



July 30, 2021

U.S. Department of the Interior Secretary Deb Haaland
Email: exsec@ios.doi.gov

U.S. Fish and Wildlife Service ("USFWS") Principal Deputy Director Martha Williams
Email: Martha_Williams@fws.gov

USFWS Regional Director Amy Lueders
Email: RDLueders@fws.gov

USFWS State Supervisor Jeff Humphrey
Email: jeff_humphrey@fws.gov

Arizona Game and Fish Department Director Ty Gray
Email: tgray@azgfd.gov

Dear Mses. Haaland, Williams and Lueders and Messrs. Humphrey and Gray,

RE: Petition to revise Sonora Chub (*Gila ditaenia*) Critical Habitat to reflect current status and to protect known occupied and recovery habitat in California Gulch.

EXECUTIVE SUMMARY

Sonora Chub was listed as threatened on April 30, 1986.¹ Critical Habitat was also designated at that time.²

At the time of listing and Critical Habitat designation, Sonora Chub was only known to occupy "Sycamore Creek proper, Yank's Spring and in two of its tributaries, located on the Coronado National Forest."³

In 1995, Sonora Chub was documented to also occupy California Gulch, likewise on the Coronado National Forest.⁴ Critical Habitat has never been upgraded to include

¹ Final Rule To Determine the Sonora Chub To Be a Threatened Species and To Determine its Critical Habitat, U.S. Fish and Wildlife Service, Federal Register Volume 51, Number 86, Page 16042, April 30, 1986.

² Ibid.

³ Ibid.

⁴ Report on "Sonora chub collection in California Gulch," Arizona Game and Fish Department, 1995, as cited in Correspondence to: U.S. Department of Homeland Security Customs and Border Protection SBI^{net} Program Management Office Acting SBI^{net} Program Manager John Santo, from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Biological Opinion #ASO/SE 22410-2008-F-0373 on impacts that may result from the propose SBI^{net} Tucson West Tower

California Gulch, however, because USFWS assumed that Endangered Species Act ("ESA") Section 7 consultation on the area's cattle grazing "ensures" protection of the Sonora Chub and its habitat.

Specifically, according to USFWS' August 2013, Sonora Chub 5-Year Review, "the presence of Sonora chub there ensures that consultations for actions within the area are completed...[and] Sonora chub are also now a primary consideration in the development of allotment management plans for grazing allotments in both Sycamore Canyon and California Gulch..."⁵

But USFWS' August 2013, assumption that "consultations for actions within the area"⁶ without designation of Critical Habitat, would provide for adequate protection of California Gulch has not proven to be correct. Not only was the last consultation "within the area" signed on June 6, 2001,⁷ with an amendment on June 12, 2001;⁸ in fact, as documented here, the Coronado National Forest has failed to "maintain two exclosures, and promote and enhance existing Sonora chub habitat in lower California Gulch" as committed⁹ and recommended¹⁰ in the June 6, 2001, Biological Opinion.

The upper California Gulch Sonora Chub exclosure fencing is in gross disrepair and is completely dysfunctional. The area inside of the upper exclosure has been severely damaged by cattle grazing. The lower exclosure has been similarly severely damaged by cattle grazing.

USFWS' August 2013, Sonora Chub 5-Year Review did add that, "should it [designation of Critical Habitat] become necessary, the Service may modify the existing critical habitat to include California Gulch."¹¹

Revision of Sonora Chub Critical Habitat is necessary to reflect current known status as the currently designated Critical Habitat is inadequate to provide for survival and

Project, September 4, 2008, page 131.; Correspondence to: U.S. Customs and Border Protection Border patrol Facilities and Tactical Infrastructure Director Christopher J. Colacicco, from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Biological Opinion #ASO/SE 02EAAZOO-2012-F-0170 on the proposed Tactical Infrastructure Maintenance and Repair Program along the U.S./Mexico international border in Arizona, November 6, 2012, p. 164.; and Sonora chub/Charalito Sonorensis (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013, page 13.

⁵ Sonora chub/Charalito Sonorensis (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013, page 26.

⁶ Ibid.

⁷ Correspondence, to: Coronado National Forest Supervisor John McGee, from: USFWS Arizona Field Supervisor David L. Harlow; RE: Biological Opinion on the effects to Sonora chub (*Gila ditaenia*), lesser long-nosed bat (*Leptonycteris currosoae yerbabuena*), and the proposed Chiricahua leopard frog (*Rana chiricahuensis*) from the proposed livestock grazing and its management on the Montana Allotment; AESO/SE 2-21-00-F344, June 6, 2001.

⁸ Correspondence, to: Coronado National Forest Supervisor John McGee, from: USFWS Arizona Field Supervisor David L. Harlow; RE: an amendment to the June 6, 2001, biological opinion for the Montana Allotment permit renewal; AESO/SE 2-21-00-F344 (Amend), June 12, 2001.

⁹ Correspondence, to: Coronado National Forest Supervisor John McGee, from: USFWS Arizona Field Supervisor David L. Harlow; RE: Biological Opinion on the effects to Sonora chub (*Gila ditaenia*), lesser long-nosed bat (*Leptonycteris currosoae yerbabuena*), and the proposed Chiricahua leopard frog (*Rana chiricahuensis*) from the proposed livestock grazing and its management on the Montana Allotment; AESO/SE 2-21-00-F344, June 6, 2001, pages 6, 20, 31, 33, 43, 45, and 46.

¹⁰ Id., page 49.

¹¹ Sonora chub/Charalito Sonorensis (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013, pages 4-5.

recovery. Updated Critical Habitat designation including California Gulch is now necessary to ensure Sonora Chub survival and recovery consistent with the ESA.¹²

BACKGROUND

The Sonora Chub (*Gila ditaenia*) was listed as threatened on April 30, 1986.¹³ Critical Habitat was designated at that time.

In the April 30, 1986, listing notice, USFWS stated that:

"[i]n the United States, the Sonora chub occurs in Sycamore Creek proper, Yank's Spring, and in two of its tributaries, located on the Coronado National Forest..."¹⁴;

In the April 30, 1986, listing notice, Critical Habitat, USFWS stated that:

"Critical habitat is designated for *Gila ditaenia* to include the entire area where the species is known to occur in the United States. This consists of Sycamore Creek, starting from and including Yank's Spring, downstream to the International Border with Mexico, plus the lower 1.25 miles of Penasco Creek, and the lower .25 miles of an unnamed stream that enters Sycamore Creek from the west..."¹⁵ "This critical habitat includes a 25 foot wide riparian area along each side of Sycamore and Penasco Creeks. This riparian zone is essential to the maintenance of the creek ecosystems and the stream channels, and thus to the conservation of the species."¹⁵

In 1995, Sonora Chub was documented to occupy California Gulch, also on the Coronado National Forest.¹⁶ Critical Habitat was never upgraded however because, according to USFWS, "the presence of Sonora chub there ensures that consultations for actions within the area are completed...[and] Sonora chub are also now a primary consideration in the development of allotment management plans for grazing allotments in both Sycamore Canyon and California Gulch..."¹⁷

¹² 16 U.S.C. § 1532(b)(5); 16 U.S.C. § 1533(a)(3), (b)(2) and (3)(D).

¹³ Final Rule To Determine the Sonora Chub To Be a Threatened Species and To Determine its Critical Habitat, U.S. Fish and Wildlife Service, Federal Register Volume 51, Number 86, Page 16042, April 30, 1986.

¹⁴ Id., page 16042.

¹⁵ Id., page 16044.

¹⁶ Report on "Sonora chub collection in California Gulch," Arizona Game and Fish Department, 1995, as cited in Correspondence, to: Coronado National Forest Supervisor John McGee, from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Reinitiation of Biological Opinion 2-21-98-F-399, Continuation of Livestock Grazing on the Coronado National Forest, October 24, 2002, page 104.; Correspondence to: U.S. Department of Homeland Security Customs and Border Protection SBI^{net} Program Management Office Acting SBI^{net} Program Manager John Santo, from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Biological Opinion #ASO/SE 22410-2008-F-0373 on impacts that may result from the propose SBI^{net} Tucson West Tower Project, September 4, 2008, page 131.; Correspondence to: U.S. Customs and Border Protection Border patrol Facilities and Tactical Infrastructure Director Christopher J. Colacicco, from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Biological Opinion #ASO/SE 02EAAZOO-2012-F-0170 on the proposed Tactical Infrastructure Maintenance and Repair Program along the U.S./Mexico international border in Arizona, November 6, 2012, p. 164.; and Sonora chub/Charalito Sonorensis (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013, page 13.

¹⁷ Sonora chub/Charalito Sonorensis (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013, page 26.

USFWS' June 6, 2001, Biological Opinion offers the following protections for Sonora Chub:

"The Montana Allotment is within existing habitat for the threatened Sonora chub, endangered Lesser long-nosed bat, and the proposed threatened Chiricahua leopard frog. The Coronado National Forest proposes to implement the following conservation measures: establish the Schumaker riparian pasture, maintain two exclosures, and promote and enhance existing Sonora chub habitat in lower California Gulch. The standards in the Coronado National Forest plan require that forage use by grazing ungulates be maintained at or above a condition which assures recovery and continued existence of threatened and endangered species.¹⁸ ...

Within the lower 3.2 km (2.0 mi) of occupied habitat, there are two exclosures (one adjacent to the International border and one at the Tinaja dam) which consist of about 0.4 km (0.25 mi) of stream. The remainder of the 2.8 km (1.75 mi) between these two exclosures is subject to livestock grazing. Under the existing management, up to 500 livestock can have access to the reaches of California Gulch occupied by Sonora chub. These livestock can have direct contact with the Sonora chub during the most critical periods of breeding and reproduction. Sonora chub is the only native fish in California Gulch.¹⁹ ...

The proportion of unaffected versus affected habitat by livestock use in California Gulch is very small; in the lower 3.2 km (2 mi) of California Gulch, the two existing exclosures in this reach of stream provide habitat protection on about 0.40 km (0.25 mi). The remaining 2.8 km (1.75 mi) is open to livestock grazing. Sonora chub have been observed using the entire 3.2 km (2.0 mi) for spawning and recruitment. These exclosures have been in place since 1998. However, the problem of livestock trespassing from Mexico in the past and the continuing upstream impacts from livestock grazing contribute to overall Sonora chub habitat degradation. Livestock trespass from Mexico has been a problem throughout the past 10 year permit. The Coronado National Forest just recently installed an impenetrable fence at the international border to alleviate this livestock trespass.²⁰

...

The proposed action will allow 50 livestock to graze up to three months every other year in recorded active spawning areas in the 1.75 miles of suitable habitat between the Tinaja and International border exclosures. Livestock will directly impact all the habitats used by Sonora chub in California Gulch, except for those short reaches within the border and tinaja exclosures that are protected by fencing 0.40 km (0.25 mi).²¹ ...

¹⁸ Correspondence, to: Coronado National Forest Supervisor John McGee, from: USFWS Arizona Field Supervisor David L. Harlow; RE: Biological Opinion on the effects to Sonora chub (*Gila ditaenia*), lesser long-nosed bat (*Leptonycteris currosoae yerbabuena*), and the proposed Chiricahua leopard frog (*Rana chiricahuensis*) from the proposed livestock grazing and its management on the Montana Allotment; AESO/SE 2-21-00-F344, June 6, 2001, page 6.

¹⁹ Id., page 20.

²⁰ Id., pages 22-23.

²¹ Id., page 31.

...The Coronado National Forest proposes a 700 ac. riparian pasture within the Shumaker pasture that would encompass the Sonora chub habitat. Up to 50 livestock would be permitted to graze in the riparian pasture every other year from mid-July to mid-October or until utilization levels reach 30 % on apical meristems or 14" stubble height of deergrass. Sonora chub is the only native fish in California Gulch. Sonora chub spawn at multiple times during spring through summer, most likely in response to flood or freshets during the spring and summer rains (Hendrickson and Juarez-Romero 1990). Juvenile and larval chub have been observed in the 2.8 km (1.75 mi) reach between the enclosures during the months of July, August, and September; therefore, livestock grazing will occur coincident with chub (when water conditions are appropriate) every other year.

Sonora chub is typical of desert fishes that live in intermittent streams where the surface flow is influenced by variable weather patterns. The life history of these fish accommodates survival in desiccating pools followed by rapid, dispersal, reproduction, and colonization of channels newly wetted by recent surface flow. Continued occupation of Sonora chub in California Gulch is highly dependent on the temporal and spatial extent of surface water in the channel. The amount and pattern of precipitation cannot be controlled, but factors that influence the hydrology and aquatic conditions can be managed. Watershed conditions that reduce sediment movement from the uplands, channel conditions that promote proper sediment processing during high runoff events, and proper riparian conditions that allow shade, cover, bank stability, and pool development to occur will only help to ensure long-term survival of Sonora chub in California Gulch (USFS 2000).

Although impacts will be reduced significantly from past permitted use, the proposed action would continue substantial direct and indirect impacts to California Gulch Sonora chub habitat and associated riparian habitat. Overall, the entire occupied and suitable Sonora chub habitat will be adversely affected by the proposed action. The proposed action would result in direct livestock grazing within occupied Sonora chub habitat during spawning. The impacts to Sonora chub can include impaired reproduction, death of individuals by livestock trampling of egg masses and ingestion of larvae by livestock drinking pond water, continued degradation of existing chub habitat and inhibition of habitat improvement and expansion, thus adversely affecting the recovery of the species.²² ...

CONCLUSION

After reviewing the current status of the Sonora chub, lesser long-nosed bat, and the proposed Chiricahua leopard frog, the environmental baseline for the action area, the anticipated effects of the proposed grazing program, and cumulative effects, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the Sonora chub, lesser long-nosed bat, or the Chiricahua leopard frog. Critical habitat has not been designated for the lesser long-nosed bat and Chiricahua leopard frog, and critical habitat was not designated for Sonora chub within the proposed project area; therefore, none will be affected. Our conclusion that the proposed action is not likely to jeopardize the

²² Id., page 33.

continued existence of the Sonora chub, lesser long-nosed bat, or the Chiricahua leopard frog is based on the following:

1. The proposed action proposes to reduce the adverse effects from livestock grazing on the occupied Sonora chub habitat through implementing a riparian pasture and reducing the number of cattle allowed to use the proposed riparian pasture. However, due to the degree of exposure on this area from livestock grazing during spawning, the proposed action may delay the recovery potential of the Sonora chub.
2. The majority of the Sonora chub population exists in Sycamore Canyon, a nearby drainage, where it appears stable with suitable habitat and additional protection from land use practices. Due to the topography and the current grazing management, livestock are not permitted to graze Sycamore Canyon. Because the percentage of Sonora chub population in California Gulch makes up a smaller portion of the overall species range, protecting this additional small population will only help to enhance the reproduction and survival of this species.
3. Rangeland and riparian improvements are expected as a result of the reduced utilization levels.²³ ...

... Anticipated take will be considered to have been exceeded if: (1) immediate action is not taken to remove, as soon as possible, any cattle found on National Forest lands in the proposed riparian pasture within California Gulch, (2) long-term trends in range condition in the allotment deteriorates, and livestock grazing cannot be ruled out as a cause of the deterioration.²⁴

...The following terms and conditions implement reasonable and prudent measure number 4:

4a. Records will be maintained of downed or damaged enclosure fencing and incidents of livestock intrusion within the proposed riparian pasture in California Gulch. Reports to the Service should include dates of observations, sightings of any livestock use, number of livestock, area of use, and any other pertinent information. Copies of these reports will be sent annually to the Service.

4b. The Coronado National Forest shall submit an annual report to the Arizona Ecological Service Field Office. The report shall, at a minimum, briefly summarize for the previous calendar year: 1) the implementation of terms and conditions and reasonable and prudent measures, 2) documentation of take, and 3) any excessive use, increased animal months, unauthorized use, or other detrimental variations from the proposed actions. The report shall also make recommendations, as needed, for modifying or refining these terms and conditions to enhance protection of the Sonora chub or reduce needless hardship on the Coronado National Forest and its applicant. The report should be packaged with or be part of the annual report for the biological opinion on the On-going and Long-term Grazing on the Coronado National Forest (2-21-98-F-399)."²⁵ ...

²³ Id., page 42.

²⁴ Id., page 43.

²⁵ Id., page 46.

On June 12, 2001, USFWS amended its June 6, 2001, Biological Opinion adding:

"On page 42 of the biological opinion, under the Amount and Extent of Take section, the second paragraph, fourth sentence should read, "Anticipated take will be considered to have been exceeded if: (1) immediate action is not taken to remove, as soon as possible, any livestock found on National Forest lands in the existing exclosures within California Gulch, (2) long-term trends in range condition in the allotment deteriorates, and livestock grazing cannot be ruled out as a cause of the deterioration."

On page 45 of the biological opinion, under Terms and Conditions section (1a), the sentence should read, "All reasonable efforts should be made to remove any livestock from the existing exclosures as soon as discovery of fence damage and livestock intrusion occurs. The Service shall be notified within 24-48 hours upon observation of livestock intrusion."²⁶

USFWS' October 24, 2002, Biological Opinion on Coronado National Forest livestock grazing says:

"All livestock exclosures established on behalf of threatened and endangered species will be monitored once a year to ensure fences are functional. These are: ALLOTMENT NAME: Montana (California Gulch) ... EXCLOSURE NAME: Lower exclosure /Border ... SPECIES: Sonora chub; ... ALLOTMENT NAME: Montana (California Gulch) ... EXCLOSURE NAME: Upper exclosure/Tinaja ... SPECIES: Sonora chub"²⁷ ...

USFWS' April 30, 2012, Biological Opinion on the Southwestern Region Forest Service's Land and Resource Management Plans for the 11 Southwestern Region National Forests and National Grasslands states:

"The FWS concludes that the continued implementation of the Coronado NF LRMP and 1996 Regional Amendment is not likely to jeopardize the Sonora chub for the following reasons: ... The Sonora chub is specifically mentioned within the LRMP directing the Forest to maintain and improve habitat for the species. ... The USFS implemented the following which will continue to provide conservation for the species: roadways in Sycamore Canyon south of Ruby road have been obliterated and closed to OHV traffic; livestock grazing has been eliminated from the riparian corridor of Sycamore Canyon, and in portions of the riparian corridor of California Gulch; and Sonora chub are also now a primary consideration in the development of allotment management plans for grazing allotments in both Sycamore Canyon and California Gulch, south of Ruby road."²⁸

²⁶ Correspondence, to: Coronado National Forest Supervisor John McGee, from: USFWS Arizona Field Supervisor David L. Harlow; RE: an amendment to the June 6, 2001, biological opinion for the Montana Allotment permit renewal; AESO/SE 2-21-00-F344 (Amend), June 12, 2001.

²⁷ Correspondence, to: Coronado National Forest Supervisor John McGee, from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Reinitiation of Biological Opinion 2-21-98-F-399, Continuation of Livestock Grazing on the Coronado National Forest, October 24, 2002, page 9.

²⁸ Correspondence, to: USFS Southwestern Region Regional Forester Corbin L. Newman, Jr.; from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Biological Opinion on the Forest Service's Continued Implementation of the Land and Resource Management Plans for the 11 Southwestern Region National Forests and National Grasslands; Cons. #2012-F-0005, April 30, 2012, page 132.

The August 13, 2007, report, "Fish Movement Through Intermittent Stream Channels, states:

"Data gathered on fish in California Gulch, including weekly fish surveys during July-August 2000, have documented significant expansion and contraction of Sonora chub distribution within the U.S. portion of California Gulch (Stefferd 2000). This study found what are apparently long-term populations to exist in the tinaja and border enclosure. According to this information, the species exists on a permanent basis in the U.S. and during periods of flow moves out from the two core areas to occupy all of the intervening 2.2 miles.

Although both upstream and downstream migration is likely involved in this population, Sonora chub regularly recolonize at least 2.2 miles of intermittent stream channel to occupy any surface flow available."²⁹

USFWS' August 2013, Sonora chub/Charalito Sonorensis (*Gila ditaenia*) 5-Year Review: Summary and Evaluation states:

"The Plan's (Recovery Plan's)³⁰ recovery outline contains tasks that, when completed, would achieve the stated ends. The tasks are as follows:

I. Protect Remaining Populations of Sonora Chub

A. Recognize Critical Habitat.

Critical habitat has been recognized, and designated along Sycamore Creek in Santa Cruz County, Arizona. Critical habitat is not designated along California Gulch in Santa Cruz County, Arizona. Critical habitat was designated in 1986 and includes portions of Sycamore Canyon and its tributaries, which is occupied by the main population of Sonora chub in the U.S. At that time, Sonora chub were not known to occur in California Gulch, and critical habitat was not designated in that stream. Since that time, we determined that California Gulch is occupied by Sonora chub. While it is not included in the original critical habitat designation, the presence of Sonora chub there ensures that consultations for actions within the area are completed. As of this time, designation of critical habitat is not needed, but should it become necessary, the Service may modify the existing critical habitat to include California Gulch.³¹ ...

E. Ensure Habitat Integrity

Safety concerns have limited on the ground habitat assessments. However consultations, in accordance with the Endangered Species Act, will continue to assess proposed actions in an effort to maintain habitat integrity by minimizing adverse effects from Federal actions, and ensure that no activities jeopardize the existence of the species or adversely modify critical habitat. As described in the CNF LRMP, livestock grazing has been eliminated from the riparian corridor of

²⁹ Fish Movement through Intermittent Stream Channels, A Case History Study, Report to U.S. Bureau of Reclamation, Phoenix, AZ, Sally E. Stefferud and Jerome A. Stefferud, in cooperation with Paul C. Marsh, Native Fish Lab, Arizona State University, August 13, 2007, .pdf page 18.

³⁰ Sonora Chub Recovery Plan, U.S. Fish and Wildlife Service, Phoenix, Arizona, October 1992.

³¹ Sonora chub/Charalito Sonorensis (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013; pages 4-5.

Sycamore Canyon, and in portions of the riparian corridor of California Gulch (USFWS 2012a).³² ...

F. Survey All Existing and Potential Habitats

The CNF completes annual monitoring in Sycamore Canyon and California Gulch as a part of their LRMP.³³ ...

Updated Information and Current Species Status

2.3.1 Biology and Habitat

...The Sonora chub inhabits pools created by cliffs, boulders or other cover in intermittent stream channels. The Sonora chub's current distribution appears to be relatively similar to its historical range of Sycamore Canyon and California Gulch in the U.S. and the Rio de Concepcion drainage in Mexico (USFWS 1992). Page 8

2.3.2 Five-Factor Analysis (threats, conservation measures, and regulatory mechanisms)

2.3.2.1 Present or threatened destruction, modification or curtailment of its habitat or range:

The USFWS is aware of the following new information. ...

Grazing

Some adverse impacts continue associated with cattle grazing, which have the potential of setting back recovery. The degradation, siltation, and water pollution caused primarily by livestock grazing within the riparian corridors remain threats in areas where grazing is not properly managed (USFWS 2012a). The Sonora chub prefers pools of clear water created by cliffs, boulders, and other cover in intermittent streams. It is difficult for cattle to reach areas like these, but upstream grazing can affect downstream habitat conditions. Grazing activities associated with the CNF's Rangeland Management Program may result in adverse effects to the Sonora chub's critical habitat. Livestock grazing activities can contribute to changes in surface runoff quantity and intensity, sediment transport, and water holding capabilities of the watershed (USFWS 2002, USFWS 2012a). This occurs especially where cattle tend to congregate, often near water sources (USFWS 2012a).³⁴ ...

2.3.3. Conservation Measures

The conservation measures described below have been highly important to the continued existence of the species. ...

Livestock Grazing Impact Managed on Montana Allotment, Coronado National Forest - Our June 6, 2001, biological opinion (and June 12, 2001, amendment) on the renewal of the Coronado National Forest's Montana Allotment grazing management plan determined that the proposed action would reduce, but not eliminate, the adverse effects of livestock grazing to Sonora chub in California

³² Id., page 6.

³³ Ibid.

³⁴ Id., page 17.

Gulch and Warsaw Canyon, a tributary stream. We anticipated that implementation of grazing under the proposed action would incidentally take all Sonora chub in the 2.8 km (1.75 mi) of unprotected, occupied habitat subject to grazing impacts. The Coronado National Forest's 2010 Annual Monitoring Report (USFS 2011b) includes post-project monitoring in association with this biological opinion and noted that the species was still present in California Gulch. The USFWS thus assumes these individuals are still being incidentally taken by continuing livestock grazing; however the population is sufficiently protected to allow for the fish in the area to reproduce and sustain the population's numbers.³⁵

...

Land and Resource Management Plans

On December 19, 1997, we completed a program-scale consultation (file number 000087RO) on the Land and Resource Management Plans (LRMP) for the 11 National Forests in the Southwestern Region, which included the Coronado National Forest. The consultation analyzed the effects of the implementation of Standards and Guidelines, which serve to guide on-the-ground actions. As part of the 1997 consultation for all LRMPs, the Forest Service implemented additional conservation measures for the Sonora chub. ... livestock have been eliminated from the riparian corridor of Sycamore Canyon and in portions of the riparian corridor of California Gulch. Sonora chub are also now a primary consideration in the development of allotment management plans for grazing allotments in both Sycamore Canyon and California Gulch, south of Ruby Road.³⁶ ...

2.4 Synthesis

As discussed in Section 2.3, Sonora chub was known to occur in Sycamore Creek of Santa Cruz County of Arizona at the time of listing in 1986, and the captive population at the SDM within the U.S. was established in 1988. A second population, or more likely a metapopulation that includes Sycamore Creek, is now known to occur in California Gulch and its tributary streams. The threats faced by the Sonora chub at the time of listing and during the preparation of the recovery plan including habitat loss, non-native fishes and parasites, and water developments, continue to exist in both Sycamore Canyon and California Gulch. Cross-border incursions and the law enforcement response to them represent factors that have been present since before the 1986 listing, and which continue to affect the species. Climate change, a threat not identified during listing and recovery planning, along with water development which was previously known, threaten to alter the hydrologic conditions which sustain the streams in which Sonora chub occurs, potentially reducing the species' resilience and ability to persist through stochastic events such as drought and floods. Drought is becoming prevalent throughout the Southwest; as mean annual temperatures increase precipitation become more variable. As discussed in Section 2.3.1.6, drought conditions are ongoing, with 'severe drought' predicted for the south of Arizona (ADWR 2012c). The degradation, siltation, and water pollution caused primarily by livestock grazing within the riparian corridors, road construction, runoff from roads,

³⁵ Id., page 25.

³⁶ Id., page 26.

construction of infrastructure, and repair of infrastructure, human use, and mining operations are determined to have potential adverse effects on the Sonora chub.

The Sonora chub is a desert fish adapted to the fluctuations of a desert environment; after drought conditions it has been known to rapidly expand and recolonize California Gulch and newly re-wetted reaches. If habitat conditions along water ways can be maintained, then this ability to respond to favorable water conditions is encouraging for the population to avoid the danger of extinction. ... As described above, Sycamore Canyon and California Gulch are not suitable terrain for grazing, but effects have occurred from trespass cattle (USFWS 2012a). If consultations continue to evaluate and minimize the use of allotments upstream from Sonora chub habitat, adverse effects from siltation and water quality degradation can be kept to a minimum. Furthermore, if a catastrophic decline or an adverse take event occurs, the ASDM population can serve as a source of fish to repopulate the area once the habitat returns to favorable conditions. Given that there are two known wild populations within the U.S., a captive population, designated critical habitat, and the threats against the population can be managed with possible response procedures, the Sonora chub meets the definition of threatened for the foreseeable future."³⁷ ..."

As a result of the June 6, 2001, Biological Opinion, the Coronado National Forest must report yearly to USFWS. Pertinent excerpts from 2014-2019 reports include:

"Nogales Ranger District...Resource Area: Range...Species: Sonora Chub...Task(s):

1a. All reasonable efforts shall be made to remove any livestock from the existing enclosures as soon as discovery of fence damage and livestock intrusion occurs. The Service shall be notified within 24-48 hours upon observation of livestock intrusion. ...Accomplishments: 1a. Enclosure is monitored and livestock has been removed and fence repairs have been made throughout this time period as necessary.³⁸ ...

Task(s): 4a. Records will be maintained of downed or damaged enclosure fencing and incidents of livestock intrusion within the proposed riparian pasture in California Gulch. Reports to the Service should include dates of observations, sightings of any livestock use, number of livestock, area of use, and any other pertinent information. Copies of these reports will be sent annually to the Service. ... Accomplishments: 4a. Enclosure is monitored and fence repairs have been made throughout this time period as necessary.

-June 2016 – Break in fence repaired, no water present.

-August 2016 – Trespass cattle from Mexico removed from enclosure due to failure of water gap at international boundary. Water gap repaired, little water present, no fish observed. -September 2017 - Trespass cattle from Mexico removed from enclosure due to failure of water gap at international boundary. Water gap repaired, water flowing, no fish observed.

³⁷ Id., pages 27-28.

³⁸ Draft Coronado National Forest Service Annual Monitoring Report 2014-2019, July 2020, Contact: Angela Dahlby 520-388-8374; Coronado National Forest Service, Tucson, AZ 85701; "Nogales Ranger District: Project: CLG [Continuation of Long-term Grazing] on Montana Allotment (AESO/SE 2-21-00-F-344 [Amend], dated 06/12/2001), page 7.

-September 2018. Water gap at international boundary replaced, no fish observed.³⁹ ...

Forest-Wide...Nogales Ranger District: Species...Sonora Chub: Task(s): Manage riparian areas adjacent to and upstream of Sonora Chub populations for conditions to eliminate direct effects and minimize indirect effects to Sonora Chub and its habitat. ... Accomplishments: Sycamore Canyon is fenced to exclude livestock. California Gulch is managed to emphasize short term dormant season grazing."⁴⁰
...

The Annual Monitoring Report for 2020 says:

"Nogales Ranger District: Project: CLG [Continuation of Long-term Grazing] on Montana Allotment (AESO/SE 2-21-00-F-344 [Amend], dated 06/12/2001)...Resource Area: Range...Species: Sonora Chub...Task(s):

1a. All reasonable efforts shall be made to remove any livestock from the existing enclosures as soon as discovery of fence damage and livestock intrusion occurs. The Service shall be notified within 24-48 hours upon observation of livestock intrusion. ...Accomplishments: 1a. Enclosure is monitored and livestock has been removed and fence repairs have been made throughout this time period as necessary.⁴¹ ...

Task(s): 4a. Records will be maintained of downed or damaged enclosure fencing and incidents of livestock intrusion within the proposed riparian pasture in California Gulch. Reports to the Service should include dates of observations, sightings of any livestock use, number of livestock, area of use, and any other pertinent information. Copies of these reports will be sent annually to the Service.... Accomplishments: 4a. Enclosure is monitored and fence repairs were made in March along the international boundary with Mexico."⁴² ...

The protections mentioned in the June 6, 2001, Biological Opinion and in the annual reports 2014-2019, and 2020 do not reflect the reality on the ground.

³⁹ Id., page 9.

⁴⁰ Id., page 35.

⁴¹ Coronado National Forest Annual Monitoring Report 2020, Contact: Angela Dahlby, Forest Biologist, Coronado National Forest Service, Tucson, AZ 85701, angela.dahlby@usda.gov, 520-388-8374, undated; page 3.

⁴² Id., page 4.

The following images reflect the failure of USFWS' assumption that consultation "ensures"⁴³ protection:



Downed upper Sonora Chub cattle enclosure fencing and trail, California Gulch, 31°24.3557'N 111°14.4009'W, June 1, 2021, © Robin Silver.

⁴³ Sonora chub/Charalito Sonorensis (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013, page 26.



Cattle feces and grazing inside upper Sonora Chub cattle exclosure, California Gulch, 31°24.3624'N 111°14.4017'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub cattle exclosure, California Gulch, 31°24.3661'N 111°14.3984'W June 1, 2021 © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub cattle enclosure, California Gulch, 31°24.3821'N 111°14.3944'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub cattle enclosure, California Gulch, 31°24.3794'N 111°14.366'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub cattle exclosure, California Gulch, 31°24.3794'N, 111°14.366'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub cattle exclosure, California Gulch, 31°24.3913'N, 111°14.3541'W, June 1, 2021, © Robin Silver.



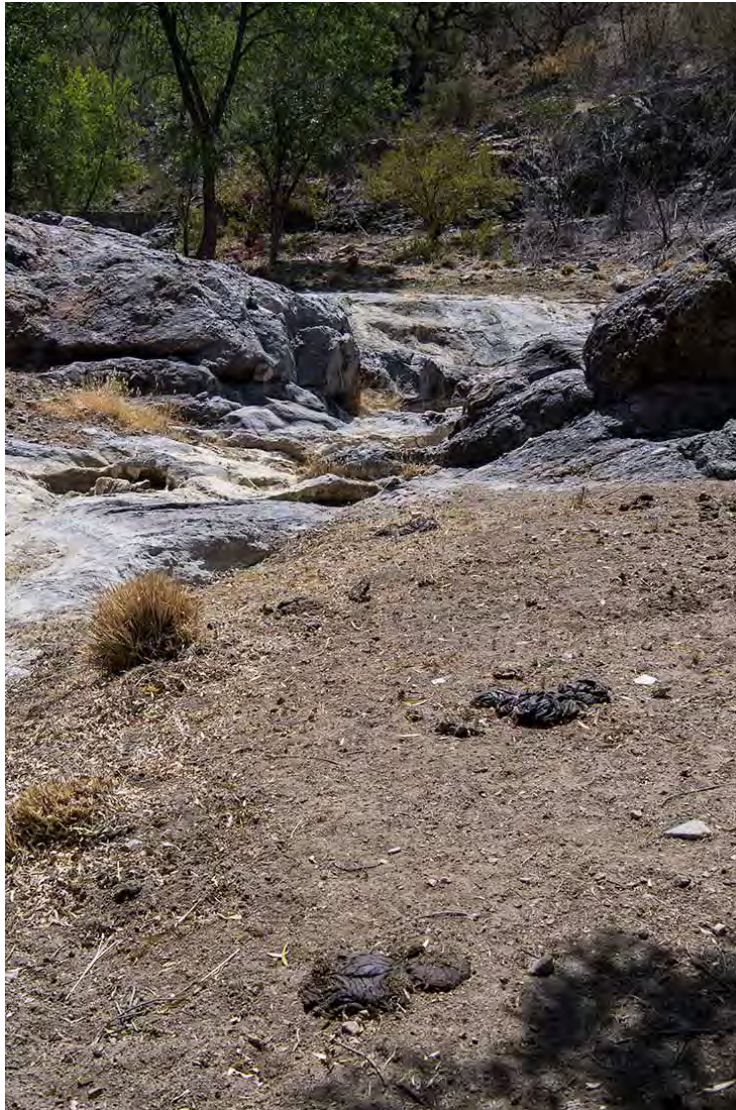
Cattle feces and grazing inside upper Sonora Chub cattle enclosure, California Gulch, 31°24.3804'N, 111°14.3519'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub cattle enclosure, California Gulch, 31°24.3946'N, 111°14.3434'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub cattle exclosure, California Gulch, 31°24.3954'N, 111°14.3475'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub cattle enclosure, California Gulch, 31°24.3857'N, 111°14.3853'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside upper Sonora Chub exclosure, California Gulch, 31°24.3663'N, 111°14.4036'W, June 1, 2021, © Robin Silver.



Trail through downed fence into upper Sonora Chub enclosure, California Gulch, 31°24.3778'N, 111°14.4033'W, June 1, 2021, © Robin Silver.



Trail through downed fence into grazed upper Sonora Chub enclosure, California Gulch, 31°24.3812'N, 111°14.4091'W, June 1, 2021, © Robin Silver.



Gate into lower Sonora Chub cattle enclosure with cattle feces visible inside enclosure, California Gulch, 31°23.5349'N, 111°14.7872'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside lower Sonora Chub cattle enclosure, California Gulch, 31°23.5371'N, 111°14.8017'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside lower Sonora Chub exclosure, California Gulch, 31°23.526'N, 111°14.876'W, June 1, 2021 © Robin Silver.



Grazing and trailing inside lower Sonora Chub exclosure, California Gulch, 31°23.5218'N, 111°14.9307'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside lower Sonora Chub exclosure, California Gulch, 31°23.474'N, 111°15.0066'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside lower Sonora Chub cattle enclosure, California Gulch, 31°23.4653'N, 111°15.0163'W, June 1, 2021, © Robin Silver.



Fence line with cattle feces and grazing inside lower Sonora Chub cattle enclosure, California Gulch, 31°23.4658'N, 111°15.0166'W, June 1, 2021, © Robin Silver.



Fence line with cattle feces and grazing inside lower Sonora Chub enclosure, California Gulch, 31°23.4538'N, 111°15.026'W, June 1, 2021, © Robin Silver.



Fence line with cattle feces, grazing and trailing inside lower Sonora Chub enclosure, California Gulch, 31°23.452'N, 111°15.0256'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside lower Sonora Chub exclosure, California Gulch, 31°23.4383'N, 111°15.0406'W, June 1, 2021, © Robin Silver.



Cattle feces, grazing and trailing inside lower Sonora Chub enclosure, California Gulch, 31°23.3608'N, 111°15.0538'W, June 1, 2021, © Robin Silver.



Cattle feces and grazing inside lower Sonora Chub enclosure at Border, California Gulch, 31°23.3657'N, 111°15.0498'W, June 1, 2021, © Robin Silver.

DESIGNATION OF CRITICAL HABITAT IS PRUDENT

California Gulch was not known to be occupied by Sonora Chub on April 30, 1986 when Sonora Chub was listed with designated Critical Habitat.⁴⁴ But in 1995, when Sonora Chub was documented to also occupy California Gulch,⁴⁵ in spite of the fact that the Sonora Chub Recovery Plan lists as "Recovery Plan Task I.A. "RECOGNIZE CRITICAL HABITAT,"⁴⁶ USFWS felt that they could ignore revising designated Critical Habitat because

⁴⁴ Final Rule To Determine the Sonora Chub To Be a Threatened Species and To Determine its Critical Habitat, U.S. Fish and Wildlife Service, Federal Register Volume 51, Number 86, Page 16042, April 30, 1986.

⁴⁵ Report on "Sonora chub collection in California Gulch," Arizona Game and Fish Department, 1995, as cited in Correspondence to: U.S. Department of Homeland Security Customs and Border Protection *SBI*net Program Management Office Acting *SBI*net Program Manager John Santo, from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Biological Opinion #ASO/SE 22410-2008-F-0373 on impacts that may result from the propose *SBI*net Tucson West Tower Project, September 4, 2008, page 131.; Correspondence to: U.S. Customs and Border Protection Border patrol Facilities and Tactical Infrastructure Director Christopher J. Colacicco, from: USFWS Arizona Field Supervisor Steven L. Spangle, RE: Biological Opinion #ASO/SE 02EAAZOO-2012-F-0170 on the proposed Tactical Infrastructure Maintenance and Repair Program along the U.S./Mexico international border in Arizona, November 6, 2012, p. 164.; and Sonora chub/Charalito Sonorense (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013, page 13.

⁴⁶ Sonora Chub Recovery Plan, USFWS, Phoenix, Arizona, October 1992, page 22.

they assumed that Section 7 consultation "ensures"⁴⁷ protection for California Gulch. USFWS was wrong.

Ironically, the Southwestern Region Forest Service's September 9, 1992, comments on the draft Recovery Plan support the necessity of adding California Gulch to designated Sonora Chub Critical Habitat. Their description of Critical Habitat summarizes the very reason that protection for California Gulch via Critical Habitat designation is prudent:

"Critical habitat is affected by watershed condition. Desired future condition for this watershed is to have adequate ground cover to protect soil from the erosive actions of water and to promote maximum infiltration of water into the soil. The combination of effects of adequate ground cover are as follows: Sediment loads that permit pools and riffles to maintain consistent size and shape over time; sustained base flows (flows which continue after precipitation and surface runoff has ceased); and flood-stage flows that occur at intervals necessary for riparian plant community development." ⁴⁸

Unfortunately, as documented by the preceding images, Forest Service stewardship of California Gulch is grossly deficient. As a land management agency, with a consistently failing Range Management Program,⁴⁹ the Forest Service will not protect Public Lands without clear, enforceable extra-agency direction and rules. Critical Habitat designation is prudent to ensure that the Coronado National Forest will protect California Gulch once it is afforded overdue designation as Critical Habitat.

⁴⁷ Final Rule To Determine the Sonora Chub To Be a Threatened Species and To Determine its Critical Habitat, U.S. Fish and Wildlife Service, Federal Register Volume 51, Number 86, Page 16042, April 30, 1986.

⁴⁸ Correspondence, to: USFWS Arizona Ecological Services Director Sam F. Spiller, from: USFS Southwest Regional Forester Larry Henson; RE: Comments on the draft recovery plan for the Sonoran chub (*Gila Ditaenia*), September 9, 1992 (included in the Recovery Plan).

⁴⁹ Rapid Assessment of Cattle Impacts in Riparian Enclosures on the Apache-Sitgreaves National Forest, Arizona, Center for Biological Diversity, December 2018, https://www.biologicaldiversity.org/programs/public_land/grazing/pdfs/20181200-Rapid-Assessment-of-Cattle-Impacts-in-Riparian-Enclosures.pdf.; Sixty-day Notice of Intent to Sue for Violations of Endangered Species Act Consultation Requirements Regarding the Impacts of Domestic Livestock Grazing on Streamside and Aquatic Species and their Critical Habitat on National Forest Lands Within the Upper Gila River Watershed, July 17, 2019, https://www.biologicaldiversity.org/programs/public_land/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.; Sixty-Day Notice of Endangered Species Act Violations, Apache-Sitgreaves Nat'l Forest June 27, 2019, http://forestpolicy.com/wp-content/uploads/2019/07/000007_Center-for-Bio-Div-re-ESA-re-Jumping-Mouse_Region-3.pdf.; Rapid Assessment of Cattle Impacts in Riparian Enclosures & Critical Habitat on the Apache-Sitgreaves National Forest-2019 (addendum to 2018 survey), Center for Biological Diversity, January 2020, https://www.biologicaldiversity.org/programs/public_land/grazing/pdfs/20200100-APACHE-SITGREAVES-CATTLE-IMPACT-2019-ADDENDUM.pdf.; Sixty-Day Notice of Endangered Species Act Violations, Lincoln National Forest, September 13, 2019, <https://www.biologicaldiversity.org/species/mammals/pdfs/Inf-NOI-20190913-NMMJM-REININITIATION-FINAL.pdf>.; Ravaged River: Cattle Damage to Endangered Species Habitat in Arizona's Verde River Watershed, Center for Biological Diversity, March 12, 2020.; https://www.biologicaldiversity.org/programs/public_land/rivers/pdfs/Ravaged-River-Verde-Cattle-Impact-Survey.pdf.; Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, March 16, 2020, https://www.biologicaldiversity.org/programs/public_land/rivers/pdfs/NOI-20200316-Verde-River.pdf.; Eagle Creek Critical Habitat Cattle Damage Survey, Center for Biological Diversity, July 16, 2020.; Sixty-Day Notice of Chiricahua Leopard Frog Critical Habitat, Hickey & Blackjack Allotments in Apache-Sitgreaves National Forest, Center for Biological Diversity, August 11, 2020, https://www.biologicaldiversity.org/species/amphibians/Chiricahua_leopard_frog/pdfs/20200806-7-CLF-CH_Hickey-and-Blackjack_ASNF_field-report.pdf.; Email report to USFS Acting Regional Forester Elaine Kohrman, RE: Gila Wilderness images documenting widespread and devastating damage to the area from feral cattle, August 16, 2020.; On the Brink, How Federal Agency Neglect is Killing Chiricahua Leopard Frogs, Chris Bugbee, Center for Biological Diversity, December 2020, https://www.biologicaldiversity.org/species/amphibians/Chiricahua_leopard_frog/pdfs/Chiricahua-Leopard-Frog-Report-12-20.pdf.; and, Sixty day Notice of Endangered Species Act Violations, Lincoln National Forest, June 4, 2021, <https://www.biologicaldiversity.org/species/mammals/pdfs/Inf-NOI-20210604-NMMJM-REININITIATION-FINAL.pdf>.

In its August 2013, Review, USFWS states:

"Sonora chub are adept in exploiting small, marginal habitats, and can survive under the severe environmental and hydrologic conditions present in Sycamore Canyon and California Gulch.⁵⁰ ...

Population trends cannot be inferred from these data, but confirm the consistent presence of the Sonora chub within Sycamore Canyon, and the re-colonization of California Gulch.⁵¹ ...

Sonora chub have persisted in numbers great enough to recolonize California Gulch and survive in an environment where conditions are dynamic (USFWS 2012a)."⁵²

This is still the best available science. Revision of Critical Habitat will provide substantially increased conservation benefit to Sonora Chub. USFWS can no longer rationalize excluding the area from designated Critical Habitat based on the errant assumption that ESA Section 7 consultation with the Coronado National Forest "ensures" protection.⁵³ Designation of all occupied and historically occupied habitat is prudent and necessary to insure survival and recovery.

DESIGNATION OF CRITICAL HABITAT IS DETERMINABLE

Critical Habitat was easily determinable for Sonora Chub in 1986:

"Critical habitat is designated for *Gila ditaenia* to include the entire area where the species is known to occur in the United States. This consists of Sycamore Creek, starting from and including Yank's Spring, downstream to the International Border with Mexico, plus the lower 1.25 miles of Penasco Creek, and the lower .25 miles of an unnamed stream that enters Sycamore Creek from the west..."This critical habitat includes a 25 foot wide riparian area along each side of Sycamore and Penasco Creeks. This riparian zone is essential to the maintenance of the creek ecosystems and the stream channels, and thus to the conservation of the species."⁵⁴

Critical Habitat is, similarly, easily determinable for Sonora Chub in 2021. USFWS simply needs to "include a 25 foot wide riparian area along each side of [California Gulch, as t]his riparian zone is essential to the maintenance of the creek ecosystems and the stream channels, and thus to the conservation of the species."

⁵⁰ Sonora chub/Charalito Sonorense (*Gila ditaenia*) 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Office, Phoenix, Arizona, August 2013, pages 8-9.

⁵¹ Id., page 10.

⁵² Id., page 20.

⁵³ Id., page 26.

⁵⁴ Final Rule To Determine the Sonora Chub To Be a Threatened Species and To Determine its Critical Habitat, U.S. Fish and Wildlife Service, Federal Register Volume 51, Number 86, Page 16042, April 30, 1986, page 16044.

RECOMMENDED CRITICAL HABITAT

In general, we recommend designation of Critical Habitat for the stretch of California Gulch at the very minimum from approximately one mile above the Tinaja Dam to the International Border. The lower extent of Warsaw Canyon should also be included to provide for additional recovery habitat.

Similar to the Critical Habitat designated in Sycamore Canyon, we recommend, inclusion, at the very minimum, of "a 25 foot wide riparian area along each side of [California Gulch, where the] riparian zone is essential to the maintenance of the creek ecosystems and the stream channels, and thus to the conservation of the species."⁵⁵

CONCLUSION

USFWS has not updated Sonora Chub Critical Habitat to include California Gulch based on their assumption that the area would be protected by ESA Section 7 consultation. But USFWS' assumption was wrong, as consultation with the Coronado National Forest has failed to protect the area.

Pursuant to Section 4(b)(3)(D) of the Endangered Species Act, 16 U.S.C. § 1533(b)(3)(D) and 50 C.F.R. Part 424.14, the Center petitions USFWS to revise its April 30, 1986, listing and Critical Habitat designation⁵⁶ to include California Gulch.

Pursuant to Section 4(b)(3)(D) of the Endangered Species Act, 16 U.S.C. § 1533(b)(3)(D)(i) and (ii), we expect to hear from you within 90 days, by *September , 2021, with confirmation that this petition contains substantial scientific information indicating that the revision is warranted. In addition, within 12 months, by *June , 2022, we expect that you will publish in the Federal Register your revision to the current, inadequate designated Critical Habitat for Sonora Chub.

If you have further questions, please contact Robin Silver, M.D., Center for Biological Diversity, P.O. Box 1178, Flagstaff, AZ 86002, by mail; by phone: (602) 799-3275, or by Email: rsilver@biologicaldiversity.org.

Sincerely,



Robin Silver, M.D.
Co-Founder and Board Member
Center for Biological Diversity

⁵⁵ Final Rule To Determine the Sonora Chub To Be a Threatened Species and To Determine its Critical Habitat, U.S. Fish and Wildlife Service, Federal Register Volume 51, Number 86, Page 16042, April 30, 1986, page 16044.

⁵⁶ Ibid.