, Upper Gila, Lower Santa Cruz, Lower San Pedro, and Babocomari drainages). The majority of proposed critical habitat is found on Federal lands. Of the total, 118 miles are lands managed by the Forest Service and the Bureau of Land Management. Fifty of the miles are on tribal lands. A small portion is private land, 43 miles. About 11 miles each is on county land and state lands. The seven populations not covered in the proposal have other protections in place that safeguard the species, are found only in Mexico or are newly established. Areas crucial to a species survival can be left out of a critical habitat designation if sufficient management protections are in place.

The proposed critical habitat includes the stream channels within the identified stream reaches and areas within these reaches potentially inundated during high flow events. Critical habitat includes the area of bankfull width plus 300 feet on either side of the banks.

All of the areas proposed as critical habitat are within the geographical range occupied by the species and require special management consideration and protection to ensure their contribution to chub conservation. These areas are largely being managed presently for the benefit of wildlife.

9. How did the Service determine what areas to propose for critical habitat designation?

A: We considered habitat features needed for life and successful reproduction of the species. These include but are not limited to:

- space for individual and population growth, and for normal behavior
- cover, food, water, and other nutritional/physiological requirements
- sites for breeding and rearing offspring

The proposed critical habitat constitutes our best assessment of areas needed for the conservation of Gila chub and is based on the best scientific and commercial information available. The proposed areas are essential to the conservation of the species because they support populations of Gila chub and because they have the necessary requirements for survival, growth, and reproduction of the Gila chub ("Primary Constituent Elements"). All of the proposed areas are essential to help maintain genetic diversity and adaptation capabilities of the Gila chub.

We believe including stream reach “bankfull width” plus 300 feet on either side of the banks in the lateral extent of critical habitat is essential to the chub’s conservation. Bankfull discharge, while a function of the size of the stream, is a fairly consistent feature related to the formation, maintenance, and dimensions of the stream channel.

11. What habitat features are required for the survival and recovery of the Gila chub?

A: The habitat features, or “primary constituent elements” necessary for survival and recovery of the Gila chub include:

- *Perennial pools, areas of higher velocity between pool areas, and areas of shallow water* among plants or eddies all found in small segments of headwaters, springs, or cienegas of smaller tributaries.
- *Water temperatures* for spawning ranging from 20 to 26.5 C with sufficient dissolved oxygen, nutrients, and any other water related characteristics needed.
- *Water quality* with reduced levels of contaminants or any other water quality characteristics, including excessive levels of sediments, adverse to Gila chub health.
- *Food base* consisting of invertebrates, filamentous (threadlike) algae, and insects.
- *Sufficient cover* consisting of downed logs in the water channel, submerged aquatic vegetation, submerged large tree root wads, undercut banks with sufficient overhanging vegetation, large rocks and boulders with overhangs.
- *Habitat devoid of nonnative aquatic species* detrimental to Gila chub or habitat in which detrimental nonnatives are kept at a level which allows Gila chub to continue to survive and reproduce. For example, the Muleshoe Preserve Gila chub and the Sabino Canyon Gila chub populations are devoid of nonnative aquatic species. The O’Donnell Canyon Gila chub population has continued to survive and reproduce despite the current level of nonnative aquatic species present.
- Streams that maintain a *natural unregulated flow pattern* including periodic natural flooding. An example is Sabino Canyon that has experienced major floods. If flows are modified, then the stream should retain a natural flow pattern that demonstrates an ability to support Gila chub.
- *300-foot riparian zone* adjacent to each side of the stream

12. Will listing or designating critical habitat for the Gila chub affect the States’ sportfish stocking programs?

A: Most Gila chub populations do not occur in popular fishing areas. State fish hatcheries and stocking programs are supplemented by federal tax revenues distributed by the Service. Should sportfish stocking be proposed for one of the few areas where the chub still exists, we would consult on the effects of sportfish stocking to the species. We believe a few individual Gila chub may be caught incidentally by recreational anglers.

Collection of, or fishing for, Gila chub in Arizona is prohibited by Arizona Game and Fish Commission Order 41, except where such collection is authorized by special permit; collection of Gila chub is prohibited in the State of New Mexico except by special scientific permit. Collection of Gila chub is also prohibited in Mexico except by special permit.

13. Will listing or designating critical habitat for the Gila chub affect road building or recreation programs?

A: Road building and recreation can contribute to riparian, cienega, and Gila chub habitat loss and degradation in southern Arizona and in New Mexico. The local and regional effects of these activities are expected to increase with increasing human population. Increased sediment is the primary problem related to roads. Sediment can enter stream systems as a result of off-road vehicles when they directly disturb and crush vegetation to the point that bare soil is exposed. Roads in forest and rangeland areas may also contribute substantially to watershed problems through direct soil disturbance during road construction. Established roads may also result in an increase of sediments entering stream systems through storm run-off.

If a Federal agency determines that its proposed road building and recreation activities may affect a listed species or modify its critical habitat it would be required to enter into section 7 consultation with us. If these activities are conducted on private lands and are thought to result in “taking” of Gila chubs, landowners can contact us to evaluate the need to pursue a Habitat Conservation Plan (HCP) through which incidental taking of chubs could be permitted.

14. What sort of actions would continue to be allowed within areas designated as critical habitat?

A: We believe, based on the best available information, that the following actions will not result in a violation of the Act:

- Actions that may affect the Gila chub that are authorized, funded, or carried out by a Federal agency when the action is conducted in accordance with an incidental take statement issued by us pursuant to section 7 of the Act, or when such action will not result in take;
- Actions that may result in take of Gila chub when the action is conducted in accordance with a permit under section 10 of the Act (i.e. HCP, Safe Harbor Agreement);
- Recreational activities such as hiking, off-road vehicles use, camping, and hunting in the vicinity of occupied Gila chub habitat that do not destroy or significantly degrade Gila chub habitat, and do not result in take of Gila chub; and
- Release, diversion, or withdrawal of water from or near Gila chub habitat in a manner that does not displace or result in desiccation or death of eggs, larvae, or adults, does not disrupt spawning activities, or does not favor introduction of nonnative predators; and does not alter vegetation.

15. How will critical habitat be applied on tribal lands?

A: The only tribal lands affected by this proposed designation are those of the San Carlos Apache Reservation. Currently, the San Carlos Apache Tribe has a draft fisheries management plan which we anticipate being finalized prior to our final determination on this proposed rule. Once completed we will consider whether this plan provides adequate special management considerations or protection for the Gila chub and we may not include these lands as a result of the management plan, or we will weigh the benefits of excluding these areas under section 4(b)(2) of the Act.

16. What economic consideration will be given before an area is designated as critical habitat?

A: We are required to take into consideration the economic impact, and any other relevant impact, of designating any particular areas as critical habitat. We may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in extinction of the species. We have prepared a draft economic analysis and a draft environmental assessment of the proposed critical habitat designation and are seeking comments during the reopened public comment and at hearings.

The 10th Circuit Court of Appeals directed the Service that when deciding which areas to designate as critical habitat, the economic analysis should include “co-extensive” effects. Those include all economic effects resulting from conserving the species, the species’ listing (endangered) status and the implementation of critical habitat.

The draft economic analysis estimates the impacts of Gila chub conservation efforts in the proposed designated areas, not just those exclusively associated with critical habitat designation, between \$800,000 to \$1.9 million annually.

17. How can I participate in the listing and critical habitat determination?

A: We intend that our final listing and critical habitat decision will be as accurate and as effective as possible. Therefore, we seek comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule. Comments particularly are sought concerning:

- Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to the Gila chub;
- The location of any additional populations of the Gila chub and the reasons why any habitat should or should not be determined to be critical habitat pursuant to section 4 of the Act;
- Additional information on the range, distribution, and population size of the Gila chub;
- The possible effects to Gila chub of current or planned activities in the subject area;
- Information relating to the status of all non-native fish in the historical range of the Gila chub; and
- Economic and environmental effects information, particularly in regard to our draft economic analysis and draft environmental assessment.

Prior to making a final determination on this proposed rule, we will take into consideration the comments and any additional information received. Such communications may lead to a final regulation that differs from this proposal.

18: How do I provide information and comments to the Service?

A: Please write comments and send them by mail, fax or e-mail by September 30, 2005. Send to Field Supervisor, U.S. Fish and Wildlife Service, 2321 W. Royal Palm Road, Suite 103, Phoenix, AZ 85021-4951 (602-242-0210, FAX 242-2513) or e-mailed to gilachubcomments@fws.gov. Comments will also be recorded at a series of public hearings.

Each public hearing on the proposal, draft economic analysis and draft environmental assessment will be preceded by an informational session. The informational sessions will be held from 3:00 to 4:30 p.m. followed by a public hearing from 6:30 to 8:00 p.m. at:

- September 13 in Silver City, New Mexico at the Flame Convention Center, 2800 Pinos Altos Road.
- September 14, 2005 in Thatcher, Arizona at the Eastern Arizona College Activity Center, Lee Little Theater (Information Session - Activity Center Quiet Lounge), 1014 North College Avenue.
- September 15, 2005 in Camp Verde, Arizona, at the Camp Verde Unified School District Multi-Use Complex Theater, 280 Camp Lincoln Road.

The 2002 proposal, the draft economic analysis, draft environmental assessment, maps of the proposed critical habitat, and other Gila chub information, are available on the Internet at <http://arizonaes.fws.gov> or by contacting the Field Supervisor.

19. When will the Service make a final determination on the listing and critical habitat designation for the Gila chub?

A: Per a settlement to litigation by the Center for Biological Diversity and others, we agreed to submit a final Gila chub listing and critical habitat determination to the Federal Register on or by October 21, 2005, for publication (Center for Biological Diversity, et al.v. Norton, Civ. No. 01-2063 (JR) (D.D.C.)).