VIA CERTIFIED MAIL and E-MAIL

August 4, 2025

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RE: Sixty-Day Notice of Intent to Sue U.S. Forest Service and the U.S. Fish and Wildlife Service for Endangered Species Act Violations for Failing to Ensure that Forest Service Authorized Cattle Grazing on the Tonto National Forest Does Not Continue Destroying Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter Snake, Narrow-headed Garter Snake, Spikedace, Razorback Sucker, and Gila Chub Critical Habitat and Occupied Habitat.

Dear Secretaries Rollins and Burgum, Chief Schultz, Director Nesvik, and Supervisors Trujillo and Whitlaw:

Pursuant to 16 U.S.C. § 1540(g)(2)(A), on behalf of the Center for Biological Diversity ("the Center") and Maricopa Bird Alliance (collectively, "Conservation Organizations"), We hereby notify you of violations of the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531-1544, and its implementing regulations, 50 C.F.R. §§ 402.01-402.17, in connection with the U.S. Fish and Wildlife Service's ("FWS") and the Forest Service's (collectively, the "agencies") decisions to authorize continued grazing in several allotments within the Tonto National Forest, including: (1) Gisela Allotment; (2) Copper Creek Allotment; (3) Dagger Allotment; (4) Seventy-six Allotment; (5) Pinto Creek Allotment; (6) Buzzard Roost Allotment; (7) Soldier Camp Allotment; (8) Crouch Mesa Allotment; (9) Lyons Fork Allotment; (10) Poison Springs

Allotment; (11) Hardt Creek Allotment; (12) Chrysotile Allotment; (13) Tonto Basin Allotment ; (14) Bar X Complex, which includes the Bar X, Colcord, Haigler Creek, and Young Allotments; (15) Hick's-Pike Peak Allotment; (16) Red Lake Complex, which includes Catholic Peak, Gentry Mountain, and Red Lake Allotments; and (17) the Lower Verde Complex, which includes Bull Springs, Deadman Mesa, Cedar Bench, and Pole Hollow Allotments.

The operative BiOps and/or concurrences for grazing activities on these allotments include: (1) the 1995 BiOp (Dagger Allotment); (2) the 2002 BiOp (Seventy-six and Pinto Creek Allotments); (3) the 2005 BiOp (Buzzard's Roost and Soldier Allotments); (3) the 2008 Concurrence (Poison Springs, Lyons Fork, and Hardt Creek Allotments); (4) the 2009 BiOp (Chrysotile Allotment); (5) the 2010 BiOp (Crouch Mesa Allotment); (6) the 2014 BiOp (Tonto Basin Allotment); (7) the 2019 BiOp (Bar X Complex); (8) the 2020 Concurrence (Hick's-Pike Peak Allotment); (9) the 2022 BiOp (Red Lake Complex); and (10) the 2025 BiOp (Lower Verde Complex).

As described in detail below, this notice letter concerns FWS's Biological Opinions ("BiOps") that authorize the Forest Service to allow continued grazing on each allotment; the Forest Service's determinations that continued grazing in the allotments is not likely to adversely affect listed species or their critical habitat (i.e., "no-adverse-effect determinations"); FWS's concurrences in the Forest Service's no-adverse-effect determinations; the Forest Service's reliance on the unlawful and arbitrary consultation documents in allowing continued grazing in the allotments; and the Forest Service's unlawful and arbitrary failure to initiate and/or reinitiate consultation regarding continued grazing in response to the exceedance of take, new information revealing that the effects of grazing may affect listed species or critical habitat in a manner or to an extent not previously considered, modification of the grazing regime in the Tonto National Forest and/or on the allotments at issue in a manner that affects listed species and/or critical habitat, and/or newly listed species and/or critical habitat.

This is the Conservation Organizations' *fourth* notice letter ("notice of intent" or "NOI") concerning these violations and allotments. The two most recent NOIs—one sent in 2022 ("2022 NOI") and one following in January 2025 ("2025 NOI")—are attached and hereby incorporated by reference.

The Center and Maricopa Bird Alliance notify FWS and the Forest Service of their intent to pursue these and other legal violations described in detail below in federal court should the agencies fail to timely resolve these concerns within sixty (60) days. Although they are unwilling to delay filing a lawsuit should the agencies fail to timely address these ongoing legal violations, the conservation groups would welcome the opportunity to discuss these matters either in person or by phone at the agencies' convenience.

EXECUTIVE SUMMARY

"**It's well settled that cattle and riparian areas do not mix**."[1]

Department of Justice Attorney Andrew Smith, February 1, 2024

"**We all discussed that the range grazing measures are inadequate to measure needs for sensitive/listed wildlife**."[2]

FWS Biologist Susan Sferra, July 5, 2019

"**Grazing monitoring measures and standards do not accurately assess effects on cuckoo habitat, as well as other listed species**."[3]

FWS … Supplemental Summary of Concerns, October 29, 2018

"**Rivers and streambeds are conduits for life. In no other ecosystem can we as an agency have a greater impact in "*Caring for the land and serving people.*" Protection and enhancement of riparian and aquatic areas is paramount in providing habitat and sustainable water for dependent fish, wildlife, plant species, and human communities alike**."[4]

Forest Service USFS SW Region Riparian and Aquatic Ecosystem Strategy, August 24, 2018

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[1] U.S. Department of Justice ("DOJ") Environment and Natural Resources Division Senior Trial Attorney Andrew A. Smith, February 1, 2024, *New Mexico Cattle Growers' Association, et al. v. United States Forest Service, et al.*, Case 1:23-cv-00150-JB-GBW, Albuquerque, NM, February 1, 2024; Hearing Transcript, page 126; https://biologicaldiversity.org/programs/public_lands/grazing/pdfs/lawsuit-NMCGA-et-al-20240201-HEARING-TRANSCRIPT.pdf.

[2] Email, From: Sferra, Susan; To: Servoss, Jeff [FWS Biologist]; Cc: McIntyre, Julie [FWS Biologist]; Subject: "suggestion from Shawn [FWS Biologist, former USFS Region 3 Threatened and Endangered Species Manager] on grazing BO," July 5, 2019; biologicaldiversity.org/programs/public_lands/pdfs/20190705-EMAIL-FROM-SFERRA-to-SERVOSS-re-GRAZING-STANDARDS-ARE-INADEQUATE-HIGHLIGHTED_NOT-REDACTED.pdf.

[3] Coronado National Forest (FS) Grazing Consultation Supplemental Summary of Concerns, October 29, 2018; biologicaldiversity.org/programs/public_lands/pdfs/coronado-20181029-Coronado-National-Forest-Grazing-Consultation-Supplemental-Summary-of-Concerns-RIPARIAN-MONITORING-NO-GOOD-HIGHLIGHTED_NOT-REDACTED.pdf.

[4] USDA Forest Service - Southwestern Region Riparian and Aquatic Ecosystem Strategy, August 24, 2018; biologicaldiversity.org/programs/public_lands/pdfs/report-20180824-REGIONAL-RIPARIAN-AND-AQUATIC-ECOSYSTEM-STRATEGY-SW-REGION.pdf.

In 1979, the Tonto National Forest, along with the Prescott and Coconino National Forests, produced a report, "Action Program for Resolution of Livestock-Riparian Conflicts on the Salt River and Verde River." The report stated,

> "Late in 1978 The Maricopa Audubon Society wrote the Tonto National Forest of that organization's concern that eagle habitat is not being adequately protected and managed on the Salt and Verde Rivers and advised that Audubon was prepared to take legal action against U.S. Forest Service grazing policy, deemed to be in direct conflict with the Endangered Species Act."
>
> "The Tonto, Coconino and Prescott National Forests began to recognize the importance of the riparian habitat along the Salt and Verde Rivers and elsewhere several years ago."
>
> "Starting last year, the Tonto launched a program to inventory and classify the riparian communities found along all primary stream courses on the Forest. Complimentary biological data are being collected which will eventually lead to the ability to predict impacts on individual wildlife species and groups of species resulting from an action (positive or negative) directed at a riparian area."

Consistent with the observations of Department of Justice Attorney Smith, who is also a published biologist, and consistent with the observations of agency biologists, the Center has presented the Tonto National Forest with documentation of cow grazing damage to Critical Habitat and habitat occupied by endangered species for more than five years, March 12, 2020, March 16, 2020, December 2020, August 11, 2022, November 9, 2022, June 2024, September 2024, January 21, 2025, March 2025, and July 22, 2025.

In its December 2023, Land Management Plan, the Tonto National Forest promised as "guidelines" that:

> "[l]ivestock management practices should allow riparian vegetation to recover"[5]";
>
> "Projects occurring in these areas [of large mature Freemont and narrowleaf cottonwood and Arizona sycamore trees] should incorporate goals to ensure persistence of cottonwood and sycamore communities/forests";[6] [PAGE 121]
>
> "The best available science and/or conservation measures [i.e., mitigation measures] should be used to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain viable populations of species of conservation concern and rare endemic species."[7]

[5] U.S. Forest Serv., *Tonto National Forest Land Management Plan* 121 (Dec. 2023).
[6] *Id.*
[7] *Id.* at 141.

As evidenced by our more than five years of documentation of consistent riparian damage by cow grazing, and now, with the new 2025 survey data included in this Notice, the promises made in the Tonto National Forest's December 2023, Land Management Plan, are, of course, lies.

And as evidenced by FWS' new 2025, BiOp (Lower Verde Complex), FWS again now merely knee-jerk rubber stamps whatever new scheme it receives from another federal agency, no matter scientific rigor, widespread environmental baseline degradation, the "reasonably certain" standard,[8] or the "best scientific … data available" standard.[9]

In the new 2025, BiOp (Lower Verde Complex), the Tonto and FWS rely on the same admittedly ineffective and non-scientific cow grazing utilization limits and new promises of more photo points in spite of documentation that the established photo points have not been checked for years.[10]

Widespread trespass cow grazing by non-permitted cows into riparian areas continues to be problematic on the Tonto National Forest.

Trespass cow grazing by permitted cows also continues to be problematic in these areas.

These trespassing permitted cows are owned by habitually non-compliant permittees who know well that there is no agency monitoring, no agency enforcement, and no significant penalties for their non-compliance while they make money with their cows gaining weight and destroy the Tonto's riparian areas.

These permittees also know that the annual operating instructions that they receive each year are a farce.

As our five years of documentation establishes, the yearly annual operating instructions are purely process boxes checked off for show.

Without a total ban on cow grazing in riparian areas and without diligent monitoring and strict, unbending enforcement, and motivational penalties, cow grazing authorizations are and will continue to result in destruction and adverse modification of the primary constituent elements in designated critical habitat, occupied habitat and habitat necessary for endangered species recovery.

Our March 12, 2020, March 16, 2020, December 2020, August 11, 2022, November 9, 2022, June 2024, September 2024, January 21, 2025, March 2025, and July 22, 2025, Notices and documentation, and this Notice represent the best available scientific information

[8] 50 C.F.R. § 402.17(b) (2019); 84 Fed. Reg. at 44,977.
[9] Endangered Species Act Section 7(a)(2).
[10] The Forest Service variously uses terms such as "utilization limits," "utilization guidelines," and "utilization standards" to describe its practice of allocating a percentage of forage biomass for livestock use. For consistency, when referring to the Forest Service's use of forage utilization to manage grazing, this NOI uses the term "utilization limits."

demonstrating a pattern of predicable and inevitable consequences of annual cow grazing authorizations.

Our surveys, 2021 - 2025 have examined a total of 176 miles of Tonto Nation Forest streams designated as Critical Habitat or occupied by endangered species.

This year's 2025 surveys alone examined 52 miles of these streams documenting that 65% are moderately to significantly damaged by cow grazing.

To add injury to insult, the U.S. Department of Agriculture, the Tonto National Forest's parent organization, has subsidized the ranching operations on the allotments that are the subject of this Notice with an average of $500,000 in subsidies through 2024.

In other words, the Forest Service is paying to destroy its own property while facilitating and ignoring the violations of law to support the increasing destruction.

There is no place for cow grazing in riparian areas in the arid West. Science, law and common sense demand its end.

BACKGROUND

I. THE ESA AND ITS IMPLEMENTING REGULATIONS

The ESA "represent[s] the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tenn. Valley Auth. v. Hill* (*TVA*), 437 U.S. 153, 180 (1978). Section 9 of the ESA prohibits any "person" from "taking" any member of an endangered or threatened species without authorization from FWS. 16 U.S.C. § 1538(a).[11]

Pursuant to Section 7 of the ESA, before undertaking any action that may have direct or indirect effects on any listed species, an action agency must engage in consultation with FWS in order to evaluate the impact of the proposed action. *See id.* § 1536(a). The purpose of consultation is to ensure that the action at issue "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [designated critical] habitat of such species." 16 U.S.C. § 1536(a)(2). As defined by the ESA's implementing regulations, an action will cause jeopardy to a listed species if it

[11] The term "take" is defined broadly to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect." *Id.* § 1532(19). FWS has defined "harass" to include "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering." 50 C.F.R. § 17.3. In addition, "harm" is defined to "include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." *Id.*

"reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. Destruction or adverse modification of critical habitat is defined as "a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species." *Id.*

The evaluation of the effects of the proposed action on listed species during consultation must use "the best scientific . . . data available." 16 U.S.C. § 1536(a)(2). Moreover, after the initiation of consultation, the action agency is prohibited from making "any irreversible or irretrievable commitment[s] of resources. . . which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures." *Id.* § 1536(d).

Consultation under Section 7 may be "formal" or "informal" in nature. Informal consultation is "an optional process" consisting of all correspondence between the action agency and FWS, which is designed to assist the action agency, rather than FWS, in determining whether formal consultation is required. *See* 50 C.F.R. § 402.02. During an informal consultation, the action agency requests information from FWS as to whether any listed species may be present in the action area. If listed species may be present, the action agency is required by Section 7(c) of the ESA to prepare and submit to FWS a "biological assessment" that evaluates the potential effects of the action on listed species and critical habitat. 16 U.S.C. § 1536(c)(1). As part of the biological assessment, the action agency must make a finding as to whether the proposed action may affect listed species and submit the biological assessment to FWS for review and potential concurrence with its finding. *Id.* If the action agency finds that the proposed action "may affect, but is not likely to adversely affect" any listed species or critical habitat and FWS concurs with this finding, then the informal consultation process is terminated. 50 C.F.R. § 402.14(b).

If, on the other hand, the action agency finds that the proposed action "may affect" listed species or critical habitat, then the action agency must undertake formal consultation. 50 C.F.R. § 402.14; *see also* FWS, Endangered Species Consultation Handbook ("Consultation Handbook") at 3-13 (1998). The result of formal consultation is the preparation of a biological opinion ("BiOp") by FWS, which provides FWS's analysis of the best available scientific data on the pre-existing status of the species and how it would be affected by the proposed action on top of the species' baseline condition.[12]

A BiOp must include a description of the proposed action, a review of the status of the species and critical habitat, a discussion of the environmental baseline, and an analysis of the direct and indirect effects of the proposed action and the cumulative effects of reasonably certain future state, tribal, local, and private actions. *See* Consultation Handbook at 4-14 to 4-31. At the end of the formal consultation process, FWS determines whether the proposed action—in addition to the pre-existing environmental baseline of the species—is likely to jeopardize the

[12] When preparing a BiOp, FWS must (1) "review all relevant information," (2) "evaluate the current status of the listed species," and (3) "evaluate the effects of the action and cumulative effects on the listed species," 50 C.F.R. § 402.14, using "the best scientific and commercial data available," 16 U.S.C. § 1536(a)(2).

continued existence of a listed species or destroy or adversely modify any designated critical habitat.

If FWS determines that the proposed action is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat, but that the proposed action will nevertheless result in the incidental taking of listed species, then FWS must provide the action agency with a written Incidental Take Statement ("ITS") specifying the "impact of such incidental taking on the species" and "any reasonable and prudent measures that [FWS] considers necessary or appropriate to minimize such impact" and setting forth "the terms and conditions . . . that must be complied with by the [action] agency . . . to implement [those measures]." 16 U.S.C. § 1536(b)(4).

If FWS determines that the action will jeopardize a listed species or destroy or adversely modify designated critical habitat, then FWS must offer the action agency reasonable and prudent alternatives to the proposed action that will avoid jeopardy to a listed species or adverse critical habitat modification, if such alternatives exist. *Id.* § 1536(b)(3)(A).

Where the action agency retains or is authorized by law to maintain "discretionary Federal involvement or control over the action," it *must* reinitiate consultation where "the amount or extent of taking specified in the [ITS] is exceeded," "new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered," "the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence," and/or "a new species is listed or critical habitat designated that may be affected by the identified action." 50 C.F.R. § 402.16(a).

FWS and the action agency, in arriving at their determinations under the ESA, are required by law to use "the best scientific . . . data available." 16 U.S.C. § 1536(a)(2). Additionally, FWS and the action agency, in arriving at these determinations, must provide the "benefit of the doubt" to endangered species. *See, e.g.*, 51 Fed. Reg. 19,952 ("In formulating its biological opinion, the Service must provide the 'benefit of the doubt' to the species concerned." (citing H.R. Conf. Rep. No. 697 at 12)); *WildEarth Guardians v. Jeffries*, 370 F. Supp. 3d 1208, 1230 (D. Or. 2019) ("'Congress' intent' under Section 7 was 'to give the benefit of the doubt to the species.'" (quoting *Conner v. Buford*, 848 F.2d 1441, 1454 (9th Cir. 1988)); *Sierra Club v. Marsh*, 816 F.2d 1376 (9th Cir. 1987) ("Congress clearly intended that the COE give 'the highest of priorities' and the 'benefit of the doubt' to preserving endangered species." (citing *TVA,* 437 U.S. at 174)).

Without an adequate BiOp and an ITS in place (or, in the context of informal consultation, absent a lawful concurrence in a "not likely to adversely affect" determination), any activities likely to result in incidental take of members of listed species are unlawful. *Id.* § 1538(a)(1)(B). Accordingly, anyone who undertakes such activities, or who authorizes such activities, *id.* § 1538(g), may be subject to criminal and civil federal enforcement actions, as well as civil actions by citizens for declaratory and injunctive relief, *see id.* § 1540. This includes action agencies, which must ensure their own compliance with the ESA; an action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species"

merely by relying upon a BiOp, concurrence, or other consultation document issued by FWS. *Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990).

Additionally, where, as here, private citizens or non-governmental organizations seek to "compel agencies to comply with the substantive provisions of the ESA," such lawsuits "arise under the ESA citizen suit provision, and not the APA." *Wash. Toxics Coal. v. EPA*, 413 F.3d 1024, 1034 (9th Cir. 2005) (citing *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1056 (9th Cir. 1994)). As a practical matter, "claims arising under the ESA are not limited to the administrative record review restrictions of the APA." *Or. Nat. Desert Ass'n v. Kimbell*, 593 F. Supp. 2d 1213, 1216 (D. Or. 2008). Therefore, should the Conservation Organizations be forced to pursue this matter in court, they may seek discovery from the Forest Service. *See generally NRDC v. Zinke*, Civ. No. 1:05–cv–01207, 2018 WL 1899609 (E.D. Cal. Apr. 20, 2018) (allowing NRDC to depose agency experts in connection with claims brought under the ESA's citizen suit provision).

II. FACTUAL BACKGROUND

A. The Tonto National Forest

The grazing allotments on the Tonto National Forest contain vital habitat—including designated critical habitat—that is crucial to the survival and recovery of several listed species, including: (1) the razorback sucker; (2) the northern Mexico garter snake; (3) the narrow-headed garter snake; (4) the spikedace; (5) the yellow-billed cuckoo ("cuckoo"); (6) the southwestern willow flycatcher ("flycatcher"); (7) the Chiricahua leopard frog ("frog"); and (8) the Gila chub. The life histories and habitat needs of these species are extensively detailed in the 2022 and 2025 NOIs and are incorporated here by reference.

B. The Conservation Organizations' Efforts to Compel ESA Compliance

On November 9, 2022, the Center submitted the 2022 NOI to notify the Forest Service and FWS of its intent to sue the agencies for ESA violations that in connection with the authorization of grazing activities on sixteen grazing allotments within the Tonto National Forest.

Shortly after submitting the 2022 NOI, in February 2023, the Forest Service and FWS met with the Center to discuss the organization's ongoing concerns. At that meeting, the Center agreed to refrain from filing a lawsuit challenging the agencies' ESA compliance in connection with grazing on the Tonto National Forest on the express basis of the Forest Service's assurances that the agency would provide quarterly reports to the Center detailing the agencies' efforts to exclude cattle from designated critical habitat, including by monitoring and maintaining fencing. The agencies also agreed to reinitiate consultation on all of the allotments named in the 2022 NOI. The Center expressly reserved its right to pursue judicial review of the Forest Service and

FWS's violations of the ESA in the event that livestock continue to graze riparian and critical habitat in the allotments at issue.

Unfortunately, as documented in the Conservation Organizations' 2025 NOI, livestock grazing in riparian and designated critical habitat on the allotments at issue has continued, resulting in severe, pervasive habitat deterioration and degradation. Accordingly, on January 21, 2025, the Center submitted the 2025 NOI based on surveys of the allotments at issue that were conducted in 2024. These surveys exposed the Forest Service's lackluster efforts at excluding cattle from riparian and critical habitat, revealing that cattle are continuing to cause severe environmental damage across the allotments identified in the 2022 NOI.

Yet, more than two and a half years after the Forest Service agreed to initiate/reinitiate consultation on the allotments at issue—and as livestock continue to worsen habitat deterioration and degradation in riparian and designated critical habitat—the Forest Service still has not even taken that first critical step to begin the consultation process, i.e., the submission of a biological assessment to FWS. As explained below, not only is this a violation of the 2023 agreement reached with the Center, it is also a clear violation of the ESA, its implementing regulations, and the Administrative Procedure Act ("APA").

Accordingly, with this NOI—the Conservation Organizations' *fourth* NOI with respect to the Tonto National Forest's livestock grazing program—we provide additional documentation and irrefutable evidence from surveys conducted over the past eight months (i.e., during 2025) that livestock continue to cause significant and widespread damage to riparian and designated critical habitat across the Tonto National Forest, including in numerous area that ostensibly are strictly off-limits to grazing. Specifically, the 2025 surveys presented in this NOI document the presence of: livestock and cow-sign (e.g., feces, fresh hoofprints, freshly trampled streambanks, grazed habitat, etc.) within exclosures and other fenced riparian and critical habitat. The 2025 surveys likewise reveal significant adverse impacts and habitat degradation in designated critical habitat within the allotments at issue, including habitat within purportedly "inactive" pastures and livestock exclosures. *See* Attach. 3.[13] Also included in this NOI is the Center for Biological Diversity's *2024 Annual Report*, completed in 2025, summarizing region-wide surveys of livestock grazing impacts to critical habitat including within the Tonto National Forest from 2017-2024. *See* Attach. 4.

Taken together, the evidence provided in the 2022 NOI, 2025 NOI, and herein constitutes new information revealing that ongoing significant, destructive grazing is presently affecting riparian and critical habitat in a manner or to an extent not previously considered or authorized in any BiOp or concurrence. The information, likewise, collectively establishes that take thresholds have been exceeded, and that in several instances, the grazing regime has been modified in a

[13] Attachment 3 provides representative photographic evidence demonstrating that livestock grazing on the allotments at issue is actively degrading riparian and designated critical habitat, such as: browsing on woody streamside recruitment; trails meandering through riparian zones; streamside impacts resulting in shearing of banks into vertical surfaces; heavily diminished grass and herbaceous growth; myriad instances of wallows and bare soils; significant removal of riparian vegetation and adjacent understory; extensive areas of exposed, compacted soils around natural springs, seeps, and surface water; and pervasive trampling and severe soil disturbance.

manner that is affecting listed species and critical habitat to an extent that has not been considered in any previous consultation. Finally, the information shows that grazing is affecting newly listed species and critical habitat that have never undergone any consultation. Indeed, as the U.S. Department of Justice aptly stated, "[i]t's well settled that cattle and riparian areas do not mix."[14]

Accordingly, this NOI supplements the 2022 and 2025 NOIs and serves as a final warning to the Forest Service and FWS that absent immediate action to adequately protect listed species and critical habitat from the effects of the failed grazing regime, the Conservation Organizations will seek a court order to compel compliance with the ESA.

C. Allotments at Issue

The allotments at issue in this NOI are governed by a hodgepodge of BiOps and concurrences dating back to at least 1995. Only twelve of the twenty-five allotments at issue are covered by decision documents issued within the last ten years.[15] Nine of the allotments have BiOps or concurrences that are so outdated that they contain discussions of grazing's effects on the bald eagle, the final population of which was famously delisted in 2012.

Many of the allotments contain listed species and/or designated critical habitat for which consultation has *never* been completed, meaning that the agencies cannot "insure" that grazing complies with the ESA's strict no-jeopardy and no-adverse-modification commands. This is a clear violation of sections 7 and 9 of the ESA and its implementing regulations. *See, e.g.*, 50 C.F.R. § 402.16(a)(4) (requiring reinitiation of consultation "if a new species is listed or critical habitat designated that may be affected by the identified action"); 16 U.S.C. §§ 1536(o), 1538.

Even for the species and critical habitats for which consultations have occurred and resulted in a BiOp or concurrence, it is clear from evidence presented in the Conservation Organizations' previous NOIs and herein that "the amount or extent of taking specified in the [ITS] is exceeded," "new information" has "reveal[ed] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered," and/or "the identified action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence." *Id.* § 402.16(a)(1)-(3); *see also* 16 U.S.C. §§ 1536(o), 1538. Accordingly, the agencies' failure to reinitiate consultation on those allotments with operative BiOps and/or

[14] Environment and Natural Resources Division Senior Trial Attorney Andrew A. Smith. New Mexico Cattle Growers' Association, et al. v. United States Forest Service, et al., Case 1:23-cv-00150-JB-GBW, Albuquerque, NM, February 1, 2024, page 126; NM CATTLE v USFS OMNI 020124.

[15] This NOI concerns fourteen individual allotments and three complexes consisting of eleven allotments total. Therefore, this NOI concerns twenty-five total allotments on the Tonto National Forest.

concurrences likewise violates sections 7 and 9 the ESA and its implementing regulations. *See, e.g.*, 16 U.S.C. §§ 1536, 1538; 50 C.F.R. §§ 402.13, .14, .16.

Below, we briefly summarize for each allotment at issue: the operative ESA decision authorizing grazing (to the extent it exists); the Conservation Organizations' concerns with the Forest Service's grazing management; the observed effects of grazing on listed species and riparian and designated critical habitat; and the procedural and substantive requirements imposed by the ESA on the agencies in light of the evidence presented in the 2022 NOI, 2025 NOI, and herein.

Gisela Allotment

The Gisela Allotment is located along Tonto Creek in the Payson Ranger District of the Tonto National Forest. The Allotment encompasses critical habitat for four listed species: the flycatcher; the Northern Mexico gartersnake; the narrow-headed gartersnake; and the spikedace. The Gisela Allotment has *never* undergone *any* ESA consultation for continued grazing activities. Accordingly, it is unknown whether grazing will jeopardize listed species or adversely modify designated critical habitat.

Cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Gisela allotment. 34.085716, -111.287011. July 4, 2025.

The information and evidence presented in the Conservation Organizations' previous NOIs and herein demonstrate that the initiation of consultation is required because grazing activities are affecting listed species critical habitat without any valid consultation or

concurrence in place. *See, e.g.*, 16 U.S.C. §§ 1536, 1538. As documented by the Conservation Organizations' prior NOIs, overgrazing has significantly degraded designated critical habitat for the flycatcher, two garter snakes, and spikedace. "Cattle sign, both old and new, was present" in riparian critical habitat along Tonto Creek, and "[e]vidence of streamside grazing and erosion was frequent." Additionally, ATV tracks were observed along with cow-sign in designated critical habitat for the two garter snakes and the spikedace.

In response to the Conservation Organizations' concerns, the Forest Service insisted that "[l]ivestock are not scheduled in summer pastures of this allotment containing reaches of Tonto Creek." The Forest Service did not explain how it could authorize *any* impacts to listed species or designated critical habitat without first undergoing ESA consultation. To the contrary, as the ESA and caselaw make clear, it is "[o]nly after [an agency] complies with § 7(a)(2)" that "any activity that may affect the protected [species]" can "go forward." *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1056-57 (9th Cir. 1994).

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Gisela Allotment is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 70-71. Damage to spikedace, flycatcher, northern Mexican garter snake, and narrow-headed garter snake critical habitat is significant. *Id.* at 71. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Copper Creek Allotment

The Copper Creek Allotment is located within the Cave Creek Ranger District and encompasses portions of Silver Creek. The Allotment contains designated critical habitat for the Gila chub. Under an agreement with adjacent federal and state land management agencies, the Allotment is supposed to remain vacant. However, since 2011, temporary grazing permits have been issued *every year*, essentially acting as de facto term permits to allow continued grazing. Despite the fact that yearly annual operating instructions issued under the temporary permits insist that grazing is in compliance with the ESA, the Copper Creek Allotment has *never* undergone *any* consultation for continued grazing activities. Yet, the Forest Service has authorized grazing in pastures containing designated Gila chub critical habitat.

Grazed Gila chub critical habitat in Silver Creek, Copper Creek allotment, Tonto National Forest. 34.25663, -111.969073. January 4, 2022.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered. As documented by the Conservation Organizations' prior NOIs, "[r]iparian zones and surrounding terraces within designated Gila chub critical habitat were significantly impacted by cattle." For example, the NOIs included photographic evidence of "[b]ank erosion and significant soil impacts, including large areas of bare soil." Even so, the NOIs explained that the habitat has high potential for recovery, provided livestock are excluded.

In response to the Conservation Organizations' concerns, the Forest Service insisted that the "Copper Creek allotment was found to have a 'no effect' determination for Gila chub due to post wildfire flooding resulting in it no longer containing necessary primary constituent elements." The Forest Service did not provide any support for its conclusory assertion, nor did it

address whether the "no effect" determination was reasonable in light of the habitat's conservation value due to its high potential for recovery if livestock are excluded.

Dagger Allotment

The Dagger Allotment is located in the Globe Ranger District of the Tonto National Forest and includes the confluence of Cherry Creek and the Salt River. The allotment contains designated critical habitat for the razorback sucker and the flycatcher.

Significant unauthorized/trespass grazing damage in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and adjacent to Razorback sucker critical habitat. 33.638541, -110.795837. June 12, 2025.

The effects of grazing on listed species and designated critical habitat within the allotment were last examined nearly *thirty years ago*, in a BiOp issued in December 1995 ("1995 BiOp"). Relevant here, the 1995 BiOp analyzed the impacts of grazing on the razorback sucker and its critical habitat, as well as the flycatcher. Notably, the 1995 BiOp predates the designation of flycatcher critical habitat. *See* 78 Fed. Reg. 344 (Jan. 3, 2013). Therefore, despite the conceded importance of this population and habitat to flycatcher survival and recovery, there has *never* been a consultation regarding the effects of continued grazing on flycatcher critical habitat within this allotment.

The 1995 BiOp acknowledges that the Dagger Allotment provides important habitat for the endangered razorback sucker due to "the variety of conditions present in contrast to more confined portions of the river." 1995 BiOp at 18. The 1995 BiOp further conceded that continued grazing would significantly degrade the riparian habitat surrounding Cherry Creek and Salt

River, including trampling of the streambeds and riparian vegetation, increased sedimentation and runoff, and decreased water quality. *Id.* at 17-19.

The 1995 BiOp nevertheless determined that continued grazing would not jeopardize the razorback sucker or adversely modify its designated critical habitat. As a result, despite the habitat's importance and the species' dire baseline condition both within the allotment and range-wide, FWS proceeded to authorize extensive grazing that the 1995 BiOp conceded would result in serious impacts to razorback suckers and their designated critical habitat within the allotment. *Id.* at 16-19.

Although the ITS appended to the 1995 BiOp ("1995 ITS") acknowledged that take would occur as a result of continued grazing, it nevertheless insisted that the "extent of incidental take of razorback suckers . . . is not definable at this time." 1995 BiOp at 24. FWS therefore insisted that to minimize take, it is critically important that the entire action be implemented, including planned projects to protect and improve riparian resources and watershed conditions. 1995 BiOp at 24. FWS therefore used "timely project completion, or the lack of completion . . . as an index to identify when incidental take has been exceeded." *Id.* The 1995 ITS therefore stipulated that take would be exceeded in two scenarios: (1) "[i]f the new grazing rotations are not fully implemented within one full grazing cycle for the particular allotment or five years"; and (2) "[i]f the ongoing and other required monitoring programs are decreased or discontinued." *Id.* Neither of these triggers contain any meaningful relationship with the life-cycles or habitat requirements of the razorback sucker.

The 1995 ITS also imposed reasonable and prudent measures that "are required to reduce the level of incidental take resulting from implementation of the proposed action." 1995 BiOp at 25. Specifically, the Forest Service was required to implement measures: (1) "to ensure that the monitoring program for th[e] action is sufficient to evaluate real improvement to wildlife habitats and vegetation communities"; (2) "to provide for additional revision of the grazing plans if significant progress toward meeting objectives has not occurred by the end of the 10-year grazing permit period"; and (3) "to ensure that those improvements affecting endangered or threatened species or in their habitats are constructed." *Id.* As demonstrated by the Conservation Organizations' NOIs, any measures purportedly taken to ensure "real improvement" to wildlife habitat and vegetation communities or make "significant progress" towards meeting habitat goals have completely and utterly failed. Therefore, the action is no longer being implemented in the manner envisioned by the 1995 BiOp.

Initially, the 1995 BiOp determined that continued grazing *would* jeopardize the continued existence of the southwestern willow flycatcher. Although the Forest Service proposed to implement various habitat improvement projects, FWS explained that such projects would only address "one of the primary threats to th[e] species," i.e., habitat loss and modification. 1995 BiOp at 20-21. The Forest Service's proposal failed to address "the second equally important issue of brood parasitism by cowbirds." *Id.* at 21. FWS noted that "even with the expected habitat improvements, this population may continue to decline due to brood parasitism." *Id.* Such an impact would be devastating for this "important" population, which "may be a 'source' population contributing to the survival of the species in other portions of its range." *Id.* In fact, "*[a]ny impacts* on [flycatcher habitat], or on individual [flycatchers] along the Salt River, have the potential to negatively impact the survival and recovery of the [flycatcher]."

Id. FWS therefore proposed—and the Forest Service accepted—reasonable and prudent alternatives that ostensibly would avoid jeopardy. These alternatives require the Forest Service to monitor the flycatcher population and implement a cowbird management program in the flycatcher breeding area. *Id.* at 26. The Forest Service incorporated the suggested reasonable and prudent alternatives into the proposed action, avoiding the issuance of a jeopardy opinion.

The 1995 BiOp thus determined that with increased monitoring and a cowbird management program, continued grazing would not jeopardize the southwestern willow flycatcher. As a result, despite the habitat's conceded importance and the species' dire baseline condition both within the allotment and range-wide, FWS proceeded to authorize extensive grazing that the 1995 BiOp conceded would result in serious impacts to the species.

The 1995 ITS acknowledged that take of the flycatcher "may result from the loss of a local nesting site, loss or disturbance of a nest, loss or modification of adjacent habitat for population expansion and nest parasitism by cowbirds." *Id.* at 25. However, FWS insisted that take of the flycatchers "will be difficult to determine" and that the agency "cannot predict the exact level of take that could occur." *Id.* FWS nevertheless conceded that "cowbird parasitism in th[e] area could result in the take of the entire breeding population." *Id.* The 1995 ITS therefore neither authorized take, nor included any reinitiation triggers for the flycatcher, in direct contravention of the ESA.

The 1995 BiOp directed the Forest Service to "continue to monitor" the southwestern willow flycatcher population by "obtain[ing] data on an annual basis including abundance, distribution, reproductive success, parasitism levels, causes of nest failure, territory size, habitat composition within territories, and nest-site habitat composition." 1995 BiOp at 5, 26. The 1995 BiOp also directed the Forest Service to "[i]nitiate [a] cowbird trapping program." *Id.* at 26-27.

Since the issuance of the 1995 BiOp, the boundaries of the Dagger allotment have been significantly altered. Additionally, between 2000 and 2009, grazing privileges were suspended due to the permitee's failure to comply with the Allotment Management Plan. Grazing privileges were reinstated in 2009; however, no new ESA consultation has ever been conducted. Meanwhile, grazing continues to cause serious habitat degradation within designated razorback sucker and flycatcher critical habitat. Indeed, the 2022 NOI documented extensive livestock impacts and riparian degradation within critical habitat on pastures that are allegedly closed to grazing. *See* 2022 NOI at 78-89. These impacts include well-defined hoofprints and cow dung along Salt River within flycatcher critical habitat, *id* at 80, and grazed riparian areas, *id.* at 83. Nor is it apparent that the Forest Service has consistently implemented the reasonable and prudent measures and/or alternatives as required by the 1995 BiOp and ITS.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R.

§ 402.16. The adverse impacts on flycatchers and their critical habitat are particularly concerning because FWS initially determined that grazing *would jeopardize the continued existence of the species*. According to the 1995 BiOp—which itself is arbitrary—grazing could only occur consistent with the ESA with consistent monitoring, active management, and habitat protection. It is apparent from the degraded habitat conditions that none of those required terms and conditions have been effectively implemented. As a result, grazing on the Dagger Allotment almost certainly jeopardizes the flycatcher in violation of sections 7 and 9 of the ESA.

Worse, with respect to the flycatcher's critical habitat, the agencies have *never* undertaken a consultation to ensure that grazing does not violate the strict mandates of the ESA. Yet, as documented by the conservation organizations, grazing continues to severely impact such species and critical habitat without the assurance that such impacts will neither jeopardize the species nor adversely modify their critical habitat. This is a clear violation of the ESA. *See Pac. Rivers*, 30 F.3d at 1056-57.

In response to the Conservation Organizations' concerns, the Forest Service did not acknowledge that its thirty-year-old consultation is not only severely outdated but also fails to even cover flycatcher critical habitat. Instead, ignoring the photographic evidence of serious livestock impacts on riparian areas, the Forest Service insisted that "[l]ivestock are not currently authorized to graze the Salt River or most of the riparian sections of Cherry Creek." Forest Serv. 2025 Resp. at 2-3. According to the Forest Service, if unauthorized cattle are observed in closed areas, the agency "works with the permittee to have these livestock removed." *Id.* at 3. The Forest Service did not disclose how often monitoring for unauthorized livestock occurs, how long the removal process typically takes, nor how often unauthorized cattle access closed riparian areas. Nor did the agency explain how it could authorize grazing that indisputably adversely affects—and even jeopardizes—listed species and their critical habitat without a lawful consultation in place. Therefore, the myriad legal violations identified by the Conservation Organizations in their NOIs and herein have not been adequately addressed.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Dagger Allotment is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 2-8. For instance, damage to flycatcher critical habitat is "significant," and "fresh tracks" were observed in flycatcher critical habitat during the nesting season. *Id.* at 4-5. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Seventy-six and Pinto Creek Allotments

The Seventy-six Allotment is bounded on one side by the Tonto Creek and contains designated critical habitat for four species: the flycatcher; the northern Mexican and narrow-headed garter snakes; and the spikedace.

Significant cattle impacts on Seventy-Six allotment in southwestern willow flycatcher critical habitat and during flycatcher nesting season. 34.032152, -111.29096. June 18, 2024.

The Pinto Creek allotment lies southeast of Roosevelt Reservoir and encompasses Pinto Creek. The Allotment contains designated critical habitat for cuckoos. Although "no flycatchers nest on this [A]llotment," "there is both suitable and potential habitat along Pinto Creek." 2002 BiOp at 110.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.483089, -110.996979. June 13, 2025.

The effects of continued grazing on Seventy-six and Pinto Creek Allotments were last examined in the 2002 BiOp. Notably, the 2002 BiOp predates: (1) the listing of the Northern Mexican and narrow-headed garter snakes and the designation of critical habitat for the two species; (2) the listing of the cuckoo and the designation of critical habitat for the species; and (3) the designation of critical habitat for the flycatcher. Accordingly, there has never been a consultation to determine whether grazing on the allotments will jeopardize the continued existence of the two garter snakes or the cuckoo, nor whether such grazing will adversely modify designated critical habitat for the two snakes, the cuckoo, or the flycatcher. As documented by the conservation organizations, grazing continues to severely impact such species and critical habitat without the assurance that such impacts will neither jeopardize the species nor adversely modify their critical habitat, in direct contravention of the ESA's strict procedural and substantive mandates. *See Pac. Rivers*, 30 F.3d at 1056-57.

Relevant here, the 2002 BiOp analyzed the impacts of grazing on the flycatcher in the Seventy-six and Pinto Creek Allotments. With respect to the Seventy-six Allotment, the 2002 BiOp explains that Tonto Creek, which lies along the Allotment's boundary, "provides potential habitat" for the species. 2002 BiOp at 106. However, as FWS acknowledged in the 2002 BiOp—the most recent BiOp concerning grazing in the allotment—"Tonto Creek and its uplands (tributaries, range condition, upstream habitat) are a severely stressed system, with a long history of overgrazing, human activity, and development." *Id.* In fact, due to "[a] combination of poor

upland watershed management, overgrazing, trespass cattle, recreation, and development," the development of suitable riparian habitat for the flycatcher has been "prevented . . . from developing and persisting" in the area. *Id.*

Despite acknowledging that the flycatcher "is *extremely endangered* with loss of riparian habitat as the prime cause," and that "the environmental baseline throughout the action area is degraded with grazing being a significant contributor to poor riparian conditions," 2002 BiOp at 117 (emphasis added), the 2002 BiOp concurred with the Forest Service's determination that ongoing grazing was not likely to adversely affect the flycatcher, *id.* at 208.

In support of its determination, the Forest Service explained that "grazing does not occur within two miles of the occupied habitat located on the Tonto Basin allotment, and continuing cowbird trapping and monitoring programs are in place." *Id.* at 208. At the same time, the Forest Service acknowledged that "there is great potential for suitable habitat to develop along the length of Tonto Creek in this allotment." *Id.* To that end, the Forest Service explained that it would "prevent grazing along Tonto Creek in the Seventy Six allotment" and fence off riparian habitat. *Id* at 117. However, FWS noted that "most riparian habitat" on the Seventy-six Allotment "is unsuitable for flycatchers, poor upland conditions are promoting excessive flooding, and grazing is proposed to continue." *Id.* Therefore, even if the Forest Service excludes livestock from riparian habitat and implements other protective measures—including "conservative grazing levels" and "monitoring"—such "changes will not improve upland and riparian habitat conditions" on either allotment "sufficiently to develop potential nesting habitat into suitable habitat." *Id.* Neither the Forest Service nor FWS examined the impacts of the loss of habitat on the two allotments to the survival or recovery of the flycatcher, particularly given the proximity of such habitat to occupied habitat and high potential for recovery.

With respect to the Pinto Creek Allotment, the 2002 BiOp acknowledged that "grazing" within the Allotment "is preventing habitat from reaching suitability" for the flycatcher. *Id.* at 110. The 2002 BiOp reported that historic grazing had resulted in the "[e]xcessive use of herbaceous plants, alteration of streambanks, and trampling of riparian plants." *Id.* at 113. As a result, "both riparian and soils were rated as unsatisfactory" throughout the 34,170 acre-Allotment. *Id.* at 111. In fact, "[r]iparian habitat is unsatisfactory throughout the action area with little to no suitable streamside habitat." *Id.* at 118. This is troubling, as the "upland range and riparian habitat along" Pinto Creek "play[s] a *crucial role*" in "providing potential nesting habitat and protecting riparian habitat on larger streams from flooding." *Id.* (emphasis added) Yet, far from protecting such degraded riparian habitat from further deterioration from grazing, the 2002 BiOp admits that "[a]lmost all of the proposed grazing in potential flycatcher nesting habitat (14 of 15 miles) is on Pinto Creek." *Id.* at 118. The 2002 BiOp suggests that because grazing in Pinto Creek will be limited to the winter season, the impacts to flycatcher habitat will be minimal. *See id.* at 118-19. Yet, it also acknowledges that "[g]razing during the winter can still cause severe damage to riparian areas." *Id.* at 113. In fact, winter use "caused significant damage" to Pinto Creek Allotment during previous grazing seasons. *Id.*

The 2002 BiOp conceded that "[g]razing of much Federal land for the last 75 years has degraded and prevented recovery of flycatcher habitat," and that "[a]s a result, grazing was a significant cause for listing the bird as endangered." *Id.* at 113. The 2002 BiOp further conceded that "because of poor habitat quality, free flowing streamside riparian areas under grazing

management of the Forest have no known nesting flycatchers," despite the fact that "over a 100 miles of potential habitat exists." *Id.* Yet, the 2002 BiOp nevertheless determined that grazing would not jeopardize the continued existence of the flycatcher. *Id.* at 119.

In support of its determination, the 2002 BiOp explained that "[n]o take is anticipated to occur," as "grazing use on the allotments has been diminished" and "a relatively short distance of riparian area will be grazed and that grazing will occur during winter months." *Id.* at 119. It also insisted that use of Pinto Creek by flycatchers was "uncertain[]," despite the existence of suitable habitat in close proximity to occupied habitat. *Id.* In any event, the 2002 BiOp insisted that "monitoring will be conducted" to ensure that grazing remained within the proscribed utilization limits and to determine the extent of habitat use by flycatchers. *Id.* The 2002 BiOp did not meaningfully examine the impacts of allowing nearly all of the potential flycatcher nesting habitat along Pinto Creek to be grazed, particularly in light of the degraded condition of flycatcher habitat throughout the forest. *See id.* at 113, 118.

Ultimately, the 2002 BiOp authorized grazing up to a twenty percent utilization limit in potential habitat on Pinto Creek Allotment. *Id.* at 113. It insisted that grazing at that level "is lower than the previous standard applied in riparian areas on the Forest (40-60 percent)," and further asserted that "[i]f these new levels are strictly followed, it will reduce, but not eliminate the continued impact on riparian areas." *Id.* The BiOp did not explain how the twenty percent standard promoted the recovery of flycatchers or their habitat.

With respect to both its no-jeopardy determination and no-adverse-effects concurrence, the 2002 BiOp acknowledged that its analysis of the effects of grazing relied upon the assumption that mitigation measures—in particular, monitoring of utilization limits and the fencing of critical habitat to exclude grazing in riparian areas—would be successful. Hence, to ensure compliance with the requirements of the ESA, "[m]aintaining fences and monitoring conditions and use of allotments before, during, and after cattle are present *is needed* to ensure that trespass cattle are not contributing to or causing use limits to be surpassed." *Id.* at 114 (emphasis added). Yet, at the same time, FWS acknowledged a history of noncompliance with applicable utilization limits and closures. For example, in 1999, "trespass cattle in the Tonto Creek Riparian Unit that had nearly exceeded use limits before the time cattle were supposed to be in the pasture." *Id.* Similarly, in the Pinto Creek Allotment, "[h]igh levels of use went undetected in the Pinto Creek winter pastures during the 2000 grazing season," due in large part to the fact that the Forest Service has limited ability to "monitor levels and note rapid changes." *Id.* at 89. The BiOp did not reconcile this history of noncompliance with use limits and area closures with its assumption—underpinning its entire analysis and critical to its concurrence in the Forest Service's conclusion that grazing would not adversely affect the flycatcher—that livestock would actually be excluded from riparian habitat.

The 2002 BiOp also examined the impacts of grazing in the Seventy-six Allotment on the spikedace. The 2002 BiOp explained that the Seventy-six Allotment contains eight miles of designated critical habitat for the species along Tonto Creek. *Id.* at 26. The 2002 BiOp noted that "Tonto Creek within the . . . allotment was fenced and excluded from livestock," which FWS insisted would "*obviously* benefit riparian condition[s]." *Id.* (emphasis added). The 2002 BiOp did not acknowledge the history of noncompliance with such closures, including the documented history of regular exceedances of utilization limits and trespass cattle in unauthorized areas. *See,*

e.g., *id.* at 114. Nor did the 2002 BiOp acknowledge that this foundational assumption—i.e., that fencing riparian habitat would successfully exclude livestock and as a result, improve riparian habitat—has consistently and repeatedly failed due to the ineffectiveness of exclusion methods (e.g., wire and pipe fencing, which the conservation organizations have documented are ineffectual barriers to cattle) and inconsistent monitoring.

Instead, the 2002 BiOp insisted, without any evidence, that "[f]encing and excluding cattle from Tonto Creek on the Seventy Six allotment will protect riparian vegetation and allow it to regenerate," which "in turn will promote the development of streambanks and improve stream morphology." *Id.* at 29. According to FWS, "[t]hese benefits will significantly reduce the effects of grazing the Seventy Six allotment on spikedace." *Id.* The Forest Service determined that grazing may adversely affect designated critical habitat on the allotment. *Id.* at 26. Accordingly, relying in significant part on the assumption that "livestock are excluded from critical habitat on Tonto and Rye Creeks," the 2002 BiOp concluded that grazing is "not likely to jeopardize the continued existence of the spikedace," or "destroy or adversely modify designated critical habitat." *Id.* The 2002 ITS appended to the 2002 BiOp explained that FWS did "not anticipate any incidental take of spikedace." *Id.* at 30.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16. As reported by the conservation organizations in their multiple NOIs, since the 2002 BiOp, overuse of northern Mexican garter snake, narrow-headed garter snake, cuckoo, flycatcher, and spikedace critical habitat within the Seventy-six and Pinto Creek Allotments (as applicable) has continued, despite the measures ostensibly implemented to exclude livestock from riparian areas. Indeed, with respect to the Seventy-six Allotment, as documented in the 2022 and 2025 NOIs, cattle impacts in designated critical habitat "were prevalent," including "[a] near complete removal of groundcover, clear signs of woody vegetation browsing, and frequent fecal deposits . . . along the creekside, adjacent banks and benches, and within the water itself." Additionally, "[n]umerous cows were observed" in areas supposedly excluded from grazing. Similarly, with respect to the Pinto Creek Allotment, recent surveys conducted by the Center have documented significant damage to cuckoo designations from unauthorized grazing and trespass cattle during the 2025 grazing season. *See* Attach. 2. The Center also documented nonfunctional exclosure fencing, leaving habitat that is supposed to be protected exposed to unlimited grazing.

The information and evidence presented in the NOIs and herein likewise demonstrate the futility of utilization limits as a grazing management tool, and establish that the agencies' reliance upon them to fulfil their substantive duties under the ESA is arbitrary and capricious, both within these allotments and Forest-wide. The 2002 BiOp *conceded* that "[r]educing percent use of riparian woody and herbaceous plants and on upstream ranges is not the most expeditious

recovery action to establish or rehabilitate flycatcher nesting habitat." *Id.* To the contrary, "[t]he elimination of grazing in potential habitat represents *the quickest and most certain way to recover riparian habitat* suitable for nesting flycatchers." *Id.* Although authorized utilization limits have ostensibly decreased, "permitted numbers [of livestock] remain unchanged." *Id.* As a practical matter, this means that the same number of cattle must now consume less forage. *Id.* Although the 2002 BiOp insists this situation can be managed "intensive monitoring, herding of cattle, or a reduction in stocking levels," in practice, such adaptive management rarely occurs. *Id.* As a result—and as evidenced by the data presented by the Center in its previous NOIs and herein, as well as by the Forest Service's own monitoring reports—utilization limits are continually exceeded, resulting in continued deterioration and degradation of riparian habitat. Yet, the agencies persist in doing the same thing over and over—i.e., relying on utilization limits that not only have no relation to the life-cycle or habitat needs of listed species, but that are continually exceeded and have repeatedly failed to stall the degradation of riparian and upland habitat, let alone improve such habitat—but expecting different results. *See Sessions v. Dimaya*, 138 S. Ct. 1204, 1223 (2018) (describing one definition of "[i]nsanity" as "doing the same thing over and over again, but expecting different results."). "Administrative discretion is not a license to engage in Einstein's definition of folly—doing the same thing over and over again and expecting a different result." *Guindon v. Pritzker*, 31 F. Supp. 3d 169, 193 (D.D.C. 2014).

Accordingly, FWS's key assumptions that supported its determinations and concurrences in the 2002 BiOp—e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. The 2002 BiOp is therefore invalid. *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) ("[W]here an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures, the [BiOp] for the proposed action becomes invalid."). Without a valid BiOp, the Forest Service is "no longer insulate[d]" from the ESA's "substantial civil and criminal penalties for takings of listed species." *Id.* (citation omitted). Yet, the Forest Service continues to authorize grazing in designated critical habitat, causing severe deterioration of riparian habitat and harm to listed species, including the flycatcher and spikedace. Accordingly, the unlawful take of flycatchers and spikedace is likely occurring, despite the 2002 BiOp's assertion—based upon a faulty presumption—that no take of either species would occur.

Moreover, for at least some of these listed species and their designated critical habitat, the agencies have *never* undertaken a consultation to ensure that grazing does not violate the strict mandates of the ESA. Yet, as documented by the conservation organizations, grazing continues to severely impact such species and critical habitat without the assurance that such impacts will neither jeopardize the species nor adversely modify their critical habitat.

In response to these concerns, the Forest Service noted that the 2002 BiOp covered the loach minnow and its critical habitat; spikedace and its critical habitat; Gila topminnow; woundfin; Mexican spotted owl; and southwestern willow flycatcher. The Forest Service thus implicitly conceded that no consultation exists for the two garter snakes and their critical habitat, , or the flycatcher's critical habitat. The agency did not explain how it could authorize grazing that indisputably adversely affects listed species and their critical habitat without a lawful consultation in place. The Forest Service further insisted that although "[r]ange program surveys

documented the Tonto Creek exclosure had some non-functional sections just prior to the 2022 NOI," that exclosure "has since been fixed and cattle are now excluded from Tonto Creek on this allotment." The Forest Service did not acknowledge that the wire fencing used to construct the exclosure is largely ineffective in preventing livestock from grazing excluded areas, even when in perfect repair. Nor did the Forest Service acknowledge that as demonstrated by the obvious signs of livestock use, the severe degradation of riparian habitat—including designated critical habitat for multiple species—is directly attributable to unauthorized grazing. Hence, the myriad legal violations identified by the Conservation Organizations in their NOIs and herein have not been adequately addressed.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Seventy-six and Pinto Creek Allotments is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 29-41 (Pinto Creek); 64-68 (Seventy-six). For instance, damage to flycatcher and cuckoo critical habitat is "significant," and the Center documented "[s]ignificantly browsed riparian tree regeneration from" unauthorized livestock grazing in cuckoo critical habitat during the nesting season. *Id.* at 29, 33, 64. The Center also documented the presence of unauthorized *branded* livestock within cuckoo critical habitat on the Pinto Creek Allotment. *Id.* at 36. With respect to the Seventy-six Allotment, the Center observed serious damage to spikedace, narrow-headed garter snake, northern Mexican garter snake, and flycatcher critical habitat within the Seventy-six Allotment. *Id.* at 65. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Buzzard Roost and Soldier Camp Allotments

The Buzzard Roost Allotment is comprised of approximately 35,345 acres of Tonto National Forest land. 2005 BiOp at 2. The northern half of the allotment is drained by Buzzard Roost Canyon which flows into Rock Creek. *Id.* at 11. Rock Creek flows north to Spring Creek, which eventually forms the eastern boundary of the Soldier Camp Allotment. *Id.* The Soldier Camp Allotment encompasses approximately 33,000 acres of forest land. *Id.* at 5. The allotments contain designated critical habitat for the spikedace.

A grazed segment along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.113932, -111.090252. March 19, 2022.

The effects of continued grazing in the Buzzard Roost and Soldier Camp Allotments on the spikedace and its critical habitat were last examined in the 2005 BiOp. The 2005 BiOp summarily concurred with the Forest Service's determination that grazing would not adversely affect the spikedace because the species "do[es] not currently occupy the analysis area." 2005 BiOp at 34. The 2005 BiOp did not address the effects of the action on spikedace critical habitat, nor examine whether grazing would adversely modify such habitat. Accordingly, despite being designated as "*essential*" for the conservation of the species, these areas are left largely unprotected.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been

listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16. As reported by the Conservation Organizations in their multiple NOIs, since the 2005 BiOp, use of spikedace critical habitat within the Buzzard Roost and Soldier Camp Allotments has continued, despite the measures ostensibly implemented to exclude livestock from riparian areas. Indeed, as documented in the 2022 NOI, there are obvious cattle impacts in pastures that are supposed to be excluded from grazing. For example, the streambanks are heavily trampled, riparian vegetation is removed, and hoof-prints and cow dung are visible along the streambed.

In response to the Conservation Organizations' concerns, the Forest Service merely stated that it "has a Biological Opinion for . . . spikedace critical habitat" from 2005. The Forest Service insisted that Spring Creek is fenced and excluded from livestock grazing, and further asserted that the fence was in good repair upon last inspection. According to the agency, Forest Service staff "did not observe or receive reports of unscheduled livestock in excluded areas during quarterly monitoring or incidentally when surveys occur in the area." The Forest Service did not reconcile its assertion with the photographic evidence unequivocally demonstrating that livestock *are* accessing excluded habitat and causing significant habitat degradation in a manner not contemplated or assessed by the 2005 BiOp.

Accordingly, FWS's key assumption that supported its determinations and concurrences in the 2005 BiOp— e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. The 2005 BiOp is therefore invalid. *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) ("[W]here an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures, the [BiOp] for the proposed action becomes invalid."). Without a valid BiOp, the Forest Service is "no longer insulate[d]" from the ESA's "substantial civil and criminal penalties for takings of listed species." *Id.* (citation omitted). Yet, the Forest Service continues to authorize grazing in designated critical habitat, causing severe deterioration of riparian habitat and harm to listed species, including the spikedace. As a result, the unlawful take of spikedace is likely occurring, despite the 2005 BiOp's assertion—based upon a faulty presumption—that no take of either species would occur.

Lyons Fork Allotment

The Lyons Fork Allotment is located in the Globe Ranger District and contains portions of Mineral Creek. 2008 Concurrence at 14. A three-mile portion of Mineral Creek within the Allotment has been designated as critical habitat for the Gila chub. *Id.* While Gila chub have been documented in Mineral Creek downstream of the Allotment, the portion of the creek that runs through the Allotment lacks perennial water. *Id.* As a result, Gila chub are not known to exist on the Allotment. *Id.*

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.247571, -110.945754. March 9, 2022.

The effects of grazing on the Gila chub and its critical habitat on the Lyons Fork Allotment were last examined in 2008 ("2008 Concurrence"). The Forest Service determined—and FWS concurred—that continued grazing was not likely to adversely affect the Gila chub on the Allotment. *Id.* at 14. The Forest Service reached this determination "because of the lack of perennial water . . . and rarity or absence of Gila chub in the stream." *Id.* FWS concurred, explaining that "due to the degraded condition of this segment of critical habitat as a result of the lack of water, the conservative-use standards on upland ranges and herbaceous and woody riparian plants," grazing will not adversely affect designated Gila chub critical habitat. *Id.* The 2008 BiOp did not address the effects of the action on Gila chub critical habitat, nor examine whether grazing would adversely modify such habitat by reducing the value of such habitat to the species survival or recovery. Accordingly, despite being designated as "*essential*" for the conservation of the species, these areas are left largely unprotected.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species

and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16. The Conservation Organizations surveyed Lyons Fork Allotment and found that "[n]o functional fencing" existed to exclude livestock from riparian habitat associated with Mill Creek on the adjacent Government Spring Allotment. The Conservation Organizations additionally observed "[s]ignificant cattle impacts along Mill Creek" and within "correlated surface waters." The Conservation Organizations' NOIs thus documented "sparse to non-existent" riparian vegetation along Mill Creek, "hindering any chances of [habitat or species] recovery." Cattle were also documented along Mill Creek.

The Conservation Organizations' NOIs decried the 2008 Concurrence's suggestion that the critical habitat on Lyons Creek Allotment could be effectively destroyed without any "adverse effects" to the Gila chub. In particular, the NOIs explained that the 2008 Concurrence assertion that "the lack of water and streamside habitat may result in dispersal of livestock" effectively amounts to a hope that "when there is nothing left, then perhaps cattle will move on, and the critical designation will be protected from cattle." The NOIs argued that such an assumption violates the ESA and is otherwise "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law." For example, the 2008 Concurrence's conclusion "is inconsistent with the 'best scientific data available,' which recognizes that perennial stream reaches can be recovered and restored through full cattle exclusion." In fact, the NOIs documented the presence of surface water within Gila chub habitat; however, the notices explained that the water that "remained was significantly impacted by cattle," including by trampling, vegetation removal, and degraded water quality. The NOIs thus urged the Forest Service and FWS to exclude cattle from Gila chub critical habitat on the Allotment in order to restore the habitat to the point it can fulfill its conservation role.

In response to the Conservation Organizations' concerns, the Forest Service stated simply that "[t]his allotment may no longer have PCEs for Gila chub due to post-fire flooding." It did not meaningfully examine whether the habitat could be restored by additional management measures—including the exclusion of grazing—or whether the loss of this habitat, whether through fire or grazing, would diminish the value of critical habitat to the species' survival or recovery. Hence, the myriad legal violations identified by the Conservation Organizations in their NOIs and herein have not been adequately addressed.

Poison Springs Allotment

The Poison Springs Allotment is located east of Roosevelt Reservoir within the Tonto Basin Ranger District and encompasses the Salt River. The Salt River east of Roosevelt Reservoir, in the vicinity of Meddler Point, is designated critical habitat for flycatcher and cuckoo. These designations are not part of any active grazing allotment but are immediately adjacent to the Poison Springs allotment of the Tonto Basin Ranger District.

Grazed flycatcher and cuckoo critical habitat along the Salt River adjacent to Poison Springs allotment. These impacts are from unauthorized/trespass cattle. 33.625849, -110.948853. March 12, 2022.

The Forest Service last considered the effects of grazing on listed species and critical habitat with the Poison Springs Allotment in the 2008 Concurrence. Because the 2008 Concurrence predates the listing of the cuckoo and designation of cuckoo critical habitat, there has *never* been a consultation to determine whether grazing activities that impact this species and/or its critical habitat on the Allotment can continue consistent with the ESA's substantive mandates.

The 2008 Concurrence reported FWS's concurrence in the Forest Service's determination that ongoing grazing would not adversely affect the flycatcher or its critical habitat on the Poison Springs Allotment. Acknowledging that portions of the allotment contain occupied and suitable/potential breeding habitat, the agencies nevertheless rested their no-adverse-effect determinations on the assumption that "livestock will not be allowed to graze in potential, suitable or occupied habitat" on the Allotment, "nor will they have access to the bed of Roosevelt Lake." 2008 Concurrence at 16. Therefore, the agencies argued that there would be no "direct impacts to breeding, migrating, or dispersing" flycatchers from "livestock, livestock management, or herbivory of riparian vegetation within the Salt River or Roosevelt Lake portions of the[] allotment." *Id.* The 2008 Concurrence further explained that adverse effects to

nesting flycatchers from cowbird parasitism would be "prevent[ed]" by ensuring that livestock remain "two miles from flycatcher nesting habitat during the breeding season." *Id.* According to the agencies, adverse effects to flycatchers from upland grazing would be "minimized as a result of the storage of water."

Cattle from Poison Spring allotment are well-documented, by the Conservation Organizations and the Tonto National Forest, to be routinely breaching the allotment boundary and accessing off-allotment critical habitat designations. Not only are cattle within "two miles from flycatcher nesting habitat during the breeding season, but they continually advance outside of allotment boundaries, directly and repeatedly damaging flycatcher and cuckoo critical habitat. Both circumstances violate the clear language of the 2008 concurrence that requires cattle remain "two miles from flycatcher nesting habitat during the breeding season." Therefore, the Forest Service's determination in the 2008 Concurrence that ongoing grazing would not adversely affect the flycatcher is not true.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16. As reported by the Conservation Organizations in their multiple NOIs, since the 2008 Concurrence, use of flycatcher and cuckoo critical habitat within and adjacent to the Poison Springs Allotment has continued, despite the measures ostensibly implemented to exclude livestock from riparian areas. Indeed, as documented in the 2022 and 2025 NOIs, there are obvious cattle impacts "of various ages . . . indicating prolonged and non-transient grazing activity." The NOIs reported "a near-complete removal of grasses and forbs" in places supposedly excluded from grazing, as well as "significant" streamside grazing impacts and cow dung on shorelines and in the water. In July 2023, The Tonto National Forest biologists documented continued cattle intrusions into the Salt River exclosure from Poison springs allotment, noting "We also observed recent cattle tracks and scat just east of the Bassett Pasture fence within the Salt River exclosure here: 33.634800, -110.973816. See attached pictures of sign in the Salt River exclosure area. This is extremely close to where we have a majority of our nesting Southwestern Willow Flycatcher this year so of decent concern for wildlife this month."In response to the Conservation Organizations' concerns, the Forest Service conceded that the agency has "documented cattle trespass on the Salt River from this allotment." However, the Forest Service insisted that the "issues [were] resolved to ensure livestock were not accessing the Salt River and new cattleguards were installed to prevent cattle from going through gates left open by the public." The Forest Service thus ignored the irrefutable evidence that, contrary to its assumption that "[l]ivestock are excluded from the river by fences or by natural barriers," cattle are in fact accessing and causing significant harm to riparian areas and designated critical habitat.

Accordingly, FWS's key assumption that supported its determinations and concurrences in the 2008 Concurrence— e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. The 2008 Concurrence is therefore invalid. *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) ("[W]here an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures, the [BiOp] for the proposed action becomes invalid."). Without a valid consultation in place, the Forest Service is "no longer insulate[d]" from the ESA's "substantial civil and criminal penalties for takings of listed species." *Id.* (citation omitted). Yet, the Forest Service continues to authorize grazing in designated critical habitat, causing severe deterioration of riparian habitat and harm to listed species, including the cuckoo and the flycatcher. Accordingly, the unlawful take of spikedace is likely occurring, despite the 2008 Concurrence's assertion—based upon a faulty presumption—that no take of either species would occur.

Hardt Creek Allotment

The Hardt Creek Allotment is located along Tonto Creek in the Payson Ranger District of the Tonto National Forest and shares a boundary with the Seventy-six Allotment. The Hardt Creek Allotment encompasses critical habitat for four listed species: the flycatcher; the Northern Mexico gartersnake; the narrow-headed gartersnake; and the spikedace. The Hardt Creek Allotment has *never* undergone a lawful ESA consultation for continued grazing activities. Accordingly, it is unknown whether grazing will jeopardize listed species or adversely modify designated critical habitat.

Cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Hardt Creek allotment. 34.059968, -111.289114. July 7, 2025

The Forest Service last considered the effects of grazing on listed species and critical habitat with the Hardt Creek Allotment in the 2008 Concurrence. Because the 2008 Concurrence predates the listing of the cuckoo and both garter snakes, as well as the designation of critical habitat for the species, there has *never* been a consultation to determine whether grazing activities that impact these species and/or their critical habitat on the Allotment can continue consistent with the ESA's substantive mandates.

With respect to the flycatcher and its designated critical habitat, in the 2008 Concurrence, FWS took the relatively rare step of *refusing* to concur with the Forest Service's no-adverse-effect determination. 2008 Concurrence at 2. FWS explained that the BiOp for the operative Land Resource Management Plan ("LRMP BiOp") had already determined that ongoing grazing in the region "would cause a sub-lethal response to the flycatcher and its [then] proposed critical habitat." *Id.* at 2-3. Specifically, the LMRP BiOp concluded "that continued grazing at the proposed level can facilitate decreased bank stabilization, increased runoff, increased sedimentation, increased erosion, and reduced capacity of soils to hold water." *Id.* at 3. In turn, these effects "would reduce the occurrence, longevity, and quality of the habitat-based Primary Constituent Elements of flycatcher critical habitat." *Id.* Therefore, "[d]ue to the anticipated conditions persisting over the life of this project, [FWS was] unable to concur with [the Forest Service's] determination." *Id.*

FWS "encourage[d] the Forest Service to reconsider [its] effect determination for the flycatcher and its critical habitat on" the Hardt Allotment. *Id.* However, over seven years later, the Forest Service still has not done so. Accordingly, there is no valid consultation for *any* listed species or designated critical habitat on the Hardt Allotment. Yet, as documented by the Conservation Organizations' NOIs, and herein, "[c]attle impacts [are] prevalent" and "significant" throughout riparian and designated critical habitat for multiple species. Such impacts are occurring without the procedural and substantive safeguards required by the ESA and its implementing regulations. Hence, the information and evidence presented in the Conservation Organizations' previous NOIs and herein demonstrate that the initiation of consultation is required because grazing activities are affecting listed species critical habitat without any valid consultation or concurrence in place. *See, e.g.*, 16 U.S.C. §§ 1536, 1538.

In response to the Conservation Organizations' concerns, the Forest Service merely stated that "[c]attle in this allotment are not authorized in Tonto Creek or Rye Creek." The Forest Service did not explain how it could authorize *any* impacts to listed species or designated critical habitat without first undergoing ESA consultation. To the contrary, as the ESA and caselaw make clear, it is "[o]nly after [an agency] complies with § 7(a)(2)" that "any activity that may affect the protected [species]" can "go forward." *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1056-57 (9th Cir. 1994). Hence, the myriad legal violations identified by the Conservation Organizations in their NOIs and herein have not been adequately addressed.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Hardt Creek Allotment is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 69-70. Damage to spikedace, flycatcher, northern Mexican garter snake, and narrow-headed garter snake critical habitat is significant. *Id.*

at 70. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Chrysotile Allotment

The Chrysotile Allotment consists of 44,764 acres of National Forest land along the Salt River in the Globe Ranger District. 2009 BiOp at 7. According to the Forest Service, "the Salt River corridor is excluded from grazing." *Id.* However, the 2009 BiOp acknowledges that there may be "some trespass cattle." *Id.* at 17. The Allotment contains designated critical habitat for the razorback sucker.

Significant unauthorized/trespass cattle damage in the Boundary pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.767163, -110.689351. June 13, 2025.

The effects of grazing on razorback sucker and its critical habitat were last examined in 2009. The 2009 BiOp concurred with the Forest Service that grazing in the Allotment was not likely to adversely affect razorback sucker critical habitat. 2009 BiOp at 44. The agencies relied upon the purported fact that "[t]here is no proposed grazing within the Salt River or surrounding riparian areas," and therefore, "as a result, [the agencies] do not anticipate any direct effects from" grazing. *Id.* The 2009 BiOp further explained that because of the "proposed conservative use in the upland ranges of the allotment combined with no use within the floodplain, [the

agencies] do not anticipate that any potential indirect watershed impacts from upland grazing could measurably be detected to adversely affect razorback sucker critical habitat." *Id.*

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16. As reported by the conservation organizations in their multiple NOIs, since the 2009 BiOp, overuse of razorback sucker critical habitat within the Chrysotile Allotment has continued, despite the measures ostensibly implemented to exclude livestock from riparian areas. Indeed, as documented in the 2022 and 2025 NOIs, impacts from cattle within fenced habitat "were significant throughout most of the" area, and "[c]ows were detected audibly during the survey on both sides of the Salt River." Additionally, "[c]attle trails weave around thick tamarisk and lead to the chutes to the river wherever possible," and "[w]allows, browsed and stunted willows and a cow carcass were documented."

Accordingly, FWS's key assumption that supported its determinations and concurrences in the 2009 BiOp— e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. The 2009 BiOp is therefore invalid. *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) ("[W]here an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures, the [BiOp] for the proposed action becomes invalid."). Without a valid BiOp, the Forest Service is "no longer insulate[d]" from the ESA's "substantial civil and criminal penalties for takings of listed species." *Id.* (citation omitted). Yet, the Forest Service continues to authorize grazing in designated critical habitat, causing severe deterioration of riparian habitat and harm to listed species, including the razorback sucker. Accordingly, the unlawful take of razorback suckers is likely occurring, despite the 2009 BiOp's assertion—based upon a faulty presumption—that no take would occur.

The 2022 and 2025 NOIs further documented "the untrustworthiness of [the Forest Service's] monitoring efforts and show[ed] that they fall far short in serving their intended purpose of protecting critical habitat from cattle damage." Indeed, despite the Forest Service's insistence in a 2024 monitoring report that only a single bull and "no other signs of cattle . . . such as tracks and feces" were seen, the Forest Service's *own pictures* showed cattle tracks on supposedly "excluded" riparian habitat on the Allotment.

In response to the Conservation Organizations' concerns, the Forest Service asserted that it "has a Biological Opinion for . . . razorback sucker and its critical habitat." The agency insisted that it has "worked with the permittee to authorize a cattle guard at the corrals on Gleason Flat," and "[s]ince this time, only one documented bull . . . has been in this area." The Forest Service thus ignored the multiple documented impacts to critical habitat that far exceed that

contemplated by the 2009 BiOp. Accordingly, the myriad legal violations identified by the Conservation Organizations in their NOIs and herein have not been adequately addressed.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Chrysotile Allotment is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 17-28. For instance, damage to razorback sucker critical habitat is "significant," and the Center documented "fresh . . . sign" of unauthorized livestock within razorback sucker critical habitat. *Id.* at 18. The Center also documented unauthorized cattle grazing in closed areas. *Id.* at 25. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Crouch Mesa Allotment

The Crouch Mesa Allotment is located within the Pleasant Valley Ranger District on the Tonto National Forest. 2010 BiOp at 5. The Allotment is managed in conjunction with the Pleasant Valley Allotment and consists of 7,510 acres of National Forest land. *Id.* Cherry Creek and Crouch Creek run through the Allotment, along with several intermittent and ephemeral streams, providing important riparian habitat. *Id.* at 8. The Cherry and Crouch Creek areas within the Payson Ranger District are referred to as the Gentry Creek Management Area ("Gentry Creek MA"). *Id.* at 7. Relevant here, the Allotment contains designated critical habitat for the frog. *Id.* at 8.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.104004, -110.862033 (2). June 10, 2025.

The impacts of grazing on listed species were last examined in the 2010 BiOp. Because the 2010 BiOp predates the designation of critical habitat for the frog, no consultation has yet examined the impacts of continued grazing on the frog's critical habitat on the Allotment to ensure that grazing complies with the mandates of the ESA.

At the time the 2010 BiOp was issued, "[n]o current rangeland or watershed trend data [were] available." 2010 BiOp at 8. Although no frogs are known to occur on the Allotment, it is close in proximity to occupied, suitable habitat in Pine Spring. *Id.* at 9. Accordingly, "given the proximity of individuals in Pine Spring and the dispersal abilities of [the frog] (within 3 miles

along an ephemeral or intermittent drainage from occupied habitat), [FWS] anticipate[d] that the species will occur on the allotment during the life of this project." *Id.* In fact, in 2008, FWS observed frog metamorphs within the downstream drainage of Pine Spring, leading the agency to predict that "individuals would reach sexual maturity within a year and disperse into suitable [frog] habitat in the action area." *Id.* However, FWS also documented the presence of non-native predators in several areas of the Allotment, threatening the frog's ability to gain a foothold.

In light of the ten-year term of the grazing permit, the proximity of the Allotment to suitable, occupied habitat, and the dispersal capabilities of the species, the 2010 BiOp concluded that it was "reasonably certain that loss or disturbance of egg masses, early-stage tadpoles, or dormant-season metamorphosed frogs will occur at some rate over the life" of the grazing permit. *Id.* at 12. The 2010 BiOp likewise determined that it was "reasonably certain that adverse effects to bankside and aquatic vegetation in likely to be occupied habitat, causing loss of cover for frogs, will also occur at some level during the duration of the proposed action." *Id.* Significantly, the 2010 BiOp conceded that "[t]respass cattle may also occur again in the future," but insisted that "inspections and regular visits to occupied pasture . . . should identify and remedy these situations." *Id.*

The 2010 BiOp concluded that "on-going livestock grazing on the Crouch Mesa Allotment, as proposed, is not likely to jeopardize the continued existence of the [frog]." *Id.* at 12. The 2010 BiOp acknowledged that "[n]o critical habitat has been designated for this species," and thus insisted that "none will be affected." *Id.* The 2010 BiOp rested its determination on its assumption that the Forest Service would "employ livestock grazing management strategies that will maintain or improve the existing range and watershed conditions . . . to support suitable habitat for the species in the allotment," despite mounting evidence that similar management strategies had failed to maintain—much less restore—riparian habitat under similar circumstances. *Id.* The 2010 BiOp also cited "the continued success of the Gentry Creek MA and the expected progress towards achieving resource management objectives on the ground," which "should allow for the establishment and persistence of the species on the Crouch Mesa Allotment." *Id.*

The 2010 ITS appended to the 2010 BiOp explained that incidental take was anticipated in two forms: (1) direct mortality or injury through trampling; and (2) harm "due to the loss of bankline and emergent vegetation, increased sedimentation of pools[,] or other forms of habitat degradation . . . where cattle contribute to erosion within or upstream of [occupied] sites." *Id.* at 13-14. The 2010 ITS provided that take would be exceeded if, "after a period of two consecutive years, the total number of occupied [frog] sites totals less than four in the Pleasant Valley Ranger District as a result of livestock management." *Id.* at 14.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R.

§ 402.16. Contrary to the 2010 BiOp's unfounded cheerful predictions—and as demonstrated by the Conservation Organizations' previous NOIs—riparian habitat, including designated critical habitat for the frog, has continued to deteriorate. In fact, as documented by the 2022 and 2025 NOIs, "cattle impacts were significant throughout [frog] habitat in the Crouch Mesa [A]llotment." This new information indicates that grazing is affecting the frog to an extent not considered in prior consultations.

Moreover, the designation of critical habitat for the frog postdates the 2010 BiOp. Yet, in the *thirteen years* since such designation, the Forest Service has failed to initiate *any* consultation regarding the impacts of grazing. The NOIs explained that there was "[e]vidence of cows passing seamlessly through the Crouch Mesa/Gentry Mountain and Crouch Mesa/Catholic Peak allotment," as well as "downed and/or nonexistent fences." Additionally, despite efforts to reestablish a frog population in Crouch Creek through releases of captive-bred individuals, no frogs were observed during surveys in 2020.

In response to the Conservation Organizations' concerns, the Forest Service acknowledged that the 2010 BiOp does not examine the impacts of grazing on frog critical habitat. However, the Forest Service insisted that critical habitat is being "monitored"—without the legally required ESA consultation—and that the agency regularly surveys known frog habitat for "threats," including the bullfrog and disease. The Forest Service disputed the photographic evidence in the NOIs, insisting that "monitoring and monitoring photos show compliance during inspections." The Forest Service did not explain how grazing in frog critical habitat could be "in compliance" with a consultation that has yet to occur. The Forest Service acknowledged that the NOIs showed damaged fences, but insisted that such fences had already been repaired, thus ignoring the damage that has already occurred, as well as the likelihood that such fences will fail again, exposing designated critical habitat to serious damage and further degradation. Hence, the myriad legal violations identified by the Conservation Organizations in their NOIs and herein have not been adequately addressed.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Crouch Mesa Allotment is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 50-56. Indeed, damage to frog critical habitat is "significant," and livestock were documented grazing within severely degraded frog critical habitat. *Id.* at 51, 55. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Tonto Basin Allotment

The Tonto Basin Allotment consists of 118,552 acres located in the foothills of the Sierra Ancha and Mazatzal Mountains in the Tonto Basin Ranger District of the Tonto National Forest. The unit contains the Tonto Creek Riparian Unit ("TCRU"), a special subunit established in 1989 to address concerns for wildlife habitat loss when Roosevelt Dam was raised. 2014 BiOp at 6. The TCRU is a riparian exclosure that purports to exclude livestock grazing year-round. *Id.* The Allotment contains designated critical habitat for five listed species: the flycatcher; the northern Mexico garter snake; the narrow-headed garter snake; the cuckoo; and the spikedace.

Significant cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. Cattle were observed during the survey. 33.800524, -111.243965. June 24, 2025.

The Tonto Basin Allotment last underwent consultation for continued grazing activities in 2014. Relevant here, the 2014 BiOp assessed the impacts of grazing on the flycatcher. The 2014 BiOp also concurred in the Forest Service's determination that grazing was not likely to adversely affect designated flycatcher critical habitat; the spikedace and its critical habitat; the then-candidate cuckoo; the then-candidate northern Mexican garter snake and its proposed critical habitat; and the then-candidate narrow-headed garter snake and its proposed critical habitat. Notably, the 2014 BiOp predates the designation of critical habitat for the cuckoo. Therefore, there is no consultation assessing the impacts of continued grazing on cuckoo critical habitat, leaving these areas completely unprotected.

With respect to the flycatcher, the 2014 BiOp explained that "flycatcher breeding habitat occurs within the Tonto Basin Allotment found in the TCRU and the conservation space surrounding Roosevelt Lake." *Id.* However, the Allotment continues to be "heavily affected by historical livestock grazing." *Id.* at 16. Despite heavy use and evidence of riparian degradation,

the 2014 BiOp authorized a dramatic increase in permitted livestock numbers on the Allotment. *Id.* at 18. In pastures adjacent to flycatcher habitat in Tonto Creek, the 2014 BiOp authorized up to 774 cows or bulls yearlong with up to an additional 582 yearlings during the flycatcher breeding season. *Id.*

The 2014 BiOp determined that grazing would not jeopardize the flycatcher. 2014 BiOp at 15. The 2014 BiOp based this conclusion on several assumptions: that there will be no direct effects to flycatcher nesting habitat because grazing is not permitted in occupied habitat; that upland range and riparian areas are grazed at conservative levels; that livestock waters will be managed to avoid cattle concentrations within two miles of occupied flycatcher habitat during the breeding season to minimize cowbird parasitism; and that the observed rate of cowbird parasitism is relatively low, and grazing management is not likely to increase that rate. *Id.* at 20.

The 2014 ITS explained that FWS "does not anticipate the proposed action will incidentally take southwestern willow flycatcher" because: "[t]he TCRU is fenced from cattle grazing year-round," preventing direct impacts; the presence of non-federal sources of cowbirds in the area render the agency unable to "reasonably distinguish the natural variation and sources of cowbird parasitism to attribute any cause of parasitism to the proposed action"; and "[t]he beneficial effects associated with the conservation measures [i.e., mitigation measures] will sufficiently protect suitable habitat conditions and avoid any likelihood of incidental take." *Id.* at 20-21.

With respect to flycatcher critical habitat, the 2014 BiOp reported FWS's concurrence in the Forest Service's determination that grazing would not adversely affect such areas. 2014 BiOp at 27. The 2014 BiOp rested its concurrence on the assumption that "fencing associated with the TCRU will prevent cattle from grazing directly within designated critical habitat." *Id.* Additionally, FWS insisted that "conservative use of upland ranges, adaptive management, frequent monitoring, and the exclusion TCRU, are anticipated to protect the primary constituent elements of flycatcher critical habitat from indirect effects." *Id.* Neither agency addressed the fact that fencing has repeatedly proved ineffective at excluding cattle and thus, at protecting critical habitat from grazing impacts. Nor did either agency address the history of noncompliance with grazing utilization limits, which has contributed to degraded riparian conditions and has no sign of abating.

With respect to the spikedace and its critical habitat, the 2014 BiOp reported FWS's concurrence in the Forest Service's determination that grazing would not adversely affect such species or areas. *Id.* at 29. The 2014 BiOp rested its concurrence on the assumptions that "[t]he TCRU . . . is fenced from cattle grazing year-round," "[u]pland ranges and riparian areas . . . will continue to be grazed at conservative levels," and of an additional "8.2 miles of critical habitat along Greenback Creek, . . . 6.1 miles are fenced from cattle grazing year-round." *Id.* Neither agency addressed the fact that fencing has repeatedly proved ineffective at excluding cattle and thus, at protecting critical habitat from grazing impacts. Nor did either agency address the history of noncompliance with grazing utilization limits, which has contributed to degraded riparian conditions and has no sign of abating.

With respect to the cuckoo, the 2014 BiOp acknowledged that "cuckoos have been detected near the Tonto inflow into Roosevelt Lake and near the Cherry Creek confluence with

the Salt River. *Id.* at 30. Cuckoos have also been found in areas of the Allotment without suitable breeding habitat, suggesting that the Allotment provides "valuable stopover sites for migrating cuckoos." *Id.* The 2014 BiOp reported FWS's concurrence in the Forest Service's determination that grazing would not adversely affect the cuckoo. 2014 BiOp at 27. The 2014 BiOp rested its concurrence on the assumptions that: "[g]razing is excluded from areas where cuckoos have been detected, including the TCRU, . . . effectively minimizing potential adverse effects to the species"; "[c]onservative utilization [limits] of 30-40 percent annually is expected to minimize potential adverse effects of upland grazing on riparian vegetation"; and the ability to move cattle between pastures once "riparian utilization [limits] are met." *Id.* Neither agency addressed the fact that fencing has repeatedly proved ineffective at excluding cattle and thus, at protecting critical habitat from grazing impacts. Nor did either agency address the history of noncompliance with grazing utilization limits, which has contributed to degraded riparian conditions and has no sign of abating.

The 2014 BiOp acknowledged that the lower and middle Tonto Creek support northern Mexican garter snakes. *Id.* The 2014 BiOp reported FWS's concurrence in the Forest Service's determination that grazing would not adversely affect the northern Mexico garter snake. *Id.* The 2014 BiOp rested its concurrence on the assumptions that: "[g]razing is excluded from riparian corridors along Tonto Creek where individuals have been documented . . . eliminating the potential for direct effects from livestock grazing"; and "[c]onservative use of adjacent uplands and following guidelines for grazing management in riparian areas are will minimize effects where gartersnakes have the potential to occur and where critical habitat is proposed." *Id.* at 31. Neither agency addressed the fact that fencing has repeatedly proved ineffective at excluding cattle and thus, at protecting critical habitat from grazing impacts. Nor did either agency address the history of noncompliance with grazing utilization limits, which has contributed to degraded riparian conditions and has no sign of abating.

The 2014 BiOp acknowledged that the Tonto Basin Allotment contains both suitable and occupied habitat for the narrow-headed garter snake. *Id.* The BiOp further conceded that while "[g]razing does not occur in Tonto Creek, . . . it does occur in adjacent uplands that flow into gartersnake habitat/proposed critical habitat." *Id.* The 2014 BiOp reported FWS's concurrence in the Forest Service's determination that grazing would not adversely affect the narrow-headed garter snake. *Id.* The 2014 BiOp rested its concurrence on the assumptions that: "[g]razing is excluded from riparian corridors along Tonto Creek where individuals have been documented . . . eliminating the potential for direct effects from livestock grazing"; and "[c]onservative use of adjacent uplands and following guidelines for grazing management in riparian areas are will minimize effects where gartersnakes have the potential to occur and where critical habitat is proposed." *Id.* at 31. Neither agency addressed the fact that fencing has repeatedly proved ineffective at excluding cattle and thus, at protecting critical habitat from grazing impacts. Nor did either agency address the history of noncompliance with grazing utilization limits, which has contributed to degraded riparian conditions and has no sign of abating.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to

effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16. As documented in the Conservation Organizations' NOIs, "cattle sign both old and new was present and significant throughout stretches of the TCRU," significantly undermining the basis for the agencies' conclusions documented by the 2014 BiOp—i.e., that fencing would actually exclude livestock from the TCRU. The NOIs further reported that the TCU exhibited "widespread" streamside grazing, "causing erosion and reduction of semi-aquatic vegetation." Illustrating the ineffectiveness of the 2014 BiOp's grazing management regime, multiple cattle were observed in designated critical habitat on the Allotment, and "[a] dead cow was observed along the water's edge," in an area ostensibly excluded from grazing.

Accordingly, FWS's key assumption that supported its determinations and concurrences in the 2014 BiOp— e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. The 2014 BiOp is therefore invalid. *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) ("[W]here an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures, the [BiOp] for the proposed action becomes invalid."). Without a valid BiOp, the Forest Service is "no longer insulate[d]" from the ESA's "substantial civil and criminal penalties for takings of listed species." *Id.* (citation omitted). Yet, the Forest Service continues to authorize grazing in designated critical habitat, causing severe deterioration of riparian habitat and harm to listed species, including the flycatcher, spikedace, cuckoo, and both garter snakes. Accordingly, the unlawful take of listed species is likely occurring, despite the 2014 BiOp's assertion—based upon a faulty presumption—that no such take would occur.

In response to the Conservation Organizations' concerns, the Forest Service reiterated that it "has a [BiOp] for southwestern willow flycatcher and its critical habitat, . . . spikedace, yellow-billed cuckoo, Northern Mexican gartersnake and its critical habitat, [and] narrow-headed gartersnake and its critical habitat." Defying the copious amount of photographic evidence to the contrary, the Forest Service asserted that "[t]he Tonto Creek riparian exclosure keeps cattle out of Tonto Creek." The Forest Service also insisted that "[a]ccess" to other riparian areas, including "Greenback Creek[,] is in compliance with the BO." The Forest Service did not acknowledge that damage to critical habitat from ongoing grazing has far exceeded that contemplated by the 2014 BiOp, which does not even cover recently designated critical habitat for the cuckoo. Nor did it acknowledge that the key assumption that supported its determinations and concurrences in the 2014 BiOp— e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. Hence, the myriad legal violations identified by the Conservation Organizations in their NOIs and herein have not been adequately addressed.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Tonto Basin Allotment is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits"

pastures and livestock exclosures. *See* Attach. 3 at 71-79. For instance, the surveys observed "significant" damage to spikedace critical habitat, particularly within Greenback Creek, which is supposedly off-limits to grazing. *Id.* at 76. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Bar X Complex (Bar X, Colcord, Haigler Creek, and Young Allotments)

The Bar X Complex is located in the Pleasant Valley Ranger District of the Tonto National Forest. The Complex consists of approximately 27,423 acres across four allotments: the Bar X Allotment; the Colcord Allotment; the Haigler Creek Allotment; and the Young Allotment. The Complex supports two extant frog sites, and overlaps the Gentry Creek Management Area in Recovery Unit 5 outlined in the frog's Recovery Plan. The Complex also contains potential and suitable frog habitat, including stock tanks, springs, and streams, including over seventeen miles of perennial streams that "could be considered suitable lotic sites provided they lack high densities of nonnative" species. 2019 BiOp at 20. However, data regarding the current condition of many of the streams and stock tanks are lacking. *Id.* The most recent assessment of the watersheds encompassed by the Complex was conducted in 2011 and determined that most of the watersheds are "functioning at risk" or "impaired." *Id* at 23. Reintroduction sites for the frog have been identified, and efforts to establish additional populations within the Complex are planned to continue. *Id.* at 24-25.

The Complex last underwent consultation for ongoing grazing activities in 2019. *See* 2019 BiOp. Notably, the 2019 BiOp predates the designation of critical habitat for the northern Mexican and narrow-headed garter snakes. Accordingly, there has never been a consultation to determine whether grazing on the allotment will adversely modify designated critical habitat for the two snakes. As documented by the conservation organizations, grazing continues to severely impact such species and critical habitat without the assurance that such impacts will not adversely modify their critical habitat, in direct contravention of the ESA's strict procedural and substantive mandates. *See Pac. Rivers*, 30 F.3d at 1056-57.

Relevant here, the 2019 BiOp reported that the Forest Service would implement on the Complex the same grazing regime that has repeatedly failed to protect listed species or their habitat. For example, the 2019 BiOp limits utilization of upland herbaceous vegetation to forty percent *of the current year's growth*. *Id.* at 5. Utilization of riparian vegetation is limited to forty percent of plant species biomass, and should maintain six-to-eight inches of stubble height of emergent species. *Id.* The 2019 BiOp implements a pasture rotation schedule, requiring seasonal closures that will be determined on an annual basis. *Id.* at 4. The 2019 BiOp also requires the use of exclosure fencing to exclude livestock from areas "known to be occupied by [the frog]." 2019 BiOp at 12. The permittee is required to inspect such fences and complete any necessary repairs prior to turning livestock out on pastures. *Id.* If livestock enter closed areas, the permittee must remove them within forty-eight hours. *Id.* The permittee also must "consider methods to protect suitable or occupied frog habitat through the construction of partial fencing (barbed or piperail) and/or construction of trick tanks or double takes." *Id.*

At no point did the 2019 BiOp mention the historic challenges the Forest Service has experienced when attempting to implement substantially similar mitigation measures on other allotments and complexes in the Tonto National Forest. For instance, the 2019 BiOp did not

discuss that utilization limits mean nothing to the frog or its critical habitat, as such limits refer only to forage use and not to the species' structural habitat requirements or life-cycle needs. Put differently, forty percent utilization does not ensure that the physical and biological features of the upland and riparian habitat are sufficient to support frogs. Nor did the 2019 BiOp mention the decades of noncompliance with exclosure fencing across the Tonto National Forest, or the fact that barbed wire and pipe-rail fencing are known to be ineffective at preventing livestock from accessing (and severely damaging) closed areas. With respect to seasonal closures, the 2019 BiOp failed to mention that such seasonal closures have historically failed to stall the deterioration of—much less restore—important riparian and upland habitat across the Tonto National Forest, resulting in significant harm to listed species and critical habitat. The 2019 BiOp thus ignored the best available science and unlawfully relied on mitigation measures that are uncertain to occur in order to artificially minimize the impacts of the action on the frog.

FWS nevertheless concluded that grazing within the Bar X Complex would not jeopardize the continued existence of the frog. 2019 BiOp at 32. In support of this determination, the 2019 BiOp insisted that frog populations "have persisted and expanded into the Bar X allotments along with cattle grazing." *Id.* at 32. The 2019 BiOp additionally insisted that the use of mitigation measures, including seasonal closures and utilization limits, will "reduce or prevent overgrazing of vegetation adjacent to streams/ponds that can be used by [frogs]." *Id.* In particular, the 2019 BiOp insisted that the same tired mitigation measures that have for decades failed to adequately protect—much less restore—frog habitat across the Tonto National Forest, including "monitoring, conservative [utilization limits], and adaptive management, will minimize effects of upland grazing on occupied habitat." *Id.* at 28. In any event, the 2019 BiOp insisted that any "decline" in frog populations "resulting from the proposed action would be a small proportion of their overall rangewide status." *Id.* at 32. Finally, the 2019 BiOp dismissed any adverse effects on the frog from stock tank maintenance, insisting that while such maintenance will "caus[e] short-term adverse effects, [it is] important for long-term CLF habitat preservation." *Id.*

The 2019 BiOp attached an ITS that explained that frogs were likely to be incidentally taken by harassment, harm, direct fatality, or injury. *Id.* at 33. The 2019 ITS insisted that the incidental take of frogs would be difficult to detect due to the cryptic nature of the frogs, the dynamic nature of their populations, and their small size. *Id.* at 34. Therefore, the 2019 ITS "assign[ed] the amount or extent of [frog] incidental take at the sub-population level," i.e., "otherwise referred to as occupied sites." *Id.* The 2019 ITS also insisted that "frog metapopulations are expected to be dynamic due to natural events and/or management efforts," and thus, "sites where CLF incidental take may occur and the effect of that incidental take will change across the allotments." *Id.* at 33. Due to the "dynamic nature" of frog occupancy, the 2019 ITS insisted that reinitiation is *not* necessary "whenever a new [frog] population is found, created, or frogs in a particular livestock tank are periodically absent." *Id.* Accordingly, the 2019 ITS ultimately concluded that take of the frog is exceeded where the "distribution and abundance of [frog] populations on the Bar X Grazing Complex . . . decline due to effects of livestock grazing and tank maintenance." *Id.* at 34.

The 2019 ITS further explained that take would be considered exceeded if two conditions are satisfied. *Id.* at 34. First, one of four take scenarios must be "identified or suspected to have

occurred": (1) "[h]arassment, direct fatality, or injury" to frogs "from livestock"; (2) "[h]arassment and harm to [frogs] and their productivity caused by livestock degradation" to the streambank, riparian vegetation, or habitat alteration "leading to increased pool sedimentation and decreased cover/shelter"; (3) "[h]arassment, direct fatality, or injury of [frogs] . . . from livestock tank maintenance"; or (4) "[h]arassment and direct fatality to [frogs] . . . due to unintentional benefit to, or facilitation of," the introduction and spread of nonnative species that predate upon or otherwise compete with frogs. *Id.* at 33. Second, there must be evidence that "occupied [frog] sites are absent from the Bar X Grazing Complex . . . over any consecutive 2-year period over the 10-year life span of th[e] [BiOp]." *Id.* at 34. This second condition is based on the two occupied frog sites that have been identified in the Bar X Complex. *Id.*

The 2019 ITS did not grapple with the fact that it impermissibly authorized a level of take that is "coextensive with the scope of the project." *Allen*, 476 F.3d at 1038-41. Take is only exceeded when there is proof that there is harassment, direct fatality, or injury to frogs that is *caused by livestock*. Even if incidental take from all sources "was considerably higher than anticipated," the ITS "would not permit the FWS to halt the project and reinitiate consultation." *Allen*, 476 F.3d at 1039. Moreover, the 2019 ITS "ignores the corollary that 'an agency may not take action that will tip a species from a state of precarious survival into a state of likely extinction.' That is, 'even where baseline conditions already jeopardize a species, [FWS] may not take action that deepens the jeopardy by causing additional harm.'" *Defs. of Wildlife v. Dep't of the Interior*, 931 F.3d 339, 353 (4th Cir. 2019) (quoting *NWF I*, 524 F.3d at 930)).

Given the decades of evidence that the same grazing regime implemented on the Bar X Complex fails to ensure that the Forest Service complies with the ESA's substantive mandates, it is highly probable that the reinitiation of consultation for grazing on the Bar X Complex is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16. Indeed, as evidenced by the Conservation Organization's previous NOIs and herein, FWS's key assumptions that supported its determinations and concurrences in the 2019 BiOp— e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits and seasonal closures would adequately protect the habitat relied upon by listed species—have been unequivocally disproven elsewhere on the Tonto National Forest. There is no reason to expect a different result here.

Hick's-Pikes Peak Allotment

The Hick's-Pikes Peak Allotment is located in the Globe Ranger District of the Tonto National Forest. The Allotment shares a boundary with the adjacent Daggar Allotment. The Hick's-Pikes Peak Allotment is bounded by the Salt River to the north and contains fifty-six miles of creeks and washes. 2020 Concurrence. The Allotment therefore provides important riparian habitat for the flycatcher, the cuckoo, and the narrow-headed garter snake. The Allotment also contains designated critical habitat for the flycatcher.

Significant unauthorized/trespass cattle damage along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.640557, -110.792046. June 12, 2025.

The Allotment last underwent consultation for ongoing grazing activities in 2020. *See* 2020 Concurrence. Relevant here, the 2020 Concurrence reported the Forest Service's determination and FWS's concurrence that grazing was not likely to adversely affect: the flycatcher or its critical habitat; the cuckoo or its critical habitat; or the narrow-headed garter snake. 2020 Concurrence at 1.

The 2020 Concurrence effectively authorized the Forest Service to dramatically increase the number of cattle on the Allotment from 326 adult cows to up to 800 adult cows, despite ongoing drought conditions. *Id.* at 2. The 2020 Concurrence notes that utilization limits will allow grazing of riparian herbaceous vegetation to excessive levels—i.e., up to forty percent of plant species biomass—with similarly high utilization allowed in upland areas. *Id.* at 3. Despite the impacts that indisputably will result from grazing to this level, the agencies nevertheless insist that grazing activities will not adversely affect listed species or designated critical habitat. *Id.* at 1. The agencies rest their determinations on the implementation of mitigation measures that purport to protect and improve habitat conditions, including the installation of drift fences to

exclude cattle from riparian areas, limitations on grazing in occupied flycatcher habitat during the breeding season, and the provision of "annual education and information to permittee and ranching personnel about narrow-headed gartersnakes, including species identification, habitats, and instruction that they not be intentionally killed." *Id.* at 3-4.

Specifically, with respect to the flycatcher and its critical habitat, the 2020 Concurrence insisted that "[e]ffects to flycatchers and its riparian habitat from cattle or cattle grazing are insignificant and discountable because no authorized livestock grazing will occur within flycatcher habitat along the Salt River and Pinal Creek floodplains." *Id.* at 4. Accordingly, when taken together with range improvements and grazing management measures designed to minimize cowbird parasitism, the agencies concluded that grazing would not adversely affect the flycatcher or its critical habitat. *Id.*

Likewise, with respect to the cuckoo and its critical habitat, the 2020 Concurrence notes that there "are no known breeding cuckoos within the action area and no authorized livestock grazing will occur within cuckoo habitat along the Salt River and Pinal Creek floodplains." *Id.* at 5. The 2020 Concurrence thus concludes that effects to cuckoos or their critical habitat "are insignificant and discountable." *Id.* Thus, when taken together with range improvements and grazing management measures designed to maintain "adequate upland herbaceous cover" (e.g., the use of ostensibly "moderate to conservative grazing" utilization limits and "effectiveness monitoring"), the agencies concluded that grazing would not adversely affect the cuckoo or its critical habitat. *Id.*

Finally, with respect to the narrow-headed garter snake, the agencies insisted that the effects of grazing activities "are insignificant and discountable because gartersnakes are likely either absent or at very low density within the action area, no authorized grazing will occur within the Salt River or Pinal Creek floodplains, and there are no stated effects to the gartersnake's fish prey base." *Id.*

Neither agency addressed the fact that fencing has repeatedly proved ineffective at excluding cattle and thus, at protecting critical habitat from grazing impacts. Nor did either agency address the history of noncompliance with grazing utilization limits on the Allotment, which has contributed to degraded riparian conditions and has no sign of abating.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16. As documented in the Conservation Organizations' NOIs, "significant grazing impacts" are readily observable "within the riparian zone," significantly undermining the basis for the agencies' conclusions documented by the 2020 Concurrence—i.e., that fencing would actually exclude livestock from the Salt River and other riparian areas. The NOIs further reported that "cattle trails weave[] through riparian [areas] and trampling of ground cover [is] prevalent."

Further illustrating the ineffectiveness of the 2020 Concurrence's grazing management regime, cattle have left little vegetation in these supposedly "protected" areas, demonstrating that "fence lines [are] inadequate" to prevent incursions into riparian and/or designated critical habitat.

Accordingly, the Forest Service and FWS's key assumptions that supported its determinations and concurrences in the 2020 Concurrence— e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. The 2020 Concurrence is therefore invalid. *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) ("[W]here an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures, the [BiOp] for the proposed action becomes invalid."). Without a valid BiOp or concurrence in place, the Forest Service is "no longer insulate[d]" from the ESA's "substantial civil and criminal penalties for takings of listed species." *Id.* (citation omitted). Yet, the Forest Service continues to authorize grazing in riparian areas, including in designated critical habitat, causing severe deterioration of riparian habitat and harm to listed species, including the flycatcher, cuckoo, and narrow-headed garter snake. Accordingly, the unlawful take of listed species is likely occurring, despite the 2020 Concurrence's assertion—based upon a faulty presumption—that no adverse effects would result.

In response to the Conservation Organizations' concerns, the Forest Service acknowledged that "[e]rosion that has opened up gaps beneath the West Ortega fence," but insisted that such gaps "will be fixed prior to the permittee entering the pasture again with cattle." The Forest Service did not acknowledge that damage to critical habitat from ongoing grazing has far exceeded that contemplated by the 2020 Concurrence (i.e., *none*). Nor did it acknowledge that the key assumption that supported its determinations and concurrences in the 2020 Concurrence— e.g., that livestock would be effectively excluded from riparian habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. Hence, the myriad legal violations identified by the Conservation Organizations in their NOIs and herein have not been adequately addressed.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Hick's-Pike Peak Allotment is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 8-16. For instance, damage to flycatcher critical habitat along the Salt River is "significant," and "fresh sign" of unauthorized livestock were observed in both flycatcher and razorback sucker critical habitat. *Id.* at 9, 11. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Red Lake Complex (Catholic Peak, Gentry Mountain, and Red Lake Allotments)

The Red Lake Complex consists of three allotments in the Pleasant Valley Ranger District of the Tonto National Forest. The Complex is bordered by the OW Allotment to the north and the Crouch Mesa Allotment to the south. 2022 BiOp at 12.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.160646, -110.834418 (2). June 11, 2025.

The Complex contains two units of designated critical habitat for the frog: the Crouch, Gentry, and Cherry Creeks Unit and Parallel Canyon Unit. *Id.* at 23. Two of the allotments, Red Lake Allotment and Gentry Mountain Allotment, contain occupied frog sites. *Id.* at 17-18. Although frogs have been released at sites in the Catholic Peak Allotment, such releases have failed to establish persistent populations. *Id.* at 21. Within each allotment, certain riparian areas and stock tanks have been fenced in an attempt to exclude livestock, including but not limited to Bottle Springs, Carroll Spring, Gentry Creek, and Pine Spring. *Id.* at 18-21.

FWS last examined the effects of grazing on frogs and their critical habitat within the Complex in 2022. The 2022 BiOp determined that continued grazing "is not likely to jeopardize the continued existence of the [frog], and is not likely to destroy or adversely modify designated critical habitat." 2022 BiOp at 35. The 2022 BiOp based its no-jeopardy and no-adverse-modification conclusions on the "continual[] document[ation]" of breeding frogs on the Complex "during grazing operations"; the Forest Service's frog management programs, including breeding, augmentations, non-native species removal, and monitoring for chytrid and other diseases; the Forest Service's grazing management, which purports to "trend[] towards improved conditions"; "range improvements" that purport to "provide benefit to the frog . . . while utilizing conservation measures [i.e., mitigation measures] to ensure any impacts to the frog are

minimized"; and the assumption that "[c]ritical habitat on [the Complex] will continue to serve the function and conservation role of critical habitat for the [frog]." *Id.* at 36.

The 2022 BiOp also purported to address the impacts of grazing on the frog's recovery prospects. *See id.* at 32-33. The 2022 BiOp explained that the "[c]onsequences to the frog from the continuation of livestock grazing . . . predominantly pertains to trampling of egg masses, hibernating frogs or overwintered tadpoles; excess sedimentation in earthen stock tanks; elimination of streamside vegetation that provide cover for frogs; and spread of disease and nonnative predators." *Id.* at 33. However, the 2022 BiOp insisted that these effects would be "minimize[d]" through grazing and adaptive management strategies. The 2022 BiOp further argued that the "[c]onsequences of continued livestock grazing on [the Complex] has not resulted in extirpation of [the frog]" from the Complex, and that the effects of grazing are "unlikely to preclude achievement of the Recovery Criteria." *Id.* Accordingly, the 2022 BiOp concluded that grazing will "not move the [frog] past a tipping point where the species can no longer be recovered." *Id.* The 2022 BiOp likewise determined that grazing would not prevent critical habitat from "contribut[ing] to the recovery of the species"—and thus, "will not push the species past a tipping point where recovery would no longer be possible"—because "the critical habitat within the action area will retain its function." *Id.* However, this recovery analysis failed to acknowledge that the frog faces significant grazing pressure throughout much of its range, as well as the significant and growing threat of climate change. Additionally, the recovery analysis, like the 2022 BiOp and 2022 ITS, primarily focused on stock tanks, largely ignoring the significant, adverse impacts that grazing will have—and is having—on riparian critical habitat.

The 2022 ITS appended to the 2022 BiOp explained that take of the frogs was likely from harassment, direct mortality, or injury of individual frogs; harm from loss of habitat functionality; and/or harassment or direct mortality from the spread of non-native predators and/or disease. *Id.* at 37. Because the take of individual frogs is difficult to detect, the 2022 ITS used a surrogate, attributing take from grazing in the Complex "at the metapopulation level." *Id.* at 38. Specifically, the 2022 ITS used "occupancy and breeding of [frogs]" at certain established breeding sites as a surrogate measure for take. *Id.* "Incidental take will be considered to have been exceeded if: 1) there is a loss of documented breeding at one of known six breeding sites in a given pasture over a three-year consecutive period; and 2) loss of that breeding site is attributed to the proposed livestock management." *Id.* The 2022 ITS did not explain how the requirement that the loss of breeding sites be directly attributable to livestock management can be squared with the ESA's command that agencies refrain from taking actions that cause additional harm to listed species or their critical habitat.

The Conservation Organizations' NOIs notified the agencies that "[p]ermitted cattle grazing has significantly damaged designated riparian [frog] Critical Habitat . . . with cows removing vegetation and defecating in riparian areas and ponds that the frogs depend on for dispersal, survival, and reproduction." The NOIs reported that "[m]any riparian areas specifically set aside to recover an imperiled frog were so significantly trampled and polluted by cattle that their function as breeding habitat is diminished." For example, the NOI reminded the agencies of FWS's own conclusion that the frog "likely do[es] not persist in waters severely polluted with cow feces," 77 Fed. Reg. at 16,328, while documenting extensive pollution by cow dung of waters within frog critical habitat. The NOI also documented damaged and/or nonfunctional

exclosure fences, as well as severe habitat degradation resulting in "the loss of" primary constituent elements within frog critical habitat. Accordingly, the inevitable conclusion is that "[d]esignated riparian Critical Habitat is not being adequately protected." This new information indicates that grazing is affecting listed species and critical habitat to an extent not previously considered and therefore, reinitiation of consultation is required. 50 C.F.R. § 402.16.

The NOIs also decried the Forest Service's grazing management regime, explaining that "the use of cow grazing utilization [limits]" have little, if any, relevance to listed species, their critical habitat, and their life-cycle needs, and therefore "do not protect riparian dependent endangered species." As a result, such metrics cannot be used "to govern habitat conditions" consistent with the ESA's requirements.

The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16.

The Forest Service and FWS's key assumptions that supported its determinations and concurrences in the 2022 BiOp— e.g., that livestock would be effectively excluded from critical habitat and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. The 2022 BiOp is therefore invalid. *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) ("[W]here an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures, the [BiOp] for the proposed action becomes invalid."). Without a valid BiOp or concurrence in place, the Forest Service is "no longer insulate[d]" from the ESA's "substantial civil and criminal penalties for takings of listed species." *Id.* (citation omitted). Yet, the Forest Service continues to authorize grazing in riparian areas, including in designated critical habitat, causing severe deterioration of riparian habitat and harm to the frog. Hence, the unlawful take of listed species is likely occurring, despite the 2022 BiOp's assertion—based upon a faulty presumption—that grazing would comply with the ESA's substantive mandates.

In response to the Conservation Organizations' concerns, the Forest Service cited the 2022 BiOp. The Forest Service insisted that frog populations and threats were being actively monitored throughout the Complex. Additionally, the Forest Service insisted that in 2024, it had "received no reports of unscheduled livestock in frog habitats." The agency disputed the Conservation Organizations' characterization of utilization limits, asserting that "[l]iterature documents that conservative utilization [limits] found in a majority of our proposed actions maintains or benefits ecological resources." The Forest Service thus ignored the robust photographic evidence that such utilization limits are, in fact, *not* benefiting the frog or its critical habitat on *this* Allotment. Although the Forest Service acknowledged that some exclosure fences required repair, it insisted that such fences were either repaired or that incursions into fenced areas would not impact known frog sites. In any event, the Forest Service argued that the

2022 ITS take exceedances have not yet been met. Because the Forest Service and FWS have to date failed to meaningfully address the severe habitat degradation and deterioration documented by the Conservation Organizations in their NOIs and herein, the myriad legal violations identified in those NOIs and herein have not been adequately addressed.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Red Lake Complex is continuing to result in significant adverse impacts to listed species and habitat degradation in designated critical habitat, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 42-49, 56-63. For instance, damage to frog critical habitat is "significant," and fresh dung was observed in frog critical habitat near the streambed. *Id.* at 43-44. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

Lower Verde Complex (including the Deadman Mesa, Cedar Bench, Bull Springs, and Pole Hollow Allotments)

The Lower Verde Complex encompasses four grazing allotments in the Payson Ranger District of the Tonto National Forest: Deadman Mesa Allotment; Cedar Bench Allotment; Bull Springs Allotment; and Pole Hollow Allotment. The Complex provides important breeding habitat for the cuckoo.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.245319, -111.578012. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.278844, -111.644650. August 13, 2025.

The Complex last underwent consultation for ongoing grazing activities in February 2025. However, as the Forest Service *acknowledged* in its March 2025 response to the Conservation Organization's 2022 and 2025 NOIs, the Forest Service "*agreed* to begin work on *a forest-wide ESA section 7 consultation to cover all grazing allotments on the Tonto*." Forest Serv. Correspondence at 1 (emphasis added). Accordingly, consultation for the Lower Verde Complex should have been included in the yet-to-materialize "forest-wide" consultation.

According to Forest Service supervisors at an in person meeting on July 22, 2025, the Lower Verde Complex was bifurcated from the (unreasonably delayed) forest-wide consultation in order to expedite authorized grazing for the new grazing permittee on Bull Springs Allotment. Not only is this contrary to the pre-existing agreement between the Center and the Forest Service, but it also violates the spirit of the ESA. The ESA does not permit FWS to ignore the plight of imperiled species in favor of administrative convenience. Yet, that appears to be exactly what happened.

As evidenced by the 2025 BiOp, FWS now merely knee-jerk rubber stamps the same ineffective, unreasonable, and unlawful grazing regime, no matter the scientific rigor (or lack thereof), the evidence of widespread environmental baseline degradation, the "reasonably certain" standard,[16] or the "best scientific … data available" standard.[17] For instance, with the

[16] 50 C.F.R. § 402.17(b) (2019); 84 Fed. Reg. at 44,977.
[17] Endangered Species Act Section 7(a)(2).

2025 BiOp, the Forest Service and FWS rely on the same admittedly ineffective and non-scientific cow grazing utilization limits and new promises of more photo points, despite documentation that the established photo points have not been checked for years.

As reported by the 2025 BiOp, the Forest Service proposed to continue to authorize grazing activities on the Cedar Bench and Pole Hollow Allotments and reauthorize grazing activities on the then-vacant Bull Springs and Deadman Mesa Allotments. 2025 BiOp at 3. Despite the 2025 BiOp's ultimate conclusion that grazing within the Complex would not jeopardize the cuckoo, FWS explained the serious adverse effects to cuckoo breeding habitat that will result from continued grazing.

For example, the 2025 BiOp explained that according to the Forest Service, the Complex contains 1,116 acres of breeding habitat for the cuckoo, located primarily along Fossil Creek, the East Verde River and its tributaries, Rye Creek, and Bull Spring Canyon. *Id.* at 25-28. However, this habitat is under threat; the Complex has suffered from years of noncompliant grazing, both from permittees and feral cattle, and watersheds on the allotments within the Complex are functioning at risk. *Id.* 22-25.

Recognizing that the four allotments within the Complex would be subject to different grazing regimes, the 2025 BiOp explained that the impacts to cuckoos would vary by location. Generally, the 2025 BiOp predicted that grazing on the Deadman Mesa Allotment would have "no effects" because "grazing [is] excluded." *Id.* at 38. Grazing on pastures in the Cedar Bench Allotment would have, at most, "insignificant" effects. *Id.* Finally, grazing on pastures in Pole Hollow and Bull Springs Allotments would generally have adverse effects. *Id.*

More specifically, the 2025 BiOp predicted that most adverse effects would be confined those areas of cuckoo habitat that cattle are permitted "unrestricted" or lightly restricted access, which generally occur on pastures within the Pole Hollow and Bull Springs Allotments. *Id.* at 38. In other areas where grazing activities may have direct or indirect effects on cuckoos, including upland areas and pastures within the Deadman Mesa and Cedar Bench Allotments, the 2025 BiOp predicted that such effects would be nonexistent or insignificant due in large part to the implementation of range improvements to exclude cattle (e.g., fencing). *See, e.g.*, 33-37. However, the 2025 BiOp failed to acknowledge that many of the structural improvements aimed at controlling access to cuckoo habitat would not be completed until 2028. *Id.* at 7. Therefore, for at least three years (assuming no unexpected delays), areas that the 2025 BiOp's no-jeopardy conclusion assumed would be off-limits to cows would in fact be accessible and subject to grazing impacts. *Id.* at 7. The 2025 BiOp never examined these interim effects. Nor did the BiOp acknowledge the history of noncompliance with use limits and area or seasonal closures, or the fact that fencing riparian habitat has *repeatedly* proved to be utterly ineffective at excluding cattle from such areas.

The 2025 BiOp thus repeated the Forest Service's now-common mistake of relying on mitigation measures that have been proven to be ineffective and are not reasonably certain to occur. For instance, the 2025 BiOp required the Forest Service to use the Riparian Photopoint Program, implemented by the volunteer organization, Friends of Tonto National Forest, to monitor riparian utilization and ensure that grazing remains within utilization limits. The 2025 BiOp did not discuss what would happen in the event the volunteer organization disbanded,

failed to adhere to the monitoring schedule, or otherwise experienced difficulties in obtaining the necessary photopoints in the future. Nor did the 2025 BiOp acknowledge the organization's past difficulties in securing the necessary photos, meaning that the monitoring protocols set forth by the 2025 BiOp are unlikely to even occur.

Even where the 2025 BiOp conceded that grazing would adversely affect the cuckoo, the BiOp failed to meaningfully analyze the impacts of such effects on the species within the Complex or range-wide. For example, although the 2025 BiOp admits that grazing in cuckoo habitat outside of the breeding season can "negatively affect[] the quantity and quality of habitat," which in turn, "harm[s] cuckoos via injury caused by reductions in individuals' ability to breed, feed, and/or shelter," the discussion ends there. The 2025 BiOp thus failed to critically examine the actual impact of such harms to the species. *Id* at 27. The 2025 BiOp likewise relies on "conservative" grazing utilization limits that ostensibly will minimize effects to cuckoo breeding habitat. *Id.* at 6. The BiOp does not acknowledge that utilization limits are meaningless to the cuckoo; because the cuckoo's habitat needs are structural, utilization limits that measure stubble height do not ensure that grazed habitat will maintain its function for the cuckoo's life-cycle needs. Additionally, the 2025 BiOp failed to discuss the relative importance of the various affected drainages and breeding habitat areas to cuckoos. For example, at no point did the 2025 BiOp meaningfully examine the relative impacts of the loss of any one breeding or habitat area to the survival or recovery of the species. Instead, BiOp discounted any effects to the cuckoo and its habitat from grazing within the Complex, insisting that "[f]or both riparian and upland portions of the action area, [FWS] expect[s] that the combination of utilization [limits], the [Forest Service's] rest-rotation system, monitoring protocols, and conservation measures [i.e., mitigation measures, including the fencing of riparian habitat] . . . will reduce potential effects to cuckoo habitat at a broad scale." *Id.* at 32. Thus, while admitting "cuckoo habitat will be less abundant and of lower quality under the proposed action than if grazing were not authorized," the BiOp nevertheless concluded that "current conditions will be maintained," and as a result, any reductions in the number of cuckoos will be insignificant. *Id.* at 38.

The 2025 BiOp purported to examine the effects of grazing on the cuckoo's recovery. While acknowledging that FWS is obligated to "identify when a species would pass the tipping point for recovery and determine whether the proposed action would cause the species to reach that tipping point," the 2025 BiOp asserted that such a determination for the cuckoo "is difficult to determine in the absence of a recovery plan." *Id.* at 39. The 2025 BiOp insisted that "the range of the cuckoo is relatively broad and populations in other locations . . . would not be affected by the proposed action." *Id.* Additionally, according to the BiOp, "effects to local populations of cuckoos along Fossil Creek on the Cedar Bench Allotment, and along the East Verde River within holding traps on the Pole Hollow and Bull Springs [A]llotments would be insignificant." *Id.* The BiOp explained that "[w]hile adverse effects are anticipated within pastures on the Pole Hollow and Bull Springs [A]llotments, conservation measures [i.e., mitigation measures] and [the Forest Service's] rest-rotation grazing strategy would reduce the impacts of the proposed action such that they are not anticipated to preclude the continued existence of cuckoos in these areas." *Id.* The 2025 BiOp thus concluded that grazing "is unlikely to reduce the species' potential for recovery."

The 2025 BiOp ultimately concluded that grazing within the Complex was "not likely to jeopardize the continued existence of the western DPS of the yellow-billed cuckoo." *Id.* at 40. This no-jeopardy determination relied on several assumptions, including: that fencing and other mitigation and management measures would exclude cattle from cuckoo habitat within certain drainages, pastures, and/or traps; that the implementation of mitigation measures and grazing/adaptive management measures would effectively minimize cattle impacts to cuckoo habitat in certain drainages; that of the 577 acres of habitat where adverse effects will occur, only 243 acres will experience reductions in habitat quality and abundance "while the remaining acreage is expected to persist in its current condition" through the implementation of mitigation measures and grazing/adaptive management measures; and that "the range of the cuckoo is relatively broad," while the effects of the proposed action will be limited to the Complex. *Id.* at 40-41. The 2025 BiOp also stressed that its no-jeopardy conclusion was "based on full implementation of the project . . . including any conservation measures [i.e., mitigation measures] that were incorporated into the project design." *Id.*

The 2025 BiOp included an ITS ("2025 ITS") explaining that incidental take was expected to "in the form of harm that would result from reduced habitat abundance and quality leading to death or injury of cuckoos by impairing behavioral patterns such as breeding, feeding, and/or sheltering." *Id.* at 42. Citing the purported difficulty in detecting the take of cuckoos due to a lack of "baseline survey . . . for most of the[affected] habitat" and variability in cuckoo abundance on the Complex, the 2025 ITS used "the acreage of adversely affected [Forest Service]-modeled potential breeding habitat as a surrogate to express take of cuckoos that would occur as a result of the proposed action." *Id.* The 2025 ITS insisted that "modeled habitat is an appropriate surrogate because it provides the best information available regarding areas cuckoos rely on for breeding, feeding, and sheltering during the breeding season within the action area." *Id.*

According to the 2025 BiOp, the Forest Service modeled 1,116 acres of potential cuckoo breeding habitat. *Id.* Because the effects of grazing will vary by location, the 2025 ITS "express[ed] incidental take separately by location." *Id.* at 43. Specifically, the 2025 ITS authorized take in two scenarios: (1) a "[d]ecline[] in quantity and quality of 243 acres of cuckoo breeding habitat along the East Verde River within the Bull Springs Allotment's Bullfrog, Oak Grove, and West River pastures"; and (2) the "[c]ontinued suppression of habitat quality on 334 acres of cuckoo breeding habitat at current levels with no new measurable declines in habitat quantity and quality along the East Verde River, Pine Creek, Rye/Mineral Creek, and Bull Spring Canyon" within the River, Maverick, Homeward, Cypress Thicket, Bull Springs, and Brush Corral pastures. *Id.* The 2025 ITS explained that take will also be considered exceeded where grazing results in "measurable declines in quantity and quality" of cuckoo habitat" (1) "outside the 243 acres of cuckoo breeding habitat within the Bull Springs Allotment's Bullfrog, Oak Grove, and West River pastures": or (2) "in 334 acres of cuckoo breeding habitat in other portions of the Bull Springs Allotment or within the Pole Hollow Allotment." *Id.* "Measurable declines" are defined to occur "when a combination of the following is observed for two consecutive years and attributed to the proposed action": (1) contracting riparian areas; (2) lack of vigorous growth of native riparian plants; (3) declines in bake stabilizing species (4) increases in the abundance of invasive species; (5) decreases in the vertical and horizontal cover of riparian and xeroriparian vegetation; (6) decreases in seedling recruitment after two consecutive

flood events; and (7) reduction sin age structures for recovery and maintenance of riparian vegetation. *Id.*

As documented by the attached survey data, grazing has caused widespread, significant deterioration of occupied and designated critical habitat for the cuckoo. The information and evidence presented in the NOIs and herein demonstrate that the initiation of consultation is required because the amount of take authorized or expected is being exceeded, new information has revealed that the effects of grazing are affecting listed species and/or critical habitat in a manner and to an extent not previously considered, the failure to effectively implement mitigation measures (e.g., exclosure fencing, utilization limits, etc.) has modified the action in a manner that is causing effects to listed species and/or critical habitat that has not been previously considered in a BiOp or concurrence, and/or new species have been listed or critical habitat designated that may be affected by continued grazing. 50 C.F.R. § 402.16.

The Forest Service and FWS's key assumptions that supported its determinations and concurrences in the 2025 BiOp— e.g., that livestock would be effectively excluded from critical habitat, that seasonal closures would allow habitat sufficient time to recover before livestock are turned out again, and that utilization limits would adequately protect the habitat relied upon by listed species—have been unequivocally disproven. The 2025 BiOp is therefore invalid. *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) ("[W]here an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures, the [BiOp] for the proposed action becomes invalid."). Without a valid BiOp or concurrence in place, the Forest Service is "no longer insulate[d]" from the ESA's "substantial civil and criminal penalties for takings of listed species." *Id.* (citation omitted). Yet, the Forest Service continues to authorize grazing in riparian areas, including in designated critical habitat, causing severe deterioration of riparian habitat and harm to the cuckoo. Accordingly, the unlawful take of listed species is likely occurring, despite the 2025 BiOp's assertion—based upon a faulty presumption—that grazing would comply with the ESA's substantive mandates.

Additionally, despite the Forest Service's cursory dismissal of the Conservation Organizations' concerns, the Center's 2025 surveys reveal that grazing within the Lower Verde Complex—specifically, within the Bull Springs, Cedar Bench, and Pole Hollow Allotments—is continuing to result in significant adverse impacts to listed species, including habitat within purportedly "off-limits" pastures and livestock exclosures. *See* Attach. 3 at 80-99. For instance, within the Bull Springs Allotment, the damage to cuckoo breeding habitat along the East Verde River is "significant," and cattle were observed grazing in areas supposedly "off-limits" to livestock use. *Id.* at 82-83. Similarly, within the Cedar Bench Allotment, the Center observed "trespass cattle and significant damage to occupied [cuckoo] breeding habitat along the East Verde River. *Id.* at 89. Finally, within the Pole Hollow Allotment, the Center documented significant "trespass cattle damage along the East Verde River, in the off-limits Bull Pasture." *Id.* at 98. Thus, habitat deterioration due to grazing has not abated, and the Forest Service remains in violation of the ESA.

LEGAL VIOLATIONS

I. THE FOREST SERVICE'S AUTHORIZATION OF GRAZING PRIOR TO INITIATING CONSULTATION VIOLATES THE ESA.

As explained above, several of the operative BiOps and concurrences for grazing allotments in the Tonto National Forest predate the listing of new species and/or the designation of critical habitat.[18] Thus, for several allotments, grazing activities that indisputably have impacted—*and are continuing to impact*—listed species and their critical habitat are continuing without any assurance that such activities will neither jeopardize the continued existence of listed species or adversely modify designated critical habitat. This violates the letter and spirit of the ESA.

The ESA contains both substantive and procedural provisions. Substantively, the Act prohibits the taking or importation of endangered species, *see* 16 U.S.C. § 1538, and requires federal agencies to ensure that their actions are not "likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification" of critical habitat of such species, *see* 16 U.S.C. § 1536(a)(2). To ensure that its substantive mandates are met, "the ESA prescribes a three-step process" in which "[e]ach of the first two steps serves a screening function to determine if the successive steps are required." *Thomas v. Peterson*, 753 F.2d 754, 763 (9th Cir. 1985), *abrogated on other grounds as recognized in Cottonwood Envtl. L. Ctr. v. U.S. Forest Serv.*, 789 F.3d 1075, 1092 (9th Cir. 2015). First, the action agency "must inquire of [FWS] whether any threatened or endangered species [or critical habitat] 'may be present' in the area of the proposed action." *Id.* (citing 16 U.S.C. § 1536(c)(1)). Second, "[i]f the answer is affirmative, the agency must prepare a 'biological assessment' to determine whether such species [or critical habitat] 'is likely to be affected' by the action." *Id.* (citing 16 U.S.C. § 1536(c)(1)). Finally, if the biological assessment "determines that a threatened or endangered species 'is likely to be affected'" by the proposed action, "the agency must formally consult with [FWS]." *Id.* (citing 16 U.S.C. § 1536(a)(2)).

[18] Specifically, allotments that have never undergone consultation on the effects of grazing on the northern Mexico garter snake and/or its critical habitat include, but are not limited to the Gisela, OW, Seventy-six, Pinto Creek, Hardt, and Hick's-Pike Peak Allotments, as well as the Bar X Complex. Allotments that have never undergone consultation on the effects of grazing on the narrow-headed garter snake and/or its critical habitat include, but are not limited to the Gisela, OW, Seventy-six, Pinto Creek, Hardt, and Hick's-Pike Peak Allotments, as well as the Bar X Complex. Allotments that have never undergone consultation on the effects of grazing on the flycatcher and/or its critical habitat include, but are not limited to the Gisela, Poison Springs, Dagger, Seventy-six, Pinto Creek, and Hardt Allotments. Allotments that have never undergone consultation on the effects of grazing on the cuckoo and/or its critical habitat include, but are not limited to the Gisela, Poison Springs, Dagger, Seventy-six, Pinto Creek, Hardt, and Hick's-Pike Peak Allotments. Allotments that have never undergone consultation on the effects of grazing on the spikedace and/or its critical habitat include, but are not limited to the Gisela Allotment. Finally, Allotments that have never undergone consultation on the effects of grazing on the Gila chub and/or its critical habitat include, but are not limited to the Copper Creek Allotment.

Hence, consultation cannot begin until the action agency submits the biological assessment to FWS.

Despite the weight which the Ninth Circuit has repeatedly placed upon the procedural requirements of the ESA, it is clear that the Forest Service has failed to comply with the statute's mandates prior to authorizing grazing on several allotments within the Tonto National Forest. It is undisputed that listed species and their critical habitat "may be present" on the allotments. It is likewise undisputed that, as documented by the Conservation Organizations' NOIs, ongoing grazing activities not only may affect, but *are presently adversely affecting* listed species and critical habitat. *See* 16 U.S.C. § 1536; *Nat'l Parks Conservation Ass'n v. Jewell*, 62 F. Supp. 3d 7, 12-13 (D.D.C. 2014) ("The "may affect" threshold for triggering the consultation duty under section 7(a)(2) is low."); *see also id.* at 13 ("Any possible effect, whether beneficial, benign, adverse, or of an undetermined character, triggers the formal consultation requirement."); *accord* Jan. 9, 2023 FWS Correspondence (agreeing that "consultation is needed" on many of the allotments, and requested that the Forest Service "complete consultation for *all* allotments across the entire Tonto National Forest in one package, which would include *all* allotments named in [the Conservation Organizations'] NOI"). In fact, on the basis of those effects, in February 2023, the Forest Service *agreed to initiate and/or reinitiate consultation* on *all* of the allotments named in the Conservation Organizations' NOIs. *See* Mar. 19, 2025 FWS Correspondence at 1 ("As you are aware, the Tonto agreed to reinitiate consultation and requested such consultation from the FWS on February 9, 2023.").

Yet, over two and a half years later, the Forest Service has not completed a biological assessment evaluating the potential effects of grazing on listed species or designated critical habitat. *Id.* ("[T]he FWS is presently awaiting receipt of a Biological Assessment from the USFS to either initiate or re-initiate consultation on the 16 allotments identified in the Notice."); *cf.* 50 C.F.R. § 402.14(c)(3) ("Formal consultation shall not be initiated by the Federal agency until any required biological assessment has been completed and submitted to [FWS]."). Thus, despite recognizing that the potential impacts of grazing on listed species and critical habitat in the Tonto National Forest warrants formal consultation, the Forest Service has failed to "begin the formal consultation process." *Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation*, 138 F. Supp. 2d 1228, 1243 (N.D. Cal. 2001). Meanwhile, as documented by the Conservation Organizations' surveys, grazing continues to cause severe habitat degradation without any assurances that such activities will neither jeopardize listed species nor modify critical habitat. The Forest Service's continued authorization of significant, destructive grazing in areas that provide important habitat for listed species—and indeed, contain habitat designated as critical to the conservation of those species—without even considering the potential impacts of said grazing cannot possibly be reconciled with the ESA's command that federal agencies "insure" that their actions avoid species jeopardy. *See* Ex. S at 7-8. As the Supreme Court has explained, to "'insure' something . . . means '[t]o make certain, to secure, to guarantee (some thing, event, etc.)." *Nat'l Ass'n of Home Builders*, 551 U.S. at 667 (quoting 7 Oxford English Dictionary 1059 (2d ed. 1989)). The Forest Service has not made "certain" or "guaranteed" that its actions are not likely to jeopardize the listed species present in the Tonto National Forest, or adversely modify designated critical habitat. This is a serious violation of the ESA. *See, e.g.*, 16 U.S.C. §§ 1536, 1538.

In fact, because the Forest Service has failed to undergo any consultation, it has likewise failed to obtain the necessary determinations from FWS that would enable the Forest Service to avoid jeopardy or adverse modification to designated critical habitat, let alone authorization from FWS for the incidental take of listed species in connection with ongoing grazing activities. Thus, the Forest Service has failed to ensure that its actions authorizing grazing will avoid jeopardy or adverse modification of critical habitat, in violation of Section 7(a)(2).

"Once an agency is aware that an endangered species may be present in the area of its proposed action, the ESA requires it to prepare a biological assessment to determine whether the proposed action 'is likely to affect' the species and therefore requires formal consultation with [FWS]." *Thomas*, 753 F.2d at 763. The Forest Service has not done so here. "Without a biological assessment, it cannot be determined whether the proposed project will result in a violation of the ESA's substantive provisions." *Id.* Indeed, the Ninth Circuit has held that "the strict substantive provisions of the ESA justify *more* stringent enforcement of its procedural requirements, because the procedural requirements are designed to ensure compliance with the substantive provisions." *Id.* at 764. In other words, if a project is allowed to proceed without substantial compliance with those procedural requirements, "there can be no assurance that a violation of the ESA's substantive provisions will not result." *Id.* Such a consequence is "impermissible". *Id.* (citing *TVA,* 437 U.S. 153); *see also id.* at 763 ("A failure to prepare a biological assessment for a project in an area in which it has been determined that an endangered species may be present cannot be considered a de minimis violation of the ESA.").

Critically, neither monitoring nor surveys "constitute a substitute for the preparation of the biological assessment required by the ESA." *Id.* at 764. Only consultation can fulfill the ESA's procedural requirements, which again, are essential to ensuring that the proposed activities—i.e., grazing—can continue without violating the ESA's strict substantive mandates. *See, e.g.*, 16 U.S.C. §§ 1536, 1538.

Nor does section 7(d) excuse the violation. Section 7(d) prohibits the "irreversibly or irretrievable commitment of resources . . . which has the effect of foreclosing the formulation of any reasonable and prudent alternatives," but applies only "*[a]fter* initiation of consultation." 16 U.S.C. § 1536(d); *see also Pac. Rivers v. Thomas*, 30 F.3d 1050, 1056 (9th Cir. 1994) (The "plain language makes clear, § 7(d) applies only *after* an agency has initiated consultation under § 7(a)(2)."). The Ninth Circuit has "made it clear that section 7(d) does not serve as a basis for *any* governmental action unless and until consultation has been initiated." *Pac. Rivers*, 30 F.3d at 1056 (emphasis added). Because the Forest Service has not initiated consultation, "it ha[s] no basis or authority to implement [the proposed action (i.e., grazing)] and it violated the ESA when it did so." *Pac. Coast*, 138 F. Supp. 2d at 1245.

For these reasons as well as those explained above and in the Conservation Organizations' previous NOIs, the Forest Service and FWS are in ongoing violation of the ESA. The Forest Service "cannot avoid formal consultation indefinitely by postponing the preparation of, or simply failing to complete, a biological assessment." *Id.* at 1243. "Such a result would render meaningless the consultation requirement and would be completely at odds with the clear mandate of the ESA, which placed a national priority on halting and reversing the trend toward species extinction." *Id.* (citing *TVA*, 437 U.S. at 184-85). The Forest Service's delay in initiating consultation, as well as its authorization of significant destructive grazing that *is adversely*

affecting listed species and critical habitat without a valid BiOp or concurrence in place, therefore violates the ESA and its implementing regulations, is unlawful and unreasonable, and is arbitrary and capricious and not in accordance with law. *See* 16 U.S.C. §§ 1536, 1538; 5 U.S.C. § 706. Accordingly, to ensure compliance with the ESA, the Forest Service must *complete* formal consultation on all of the allotments that contain listed species and/or critical habitat that have not previously undergone consultation. The resulting BiOp must come to grips with the full spectrum of foreseeable effects resulting from grazing, which culminates with a BiOp that imposes serious and meaningful terms, conditions, and measures that will actually avoid jeopardy, as well as destruction and adverse modification of critical habitat. Until such a BiOp is completed, the agencies are in ongoing violation of the ESA absent immediate suspension of the Forest Service's grazing authorizations in allotments where listed species and critical habitat may be present for which no consultation has occurred.

II. THE FOREST SERVICE'S FAILURE TO REINITIATE CONSULTATION VIOLATES THE ESA.

In its response to the Conservation Organizations' 2025 NOI, the Forest Service explained that it "appreciates the importance of" completing a "forest-wide consultation," and insisted that it "intends to complete [such a consultation] as expeditiously as possible." 2025 Forest Serv. Correspondence at 2. However, at the same time, the Forest Service listed the BiOps and concurrences applicable to each allotment, suggesting that the documents contained sufficient analysis and protective measures to support the authorization of grazing consistent with the ESA—at least for the listed species and critical habitat areas that were included. Not so. As explained above and documented by the 2022 and 2025 NOIs, severely degraded habitat conditions are pervasive across habitat legally designated for the survival and recovery of listed endangered species across the Tonto National Forest's grazing allotments. Hence, it is clear from evidence presented in the previous NOIs and herein that for those allotments for which BiOps and/or concurrences exist, "new information" has "reveal[ed] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered," "the identified action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the [BiOp] or written concurrence," and/or "the amount or extent of taking specified in the [ITS] is exceeded." 50 C.F.R. § 402.16(a)(1)-(3); *see also* 16 U.S.C. §§ 1536(o), 1538. [19]

First, it is abundantly clear that grazing has affected—and is continuing to affect—listed species and critical habitat "in a manner or to an extent not considered" during consultation, and/or is "caus[ing] an effect to the listed species or critical habitat not considered" in the original consultation. 50 C.F.R. § 402.16. For example, many of the BiOps and concurrences expressly base their no-jeopardy and no-adverse-effect determinations, respectively, on a false

[19] However, as explained above, the Forest Service's failure to initiate consultation where grazing may affect newly listed species or newly designated critical habitat is a clear-cut violation of the ESA. cannot lawfully authorize grazing in allotments where no consultation has occurred with respect to newly listed species or newly designated critical habitat.

premise—i.e., that the implementation of certain grazing management measures (e.g., fencing, seasonal closures, etc.) will effectively exclude livestock from riparian and critical habitat areas. However, decades of evidence to the contrary demonstrate that the status quo is not only unsustainable, but unlawful. Indeed, as documented by the NOIs and herein, the allotments at issue have suffered and are continuing to suffer severe and pervasive habitat degradation that is *directly attributable to livestock*. For example, despite the BiOps and concurrences touting the use of exclosures to exclude livestock from important riparian habitat—including designated critical habitat—the Center has documented that the issue of trespass cattle and unauthorized use of areas within exclosures is rampant across the allotments and complexes at issue. The damage to those habitat areas is extensive, and has apparently continued unabated for years after the relevant BiOps or concurrences were issued. Additionally, in other contexts the Forest Service has *admitted* that barbed-wire and pipe fencing are largely ineffective barriers to livestock. Therefore, based on decades of repeated failures, it is virtually certain that continuing the grazing regime laid out in the BiOps and concurrences will likewise fail to restore and expand listed species and/or critical habitat. "Because [the Forest Service and FWS's] core presumption has proved incorrect, it is unclear what," if any, "analysis remains to support [the agencies'] no-jeopardy [and no-adverse-effect] conclusion[s]" *Yurok Tribe v. U.S. Bureau of Reclamation*, 231 F. Supp. 3d 450, 477 (N.D. Cal. 2017).

The Forest Service and FWS's reliance on seasonal closures is similarly misplaced. Seasonal grazing exclusions are ineffectual to protect important upland and riparian habitat areas (including designated critical habitat), and often do not encompass winter/spring germination of native riparian trees. Seasonal exclusion also leaves small sprouts and seedlings vulnerable to consumption by cattle during the non-growing season. Highly palatable and protein rich, cattle are well known to selectively browse Fremont cottonwood seedlings and saplings[20] [21] [22]

Apart from complete removal or destruction of sprouts and seedlings, selective browsing on cottonwood seedlings reduces a seedling's ability to survive and also causes young cohorts of trees to lose their height advantage over invasive salt cedar. As observed at Date Creek, which is grazed by cattle from November to March, Stromberg (1997) proposed that on cattle-grazed

[20] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[21] Martin, S.C., 1979. Evaluating the impacts of cattle grazing on riparian habitats in the National Forests of Arizona and New Mexico. In Proceedings of the Forum-Grazing and Riparian/Stream Ecosystems. Trout Unlimited Inc., Denver, Colo (pp. 35- 38).

[22] Stromberg, J.C., 1997. Growth and survivorship of Fremont cottonwood, Goodding willow, and salt cedar seedlings after large floods in central Arizona. The Great Basin Naturalist, pp.198-208.

rivers, riparian tree recruitment should be **protected year-round** from livestock, for multiple consecutive years, to allow seedlings to grow past browse height. [23]

Seasonal grazing strategies on the Tonto National Forest are also not in line with the intent of the Flycatcher Recovery Plan. An entire section of the Recovery Plan (i.e. 'Appendix G') deals exclusively with the well-known and well-documented impacts of livestock grazing to flycatcher breeding habitat. According to the table on page 26 of Appendix G, **no grazing** should commence in flycatcher designations that reasonably fit the definition of 'restorable or regenerating'. For example,

> "Restorable" means riparian systems that are degraded but have the appropriate hydrological and ecological setting to be restored to suitable flycatcher habitat, and could be restored with reasonable costs and actions. Lack of regeneration due to grazing is one factor contributing to habitat degradation; conditions in each habitat should include adequate plant regeneration to ensure habitat sustainability into the future. At these sites, flycatcher habitat is precluded largely or solely by livestock impacts. "Restorable" habitats are those that would be suitable if not for grazing, alone or in combination with other major stressors. This means **cessation of grazing** is a necessary, but not necessarily a sufficient action."[24]

As FWS stated in 2010, "according to the Recovery Plan, southwestern willow flycatcher recovery would be most assured, and in the shortest time, with **total exclusion** of livestock grazing from those riparian areas that are deemed necessary to recover the flycatcher and where grazing has been identified as a principal stressor."[25]

FWS recommended in 2018 that flycatcher management recommendations serve as yellow-billed cuckoo standards until species-specific recommendations are developed.[26] Regarding cuckoo, FWS's own species experts stated: "Management actions for cuckoos and other riparian or ephemeral drainage-dependent species: we recommend .. **no grazing** in riparian

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[23] Stromberg, J.C., 1997. Growth and survivorship of Fremont cottonwood, Goodding willow, and salt cedar seedlings after large floods in central Arizona. The Great Basin Naturalist, pp.198-208.

[24] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan, Appendix G, Albuquerque, New Mexico. Page 26.

[25] Correspondence from: Brenda Smith (for Steven L. Spangle) to: Field Office Manager, Bureau of Land Management, Kingman, Arizona re: The December 15, 2010, Biological Opinion for the Proposed Greenwood Community Grazing Allotment Permit Renewal. AESO/SE 22410-2010-F-0442, page 13.

[26] Correspondence to Field Manager, Tucson Field Office, Bureau of Land Management, Tucson, Arizona from USFWS Field Supervisor RE: Reinitiated Review and Conference on Eight Grazing Lease Renewals, Pinal County, Arizona. AESO/SE, 22410-2006-F-0414R1; 02-21-00-F-0029, August 20, 2018, pages 9-11.

habitat (including ephemeral drainages with hackberry, oak, ash, sycamore, Arizona cypress, walnut, soapberry, etc) where cuckoos breed **at any time**"[27]

Despite these specific management recommendations, designated critical habitat is inundated with cattle during winter and spring, ensuring that vital habitat constituents for breeding birds are diminished, allocated to cows, and removed or precluded at the very time that flycatchers and cuckoos arrive to reproduce. Full exclusion of livestock is warranted to avoid ongoing damage, adverse modification and violations of the Endangered Species Act.

Relatedly, as documented by the NOIs and herein, the Forest Service is utterly failing to monitor—much less *enforce*—utilization limits relied upon by the BiOps and concurrences in reaching their respective conclusions. The Conservation Organizations' previous NOIs exhaustively detailed the many reasons that reliance on utilization limits to meet the ESA's substantive mandates violates the letter and intent of the ESA and its implementing regulations and is arbitrary and capricious, which are incorporated by reference herein. Most egregiously, utilization limits often have nothing to do with the life-cycles, habitat needs, or recovery prospects of the listed species that are or may be present within the allotments and complexes at issue (i.e., the frog, Gila chub, narrow-headed garter snake, northern Mexican garter snake, cuckoo, flycatcher, razorback sucker, and spikedace). For example, the structural habitat requirements for the flycatcher and cuckoo cannot be assessed or measured by utilization limits or stubble height measurements. Yet, the BiOps and concurrences that purport to examine the impacts of grazing on the flycatcher, cuckoo, and/or their respective critical habitat designations all suggest—if not outright insist—that adhering to the Forest Service's proposed utilization limits (generally, forty percent) will effectively protect important and critical habitat areas. Accordingly, utilization limits provide crucial support for the Forest Service's determinations that grazing will not result in adverse effects to the flycatcher or cuckoo, as well as for FWS's conclusions that grazing will not cause jeopardy to those species or adversely modify their critical habitat. However, under the Forest Service and FWS's logic, grazing could remove all of the structural elements necessary for flycatcher and/or cuckoo habitat, but still be found to comply with the ESA's substantive mandates because utilization remained below forty percent. Such a result fundamentally contravenes the purpose of the ESA and therefore cannot be sustained. *Cf. TVA*, 437 U.S. at 184 (noting "[t]he plain intent" of the ESA "was to halt and reverse the trend toward species extinction, whatever the cost.").

The agencies' reliance on utilization limits to protect the other listed species and critical habitat areas that are or may be present on the allotments and complexes discussed herein likewise fails to account for the animals' actual life-cycle and habitat needs. Hence, the agencies' use of utilization limits as the primary means of managing grazing within the Tonto National Forest ignores the best available science concerning the conservation of listed species and critical habitat, and fails to ensure that grazing complies with the ESA's substantive mandates (i.e., the obligations to "insure" against jeopardy and the adverse modification of critical habitat).

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[27] Coronado National Forest (FS) Grazing Consultation Supplemental Summary of Concerns, October 29, 2018; biologicaldiversity.org/programs/public_lands/pdfs/coronado-20181029-Coronado-National-Forest-Grazing-Consultation-Supplemental-Summary-of-Concerns-RIPARIAN-MONITORING-NO-GOOD-HIGHLIGHTED_NOT-REDACTED.pdf.

Second, the Forest Service's decades of failures in implementing, monitoring, or enforcing the current grazing regime likewise demonstrate that reinitiation is required because the action has been "modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the [BiOp] or written concurrence." 50 C.F.R. § 402.16. The ESA "provides" the Forest Service and FWS "the opportunity—and the obligation—to reexamine altered projects to ensure that any changes will not place species in jeopardy or risk degradation to critical habitat." *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012). Here, the BiOps and concurrences rely on certain management measures that purport to mitigate the impacts of grazing—e.g., area closures (including exclosure fencing), seasonal closures, and utilization limits—and in so doing, support the Forest Service's no-adverse-effect conclusions (and FWS's concurrences therein), and/or FWS's no-jeopardy and no-adverse modification determinations. However, "mitigation measures" relied upon to support the conclusions in a BiOp or concurrence "must constitute a clear, definite commitment of resources, and be under agency control or otherwise reasonably certain to occur." *Ctr. for Biological Diversity v. Bernhardt* (*CBD II*), 982 F.3d 723, 743 (9th Cir. 2020) (quotation omitted). A "sincere general commitment to future improvements—without more specificity—is insufficient." *Id.* (quotation omitted). "[M]ost important," the measures "must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards." *Id.* (quotation omitted). The mitigation measures relied upon by the agencies to manage grazing in the Tonto National Forest (e.g., area closures (including exclosure fencing), seasonal closures, and utilization limits) do not satisfy these requirements.

As an initial matter, none of the mitigation measures "address the threats to the species in a way that satisfies the jeopardy and adverse modification standards." *Id.* (quotation omitted). As explained, the Forest Service and FWS's assumptions that the mitigation measures will be effective at stalling—much less reversing—the declining habitat conditions on the allotments and complexes, thereby "minimizing" incidental take, conflict with the evidence before the agencies. As explained, the evidence contained in the 2022 NOI, 2025 NOI, and herein demonstrate that the area closures, seasonal closures, and utilization limits relied upon by the Forest Service and FWS to ensure that grazing on the allotments and complexes complies with the requirements of the ESA have not been implemented effectively. These mitigation measures are therefore not "reasonably certain to occur" and cannot provide a basis for the agencies' actions that harm listed species or their critical habitat. *See CBD II*, 982 F.3d at 743.

Moreover, where, as here, conservation, mitigation, and/or management measures "are not carried out, any risk to listed species thereby created must be borne by the project, not by the endangered species." *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1115 (9th Cir. 2012) (citation omitted). In fact, the Ninth Circuit has recognized that "where an action agency does not reinitiate consultation with the FWS despite the failure of promised conservation measures [i.e., mitigation measures], the [BiOp] for the proposed action becomes invalid." *Id.* Accordingly, because the Forest Service has not reinitiated consultation with FWS despite the failure of its grazing management regime to actually prevent take of and/or adverse effects to listed species and critical habitat, the operative consultations are legally invalid and "no longer insulate[] the agency or applicant from the ESA's 'substantial civil and criminal penalties' for takings of listed species." *Id.* (quoting *Bennett*, 520 U.S. at 170).

Finally, the reinitiation of consultation is required due to the numerous instances where the level of take anticipated by operative BiOp or concurrence has been exceeded. 50 C.F.R. § 402.16. As demonstrated by the evidence contained in the 2022 NOI, 2025 NOI, and herein, grazing has resulted—and *is currently resulting*—in direct and indirect impacts that "kill," "harm," and "harass" listed species within the meaning of the ESA's take prohibition. 50 C.F.R. § 17.3. Continued grazing will only worsen the condition of the important habitat areas, including critical habitat, relied upon by listed species on the allotments and complexes. To be shielded from liability under Section 9, these impacts must be "contemplated by an [ITS] issued under Section 7 of the ESA," and grazing must be "conducted in compliance with the requirements of that statement." *Ramsey v. Kantor*, 96 F.3d 434, 442 (9th Cir. 1996). Accordingly, takes outside the scope of an ITS can give rise to liability for violations of Section 9. *See, e.g.*, *Ariz. Cattle Growers' Ass'n v. FWS*, 273 F.3d 1229, 1249 (9th Cir. 2001) (stating than an ITS "set[s] forth a 'trigger' that, when reached, results in an unacceptable level of incidental take, invalidating the safe harbor provision, *and* requiring the parties to reinitiate consultation" (emphasis added)); *S. Yuba River Citizens League v. NMFS*, 629 F. Supp. 2d 1123, 1132–33 (E.D. Cal. 2009) ("[W]hen the terms of an ITS are violated, the agency is liable under section 9[,]" and "an agency's violation . . . may also cause an actionable violation of [Section 7]." (emphasis added)).

Here, "[t]he evidence, viewed in its entirety, shows . . . that a violation of [Section] 9's prohibition against 'take' in the form of harassment and harm are likely in the future." *Defs. of Wildlife v. Martin*, 454 F. Supp. 2d 1085, 1099-1100 (E.D. Wash. 2006). As an initial matter, as explained, the concurrences identified above are severely deficient in several respects and arbitrarily and unlawfully determined that grazing on certain allotments is not likely to adversely affect listed species or critical habitat. Accordingly, the Forest Service is in ongoing violation of Section 9 of the ESA by authorizing grazing activities that are taking listed species in myriad ways and adversely affecting critical habitat in the Tonto National Forest. Because the Forest Service lacks any authorization from FWS to take even a single individual from the species covered by the concurrences or to harm the critical habitat discussed therein in any way, the Forest Service's actions are in ongoing—and significant—violation of the Section 9. *See* 16 U.S.C. § 1538(a)(1)(B).

The BiOps discussed above are likewise severely deficient in several respects and fail to candidly assess or lawfully authorize the foreseeable effects of continued grazing on certain allotments and complexes. Accordingly, the Forest Service is in ongoing violation of Section 9 of the ESA by authorizing activities that are taking listed species in myriad ways and destroying and adversely affecting critical habitat in the Tonto National Forest. Because the Forest Service lacks legally adequate authorization from FWS to take listed species or harm critical habitat in light of the highly deficient nature of the BiOps, the Forest Service's actions are in ongoing—and significant—violation of the Section 9. *See* 16 U.S.C. § 1538(a)(1)(B).

Additionally, even assuming *arguendo* that the BiOps are valid—which they are not—the evidence presented by the 2022 NOI, 2025 NOI, and herein demonstrate that the impacts from grazing far exceed those contemplated by the operative ITSs. *See Ramsey*, 96 F.3d at 442. Furthermore, the failure of the current grazing regime (including mitigation measures) to adequately protect listed species and their critical habitat on the allotments and complexes

compels the conclusion that grazing is not being conducted in compliance with the BiOps and ITSs. *Id.* Accordingly, the Forest Service's "efforts to develop a more effective and reliable means" for protecting listed species and critical habitat from grazing "illustrate[s] that the current structure is still prone to failures that may result in the continued take of [such species]." *Cal. Trout v. U.S. Bureau of Reclamation*, 115 F. Supp. 3d 1102, 1116 (C.D. Cal. 2015).

Hence, considering the extensive evidence of past take in excess of that authorized by FWS, there undoubtedly is a reasonable and foreseeable expectation that such unlawful take will continue to occur in future grazing seasons authorized and conducted under the same concurrences, BiOps, ITSs, and grazing permits. As such, the immediate reinitiation of consultation required to ensure that such take complies with the requirements of the ESA. 50 C.F.R. § 402.16. Additionally, should the Forest Service proceed to rely on the legally deficient concurrences, BiOps, ITSs, and grazing permits to authorize grazing that is reasonably foreseeable to kill, harm, and harass listed species and their critical habitat in excess of the amount of take authorized by FWS, the Forest Service will be in violation of section 9 of the ESA.

For these reasons, as well as those detailed above and in the 2022 and 2025 NOIs, the agencies' failure to reinitiate consultation on those allotments with operative BiOps and/or concurrences violates sections 7 and 9 the ESA and its implementing regulations. *See, e.g.*, 16 U.S.C. §§ 1536, 1538; 50 C.F.R. §§ 402.13, .14, .16. To date, the Forest Service and FWS have failed to grapple with the fact that the agencies' grazing activities, including actions ostensibly taken to ensure that such activities comply with the ESA (e.g., fencing and area closures, seasonal closures, monitoring, utilization limits), have failed to address—and in fact, have *worsened*—the chronic overuse and unsuitability of riparian and critical habitat on the Tonto National Forest. Yet, the agencies persist in doing the same thing over and over—i.e., implementing substantially similar conservation and adaptive management measures that have repeatedly failed to stall the deterioration of listed species and their habitat, let alone improve the species' and/or habitats' status—but expecting different results. *See Sessions v. Dimaya*, 138 S. Ct. 1204, 1223 (2018) (describing one definition of "[i]nsanity" as "doing the same thing over and over again, but expecting different results."). Once again, "[a]dministrative discretion is not a license to engage in Einstein's definition of folly—doing the same thing over and over again and expecting a different result." *Guindon v. Pritzker*, 31 F. Supp. 3d 169, 193 (D.D.C. 2014).

There is simply no logical or lawful basis for the Forest Service's determination—or FWS's concurrence—that adhering to the same tired grazing management regime will have no adverse effects on listed species or their critical habitat. Nor is there any lawful or logical basis for FWS's conclusions that adhering to that same regime will avoid jeopardy and/or adverse modification. As the time-tested adage holds: "if it walks like a duck, quacks like a duck, and looks like a duck, then it's a duck." *Friends of the Everglades, Inc. v. Noem*, Civ. No. 25-22896, 2025 WL 2423258, at *28 (S.D. Fla. Aug. 21, 2025) (quoting *Sierra Club v. Van Antwerp*, 526 F.3d 1353, 1359 (11th Cir. 2008)). The Forest Service and FWS's ongoing failure to meaningfully address the incontrovertible fact that continued grazing has pushed important riparian and upland habitat (including critical habitat) and the species that rely upon it closer to the brink—and in so doing, potentially even tipped listed species further into jeopardy—flouts

the ESA, its paramount purpose, and the overwhelming weight of precedent. The agencies' actions are also arbitrary, capricious, and otherwise not in accordance with law.

Additionally, the Forest Service's delay in reinitiating consultation, as well as its authorization of significant destructive grazing that *is adversely affecting* listed species and critical habitat without a valid BiOp or concurrence in place, violates the ESA and its implementing regulations, is unlawful and unreasonable, and is arbitrary and capricious and not in accordance with law. *See* 16 U.S.C. §§ 1536, 1538; 5 U.S.C. § 706. Indeed, in February 2023, the Forest Service *agreed to initiate and/or reinitiate consultation* on *all* of the allotments named in the Conservation Organizations' NOIs. *See* Mar. 19, 2025 FWS Correspondence at 1 ("As you are aware, the Tonto agreed to reinitiate consultation and requested such consultation from the FWS on February 9, 2023."). However, as explained, the Forest Service has yet to complete a biological assessment evaluating the potential effects of grazing on listed species or designated critical habitat. *Id.* ("In accordance with Section 7(c)(1) of the ESA, the FWS is presently awaiting receipt of a Biological Assessment from the USFS to either initiate or re-initiate consultation on the 16 allotments identified in the Notice."). Therefore, despite recognizing that the potential impacts of grazing on listed species and critical habitat in the Tonto National Forest warrants formal consultation, the Forest Service has arbitrarily and unreasonably failed to even "begin the formal consultation process." *Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation*, 138 F. Supp. 2d 1228, 1243 (N.D. Cal. 2001). Hence, here too, section 7(d) excuse the violation. And, even after initiating consultation, any purported attempt by the Forest Service to rely on insufficient and arbitrary consultation documents to allow continued destructive cattle grazing on the Tonto National Forest is likewise unlawful. *See, e.g.*, *id.* § 1536(d); *Silver v. Babbitt*, 924 F. Supp. 976 (D. Ariz. 1995) (enjoining non-conforming activities during the pendency of consultation, per ESA Section 7(d)).

To correct these violations, the Forest Service must promptly reinitiate *and complete* a formal consultation that comes to grips with the full spectrum of foreseeable effects resulting from grazing, which culminates with a BiOp that imposes serious and meaningful terms, conditions, and measures that will actually avoid jeopardy, as well as destruction and adverse modification of critical habitat. *See* 50 C.F.R. §§ 402.13, .14, .16(a)(1)-(3); *see also* 16 U.S.C. §§ 1536(o), 1538. Until such a BiOp is completed, the agencies are in ongoing violation of the ESA absent immediate suspension of the Forest Service's grazing authorizations in allotments where listed species and critical habitat may be present for which no consultation has occurred.

III. THE 2022 BIOP VIOLATES SECTIONS 7 AND 9 OF THE ESA

The 2022 BiOp for the Red Lake Complex—and the Forest Service's reliance on the BiOp—violate Sections 7 and 9 of the ESA in myriad ways.

First, the 2022 BiOp's conclusion (and the Forest Service's reliance upon it) that grazing would not jeopardize the frog's survival or recovery prospects was grounded in part on the unwarranted assumptions that the Forest Service will ensure that certain areas will be excluded from grazing, that certain mitigation measures will be effectively implemented, and that specified grazing utilization limits will be met within and outside of riparian habitat. But the

2022 BiOp failed to explain how FWS (or the public) can realistically expect the Forest Service to ensure that the grazing regime contemplated by the BiOp will be effectively implemented on the Complex when extensive evidence from prior grazing seasons and other allotments within the Tonto National Forest establishes a uniform pattern of *non-compliance* with the very same measures. In the absence of any explanation by the Forest Service or FWS as to *how* the Forest Service will be significantly modifying its management actions and behavior from the status quo—and faced with FWS's own evidence of the history of noncompliance with substantially similar grazing regimes within the Complex and on other allotments within the Tonto National Forest—FWS's conclusions regarding jeopardy while relying on such obviously inaccurate assumptions are arbitrary, capricious, and unlawful under Section 7(a)(2) of the ESA. *See* 16 U.S.C. § 1536(a)(2).

Second, the 2022 BiOp's no jeopardy conclusion (and the Forest Service's reliance upon it) is fatally flawed because it fails to conduct a vigorous analysis of the impacts of grazing on the frog's recovery prospects, whether at the range-wide, management unit, or Tonto National Forest scale. The 2022 BiOp insisted that the mitigation measures, including seasonal closures and utilization limits, "will minimize the net adverse effects to aquatic habitat, associated vegetation, and the existence of overall wetted areas where [frogs] occur" within the action area. 2022 BiOp at 33. The 2022 BiOp's recovery analysis thus suffered from the same fatal flaw that undermined its jeopardy determination: the agencies' groundless belief that the current grazing regime will adequately protect the frog and its critical habitat. As a result, the 2022 BiOp failed to rigorously examine the actual effects of grazing on the frog's recovery prospects, let alone determine the tipping point or dividing line at which the frog cannot withstand any additional take without resulting in (or causing additional) jeopardy to the species, as required by the ESA. Moreover, the 2022 BiOp's discussion of grazing impacts to the frog's recovery improperly relied on assumption, unsupported by any evidence, that because the frog has *persisted* this long within the Red Lake Complex, continued grazing will not impede the species' recovery. However, this conclusory assertion is unsupported by the best available science regarding the habitat and recovery needs of the frog. For instance, the 2022 BiOp focuses primarily on frogs in stock tanks, largely ignoring the impacts that livestock will have—and are having—on riparian critical habitat. In short, the 2022 BiOp lacks any of the legally required recovery analyses. Accordingly, the 2022 BiOp and no jeopardy conclusion (and the Forest Service's reliance on it) fundamentally violates the Section 7(a)(2) prohibition against jeopardy, as well as FWS's obligations to analyze the environmental baseline and the effects of the proposed action when added to baseline conditions, and FWS's duty to rely upon the best available scientific evidence in assessing whether an action will result in jeopardy. *See* 16 U.S.C. § 1536(a)(2); *see also* 50 C.F.R. § 402.14(g).

Third, for the reasons stated above, FWS's conclusion that grazing will not destroy or adversely modify the frog's critical habitat within the Red Lake Complex is also arbitrary, capricious, and unlawful, as is the Forest Service's reliance on it to comply with its own substantive adverse modification obligation. For instance, the 2022 BiOp rests its no-adverse modification determination on its assumption that "[c]ritical habitat on Red Lake will continue to serve the function and conservation role of critical habitat for the [frog]." 2022 BiOp at 36. However, again, the evidence presented in the 2022 NOI, 2025 NOI, and herein demonstrate that

the mitigation measures designed to protect the frog's critical habitat are woefully insufficient to ensure its functionality for the conservation of the species.

Fourth, relatedly, the 2022 BiOp's no-jeopardy and no-adverse modification conclusions (and the Forest Service's reliance on them) arbitrarily failed to consider the localized impacts to the frog that will indisputably result from the authorization of grazing within important breeding habitat. For example, in reaching its no-jeopardy conclusion, the 2022 BiOp relied in part on its assertion that "he entire population of cuckoos using th[e] [East Verdy River] drainage would not be adversely affected" because "approximately 515 acres or 52% of the habitat would be negatively impacted, while the remaining habitat would not be grazed or occurs within holding traps where effects to cuckoos would be insignificant." 2025 BiOp at 41. But this overly simplistic calculation fails to address important questions including whether the affected areas of habitat have relatively greater importance as breeding sites for the cuckoo, whether within the Complex and range-wide and whether the extensive degradation of this important breeding habitat will have disproportionately significant impacts on the species' ability to persist and recover. In fact, FWS's facile mathematical calculation avoids conducting the necessary analysis, and in the process masks the significance of localized (but highly consequential) effects of the proposed action by only considering the percentage of affected breeding habitat to the exclusion of other potentially significant effects occurring at the smaller scale of a single allotment, in the Tonto National Forest, and/or in this population unit. Such an outcome is completely at odds with Section 7(a)(2) of the ESA and its implementing regulations, and consequently, the 2022 BiOp's no-jeopardy conclusion (and the Forest Service's reliance on it) is illegal, arbitrary, and capricious for these reasons as well.

For these reasons, the Forest Service and FWS are in ongoing violation of the ESA. These violations cannot be cured absent completion of formal consultation that comes to grips with the full spectrum of foreseeable effects resulting from ongoing grazing activities in important habitat across the Tonto National Forest, which culminates with a BiOp that imposes serious and meaningful terms, conditions, and measures that will actually avoid jeopardy, as well as the destruction or adverse modification of critical habitat. Until such consultation can be completed, the agencies are in ongoing violation of the ESA absent immediate suspension of the Forest Service's grazing authorizations that were issued in violation of the ESA's procedural and/or substantive mandates and removal of livestock from those areas of the allotments and complexes that may contain listed species and/or critical habitat.

IV. THE 2025 BIOP VIOLATES SECTIONS 7 AND 9 OF THE ESA

The 2025 BiOp for the Lower Verde Complex—and the Forest Service's reliance on the BiOp's conclusions to fulfill its own obligations under the ESA—violate sections 7 and 9 of the ESA in myriad ways.

First, the 2025 BiOp's conclusion (and the Forest Service's reliance upon it) that grazing would not jeopardize the cuckoo's survival or recovery prospects was grounded in a highly skewed characterization of the proposed action that relied heavily on the purported benefits that may eventually accrue if the Forest Service completes certain mitigation measures (e.g.,

installing new fencing), which will not occur until 2028 at the earliest, after three more grazing seasons. Nowhere in the 2025 BiOp did FWS analyze, as it must, whether the proposed action will jeopardize the species' survival or recovery prospects in the three grazing seasons (or more) in which there will be merely a continuation of the status quo in grazing management in this Complex. In light of years of extensive and repeated incursions into exclosures in this Complex, coupled with the extensive history of noncompliance for certain allotments within the Complex that have severely damaged and degraded riparian habitat, the failure even to acknowledge this crucial aspect of the proposed action and analyze its effects for jeopardy and adverse modification purposes is flagrant. Accordingly, the 2025 BiOp and the Forest Service's reliance upon it violate the agencies' procedural and substantive obligations under Section 7(a)(2), including the requirements to ensure against jeopardy, as well as the duty to rely upon the best available scientific evidence of the foreseeable impacts of the proposed action. *See* 16 U.S.C. § 1536(a)(2).

Second, as with the BiOps and concurrences for the other allotments at issue herein, the 2025 BiOp for the Lower Verde Complex and its finding of no jeopardy is based in part on the unwarranted assumptions that the Forest Service will ensure that certain areas will be excluded from grazing, that certain mitigation measures will be effectively implemented (including a photopoint program that depends on volunteer labor), and that specified grazing utilization limits will be met within and outside of riparian habitat. But the 2025 BiOp failed to explain how FWS (or the public) can realistically expect the Forest Service to ensure compliance with such measures on the Complex when extensive evidence from prior grazing seasons and other allotments within the Tonto National Forest establishes a uniform pattern of non-compliance with substantially identical measures. In the absence of any explanation by the Forest Service or FWS as to *how* the Forest Service will be significantly modifying its management actions and behavior from the status quo—and faced with FWS's own evidence of the history of noncompliance with substantially similar grazing regimes within the Complex and on other allotments within the Tonto National Forest—FWS's conclusions regarding jeopardy (and the Forest Service's reliance upon them) while relying on such obviously inaccurate assumptions are arbitrary, capricious, and unlawful under Section 7(a)(2) of the ESA. *See* 16 U.S.C. § 1536(a)(2).

Third, the 2025 BiOp's no jeopardy conclusion (and the Forest Service's reliance upon it) is fatally flawed because it fails to conduct a vigorous analysis of the impacts of grazing on the cuckoo's recovery prospects, whether at the range-wide, management unit, or Tonto National Forest scale. The 2025 BiOp insists that continued grazing will not "cause the species to reach th[e] tipping point" for recovery—i.e., the point at which the species cannot withstand any additional take without resulting in (or causing additional) jeopardy to the species—because of the species' "relatively broad" range. 2025 BiOp at 39. However, its assertion rests largely on the purported effectiveness of the mitigation measures, including seasonal closures and utilization limits, to "reduce the impacts" of grazing such that it is "not anticipated to preclude the continued existence of cuckoos in the[] area." *Id.* As explained, this assertion rests on the assumption—thoroughly disproven by decades of evidence—that the current grazing management regime is sufficient to protect listed species and their critical habitat, and therefore cannot support the 2025 BiOp's recovery analysis. The 2025 BiOp's recovery analysis is additionally invalid because it begs the question; the BiOp concludes that because grazing will not "preclude the continued existence of cuckoos," grazing "is unlikely to reduce the species'

potential for recovery." *Id.* But, as the agencies well know, a species may be "imperil[ed]" long before its survival is compromised. *See NWF*, 524 F.3d at 931 ("[A] species may often cling to survival even when recovery is far out of reach,"). Thus, In the absence of the legally required recovery analyses—or any attempt to explain how the proposed action does not result in jeopardy—the 2025 BiOp and no jeopardy conclusion (and the Forest Service's reliance on it) fundamentally violates the Section 7(a)(2) prohibition against jeopardy, as well as FWS's obligations to analyze the environmental baseline and the effects of the proposed action when added to baseline conditions, and FWS's duty to rely upon the best available scientific evidence in assessing whether an action will result in jeopardy. *See* 16 U.S.C. § 1536(a)(2); *see also* 50 C.F.R. § 402.14(g).

Fourth, relatedly, the 2025 BiOp's no-jeopardy conclusion (and the Forest Service's reliance upon it) arbitrarily fails to consider the localized impacts to the cuckoo that will indisputably result from the authorization of grazing within important breeding habitat. For example, in reaching its no-jeopardy conclusion, the 2025 BiOp relied in part on its assertion that "the entire population of cuckoos using th[e] [East Verde River] drainage would not be adversely affected" because "approximately 515 acres or 52% of the habitat would be negatively impacted, while the remaining habitat would not be grazed or occurs within holding traps where effects to cuckoos would be insignificant." 2025 BiOp at 41. But this overly simplistic calculation fails to address important questions including whether the affected areas of habitat have relatively greater importance as breeding sites for the cuckoo, whether within the Complex and range-wide and whether the extensive degradation of this important breeding habitat will have disproportionately significant impacts on the species' ability to persist and recover. In fact, FWS's facile mathematical calculation avoids conducting the necessary analysis, and in the process masks the significance of localized (but highly consequential) effects of the proposed action by only considering the percentage of affected breeding habitat to the exclusion of other potentially significant effects occurring at the smaller scale of a single allotment, in the Tonto National Forest, and/or in this population unit. Such an outcome is completely at odds with Section 7(a)(2) of the ESA and its implementing regulations, and consequently, the 2025 BiOp's no-jeopardy conclusion (and the Forest Service's reliance on it) is illegal, arbitrary, and capricious for these reasons as well.

For these reasons, as well as those discussed above, the Forest Service and FWS are in ongoing violation of the ESA. These violations cannot be cured absent completion of formal consultation that comes to grips with the full spectrum of foreseeable effects resulting from ongoing grazing activities in important habitat across the Tonto National Forest, which culminates with a BiOp that imposes serious and meaningful terms, conditions, and measures that will actually avoid jeopardy, as well as the destruction or adverse modification of critical habitat. Until such consultation can be completed, the agencies are in ongoing violation of the ESA absent immediate suspension of the Forest Service's grazing authorizations that were issued in violation of the ESA's procedural and/or substantive mandates and removal of livestock from those areas of the allotments and complexes that may contain listed species and/or critical habitat.

V. THE FOREST SERVICE CANNOT LAWFULLY AUTHORIZE GRAZING UNTIL FORMAL CONSULTATION IS COMPLETE.

As explained above, new consultation is required for each of the allotments and/or complexes named in the Conservation Organizations' previous NOIs and herein to address the myriad serious deficiencies in the Forest Service's and FWS's ESA compliance. Accordingly, section 7(d) imposes an obligation on the Forest Service to avoid "mak[ing] any irreversible or irretrievable commitment of resources" until such consultation is lawfully completed. Accordingly, the Forest Service's various decisions and actions authorizing grazing activities within the allotments and complexes at issue—which are either (1) based on fatally flawed BiOps and/or unlawfully deficient concurrences, or (2) issued without compliance with the ESA's procedural and/or substantive mandates —violate Section 7(d) of the ESA and must be immediately suspended until lawful consultations are completed. *See* 16 U.S.C. § 1536(d).

We remind the agencies that section "7(d) does not serve as a basis for any governmental action unless and until consultation has been initiated," which begins with the submission of a biological assessment to FWS. *Pac. Rivers*, 30 F.3d at 1056. Because the Forest Service has not yet submitted a biological assessment examining the effects of grazing on listed species and designated critical habitat (despite a clear obligation to do so), the agency has not yet begun the process of formal consultation. Accordingly, section "7(d) [cannot] serve as the basis for permitting *any* agency action" on the allotments. *Id.*

Once the Forest Service initiates and/or reinitiates consultation with respect to the allotments at issue, the agency is prohibited from making any irreversible or irretrievable commitment of resources with respect to the action which may foreclose the formulation or implementation of any reasonable and prudent alternative measures. 16 U.S.C. § 1536(d). Under those circumstances, the ESA's policy of institutionalized caution mandates that grazing in riparian or other habitat areas that support listed species and/or provide critical habitat *must* be precluded until consultation with FWS can be completed. *See* 16 U.S.C. 1536(d) ("Federal agency and the permit or license applicant shall not make any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation of any reasonable and prudent alternative measures[.]"). To allow the Forest Service to continue to authorize grazing that is indisputably causing serious harm to listed species and their critical habitat would be exactly the kind of commitment of resources which would foreclose the implementation of other alternatives, in express violation of the ESA. *See id*.

Accordingly, pursuant to Section 7(d) of the ESA, the Forest Service must ensure that all grazing authorizations and activities in areas likely to support listed species or that contain critical habitat are halted until the consultation deficiencies can be remedied. *See* 16 U.S.C. § 1536(d). The Forest Service and FWS must then proceed to evaluate and mitigate the direct, indirect, and cumulative impacts of grazing on the listed species that depend on the riparian habitats of the Tonto National Forest for breeding, feeding, migratory, stopover, and general habitat. Only then can the Forest Service comply with its obligation to prevent irreversible or irretrievable commitment of resources foreclosing implementation of alternatives during the consultation process. *Id.*

VI. THE FOREST SERVICE HAS VIOLATED, AND IS IN ONGOING VIOLATION OF, SECTION 9 OF THE ESA.

Where consultations regarding the effects of grazing on listed species and/or critical habitat within the Tonto National Forest have *never* been completed, the Forest Service is in clear violation of section 9's prohibition on the take of listed species. Pursuant to Section 9 of the ESA, it is unlawful to undertake or authorize activities that are reasonably certain to result in the incidental take of listed species without an adequate biological opinion—and, most importantly, an incidental take statement—in place. 16 U.S.C. §§ 1536, 1538(g). Those who chose to do so despite this prohibition may be subject to criminal and civil federal enforcement actions, as well as civil actions by citizens for declaratory and injunctive relief. *See* 16 U.S.C. § 1540. As extensively discussed above, grazing activities within the Tonto National Forest are reasonably certain to take listed species. Thus, by proceeding to authorize such activities without obtaining lawful authorization from FWS to take listed species, the Forest Service is in ongoing violation of section 9. 16 U.S.C. § 1538(a)(1)(B).

Even where a BiOp or concurrence that purports to authorize grazing activities within the allotments discussed above exist, for the reasons extensively discussed in the Conservation Organizations' previous NOIs and above, such BiOps and concurrences are severely deficient and indeed, fatally flawed. The BiOps and consultations thus fail to candidly assess or lawfully authorize the foreseeable effects of the grazing activities they purport to authorize (especially prior to the completion of any mitigation measures).

By relying on the legally deficient BiOps to authorize activities that not only are reasonably certain to take listed species, but are in fact taking listed species in myriad ways and adversely destroying and modifying designated critical habitat, the Forest Service is in ongoing violation of Section 9 of the ESA. Because the Forest Service lacks legally adequate authorization from FWS to take such listed species or harm critical habitat in light of the highly deficient nature of the BiOps and concurrences, the Forest Service's actions are in ongoing—and significant—violation of section 9. *See* 16 U.S.C. § 1538(a)(1)(B).

The concurrences do not give the Forest Service any authorization to take even a single listed species or harm designated critical habitat in any way. Hence, by relying on the legally deficient concurrences to authorize activities that not only are reasonably certain to take listed species, but are in fact taking listed species in myriad ways and adversely destroying and modifying designated critical habitat, the Forest Service's actions are in ongoing—and significant—violation of section 9. *See* 16 U.S.C. § 1538(a)(1)(B).

Hence, as clearly demonstrated by the Conservation Organizations' previous NOIs and herein, the Forest Service and FWS are in ongoing violation of the ESA. *Accord Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, 698 F.3d 1101, 1127-28 (9th Cir. 2012) ("In particular, [the] agency cannot meet its section 7 obligations by relying on a [BiOp] that is legally flawed or by failing to discuss information that would undercut the [BiOp's] conclusions."). These violations cannot be cured absent *completion* of a formal consultation process that comes to grips with the full spectrum of foreseeable effects resulting from grazing

activities across the Tonto National Forest, which culminates with a BiOp that imposes serious and meaningful terms, conditions, and measures that will actually avoid jeopardy, as well as the destruction or adverse modification of critical habitat, for all listed species that may be present on National Forest System land. Moreover, until such consultation can be completed, the agencies are in ongoing violation of the ESA absent: (1) immediate suspension of the Forest Service's grazing authorizations that occurred in the absence of any lawful consultation and/or that rely on the fatally flawed BiOps and concurrences identified herein; and (2) and removal from the allotments and/or complexes at issue of the livestock that are continuing to take listed species and harm critical habitat.

VII. THE FOREST SERVICE HAS VIOLATED, AND IS IN ONGOING VIOLATION OF SECTION 7(A)(1) OF THE ESA.

By allowing continued heavy livestock grazing in the allotments and complexes here at issue that has for years decimated local populations of listed species and destroyed and adversely modified significant acreage of designated critical habitat in the Tonto National Forest, the Forest Service has violated—and continues to violate—its fundamental duty to affirmatively conserve this highly imperiled species.

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with FWS, to "carry[] out programs for the conservation" of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." *Sierra Club v. Glickman,* 156 F.3d 606,616 (5th Cir. 1998); *accord Pyramid Lake Paiute Tribe*, 898 F.2d at 1416-17 (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the ESA to mean *recovery, i.e.,* the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary." 16 U.S.C § l 536(a)(1).

The Forest Service's actions in the Tonto National Forest—and in particular the continued authorization of heavy livestock grazing in the allotments and complexes at issue without any serious efforts by the Forest Service to modify the grazing regime in response to evidence of severe habitat degradation and/or the failure of mitigation measures to protect and restore vital habitat areas, including critical habitat areas—constitute the direct *opposite* of a program designed to avoid extirpation of listed species from National Forest land, let alone a program that is specifically aimed at *recovering* listed species. Especially because the Forest Service's discretionary authorization of livestock grazing in these allotments and complexes is the primary contributing factor to the demise of listed species in the Tonto National Forest, Section 7(a)(1) imposes on the Forest Service an affirmative duty to immediately develop, in consultation with FWS, a comprehensive program that will timely implement all measures necessary to conserve—i.e., *recover*—listed species before local populations are wiped out entirely by the Forest Service's repeatedly unlawful actions.

Until and unless the Forest Service develops such a program, the agency is in flagrant violation of Section 7(a)(1). *See, e.g.*, *Ctr. for Biological Diversity v. Vilsack*, 276 F. Supp. 3d 1015, 1030-32 (D. Nev. 2017) (holding that an agency violated Section 7(a)(1) where its actions "did nothing to reverse or end the damage to the [species'] habitat inflicted by (and continuing to be inflicted by) the [agency's actions]" especially where the agency "was clearly aware of the accelerating deterioration of the [species'] habitat and the increasing urgency of its obligation under Section 7(a)(1) to engage in conservation efforts").

CONCLUSION

It is beyond legitimate dispute that the continuation of the status quo facilitated by the Forest Service's lackadaisical response to the multiple serious violations of the ESA raised by the Conservation Organizations' previous NOIs is only worsening the already-serious harm to listed species and designated critical habitat within the Tonto National Forest. As the time-tested adage holds: "if it walks like a duck, quacks like a duck, and looks like a duck, then it's a duck." *Friends of the Everglades, Inc. v. Noem*, Civ. No. 25-22896, 2025 WL 2423258, at *28 (S.D. Fla. Aug. 21, 2025) (quoting *Sierra Club v. Van Antwerp*, 526 F.3d 1353, 1359 (11th Cir. 2008)). The Conservation Organizations will not sit idly by as the Forest Service drags its feet, authorizing unlawful grazing activities that degrade riparian conditions and in so doing, place the survival and recovery of listed species at risk. Accordingly, the Conservation Organizations strongly urge the Forest Service to immediately suspend any grazing permits and/or authorizations in areas within the fourteen allotments and two complexes that may contain listed species and/or critical habitat, timely engage in formal consultation regarding continued grazing in the allotments and complexes, and as part of that consultation candidly confront the effects that will occur to listed species and critical habitat as a result of continued grazing activities. Any such consultation must also meaningfully grapple with—and incorporate—evidence of rampant noncompliance with mandatory mitigation measures, including monitoring, area closures, seasonal closures, and utilization limits, as well as the incontrovertible evidence that the foundational assumption for many of the Forest Service and FWS's effects determinations (i.e., that fencing will actually exclude cattle from riparian areas) is false.

Specifically, to ensure compliance with the procedural and substantive mandates of the ESA, the Forest Service and FWS must:

(1) Initiate (or reinitiate) *and complete* comprehensive formal consultation for grazing activities on all listed species and designated critical habitat that may be present on the allotments and complexes at issue herein;

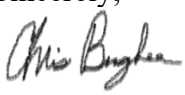
(2) Immediately halt all grazing activities, including the issuance of permits and authorizations, in areas of the allotments and complexes at issue where listed species and/or critical habitat may be present pending the *completion* of a comprehensive consultation on such activities to ensure compliance with sections 7 and 9 of the ESA; and

(3) Comply with section 7(a)(1) by developing and implementing a *program* to conserve listed species within the Tonto National Forest.

Absent such actions, the Conservation Organizations will file suit in federal court in sixty days to enforce the ESA because the federal government refuses to comply with its own obligation to do so under the law. Additionally, because the Conservation Organizations' claims in such a lawsuit seek to "compel agencies to comply with the substantive provisions of the ESA," judicial review will not be limited to the administrative record. *Wash. Toxics Coal.*, 413 F.3d at 1034; *see also Or. Nat. Desert Ass'n*, 593 F. Supp. 2d at 1216. Therefore, should the Conservation Organizations be forced to pursue this matter in court, they may seek to compel discovery from the Forest Service regarding its alleged compliance with the ESA. *See generally NRDC v. Zinke*, Civ. No. 1:05–cv–01207, 2018 WL 1899609 (E.D. Cal. Apr. 20, 2018) (allowing NRDC to depose agency experts in connection with claims brought under the ESA's citizen suit provision).

The Conservation Organizations look forward to hearing from you in response to this letter. While the Center would welcome the opportunity to discuss this matter by conference call, the Center will not delay the filing of a lawsuit if the agencies fail to take appropriate action within sixty days of receiving this letter. Thank you for your consideration of this matter.

Sincerely,



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USFS Regional Forester Michiko Martin (michiko.martin@usda.gov)

LIST OF ATTACHMENTS

Attachment 1- The Center's previous 2022 NOI to USFS and FWS for ESA violations.
Attachment 2- The Center's previous 2025 NOI to USFS and FWS for ESA violations.
Attachment 3- The Center's 2025 Surveys of Critical Habitat in the Tonto National Forest.
Attachment 4- The Center's 2024 Annual Report, summarizing critical habitat surveys region-wide since 2017.

ATTACHMENT 1

CENTER for BIOLOGICAL DIVERSITY Because life is good.

November 9, 2022

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Dear Secretaries Vilsack and Haaland, Chief Moore, Director Williams, Regional Forester Martin, Regional Director Lueders, Forest Supervisor Bosworth, and Supervisor Whitlaw,

RE: Sixty-Day Notice of Intent to Sue U.S. Forest Service and the U.S. Fish and Wildlife Service for Endangered Species Act Violations regarding livestock grazing on the Tonto National Forest and the ongoing impacts to the Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog and Northern Mexican Garter Snake, Narrow-headed Garter Snake, Spikedace, Razorback Sucker, Gila Chub, and these species' designated Critical Habitat.

The U.S. Department of Agriculture Secretary, U.S. Forest Service ("USFS") Chief, USFS Southwest Region Regional Forester, USFS Tonto National Forest Supervisor, U.S. Secretary of the

Interior, U.S. Fish and Wildlife Service ("USFWS") Director, USFWS Region 2 Director, and USFWS Arizona Ecological Services Director are hereby notified by the Center for Biological Diversity ("Center") and Maricopa Audubon Society of our intention to file suit 60 days after the filing of this Notice for unremedied violations of the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531-1544, and its implementing regulations, 50 C.F.R. §§ 402.01-402.17, and the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 701-706.

As explained in detail throughout this notice, USFS is violating Section 7 of the ESA by failing to ensure that ongoing livestock grazing on the Tonto National Forest is not likely to jeopardize the continued existence of the Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter Snake, Narrow-headed Garter Snake, Spikedace, Razorback Sucker, or Gila Chub; and is not likely to result in the destruction or adverse modification of any of these species' critical habitat. 16 U.S.C. 1636(a)(2). USFS and USFWS are also in ongoing violation of the ESA for failing to reinitiate and complete consultation concerning the impacts of livestock grazing on threatened and endangered species and their critical habitat on the Tonto National Forest, despite the amount and extent of anticipated takings being exceeded, new information and modifications to the actions, and new listings of species and designations of critical habitat. 40 C.F.R. 402.16(a). USFS is further in violation of Section 7(a)(1) of the ESA for failing to utilize its authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of the threatened and endangered species on the Tonto National Forest. USFWS has further violated the ESA in its preparation of biological opinions concerning livestock grazing on the Tonto National Forest, and USFS has further violated Section 7 of the ESA by relying on those unlawful opinions.

We file this Notice in connection with (1) USFWS' December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl And Bald Eagle from the Proposed Region 3 Management Activities (2-21-92-F-693)[1]; (2) USFWS' February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest (2-21-99-F-300)[2]; (3) USFWS' June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona[3]; (4) USFWS' January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest[4]; (5) USFWS' August 17, 2009, Biological Opinion for Ongoing Grazing for

[1] Correspondence to Tonto Regional Forester Charles W. Cartwright Jr. from Arizona Field Supervisor Sam F. Spiller; RE: December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl And Bald Eagle from the Proposed Region # Management Activities. AESO/SE #2-21-92-F-693.

[2] Correspondence to Tonto National Forest Supervisor Karl Siderits, from USFWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300.

[3] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273.

[4] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-I-0221.

Three Allotments on the Tonto National Forest[5]; (6) USFWS' April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District[6]; (7) USFWS' July 24, 2014 Biological Opinion on the Tonto Basin, Walnut, and 7/K allotments on the Tonto National Forest[7]; (8) failure to consult on the Gisela and Copper Creek Allotments; (9) USFS' reliance on insufficient and arbitrary consultation documents in allowing continued destructive cow grazing on the Tonto National Forest; and (10) the Reading The Range program, wherein grazing permittees, in spite of obvious conflict of interest, conduct monitoring of their own leased allotments because the USFS apparently refuses to do so.

A common theme in this Notice is rampant and widespread cow grazing in areas not authorized to be grazed by cows on the Tonto. Incidental Take Statements from Biological Opinions discussed in this Notice consistently assume that functional cattle exclusion fencing exists to protect sensitive and important riparian resources, and as a result USFWS concludes that negative effects from grazing are not expected to occur. However, ground truthing of this assumption reveals a different story.

In this Notice, we present numerous examples of significant cow grazing impacts in areas where cow grazing is not allowed. These examples represent new information that cow grazing on these public lands is occurring to an extent not considered in applicable Biological Opinions in question and reinitiation must follow.[8]

As a second line of 'resource protection', USFS leans on utilization-based monitoring to ensure 'conservative use' in order to protect riparian zones and uplands. However, estimating utilization is an inappropriate technique for Tonto and an inappropriate technique to ensure protection of habitat and ecosystem components for imperiled species. This is explained in detail below. What's worse, this inappropriate monitoring scheme is largely conducted by grazing permittees themselves on the Tonto in spite of obvious conflict of interest. This monitoring scheme, called, Reading the Range program, is primarily funded and conducted by permittees themselves. It does not even contain a riparian component.

Thirdly, all Biological Opinions included in this Notice are outdated in terms of newly listed species. This in itself requires reinitiation.[9] Overall, cow management throughout the Tonto fails to protect Public Lands' resources, all the while there a palpable, head-in-the sand approach to climate change and drought. In fact, the Tonto's drought response involves an endless stream of Categorical Exclusions for spring developments, water installations, and for running miles of pipelines across the desert in order to sustain an industry that is clearly damaging and non-sustainable.

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[5] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The August 17, 2009 Biological for Ongoing Grazing for Three Allotments on the Tonto National Forest (NF). AESO/SE #02-21-95-F-0303-R1 (Cross F), #22410-2007-F-0075 (Chrysotile), #02-22-03-F-366 (all allotments), and #22410-2007-F-0218.

[6] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District AESO/SE #22410-F-2009-0217.

[7] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from USFWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014 Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221.

[8] 50 CFR 402.16.

[9] 50 CFR 402.16.

In addition, all consultations must include an accurate evaluation of the environmental baseline and a defensible cumulative effects analysis.[10] Cumulatively, USFWS has failed miserably in doing so regionwide. For example, for Yellow-billed Cuckoo, the April 28, 2016, USFWS Biological Opinion for Rosemont Mine states that "[w]e also anticipate that climate change will degrade habitat to the point of being incapable of supporting the occurrence of yellow-billed cuckoos."[11] Yet this fact is completely ignored in the September 30, 2021, Biological Opinion on Ongoing Grazing on the Coronado National Forest.

Other examples besides climate change, include Bureau of Land Management mismanagement of cow grazing nearby to the Tonto National Forest along the Agua Fria River and its tributaries[12] and similarly on the Coronado National Forest where USFWS own species experts have concluded that cow grazing continues contributing to the further endangerment and the impediment of recovery,[13] and that designated riparian Critical Habitat on the Coronado National Forest is being managed by a disingenuous and ineffective scheme that provides few riparian exclosures and instead uses cow grazing utilization metrics that do not protect riparian dependent endangered species.[14] And then there is the fact that while the Tonto National Forest, in addition to the Coconino and Prescott National Forests, only would agree to a settlement for cow removal from a significant number of its riparian allotments only for three years,[15] thereby likely subjecting to the areas once again to historically unprofessional and irresponsible management into the future until our next lawsuit. The settlement merely commits the Forest Service personnel to doing their jobs for a short period time. The fact that the Forest Service refused to commit to doing their jobs for more than three years must be considered in all future consultations regarding cow grazing in riparian areas.

In this Notice, we document degraded landscape conditions pervasive across habitat legally designated for the survival and recovery of listed endangered species and their designated Critical Habitat. We intend to (1) challenge the aforementioned 1995, 2002, 2005, 2007, 2008, 2009, 2010 and 2014 Biological Opinions' reliance on nonfunctional exclosures to avoid 'take' of ESA-listed species, and (2) to force reinitiation of consultation to redo the 1995, 2002, 2005, 2007, 2008, 2009, 2010 and 2014 Biological Opinions to incorporate new listings and new information documenting that Tonto National Forest cow grazing is affecting Yellow-billed Cuckoo ("YBC"), Southwestern Willow Flycatcher ("WFC"), Chiricahua Leopard Frog ("CLF"), Northern Mexican Garter Snake

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[10] 50 CFR 402.02.

[11] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, April 28, 2016, page 242.

[12] Supplemental Sixty-Day Notice of Intent to Sue Pursuant to the Endangered Species Act, Horseshoe Allotment, Agua Fria National Monument in Arizona, August 26, 2021, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/blm-agua-fria-20210826-NOI-SUPPLEMENTAL.pdf.; Sixty-Day Notice of Intent to Sue the Bureau of Land Management and the U.S. Fish and Wildlife Service for Endangered Species Act Violations for Failing to Ensure that Authorized Cow Grazing Does Not Continue Destroying Western Yellow-Billed Cuckoo and Gila Chub Critical Habitat on Agua Fria National Monument, May 9, 2022, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/blm-agua-fria-20220509-NOI-2.pdf.

[13] Coronado National Forest (FS) Grazing Consultation Supplemental Summary of Concerns, U.S. Fish and Wildlife Service, October 29, 2018.; Email from Sferra, Susan, to: Servoss, Jeff; RE: suggestion from Shawn [Sartorius] on grazing BO; July 5, 2019.; Yellow-billed Cuckoo Protocol Survey Results at Five Sites on the Coronado National Forest, Arizona 2021, Draft, Susan Sferra, U.S. Fish and Wildlife Service, Arizona Ecological Services, November 2021.; Grazing Impacts Input, Susan Sferra, November 11, 2021.

[14] Email from Sferra, Susan, to: Servoss, Jeff; RE: suggestion from Shawn [Sartorius] on grazing BO; July 5, 2019.; Yellow-billed Cuckoo Protocol Survey Results at Five Sites on the Coronado National Forest, Arizona 2021, Draft, Susan Sferra, U.S. Fish and Wildlife Service, Arizona Ecological Services, November 2021.; Grazing Impacts Input, Susan Sferra, November 11, 2021.; And the documentation provided in this Notice.

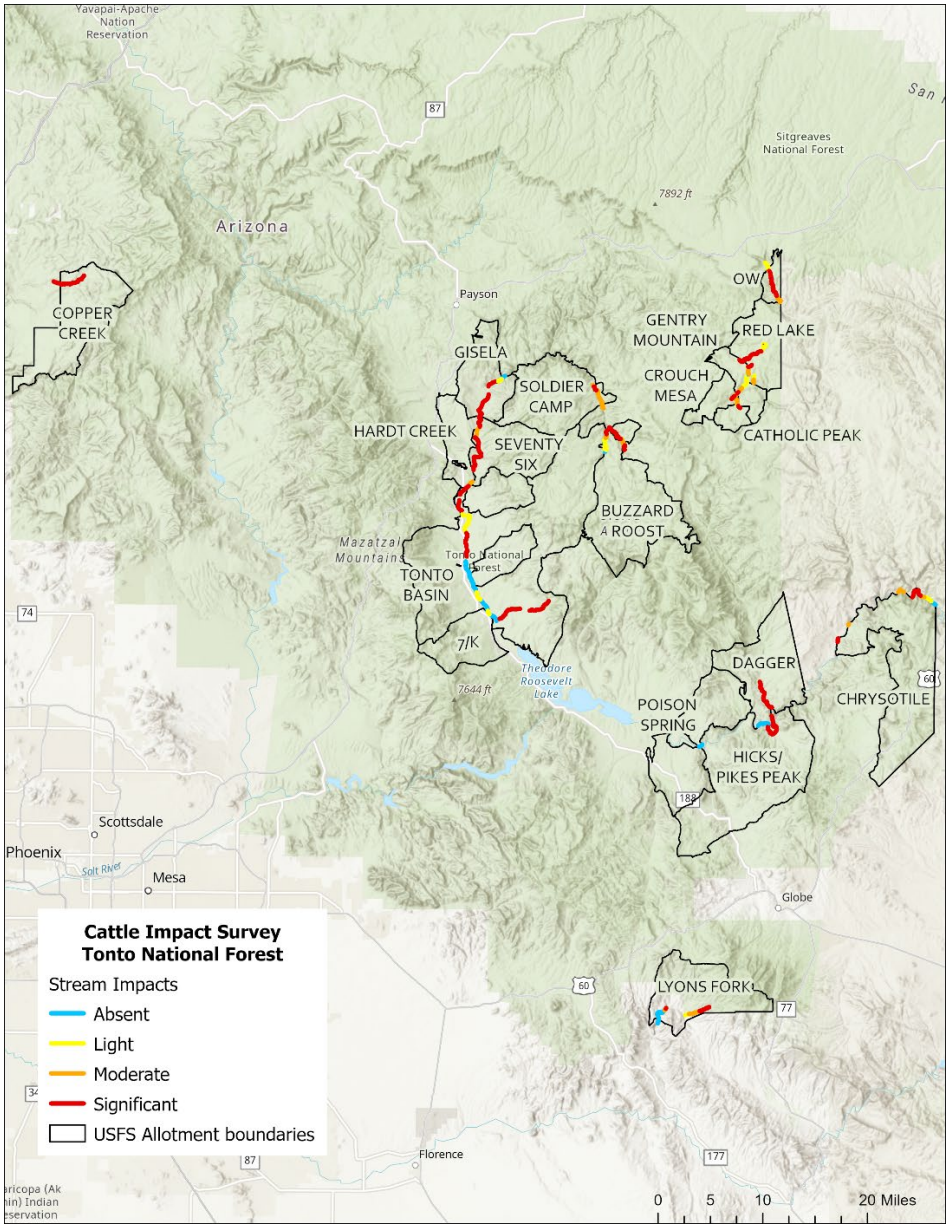
[15] Stipulated Settlement Agreement, Center for Biological Diversity and Maricopa Audubon Society, v. United States Forest Service and United States Fish and Wildlife Service, Case 3:20-cv-08243-DGC Document 23-1 Filed 10/05/21.

("NMGS"), Narrow-headed Garter Snake ("NHGS"), Spikedace, Razorback Sucker ("RBS"), Gila Chub ("GC") and their designated riparian Critical Habitat in a manner and to an extent not considered in the eight Biological Opinions specified above.

In this Notice, the Center and Maricopa Audubon provide pertinent new and previously ignored background information and identify the legal violations that we intend to challenge in federal court should USFWS and USFS fail to correct these violations within sixty 60 days.

We will continue to be available to discuss these matters at your convenience; however, as destructive illegal cow grazing continues, we are not willing to further delay filing a lawsuit should USFWS and USFS continue failing to correct these violations within 60 days.

PLEASE SEE THE FOLLOWING SUMMARY MAP OF THE COW GRAZING DAMAGE DOCUMENTED IN THIS NOTICE:



EXECUTIVE SUMMARY

Region 3 Forest Service's August 24, 2018, Southwestern Region Riparian and Aquatic Ecosystem Strategy says about its riparian habitat,

> "Rivers and streambeds are conduits for life. In no other ecosystem can we as an agency have a greater impact in "*Caring for the land and serving people*."[16] Protection and enhancement of riparian and enhancement of riparian and aquatic areas is paramount in providing habitat and sustainable water for dependent fish, wildlife, plant species, and human communities alike. …"[17]
>
> "The overarching goal of this strategy is to ensure that the ecological integrity of riparian and aquatic habitats is maintained and/or restored."[18]

But the Regional Forest Service homage to the value of riparian habitat quoted above has proven to be nothing but empty rhetoric.

In our recent successful legal challenges against the Apache-Sitgreaves,[19] Coconino,[20] Gila,[21] Prescott[22] and Tonto[23] National Forests, the primary problem has been Forest Service employees' failure to respect, maintain and monitor Critical Habitat riparian exclosures resulting in widespread adverse modification of designated Critical Habitat.

On the Tonto National Forest, as documented in this Notice, an unfortunate and disastrous situation continues widely and on a landscape scale well beyond what has been addressed previously. Unauthorized grazing is rampant across the Tonto. Our latest surveys document and present new information that the Tonto National Forest's highest priority, cow grazing, is harming imperiled native species to an extent not previously considered. Reinitiation of consultation must follow.

Not only is the Regional USFS homage to the value of riparian habitat being ignored, widespread adverse destruction of designated riparian Critical Habitat is being ignored and perpetuated by the Tonto National Forest's management scheme that ultimately relies on permittees to protect riparian dependent endangered species.

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[16] "What We Believe … The phrase, "Caring for the Land and Serving People," captures the Forest Service mission."; https://www.fs.usda.gov/about-agency/what-we-believe ; web accessed, January 28, 2020.

[17] USDA Forest Service Southwestern Region Riparian and Aquatic Ecosystem Strategy, August 24, 2018, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd602126.pdf.; page 1.

[18] *Id*., page 2.

[19] Sixty-Day Notice of Endangered Species Act Violations, Apache-Sitgreaves National Forest, CBD, June 27, 2019, http://forestpolicypub.com/wp-content/uploads/2019/07/000007_Center-for-Bio-Div-re-ESA-re-Jumping-Mouse_Region-3.pdf.; Sixty-day Notice of Endangered Species Act Violations, Upper Gila River Watershed, CBD, July 17, 2019, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.

[20] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[21] Sixty-day Notice of Endangered Species Act Violations, Upper Gila River Watershed, CBD, July 17, 2019, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.

[22] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[23] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

THE INADEQUACY OF RELYING ON UTILIZATION ESTIMATES

If cattle grazing isn't excluded via fencing, then its impacts to critical habitat are governed by cow forage utilization standards which are not applicable for the protection of threatened and endangered riparian species. For example, from the April 1, 2010, Biological Opinion for Crouch Mesa allotment:

> "Grazing will be conducted at conservative-use levels. The objective of conservative-use is to manage grazed vegetation for the maintenance of good to excellent conditions, and enhancement of poor to fair watersheds and wildlife habitat. Wildlife habitat and range, and watershed conditions, may be gauged by monitoring seasonal utilization on key forage species during the grazing period. Forage utilization would be managed at a level that corresponds to light to moderate grazing intensity, in order to provide for grazed plant recovery, increases in herbage production, and retention of herbaceous litter to protect soils. Conservative-use equates to 30% to 40% on herbaceous species and less than 50% use on browse (current year's leaders). Consistent patterns of utilization in excess of 40% of key herbaceous species and 50% of browse species in key areas would be used as a basis to modify management practices or take administrative actions necessary to reduce utilization in subsequent grazing seasons. The TNF will utilize the document entitled "**Principles of Obtaining and Interpreting Utilization Data on Southwestern Rangelands**" for guidance and direction on utilization monitoring." [24]

Utilization metrics are also being used to "protect" riparian resources from cattle damage. According to the February 28, 2002, Biological Opinion for ongoing grazing:

> "Discussions with Forest staff (Janet Johnson, Mike Ross, and Patti Fenner, Tonto National Forest, pers. comms. 2001) revealed that based on monitoring data, and to maintain satisfactory riparian condition, a 30 percent (of plant biomass) utilization rate had been implemented for herbaceous riparian vegetation. The riparian herbaceous utilization standard has therefore been changed throughout the document to the 30 percent standard to reflect current management."[25]

But quantitative methods for measuring utilization were mostly developed for perennial grasses.[26] Utilization is directly related to the physiological response of the plants being grazed, as is usually the case where utilization is measured on perennial grasses and shrubs.[27] The 50% rate is based on a decades old laboratory experiment that showed under optimal conditions, 50% utilization of a plant is the maximum before roots cease growing. In the context of the drought which has befallen the region since this experiment was conducted, conditions are far from optimal, and 50% utilization will likely lead to rapid loss of vegetation.

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[24] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District AESO/SE #22410-F-2009-0217. Pg. 3.

[25] Correspondence to Tonto National Forest Supervisor Karl Siderits, from USFWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300, page 6.

[26] Principles of Obtaining and Interpreting Utilization Data on Rangelands at 9.

[27] *Ibid*., page 2.

According to the *Principles of Obtaining and Interpreting Utilization Data on Southwest Rangelands*, University of Arizona Cooperative Extension publication AZ1375, the **Tonto's own guiding document** for utilization,

> "Most of the quantitative methods for measuring utilization have been developed for perennial grasses. However, there are many rangelands where shrubs and/or annuals comprise a major portion of the forage resource for both livestock and wildlife. Some examples include Desert Scrub, chaparral, annual grassland, and some formerly grassland areas invaded by shrubby species. In these situations, the basic assumptions regarding proper use and the relationship between use on key forage species and total forage consumption may not hold, i.e. estimated utilization may not be well-correlated with the amount of forage used unless all forage classes are considered."[28]

Tonto grazing allotments are defined as lands where shrubs and/or annuals comprise a major portion of the forage resource for livestock, and cattle exhibit seasonal shifts in forage. The specific examples given in the above paragraph fit the landscape of much of the Tonto allotments, i.e. desert scrub, chaparral, annual grassland, and some formerly grassland areas invaded by shrubby species. Are utilization measurements correlated with forage use in oak-juniper woodlands, semi-desert grasslands, or transition zones? Likely not. The document goes on:

> "As described earlier, estimates of utilization on key forage species to indicate grazing intensity assume a constant relationship between use on key forage species and other species in the plant community. This assumption may be reasonable on ranges used in a limited grazing season or where most forage species have similar life forms. It breaks down when grazing occurs yearlong, or at least across different seasons, and the forage resource is comprised of diverse life forms and varying seasonal growth responses. Studies have shown that livestock diet selection varies markedly depending on the growth response of different categories of plants. For example, Smith, Ogden and Gomes (1993) observed drastic changes in cattle diet preference depending on season **in southern Arizona**. Cattle shifted their preference among cool-season annuals, shrubs, cacti and warm-season perennial grasses from month to month depending on availability and attractiveness of each category of plants. Clearly, in this case, the percentage utilization on a perennial grass key species would have to be considered in terms of the season of use and would not be well-correlated with total forage harvest by livestock".[29]

In the Tonto, most grazing occurs yearlong and/or across multiple seasons, and the forage resource is diverse and varies seasonally and sometimes dramatically. Cattle consume a wide variety of shrubs, cacti, and annuals in southern Arizona. Further,

> "Utilization guidelines cannot be employed for seasonal utilization because there is no known consistent relationship between seasonal utilization estimates and utilization based on the entire growing season's forage production. To establish such a relationship would require that the amount of subsequent forage growth could be accurately predicted at any

[28] *Ibid*., page 9.
[29] Principles of Obtaining and Interpreting Utilization Data on Rangelands at 9.

> given time during the growing season. Information to make such predictions does not exist. For this reason, seasonal utilization estimates are not reliable for grazing compliance decisions employing utilization guidelines based on end-of-season production."[30]

To corroborate the conclusions of Smith, Ogden and Gomes (1993), the Society for Rangelands Management (2018) states:

> "Measuring utilization on "key species" as a basis for adjusting stocking rates (i.e., either removing some or all animals from a pasture) or for calculating the "desired" stocking rate for following years, is based on the concept that the use on the key species is gradual throughout the grazing period and correlated with stocking rate. Except for monocultures or very short grazing periods, this is not often the case because animal preferences shift as different plants or locations become more or less attractive to them. The above issues make it unlikely that "utilization limits" have much actual relevance except maybe where the growing season and grazing season are concurrent, and utilization is measured at the end of both."[31]

The recurring theme is that utilization estimates **cannot** be used to make inferences on anything except the responses of cattle-preferred forage to grazing. Measuring utilization has no value for evaluating the effects of the on-going livestock grazing on federally proposed and listed threated and endangered species and their critical habitats. One cannot make inferences on the quality of wildlife habitat, or the health of the ecosystem based on annual utilization measurements of preferred cattle forage.

Habitat designated as critical should have management objectives that follow recommendations in Recovery Plans. Utilization estimates are meaningless within critical habitat. In critical habitat, there are species-specific objectives to be met. These should be clearly defined per species and new, customized monitoring strategies must be implemented where the objective is to avoid adverse modification. To reiterate, utilization estimates can only be useful if your objectives are to describe the physiological response of cattle-preferred plant species to grazing. There is no known relationship to make inferences on T&E species and their habitat based on utilization estimates.

To make matters worse, the Tonto prefers to maximize utilization limits so that natural resources are always stressed to the brink. For example,

> "The Forest often applies the maximum utilization limits as provided for within the Forest Plan despite the condition of an individual allotment. For example, a recent environmental assessment for the Greenback allotment proposes expensive fencing, while acknowledging the present poor condition of the allotment and that the proposed action will not allow allotment condition to improve (Terrell 1999).[32]

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[30] *Id*., page 5.

[31] Society for Rangelands Management. 2018. Utilization and Residual Measurements: Tools for Adaptive Rangeland Management. Technical Report by SRM Rangeland Assessment and Monitoring Committee. Rangelands 40(5):146-151 (doi 10.1016/j.rala.2018.07.003).

[32] Correspondence to Tonto National Forest Supervisor Karl Siderits, from USFWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300, page 9.

As our surveys have revealed, this cow grazing utilization and rest-rotation scheme has resulted in widespread degradation, loss, and regeneration impediment to essential woody riparian vegetation. This information represents new information revealing that the Tonto National Forest's cow grazing is harming listed species' Critical Habitat to an extent not previously considered. Again, reinitiation of consultation must follow.[33]

To corroborate our stance that utilization and rest-rotation schemes are inappropriate and inapplicable to guide conservation of imperiled species, **USFWS' own species experts said** in the "Supplemental Summary of Concerns"[34] to the nearby Coronado National Forest:

> "Grazing monitoring measures and standards do not accurately assess effects on cuckoo habitat, as well as other listed species' habitat."[35]
>
> "Management actions for cuckoos and other riparian or ephemeral drainage-dependent species: **we recommend** no spring capping (development), no development of water tanks that are likely to cause a decline in riparian habitat, **no grazing in riparian habitat (including ephemeral drainages with hackberry, oak, ash, sycamore, Arizona cypress, walnut, soapberry, etc.) where cuckoos breed at any time** …"[36]

On July 5, 2019, **USFWS' lead Yellow-billed Cuckoo species expert wrote**:

> "**We all discussed that the range grazing measures are inadequate to measure needs for sensitive/listed for wildlife**."[37]

READING THE RANGE

To make matters worse, between 2000-2002 the University of Arizona Cooperative Extension in Gila County, the Gila County Cattle Growers Association and the Tonto National Forest established the 'Reading the Range' monitoring program (Intergovernmental Agreement No. 123015 with Tonto Natural Resource Conservation District). 'Reading the Range' is a collaborative range monitoring program developed in part as a response to ongoing NEPA litigation brought on by environmental groups, and because the Forest Service "do not have enough personnel to complete an on-going need for range monitoring." [38]

> "In 2001, Jim Sprinkle, then Area Cooperative Extension Agent for Animal Sciences in Gila County, responding to ranchers' and land management agency personnels' expressed needs for training in rangeland monitoring [Figure 4, image of ranchers monitoring] started the Reading the Range (RTR) programme. The programme's objectives were to provide training in range monitoring to ranchers and agency personnel, establish

[33] 50 CFR 402.16.

[34] Coronado National Forest (FS) Grazing Consultation Supplemental Summary of Concerns, U.S. Fish and Wildlife Service, October 29, 2018.

[35] *Id*., page 1.

[36] *Id*., page 3.

[37] Email from Sferra, Susan, to: Servoss, Jeff; RE: suggestion from Shawn [Sartorius] on grazing BO; July 5, 2019.

[38] February 16, 2016 Gila County Board Of Supervisors Meeting Minutes, 1400 East Ash Street, Globe, AZ. page 2 of 7.

demonstration ranches with technical support, use the data to assist in management, and provide training for the NEPA process."[39]

'Reading the Range' is one of three programs that comprise the Arizona Cooperative Extension Rangeland Monitoring Program.[40] Unlike the other two programs, 'Reading the Range' relies on extension agents, independent contractors, and permittees instead of research specialists to complete monitoring.[41] 'Reading the Range' is funded mostly by private sources (livestock permittees[42], 49%), federal sources (46%), and lastly through state and local governments (5%).[43] At least 50% of allotment permittees in Gila County participate in the program.[44]

There are 1.5 million acres in TNF using RTR program[45], with 100% rancher participation in the Tonto Conservation District.[46] In essence, approximately 1.5 million acres of land are monitored through a program largely funded by ranching permittees.

The program is rapidly expanding and recruiting allotments outside of the Tonto. For example, "the focus for the 2019-2020 RTR season and beyond will be ranches (29 allotments) that are outside the Tonto NF and not currently participating in RTR".[47]

According to University of Arizona Cooperative Extension agents, Reading the Range is **not** used to inform stocking rates[48], even though its original purpose was to provide data to assist in grazing management.[49] However, we present below examples that indicate the opposite, that information from the Reading the Range program **is in fact** used to inform range management decisions[50] including adjusting stocking rates. Regarding stocking rates, the excerpts below describe the 'Reading the Range' program in action on the Millsite allotment in the Mesa Ranger District, Tonto National Forest:

> **"2010**
>
> **"Monitoring information from the Cooperative Extension's, "Reading the Range" program would be evaluated and considered**. Data include dry weight rank, fetch relationships (distance to closest perennial plants), utilization, and palatable forage production information. Consistent patterns of utilization meeting conservative use guidelines of 30-40% on key species in key upland areas or exceeding guidelines for riparian areas **would be used as a basis to modify management practices** or take administrative actions such

[39] Julie Brugger, Mitchel P. McClaran & James E. Sprinkle (2020) 'Storytelling' Natural Resource Conflict on U.S. Public Lands, Ethnos, 85:1, 54-78, DOI: 10.1080/00141844.2018.1456476.
[40] The Arizona Cooperative Extension Rangeland Monitoring Program, University of Arizona Cooperative Extension, Agriculture & Natural Resources, 2021.
[41] *Id*., page 2.
[42] Forest Plan Monitoring and Inventory Report, Fiscal Year 2015. Tonto National Forest, United States Forest Service Southwestern Region pg. 8.
[43] February 16, 2016 Gila County Board Of Supervisors Meeting Minutes, 1400 East Ash Street, Globe, AZ.
[44] *Ibid.*
[45] Julie Brugger, Mitchel P. McClaran & James E. Sprinkle (2019): 'Storytelling' Natural Resource Conflict on U.S. Public Lands, Ethnos (DOI: 10.1080/00141844.2018.1456476), page 19.
[46] Natural Resource Conservation Commissioner Lisa A. Atkins 2019 Annual Report, page.26.
[47] *Ibid.*
[48] Email from: Robin Silver, to: Ashley Hall; Subject: A POTENTIAL PROBLEM FW: Reading the Range notes; January 28, 2021; https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/tonto-READING-THE-RANGE-20210128-email-SILVER-to-ASHLEY-HALL-re-READING-THE-RANGE-PERPETUATING-MISMANAGEMENT-OF-PUBLIC-LANDS.pdf
[49] Julie Brugger, Mitchel P. McClaran & James E. Sprinkle (2019): 'Storytelling' Natural Resource Conflict on U.S. Public Lands, Ethnos (DOI: 10.1080/00141844.2018.1456476), page 19.
[50] February 16, 2016 Gila County Board Of Supervisors Meeting Minutes, 1400 East Ash Street, Globe, AZ.

as reducing authorized and permitted numbers in order to reduce utilization in subsequent grazing seasons." [51]

2012

"The UA presented Reading the Range monitoring data on the NEPA Appeal for the Millsite Allotment at Superior to US Forest Service officials. **The data presented helped resolve the appeal and enabled the permittee to increase the stocking rate in conjunction with monitoring data**. The economic impact of that decision to the ranching operation was conservatively worth $24,819 per year." [52]

2015

"In FY 2015, 1.2 million acres of rangeland were evaluated and administered to standard across the forest. Livestock grazing is monitored through inspections to determine short-term needs **for adjustment in stocking numbers** and through use of data collected for analysis of grazing projects as required by National Environmental Policy Act (NEPA). Monitoring was accomplished by forest personnel, livestock permittees, and University of Arizona staff. **Reading-the-Range** is a program funded by the forest, Natural Resources Conservation District (NRCD), and livestock permittees to cooperatively monitor range allotments with University of Arizona staff. The program conducts short- and long-term upland and riparian monitoring. Reading-the-Range completed monitoring on 10 allotments in 2015." [53]

2016

"Permitted stocking rates up to 307 adult livestock yearlong and 197 Yearlings, of natural increase, from January to May. Baseline will be 110 cow/calf, 15 bulls and carryover. **Livestock numbers may change based on various factors: Reading the Range or similar monitoring and successful implementation of management practices**. Other considerations include development of range improvements, forage utilization patterns, economic factors, and climate forecasts. Permittee will either carry over of *Yi* yearlings or add equivalent number to herd based on monitoring analysis, until herd reaches permitted numbers. Annual livestock numbers will be determined with District Ranger, Range Staff and permittee." [54]

[51] 2010 Environmental Assessment, Millsite Allotment, Mesa Ranger District, Tonto National Forest

[52] W1012 Annual Meeting Denver, CO Tuesday, August 7, 2012. (W1012: Improving ruminant use of forages in sustainable production systems for the western U.S. – NIMSS)

[53] Forest Plan Monitoring and Inventory Report, Fiscal Year 2015. Tonto National Forest, United States Forest Service Southwestern Region pg. 8.

[54] 2016 Millsite allotment Allotment Management Plan.

DROUGHT

Public-land range conditions have generally worsened in recent decades,[55] exhibiting reduced productivity caused by past grazing in conjunction with a changing climate.[56] Drought conditions in the western United States continue with over 97% of lands in the western region experiencing some level of drought (D0-D4). Nearly half of these lands are in the extreme (D3) or exceptional (D4) drought category.[57] Current forecasts indicate little change with drought conditions expected to continue for the foreseeable future.[58]

Cattle management decisions made by USFS continually disregard the ecological impacts of prolonged and extreme drought. This arbitrary and capricious act forecloses any evaluation of the near-term effect of prolonged drought on endangered species and designated Critical Habitat, particularly the lost essential streamside vegetation. This vegetation loss is worsened by unchecked and unenforced grazing rules, use of a grazing promotion and perpetuation scheme that is not relevant to the protection of endangered species and their designated riparian Critical Habitat and handing range monitoring duties over to permittees. Management decisions that do not rely on practical and applicable measures is a violation of the Administrative Procedure Act, which is intended to stop conclusions that are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[59] This act also violates the Endangered Species Act requirement to use "the best scientific . . . data available."[60]

USFWS species experts' opinion is consistent with the "best scientific data available,"[61] which recognizes that cow grazing exacerbates the effects of climate change.[62] On November 11, 2021, **USFWS' lead Yellow-billed Cuckoo species expert reported** in "Grazing Impacts Input"[63]:

> **"As drought and climate change progress and livestock grazing continues, the riparian and xero-riparian shrub and tree recruitment and survival will diminish.**

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[55] Donahue, D.L., 2006. Federal rangeland policy: perverting law and jeopardizing ecosystem services. J. Land Use & Envtl. L., 22, p. 299.

[56] Beschta, R.L., Donahue, D.L., DellaSala, D.A., Rhodes, J.J., Karr, J.R., O'Brien, M.H., Fleischner, T.L. and Williams, C.D., 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, 51(2), pp.474-491.

[57] https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?West

[58] https://droughtmonitor.unl.edu/ConditionsOutlooks/Outlooks.aspx

[59] Administration Procedures Act, 5 U.S. Code § 706(2)(A)

[60] 16 U.S.C. § 1536(a)(2).

[61] 16 U.S.C. § 1533(b)(2).

[62] Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild and Feral Ungulates; Robert L. Beschta, Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, and Cindy Deacon Williams, Environmental Management (2013) 51:474-491.; Livestock Production, Climate Change, and Human Health: Closing the Awareness Gap, Debra L. Donahue, Environmental Law Reporter, 45 ELR 11112, 12-2015, http://ssrn.com/abstract=2696741; citing: *See, e.g.*, Beschta et al., *supra* note 59, at 476-81; Ripple et al., *supra* note 2, at 2, 3. Almost nothing is known, however, about the ability of shrublands to sequester carbon. *See* Jack A. Morgan et al., *Carbon Sequestration in Agricultural Lands of the United States*, 65 J. Soil & Water Conservation 6A, 7A (2010), doi:10.2489/jswc.65.1.6A. This is a "critical research need," *see id.*, particularly since shrubs dominate large areas of the public lands.; Climate change scenarios of herbaceous production along an aridity gradient: vulnerability increases with aridity, Carly Golodets, Marcelo Sternberg, Jaime Kiegel, Bertrand Boeken, Azlmen Henkin, No'am G. Silgmean and Eugene D. Ungar, DOI 10.1007/s00442-015-3234-5, February 7, 2015.; Grazing Impacts Input, Susan Sferra, November 11, 2021.

[63] Grazing Impacts Input, Susan Sferra, November 11, 2021.

Riparian and xero-riparian tree and shrub cover in drainage bottoms will diminish unless offsetting actions are taken."[64]

"To maintain healthy plant communities, new trees need to replace older trees that are dying at higher rates due to drought and increased temperatures. **The tree and shrub regeneration produced by this past third wettest monsoon in history may help replenish some of the trees lost by drought and livestock (grazing, trampling, compacting soil, erosion, etc.) if enough moisture persists for survival and if protected from herbivory [cow grazing] and trampling**."[65]

"These infrequent and unpredictable periods of above average rainfall are important in recruiting trees needed by cuckoos and other riparian and xeroriparian dependent species for nest sites, cover, temperature amelioration, and food production. These habitats are more humid, cooler, and insect-rich than adjacent habitats. **Protecting these new trees in years when rainfall and moisture are sufficient may be one of the most productive management actions that can ensure future woodland cover. The tree and shrub regeneration in drainage bottoms has a greater probability of survival to maturity if livestock are prevented from accessing new growth** (Sferra 2021)."[66]

"**Many studies document that removal of cattle grazing correlates with increases in plant productivity and abundance of breeding birds**, especially when riparian ecosystems are restored. Poessel et al. (2020)[67] is just one of the most recent studies."[68]

"**A single summer of above average monsoon rain does not compensate for years of drought and livestock impacts. Reducing/eliminating livestock access to ephemeral, intermittent, and perennial drainages following these rare periods of good rainfall will allow tree and shrub seedlings to grow and survive**."[69]

"**In June 2021, trees in drainage bottoms and hillsides in areas surveyed for cuckoos showed signs of stress (Sferra 2021).**[70] **… Young trees were lacking, except in isolated pockets**."[71]

"**Perennial plant recruits can be killed by just a few cattle in drainage bottoms in the same season, regardless of time of year**."[72]

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[64] *Ibid*., page 1.

[65] *Id*.

[66] *Ibid.*

[67] Poessel, S.A., J. C. Hagar, P. K. Haggerty, and T. E. Katzner. 2020. Removal of cattle grazing correlates with increases in vegetation productivity and in abundance of imperiled breeding birds. Biological Conservation 241 (2020) 108378: 1-9. www.elsevier.com/locate/biocon.

[68] Grazing Impacts Input, Susan Sferra, November 11, 2021, page 1.

[69] *Id*., page 2.

[70] Sferra, S.J. 2021. Yellow-billed cuckoo protocol survey results at five sites on the Coronado National Forest, Arizona, 2021. U.S. Fish and Wildlife Service. Arizona Ecological Services Office. Tucson, AZ.

[71] Grazing Impacts Input, Susan Sferra, November 11, 2021, page 2.

[72] *Id*., page 2.

"**Livestock congregating in shaded areas and water sources compact the soil and lead to seed germination failure**. **Replacement habitat cannot develop in these compacted areas**."[73]

"**Livestock grazing and climate change both contribute toward reduced overstory and subcanopy cover** and/or conversion to more arid adapted tree species in ephemeral, intermittent, and perennial drainages. **We cannot control climate change, but we can control livestock impacts from grazing, trampling, erosion, and soil compaction**."[74]

"**Utilization rates for grazing often exceed standards for healthy ecosystems and should be adjusted**."[75]

For CLF on the Tonto, designated riparian Critical Habitat is effectively left unprotected from destructive cow grazing. The April 1, 2010, Biological Opinion[76] relies primarily on unmonitored and unenforced exclosure and pasture fences, as well as utilization and rest-rotation schemes to protect frog populations, and thus do not support CLF long-term persistence and stability.

We document in this Notice numerous examples of supposedly off-limit riparian zones significantly impacted by cows and cow feces and show that vaguely described utilization and rest-rotation schemes are not monitored or enforced.

For YBC and WFC Critical Habitat on Tonto National Forest cow grazing allotments addressed in this Notice, we document detrimental unauthorized grazing impacts. These imperiled birds are similarly left unprotected from destructive grazing, as we document numerous examples of supposedly off-limit riparian zones significantly impacted by cows and cow feces.

For NMGS and NHGS on the Tonto, there is no consultation coverage for any grazing allotment addressed in this Notice. These threatened snakes and their designated riparian Critical Habitat therefore depend on preexisting, nonfunctional exclosures and non-applicable cow utilization metrics for their conservation and recovery, with no specific guidance or terms and conditions to avoid Take.

Designated riparian Critical Habitat for imperiled native fish on Tonto grazing allotments, similar to that for CLF, NMGS and NHGS, is inadequately protected with non-functioning exclosures and non-applicable cow utilization metrics. Pastures containing designated critical habitat for spikedace and RBS on the Tonto, as illustrated in this Notice, showed significant impacts from cattle, most of which is unauthorized. Gila Topminnow (*Poeciliopsis occidentalis occidentalis*) and Desert Pupfish (*Cyprinodon macularius*) do not have designated Critical Habitat.[77] On the Tonto, pastures containing

[73] *Ibid.*

[74] *Id.,* page 3.

[75] *Ibid.*

[76] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[77] General Species Information for Gila Topminnow (*Poeciliopsis occidentalis occidentalis*), USFWS, May 2008.

occupied Gila Topminnow sites are inadequately protected by the same scheme of non-applicable cow utilization metrics instead of exclosures.

The Tonto National Forest's 16 allotments surveyed to date where we have documented inadequate protection of designated riparian Critical Habitat include the Seventy-Six, Hardt Creek, Dagger, Poison Springs and Tonto Basin allotments on the Tonto Basin Ranger District; the Gisela allotment on the Payson Ranger District; Hick-Pikes Peak, Chrysotile and Lyons Fork allotments on the Globe Ranger District; Crouch Mesa, Soldier Camp, Buzzard Roost, and OW allotments on the Pleasant Valley Ranger District.

To summarize our concerns:

1. The February 28, 2002, Biological Opinion contains inadequate and insufficient consultation coverage for WFC and spikedace. We document in this Notice that "the amount or extent of taking specified in the incidental take statement [has been] exceeded," "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." Reinitiation of consultation must take place.[78];
2. There is no ITS or Concurrence for either federally listed garter snake. Reinitiation of consultation must take place.[79] Continued failure by the Forest Service and USFWS to reinitiate consultation on the Seventy-six, Hardt Creek, Gisela, and Hick-Pikes Peak allotments on the Tonto National Forest violates the law.;
3. Supposedly vacant pastures of the Dagger allotment are being heavily grazed and exhibit significant cattle impacts in and near designated critical habitat. These illegal activities must cease immediately.;
4. According to the June 21, 2005, Biological Opinion, Spring Creek on the Soldier Camp allotment should be excluded from grazing. The facts presented in this Notice "the amount or extent of taking specified in the incidental take statement [has been] exceeded," "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the Soldier Camp and Buzzard Roost allotments on the Tonto National Forest violates the law. Cattle are also grazing in non-allotted areas in the vicinity.;
5. Gila Chub critical habitat is degraded and unprotected on the Lyons Fork allotment. The law prohibits any action that reduces "appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[80] The law also prohibits any action causing "direct or

[78] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

[79] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

[80] 50 CFR § 402.02; 16 U.S.C. 1531 *et seq*.

indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."[81];

6. Downed fences and significant cow grazing impacts along Canyon Creek in the OW allotment, which is , designated critical habitat for narrow-headed garter snakes, and is desert sucker and speckled dace occupied.[82] This represents new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[83] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the OW allotment violates the law.[84];
7. Trespass cows are grazing and damaging resources and designated critical habitat adjacent to the Poison Springs allotment boundaries. This illegal activity must cease immediately.;
8. Documentation of significant cow grazing impacts along the Salt River on the Chrysotile allotment represents new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[85] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Chrysotile allotment violates the law.[86];
9. Documented Take and the frequent and severe cow grazing impacts represent new information regarding the Crouch Mesa allotment that is "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[87] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Crouch Mesa allotment violates the law.[88];
10. July 24, 2014, Biological Opinion is inadequate and illegal because:
    a. The 2014 Biological Opinion does not include an Incidental Take Statement for Yellow-billed cuckoo, Southwestern Willow Flycatcher, Northern Mexican Garter snake, Narrow-headed Garter snake, Spikedace and Loach minnow because the Biological Opinion assumes that the Tonto Creek Riparian Unit

[81] *Ibid.*

[82] Tonto National Forest - Canyon Creek (usda.gov) accessed 1/4/22.

[83] 50 C.F.R. 402.16.

[84] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[85] 50 C.F.R. 402.16.

[86] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[87] 50 C.F.R. 402.16.

[88] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

("TCRU") is fenced off from cattle grazing. We document in this Notice that this is **not** the case and that cattle are in fact damaging the TCRU. Without an adequate and lawful Incidental Take Statement in place, any activities likely to result in incidental take of members of listed species are not lawful.[89] Multiple other legal authorities speak to the inadequacy[90] of the 2014 Biological Opinion's Incidental Take Statement in addition to the Administrative Procedures Act, which requires federal courts to set aside agency action found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[91];

b. The 2014 Biological Opinion allows designated riparian Critical Habitat on the Tonto National Forest to be managed by a disingenuous scheme that provides few riparian exclosures and instead uses cow grazing utilization metrics that do not protect riparian dependent endangered species. This violates the legal requirement to utilize "the best scientific . . . data available."; and,

c. The 2014 Biological Opinion failed to include and consider the additive and cumulative of riparian cow grazing and climate change in spite of the extensive body of scientific literature that exists to the contrary.[92];

11. Reinitiation of consultation must take place expeditiously based on the facts above as well as that:

a. new species have been granted protection and have had riparian Critical Habitat designated for their Recovery under the Endangered Species Act since the issuance of the Biological Opinions that are addressed in this Notice and that apply to Tonto National Forest grazing allotments; and,

b. the new information presented prior to and in this Notice documents effects of the Tonto National Forest's cow grazing that are affecting listed species and designated riparian Critical Habitat in a manner and to an extent not considered in the Biological Opinions addressed in this Notice; and,

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[89] 16 U.S.C § 1538(a)(1)(B).

[90] *Or. Nat. Res. Council v. Allen*, 476 F.3d 1031 (9th Cir. 2007).; *Wild Fish Conservancy v. Salazar*, 628 F.3d 513 (9th Cir. 2010).; *Ctr. for Biological Diversity v. Provencio*, No. 10-cv-330, 2012 WL 966031 (D. Ariz. Jan. 23, 2012).; *Ctr. for Biological Diversity v. NMFS*, 977 F. Supp. 2d 55 (D.P.R. 2013).; *Native Fish Soc'y v. NMFS*, 992 F. Supp. 2d 1095 (D. Or. 2014).; *Sierra Club v. U.S. Dep't of the Interior*, 899 F.3d 260 (4th Cir. 2018).

[91] 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 709 (9th Cir. 2005).

[92] For example: Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007.; Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild and Feral Ungulates; Robert L. Beschta, Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, and Cindy Deacon Williams, Environmental Management (2013) 51:474-491.; Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192, Page 59992, October 3, 2014.; Livestock Production, Climate Change, and Human Health: Closing the Awareness Gap, Debra L. Donahue, Environmental Law Reporter, 45 ELR 11112, 12-2015, http://ssrn.com/abstract=2696741; citing: *See, e.g.*, Beschta et al., *supra* note 59, at 476-81; Ripple et al., *supra* note 2, at 2, 3. Almost nothing is known, however, about the ability of shrublands to sequester carbon. *See* Jack A. Morgan et al., *Carbon Sequestration in Agricultural Lands of the United States*, 65 J. Soil & Water Conservation 6A, 7A (2010), doi:10.2489/jswc.65.1.6A. This is a "critical research need," *see id.*, particularly since shrubs dominate large areas of the public lands.; Climate change scenarios of herbaceous production along an aridity gradient: vulnerability increases with aridity, Carly Golodets, Marcelo Sternberg, Jaime Kiegel, Bertrand Boeken, Azlmen Henkin, No'am G. Silgmean and Eugene D. Ungar, DOI 10.1007/s00442-015-3234-5, February 7, 2015.; Riparian vegetation of ephemeral streams, Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., *Journal of Arid Environments*, *138*, 2017, pages 27-37.

c. the new information presented prior to and in this Notice documents that cow grazing on the Tonto National Forest has been and continues to be modified in a manner that is causing an effect to listed species and their Critical Habitat that was not considered in the Biological Opinions addressed in this Notice.[93];

12. Destructive cow grazing in designated riparian Critical Habitat on the Tonto National Forest continues currently. This destructive cow grazing must cease during the new consultation to prevent the Tonto National Forest from further jeopardizing Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter snake, Narrow-Headed Garter snake, Spikedace, Loach Minnow, Razorback Sucker, and Gila Chub and further destruction of their designated riparian Critical Habitat. Termination of the destructive cow grazing during consultation is required by Section 7(d) of the Endangered Species Act to prevent the Tonto National Forest from further jeopardizing the continued existence of an endangered species and from causing further destruction and adverse modification of designated riparian Critical Habitat. Specifically, Section 7(d) states that the Tonto National Forest must stop "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection 7(a)(2)."[94];

13. The Forest Service's reliance on the Biological Opinions specified in this Notice is not legal. The Forest Service must ensure its own compliance with the Endangered Species Act as action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species" merely by relying upon a Biological Opinion issued by USFWS.[95]; and,

14. The ESA commands federal agencies to "insure" listed species' survival *and* recovery. In addition to requiring consulting agencies to incorporate recovery concerns into project-specific consultations, Section 4 reinforces the Act's emphasis on ensuring recovery. There, Congress required that FWS "*shall* develop and *implement* [recovery] plans for the conservation and survival of endangered species . . ."[96] "Conservation," as explained, is defined under the ESA as the "use of all methods and procedures which are necessary to bring [listed] species to the point at which the measures provided pursuant to this chapter are no longer necessary."[97] Failure to 'Implement' Recovery Plan(s) Violates Section 4(f) of the ESA.

[93] 50 C.F.R. § 402.16(a).

[94] 16 U.S.C. § 1536(d).

[95] *Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990).

[96] 16 U.S.C. § 1533(f)(1) (emphases added).

[97] *Id.* § 1532(3).

Only complete exclusion of cows from the Tonto National Forest's designated riparian Critical Habitat can rehabilitate and truly protect these fragile areas.[98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112]

The Center for Biological Diversity ("Center") is a non-profit, public interest, conservation organization with more than 1.7 million members and online activists dedicated to the protection of endangered species and wild places and to the fulfillment of the continuing educational goals of our membership and the general public in the process.

Maricopa Audubon Society is a nonprofit organization with over 2,000 members dedicated to the study and enjoyment of birds and other wildlife, and to the protection and restoration of their habitat in the Southwest. Maricopa Audubon is run by volunteers and strives to protect and restore wildlife habitat through education and community involvement. Maricopa Audubon has worked to protect wetlands in Arizona since July 1953.

In 60 days, if Tonto National Forest and USFWS refuse to reevaluate via reinitiation of consultation their inappropriate and ineffective grazing management, we intend to seek judicial relief.

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[98] Meehan, W.R. and Platts, W.S., 1978. Livestock grazing and the aquatic environment. *Journal of Soil and Water Conservation*, *33*(6), pp.274-278.

[99] Platts, W.S. and Wagstaff, F.J., 1984. Fencing to control livestock grazing on riparian habitats along streams: is it a viable alternative?. *North American Journal of Fisheries Management*, *4*(3), pp.266-272.

[100] Platts, W.S., 1981. *Influence of forest and rangeland management on anadromous fish habitat in Western North America: effects of livestock grazing* (Vol. 7). US Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station.

[101] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona Populus fremontii, velvet ash, Fraxinus velutina, Goodding willow, Salix gooddingii. *Rangeland Ecology & Management/Journal of Range Management Archives*, *36*(3), pp.382-384.

[102] Szaro, R.C., Belfit, S.C., Aitkin, J.K. and Rinne, J.N., 1985. Impact of grazing on a riparian gartersnake. *Johnson, RR technical coordinator. Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. United States Forest Service, General Technical Report RM-120*, pp.359-363.

[103] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, April 28, 2016, p. 235.

[104] Response of breeding birds to the removal of cattle on the San Pedro River, Arizona, Krueper, D. J., J. L. Bart, and T. D. Rich. 2003. Conservation Biology 17(2): 607-615.

[105] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

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[108] Cannon, R.W. and Knopf, F.L., 1984. Species composition of a willow community relative to seasonal grazing histories in Colorado. *The Southwestern Naturalist*, *29*(2), pp.234-237.

[109] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[110] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[111] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, USFWS, April 28, 2016, pages 235 and 248.

[112] Poessel, S.A., J. C. Hagar, P. K. Haggerty, and T. E. Katzner. 2020. Removal of cattle grazing correlates with increases in vegetation productivity and in abundance of imperiled breeding birds. Biological Conservation 241 (2020) 108378: 1-9. www.elsevier.com/locate/biocon.

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The June 21, 2005, Biological Opinion: **page 108**.

The January 15, 2008, Biological Opinion: **page 119**.

The August 17, 2009, Biological Opinion: **page 148**.

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GENERAL BACKGROUND

The Center's field surveys of designated Critical Habitat in the Tonto National Forest as presented in this Notice were conducted from September 3, 2020 through March 31, 2022. Our professional field biologists documented livestock grazing impacts to standing waters, riparian vegetation, soils, and streambanks and examined condition of cattle exclosure fencing. Using our Cattle Impact Survey ("CIS") data, stream reaches were analyzed and ranked with absent, light, moderate or significant grazing impacts. We surveyed dozens of miles of designated Critical Habitat on the Tonto National Forest.

The Chiricahua leopard frog (*Lithobates chiricahuensis,* "CLF") was listed as threatened under the Endangered Species Act ("ESA") in 2002.[113] Since the development of the CLF Recovery Plan in 2007[114] and designation of Critical Habitat in 2012,[115] the USFWS and the Forest Service continue greenlighting cattle grazing plans and continue allowing cattle grazing that is causing the destruction of designated riparian Critical Habitat, is diminishing the likelihood of CLF survival, dispersal, and recovery, and is causing direct destruction of riparian Critical Habitat that is diminishing the value of Critical Habitat as a whole for the conservation of the species. A review of range-wide CLF population trends has not been conducted since 2011.[116]

In this Notice and in the hyperlinked report, "On the Brink, How Federal Agency Neglect is Killing Chiricahua Leopard Frogs" ("Center 2020"),[117] we document that cattle impacts are significant in designated riparian CLF Critical Habitat. Nearly all riparian sites visited were damaged by cows and their feces. All were lacking streamside riparian vegetation.

A few isolated exceptions were noted in our surveys showing that it is possible to maintain, improve and recover wetland ecosystems supporting Chiricahua leopard frogs as well as a diversity of other native wildlife, if cattle are kept out of these areas. For CLF on the Tonto National Forest, the allotment at issue are is the Crouch Mesa Allotment on the Pleasant Valley Ranger District.

The southwestern willow flycatcher (*Empidonax traillii extimus*,"WFC") was listed as federally endangered in 1995, received a Recovery Plan in 2002[118], and Critical Habitat designation in 2013.[119] The Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*,"YBC") was listed as threatened under the ESA in 2014.[120] Critical Habitat was designated on April 21, 2021.[121]

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[113] Listing of the Chiricahua Leopard Frog (*Rana chiricahuensis*), Final rule with a special rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 67, No. 114, June 13, 2002, page 40790.

[114] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007.

[115] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16324.

[116] Chiricahua Leopard Frog (*Lithobates* [=*Rana*] *chiricahuensis*); 5-Year Review: Summary and Evaluation; USFWS Arizona Ecological Services Office, Phoenix, Arizona, January 2011.

[117] On the Brink, How Federal Agency Neglect is Killing Chiricahua Leopard Frogs, Chris Bugbee, Center for Biological Diversity, December 2020.

[118]U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico.

[119] Designation of Critical Habitat for Southwestern Willow Flycatcher: Final rule. 78 FR 344 534

[120] Rules and Regulations. Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192. October 3, 2014

[121] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo, Final Rule, U.S. Fish and Wildlife Service, Federal Register, Vol. 86, No. 75, April 21, 2021, page 20798.

In this Notice, we document that cows have significantly impacted designated riparian WFC and YBC Critical Habitat. The damage that we have identified is acute and chronic. Cattle are grazing, trampling and defecating in riparian areas that WFC and YBC depend on for their reproduction. Nearly all unauthorized grazing sites visited were damaged by cows and their feces. Many riparian ecosystems surveyed were so significantly impacted by cattle that their function as designated WFC and YBC critical foraging and breeding habitat is diminished. For WFC and YBC on the Tonto National Forest, the 7 allotments at issue are Tonto Basin, Poison Springs, Seventy-Six, Hardt Creek, Gisela, Hick-Pikes Peak, and Dagger allotments.

In this Notice we also document cow damaged designated Northern Mexican garter snake (*Thamnophis eques megalops,*"NMGS") and Narrow-headed garter snake (*Thamnophis rufipunctatus,* "NHGS") Critical Habitat. The damage that we have identified is both acute and chronic. Cows are grazing, trampling and defecating in riparian areas that NMGS and NHGS depend on for foraging, cover, and brumation. This Notice provides new information that (1) the effects of agency actions are affecting listed garter snakes and their designated Critical Habitat in a manner and to an extent not considered in any of the Biological Opinions at issue here, and (2) that the Forest Service authorized cattle grazing has been dramatically modified in a manner that is causing effects to NMGS and NHGS designated Critical Habitat that was not considered in any recent consultations for the Seventy-Six, Hardt Creek, Gisela, Soldier Camp, Buzzard Roost, OW, and Tonto Basin allotments.

The law prohibits any action that reduces "appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[122] The law also prohibits any action causing "direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."[123] Our surveys demonstrate damage to water and riparian vegetation from livestock grazing in designated Critical Habitat. The widespread adverse impacts caused by cattle grazing that we observed and documented occurs as the result of Forest Service personnel's callous disregard for the protection of Public Lands, of rare wetland habitat, and of endangered species protection laws.

Cows effect ecosystem resources in ways that accentuate climate impacts.[124] The vast majority of grazed western riparian areas are already deficient in willow understory and nearly devoid of overstory cottonwood.[125,126] Foraging cattle continue to reduce the density of willow and other shrubs, eliminate cottonwood and willow reproduction by feeding on and trampling seedlings,

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122 50 CFR § 402.02; 16 U.S.C. 1531 *et seq*.

123 *Ibid.*

124 Beschta, R.L., Donahue, D.L., DellaSala, D.A., Rhodes, J.J., Karr, J.R., O'Brien, M.H., Fleischner, T.L. and Williams, C.D., 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, 51(2), pp.474-491.

125 Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.

126 Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

and modify habitat through soil compaction and other means.[127,128,129,130,131] This unwarranted ecological impact has resulted in doomed stands where old cottonwood trees in the overstory are dying with no new recruitment to replace themselves.[132,133,134,135] An obvious conclusion is that cow grazing can prevent riparian areas from yielding habitat for imperiled species in perpetuity in Arizona. Despite these dire climate circumstances, status quo cow grazing continues to occur without revision, continuously harming future vegetation recovery and removing what little cover is available for wildlife requiring complex vegetative structure.

If climate change alone poses such an obvious and immediate threat to water and wildlife, it cannot be justified to add another known negative stressor such as cow grazing in designated riparian critical habitat. This Notice documents trampled riparian ecosystems impacted by cows to the extent that their future is uncertain.

To make matters worse, cow grazing impacts on the Tonto are measured using livestock forage standards with no ecological context.[136] Structural habitat requirements for wildlife, including native herpetofauna and nesting birds like WFC and YBC, cannot be assessed or measured by utilization or stubble height measurements, according to rangeland experts. For example, according to a 2007 collaborative rangeland monitoring guide entitled '*Principles of obtaining and interpreting utilization data on rangelands',* "some types of residual cover guidelines (e.g. "structure" requirements or visual obstruction estimates for upland bird nesting) are neither utilization nor stubble height measurements."[137]

There are many aspects of cow grazing that utilization or stubble measurement do not capture, including cattle use of preferentially selected and highly palatable forage species known as "ice cream species." This term has been used for exceptionally palatable plants since at least the

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[127] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[128] Belsky, A.J., Matzke, A. and Uselman, S., 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and water Conservation*, *54*(1), pp.419-431.

[129] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. *Desert Plants*.

[130] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation Biology, *8*(3), pp.629-644.

[131] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[132] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[133] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. *Desert Plants*.

[134] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[135] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[136] According to the Interagency Technical Reference (1999), utilization measures the proportion or degree of current year's forage production that is consumed or destroyed. Utilization may refer either to a single plant species, a group of species, or the vegetation as a whole.

[137] Smith, L., Ruyle, G.B., Maynard, J., Barker, S., Meyer, W., Stewart, D., Coulloudon, B., Williams, S. and Dyess, J., 2007. *Principles of obtaining and interpreting utilization data on rangelands*. University of Arizona, Cooperative Extension Serv.

1930's.[138] According to the Arizona Grazing Lands Conservation Association's "Guide to Rangeland Monitoring and Assessment," an "ice cream species" is "an exceptionally palatable species sought and grazed frequently by livestock or game animals. Such species are often overutilized even under proper grazing."[139] Highly palatable and protein rich, cattle selectively browse Fremont cottonwood seedlings and saplings[140, 141, 142] and can wipe out entire seedling reestablishment sites in a single week through hoof action alone.[143]

In measuring utilization, Holecheck (1988) states "one to three plant species are used as key species. These plants should be abundant, productive, and palatable. They should provide the bulk of the forage for the grazing animals within the pasture. The ice-cream plants are not used because of their scarcity and low resistance to grazing."[144] Generally, when the key species and key area are considered properly used, the entire pasture is considered correctly used.[145] However, this conclusion is flawed and breaks down in describing riparian systems, where the highly palatable 'ice cream' species are the next cohorts of riparian trees, the very seedlings that ensure regeneration of the riparian forest itself. According to Holechek et al. (2001), "under the key-species approach, secondary forage species ... will receive light use (10% to 25%), key species ... will receive moderate use (30% to 40%), and the ice-cream plants ... may be used excessively (over 40%)."[146] It appears that no monitoring been done on the Tonto regarding cattle consumption or trampling of cottonwood and willow seedlings, and likewise no monitoring of herbaceous cover pre- and post-monsoon, tree and shrub regeneration and growth, tree cohorts and age classes, and species composition. Such a system would not allow germination and critical growth periods of riparian trees to advance in size past the reach of cows.

Furthermore, according to the June 21, 2005, Biological Opinion for the Soldier Camp allotment addressed in this Notice, "key areas for monitoring will normally be ¼ to 1 mile from water, located on productive soils on level to intermediate slopes."[147] The reason for this monitoring strategy is that cows often congregate near water, causing disproportionate impacts and

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[138] Standing, A.R., 1938. Uses of Key Species, Key Areas and Utilization Standards in Range Management. *Ames Forester*, *26*(1), p.3.

[139] Smith, L., Ruyle, G., Dyess, J., Meyer, W., Barker, S., Lane, C.B., Williams, S.M., Maynard, J.L., Bell, D., Stewart, D. and Coulloudon, A., 2012. Guide to rangeland monitoring and assessment, basic concepts for collecting, interpreting and use of rangeland data for management planning and decisions. Arizona Grazing Lands Conservation Association, Tucson, Arizona, USA.

[140] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[141] Martin, S.C., 1979. Evaluating the impacts of cattle grazing on riparian habitats in the National Forests of Arizona and New Mexico. In *Proceedings of the Forum-Grazing and Riparian/Stream Ecosystems. Trout Unlimited Inc., Denver, Colo* (pp. 35-38).

[142] Stromberg, J.C., 1997. Growth and survivorship of Fremont cottonwood, Goodding willow, and salt cedar seedlings after large floods in central Arizona. *The Great Basin Naturalist*, pp.198-208.

[143] Kalischuk, A.R., Rood, S.B. and Mahoney, J.M., 2001. Environmental influences on seedling growth of cottonwood species following a major flood. *Forest Ecology and Management*, *144*(1-3), pp.75-89.

[144] Holechek, J.L., 1988. An approach for setting the stocking rate. Rangelands, 10(1), 10-14.

[145] *Ibid.*

[146] Holechek, J.L., R.D. Piper, and C.H. Herbel. 2001. Range Management: Principles and Practices. Prentice Hall, Upper Saddle River, N.J.

[147] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273. pg. 4.

spending up to 30x longer in in riparian zones compared to adjacent uplands.[148] This is especially true where the riparian zone is the primary water source within a pasture, and this is why cow impacts are generally monitored *away* from water.

According to Holechek, "even under light grazing intensities, areas around watering points, salt grounds, valley bottoms, and driveways will often be intensely used. These preferred areas are referred to as "sacrifice areas" because setting stocking rates for proper use of these areas will result in underuse of the bulk of the pasture."[149] Here, it is directly inferred that watering areas receive *improper* use, which is exactly what we tend to observe in our surveys. In many cases, the designated riparian Critical Habitat *is* the watering point or valley bottom where cattle concentrate, and therefore is the "sacrifice area"! Again, these are not monitored. Monitoring efforts are focused ¼ to 1 mile away from these sacrifice areas, so that the true environmental impact of cattle simply goes unrecorded. There should be no "sacrifice areas" in designated critical habitat. Full cattle exclusion is warranted in these situations.

The February 28, 2002, June 21, 2005, January 15, 2008, August 17, 2009, April 1, 2010, and July 24, 2014, Biological Opinions addressed in this Notice lack consultations for CLF, NMGS, NHGS, and have Incidental Take Statements that fail to discuss CLF, WFC, YBC, Spikedace, and RBS Critical Habitat and mitigation measures that will adequately address impacts to these species consistent with ESA's protective intent.[150] When new information becomes available, or when take has been exceeded, agencies, such as the Forest Service and USFWS, who fail to reinitiate consultation violate 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14. Besides violating the ESA, such a scheme also violates the Administrative Procedure Act requirement that federal decisions are not "arbitrary, capricious, or an abuse of discretion."[151] Revised Biological Opinions need to be initiated that meaningfully incorporate the information presented in this Notice.

With this new information, continued failure by the Forest Service and USFWS to reinitiate consultation on these allotments violates the law.[152] Reinitiation of consultation must take place.[153]

As provided in 50 CFR '402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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[148] Skovlin, J.M. 1984. Impacts of grazing on wetlands and riparian habitat: a review of our knowledge. p. 1001-1103. In: Developing strategies for range management. Westview Press, Boulder, CO.

[149] Holechek, J.L., 1988. An approach for setting the stocking rate. Rangelands, 10(1), 10-14.

[150] *Center for Biological Diversity v.* BLM, 698 F.3d 1101, 1115 (9th Cir. 2012)

[151] 5 USC §706(2)(A).

[152] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[153] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with theUSFWS, to "carry[] out programs for the conservation" of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." Sierra Club v. Glickman, 156 F.3d 606,616 (5th Cir. 1998); accord Pyramid Lake Paiute Tribe, 898 F.2d at 1416-17 (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the ESA to mean recovery, i.e., the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary." 16 U.S.C § l 536(a)(1).

We provided Center (2020) to the Forest Service and USFWS on January 6, 2021. Hopefully, now that Center (2020) is presented again with this Notice, along with additional documentation of direct cattle degradation critical habitat designated for the recovery of additional imperiled species, the Forest Service and USFWS will utilize the following 60 days to address and remedy the violations documented and presented in this Notice and in Center (2020). Short of the violations documented and presented in this Notice and in Center (2020) being remedied in the next 60 days, the Center for Biological Diversity and Maricopa Audubon Society intend to file suit to address these serious legal violations.

STATUTORY BACKGROUND

The ESA is "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation."[154] The statute's primary goal is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved."[155] The U.S. Supreme Court has recognized that "the plain intent of Congress in enacting the [ESA] was to halt and reverse the trend toward species extinction, whatever the cost."[156]

Section 4 of the ESA directs the Secretary of the Interior to designate species that are threatened or endangered with extinction, and to designate "critical habitat" for such species.[157] Section 4 also requires the Secretary to develop and implement recovery plans for the conservation and survival of threatened and endangered species, unless the Secretary finds that such a plan will not promote the conservation of the species.[158]

To receive the protection of the ESA, a species must first be listed by the Secretary of the Interior as "endangered" or "threatened."[159] After a species is listed, the substantive obligations of the ESA apply to that species. These include the prohibition on take, the duty of federal agencies to

[154] Tenn. Valley Auth. v. Hill, 437 U.S. 153, 180 (1978).

[155] 16 U.S.C. § 1531(b).

[156] *Hill*, 437 U.S. at 184.

[157] 16 U.S.C. § 1533(a).

[158] 16 U.S.C. § 1533(f).

[159] *See* 16 U.S.C. § 1533.

consult with USFWS, and the duty to ensure that those agencies' actions do not jeopardize the continued existence of listed species or adversely modify critical habitat.[160]

Within the ESA's statutory scheme, the designation and protection of Critical Habitat is especially important. Congress recognized the significance of habitat protection when it found that:

> "[C]lassifying a species as endangered or threatened is only the first step in insuring its survival. Of equal or more importance is the determination of the habitat necessary for that species' continued existence. . . . If the protection of endangered and threatened species depends in large measure on the preservation of the species' habitat, then the ultimate effectiveness of the Endangered Species Act will depend on the designation of critical habitat."[161]

Thus, the ESA requires USFWS to designate Critical Habitat at the same time a species is listed.[162] Any designation of Critical Habitat must be based on the "best scientific data available."[163]

Reflecting the statute's focus on species recovery, Critical Habitat may include both occupied and unoccupied areas that are "essential for the conservation of the species."[164] "Conservation," is defined in turn to include all methods that that can be employed to "bring any endangered species or threatened species to the point at which" the protection of the ESA is "no longer necessary."[165] As such, "the purpose of establishing 'critical habitat' is for the government to carve out territory that not only is necessary for the species' survival but also is essential for the species' recovery."[166]

Once a species is listed and critical habitat designated, Section 7 of the ESA requires each federal agency, in consultation with a federal wildlife agency (in this case, USFWS), to ensure that any proposed action is not likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of Critical Habitat.[167] To "jeopardize the continued existence of" means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[168] "Destruction or adverse modification" of critical habitat means "a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation or a listed species."[169] And "conservation," as noted, means recovery to the point where the ESA's protections are no longer needed.[170] Thus, the ultimate aim of consultation is to ensure that federal agency action does not impair the survival or recovery of a listed species.

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[160] *See Hill*, 437 U.S. at 180-82.

[161] H.R. Rep. No. 94-887 at 3 (1976).

[162] 16 U.S.C. §§ 1533(a)(3)(A)(i), 1533(b)(6)(C).

[163] *Id.* § 1533(b)(2).

[164] *Ibid.*

[165] *Id.* § 1532(3).

[166] *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004).

[167] 16 U.S.C. § 1536(a)(2).

[168] 50 C.F.R. § 402.02.

[169] *Ibid.*

[170] 16 U.S.C. § 1532(3).

For each proposed action, the action agency must request from USFWS whether any listed or proposed species may be present in the area of the proposed action.[171] If listed or proposed species may be present, the action agency must prepare a "biological assessment" to determine whether the listed species may be affected by the proposed action.[172] If the agency determines that its proposed action may affect any listed species or critical habitat, the agency must engage in "formal consultation" with USFWS.[173]

When the "action agency" (the Forest Service in this case) determines that a proposed action may affect a listed species, it must engage in formal consultation with USFWS.[174] Formal consultation results in a biological opinion detailing "how the agency action affects the species or its critical habitat."[175]

It is essential that USFWS define the scope of formal consultation to encompass the entire proposed action.[176] The term "agency action" should be interpreted broadly because "caution can only be exercised if the agency takes a look at all the possible ramifications of the agency action."[177] USFWS is accordingly required to consider "all phases" of the agency action in its analysis.[178]

USFWS must also take a broad view of the action's impacts on listed species. Under Section 7's implementing regulations:

> "Effects of the action are *all consequences* to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. … Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action."[179]

Federal agencies must "use the best scientific and commercial data available" in assessing a proposed action's impact on a protected species.[180]

To complete formal consultation, USFWS must provide the action agency with a "biological opinion" explaining how the proposed action will affect the listed species or habitat.[181] The biological opinion "is required to address both the 'no jeopardy' and 'no adverse modification' prongs of Section 7."[182] If USFWS concludes in the biological opinion that the proposed action will jeopardize the continued existence of a listed species, or will result in the destruction or adverse modification of critical habitat, USFWS must outline "reasonable and prudent alternatives" to the proposed action that USFWS believes would not jeopardize the listed species or result in the

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[171] 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12.

[172] Ibid.

[173] 50 C.F.R. § 402.14.

[174] 50 C.F.R. § 402.02.

[175] 16 U.S.C. 1536(b)(3)(A).

[176] *Conner v. Burford*, 848 F.2d 1441, 1453 (9th Cir. 1988) (citing *North Slope Borough v. Andrus*, 642 F.2d 589, 608 (D.C. Cir. 1980)).

[177] *Ibid*.

[178] *Ibid.*

[179] 50 C.F.R. § 402.02 (emphasis added).

[180] 16 U.S.C. § 1536(a)(2).

[181] 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14.

[182] *Center for Biological Diversity v. Bureau of Land Management*, 422 F. Supp. 2d 1115, 1127 (N.D. Cal. 2006), *citing* 50 C.F.R. § 402.14(g)(4).

destruction or adverse modification of its Critical Habitat.[183]

If the biological opinion concludes that the proposed action is not likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of critical habitat, USFWS must provide an "incidental take statement," specifying the amount or extent of such incidental taking on the species, any "reasonable and prudent measures" that USFWS considers necessary or appropriate to minimize such impact, and setting forth the "terms and conditions" that must be complied with by the agency to implement those measures.[184] In order to monitor the impacts of incidental take, the agency must report the impact of its action on the listed species to USFWS.[185] If during the course of the action the amount or extent of incidental taking is exceeded, the agency must reinitiate consultation immediately.[186]

After a species has been listed and with every action evaluated by a USFWS biological opinion where a listed species is likely to be adversely affected, it is prohibited to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect in any such conduct."[187] With a USFWS biological opinion where a listed species is likely to be adversely affected, USFWS must provide an Incidental Take Statement and Reasonable and Prudent Measures to ensure that any proposed action is not likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of critical habitat.[188] Incidental Take Statements provide for mitigation measures that adequately address impacts on listed species consistent with ESA's protective intent,[189] that are causally linked between the action and the take of the species,[190] and that provides for a take-triggering metric that is finite and measurable.[191]

After the procedural requirements of consultation are complete, the ultimate duty to protect and conserve listed species lies with the action agency. Consequently, an action agency's reliance on an inadequate, incomplete, or flawed biological opinion is arbitrary, capricious, and unlawful.[192]

A biological opinion is a final agency action subject to judicial review under the federal Administrative Procedure Act, which requires federal courts to set aside agency action found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[193] A court's review under this standard, while "narrow," is also "searching and careful."[194]

Reinitiation of Section 7 consultation is required and shall be requested by the Federal action agency or by USFWS if (a) the amount or extent of taking specified in the incidental take statement

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[183] 16 U.S.C. § 1536(b)(3)(A).

[184] 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i).

[185] 50 C.F.R. § 402.14(i)(3).

[186] 50 C.F.R. § 401.14(i)(4); *see also* 50 C.F.R. § 402.16.

[187] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

[188] 16 U.S.C. § 1536(a)(2).

[189] *Center for Biological Diversity v.* BLM, 698 F.3d 1101, 1115 (9th Cir. 2012).

[190] 50 C.F.R. 402.14(i)(1)(i); *Miccosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1275 (11th Cir. 2009).

[191] Center for Biological Diversity, et al., v. Donald H. Rumsfeld, Secretary of Defense, et al., CIV99-203 TUC ACM, *198 F. Supp. 2d 1139; 2002 U.S. Dist LEXIS 7419; 54 ERC (BNA) 1391; 32 ELR 20640*; April 8, 2002: "Mitigation measures must be reasonably specific, certain to occur, and capable of implementation; they must be subject to deadlines or otherwise-enforceable obligations; and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards."

[192] *See, e.g.*, *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 532 (9th Cir. 2010).

[193] 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 709 (9th Cir. 2005).

[194] *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989).

is exceeded; (b) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (c) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) if a new species is listed or critical habitat designated that may be affected by the identified action.[195]

While a consultation is taking place, Section 7(d) prohibits Federal agencies from making "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection 7(a)(2)"[196] [insuring any action is not likely to jeopardize the continued existence of an endangered species or result in the destruction or adverse modification of Critical Habitat].

In addition to the obligation to avoid jeopardizing species under section 7(a)(2), Section 7(a)(1) of the ESA also imposes an obligation on all federal agencies, in consultation with the USFWS, to "carry out programs for the conservation" of listed species.[197] This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." *Sierra Club v. Glickman,* 156 F.3d 606,616 (5th Cir. 1998); *accord Pyramid Lake Paiute Tribe of Indians v. Dep't of the Navy,* 898 F.2d 1410, 1416-17 (9th Cir. 1990) (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the Act to mean *recovery, i.e.,* the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary."[198] We have recently reaffirmed the obligation of all federal agencies to "carry out programs for the conservation" of listed species in *Center for Biological Diversity v. Tom Vilsack,* 276 F. Supp. 3d 1015 (D.Nev. 2017).[199]

Section 7(a)(4) requires Federal agencies to confer with the Service on actions likely to jeopardize the continued existence of any species proposed for listing or result in the destruction or adverse modification of any proposed critical habitat. When new species are added to the federal list and are affected by federal actions such as grazing on Forest Service land, the law requires that the Forest Service consults with USFWS to ensure that Forest Service's activities will not jeopardize survival and recovery of these species.[200]

Section 7(d) prohibits Federal agencies from making "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection 7(a)(2)"[201] [insuring any action is not likely to jeopardize the continued existence of an endangered species or result in the destruction or adverse modification of Critical Habitat].

Section 9 of the ESA and its implementing regulations prohibit the unauthorized "take" of any endangered or threatened species of fish or wildlife. 16 U.S.C. § 1538(a)(1); 16 U.S.C. §

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[195] 50 CFR § 402.16 Reinitiation of formal consultation.

[196] 16 U.S.C. § 1536(d).

[197] 16 U.S.C. § 1536(a)(1).

[198] *Ibid.*

[199] Order, Center for Biological Diversity, et al., Plaintiffs, v. Tom Vilsack, et al., Defendants; Case No. 2?13-cv-01785-RFB-GWH; August 1, 2017.

[200] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[201] 16 U.S.C. § 1536(d)

1533(d); 50 C.F.R. § 17.31. "Take" is defined broadly under the ESA to include harming, harassing, trapping, capturing, wounding or killing a protected species either directly or by degrading its habitat. 16 U.S.C. § 1532(19).

The ESA commands federal agencies to "insure" listed species' survival *and* recovery. In addition to requiring consulting agencies to incorporate recovery concerns into project-specific consultations, Section 4 reinforces the Act's emphasis on ensuring recovery. There, Congress required that FWS "*shall* develop and *implement* [recovery] plans for the conservation and survival of endangered species . . . ." 16 U.S.C. § 1533(f)(1) (emphases added). "Conservation," as explained, is defined under the ESA as the "use of all methods and procedures which are necessary to bring [listed] species to the point at which the measures provided pursuant to this chapter are no longer necessary." *Id.* § 1532(3),

In using the word "shall," Congress could not have been clearer about its intent to require FWS to actually "implement" recovery plans. The Supreme Court has repeatedly provided that "when a statute uses the word 'shall,' Congress has imposed a mandatory duty upon the subject of the command." *Forest Guardians v. Babbitt*, 174 F.3d 1178, 1187 (10th Cir. 1999) (collecting cases). For this reason, courts have found that where recovery plans go beyond "general guidance" by "specif[ying] species-level and habitat-level recovery actions," Section 4(f) imposes a legal duty on FWS to implement those measures. *See Biodiversity L. Found. v. Norton*, 285 F. Supp. 2d 1, 13 (D.D.C. 2003); *see also Friends of the Blackwater v. Salazar*, 691 F.3d 428, 436-37 (D.C. Cir. 2012) (noting that "§ 4(f)(1) of the Act imposes mandatory obligations upon" FWS "to work toward the goals set in its recovery plan" by actually implementing the plan before delisting a species); *Sw. Center for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1136 (S.D. Cal. 2006) (rejecting BiOp that was "inconsistent with the strategies and objectives in the [species'] recovery plan," and holding that FWS must, at minimum, "explain why it" departed from the plan in site-specific actions).

The Administrative Procedure Act requires that federal decisions are not "arbitrary, capricious, or an abuse of discretion."[202]

CHIRICAHUA LEOPARD FROG BACKGROUND AND HABITAT NEEDS

Almost half of all amphibian species worldwide are declining in abundance or distribution, and a third are immediately threatened with extinction,[203] including the CLF, which gained protection under the Endangered Species Act in 2002,[204] a Recovery Plan in 2007,[205] and Critical Habitat designation in 2012.[206] Like other amphibians, CLF faces ongoing threats that include

[202] 5 USC §706(2)(A).

[203] Lötters, S., Kielgast, J., Bielby, J., Schmidtlein, S., Bosch, J., Veith, M., Walker, S.F., Fisher, M.C. and Rödder, D., 2009. The link between rapid enigmatic amphibian decline and the globally emerging chytrid fungus. *EcoHealth*, *6*(3), pp. 358-372.

[204] Listing of the Chiricahua Leopard Frog (*Rana chiricahuensis*), Final rule with a special rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 67, No. 114, June 13, 2002, page 40790.

[205] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007.

[206] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16324.

disease, predation by non-native species, habitat degradation and fragmentation, environmental contamination, and climate change.[207] CLF have disappeared from more than 80% of their historical habitat in the United States as a result of extensive loss of wetland habitat.[208]

Center (2020) documents the fact that cattle have significantly damaged designated CLF Critical Habitat on four national forests in Arizona, the Apache-Sitgreaves, Coconino, Coronado, and Tonto National Forests. This damage is the result of trampling and defecating by cattle in ponds critical for CLF survival and by grazing in designated riparian Critical Habitat away from stock ponds. Center (2020) documents recent field surveys of 17 Arizona grazing allotments, where CLF were found in less than 10% of the Critical Habitat breeding ponds visited, where nearly all were degraded by cows and their feces, and where designated riparian Critical Habitat has been damaged with extensive vegetation removal. Many aquatic ecosystems surveyed were so badly trampled by cattle and polluted by cow manure that their function as designated Critical breeding habitat has been diminished. Survey results from the Tonto National Forest are presented in this Notice.

Livestock grazing can cause a decline in diversity, abundance, and species composition of riparian herpetofauna communities from direct or indirect threats, including: (1) declines in the structural richness of the vegetative community; (2) losses or reductions of the prey base; (3) increased aridity of habitat; (4) loss of thermal cover and protection from predators; and (5) a rise in water temperatures to levels lethal to larval stages of amphibian and fish development.[209] Livestock grazing may also lead to desertification (the process of becoming arid land or desert as a result of land mismanagement, climate change, or other extenuating circumstances) due to a loss in soil fertility from erosion and gaseous emissions spurred by a reduction in vegetative ground cover, particularly at lower elevations.[210] Specific attributes of ecosystems, such as composition, function, and structure, have been documented as being altered by livestock grazing through a variety of means, including: (1) decreasing the density and biomass of individual species, reducing species richness, and changing biological community organization; (2) interfering with nutrient cycling and ecological succession; and (3) changing vegetation stratification, contributing to soil erosion, and decreasing availability of water to biotic communities.[211]

Livestock grazing causes long-term changes to the watershed and its functions.[212] Livestock grazing causes soil compaction, decreased moisture infiltration rates, increased runoff, changed vegetative species composition, decreased riparian vegetation, increased erosion, increased stream sedimentation, increased stream water temperature, and changes in channel form.[213]

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[207] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007, page C-8.

[208] *Id.,* page 7.

[209] *Ibid*.

[210] Schlesinger, W.H., Reynolds, J.F., Cunningham, G.L., Huenneke, L.F., Jarrell, W.M., Virginia, R.A. and Whitford, W.G., 1990. Biological feedbacks in global desertification. *Science*, *247*(4946), pp. 1043-1048.

[211] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp. 629-644.

[212] Armour, C., Duff, D. and Elmore, W., 1994. The effects of livestock grazing on western riparian and stream ecosystem. *Fisheries*, *19*(9), pp. 9-12.; Belsky, A.J., Matzke, A. and Uselman, S., 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and water Conservation*, *54*(1), pp. 419-431.; Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp. 629-644.; Poff, B., Koestner, K.A., Neary, D.G. and Henderson, V., 2011. Threats to riparian ecosystems in Western North America: an analysis of existing literature 1. *JAWRA Journal of the American Water Resources Association*, *47*(6), pp. 1241-1254.

[213] Schulz, T. T., & Leininger, W. C. (1990). Differences in riparian vegetation structure between grazed areas and exclosures. Journal of Range Management, 43(4), 295-299.; Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North

Water-column alterations can be caused by changes in the magnitude and timing of organic and inorganic inputs into the stream, increases in fecal contamination, changes in water temperatures due to removal of vegetation, reduction of stream shore water depth, changes in timing and magnitude of stream flow events from changes in watershed vegetative cover, and an increase in stream temperature.[214] These alterations in stream conditions can affect the food chain, including CLF and its prey base.

Cattle remove bank-line vegetation that provides escape cover for frogs and a source of insect prey. The CLF uses riparian herbaceous vegetation for cover, thermoregulation, and foraging. Litter is reduced by trampling and churning into the soil, thus reducing cover for soil, plants, and wildlife.[215] Overuse of vegetation by livestock causes changes to plant root structures, altering plant species composition and overall biomass.[216] Reduced herbaceous vegetation leads to accelerated soil loss due to increased exposure of soils to downpour events and reduced sediment filtering capabilities of the vegetation.[217] Hoof action causes loss of cryptobiotic soil crusts, soil compaction, erosion, and gullying.[218]

Possible adverse effects to CLF and its habitat as a result of livestock grazing include: trampling of egg masses, tadpoles, and frogs; possible incidental ingestion of small larvae or eggs while drinking; deterioration of watersheds; degraded water quality with subsequent toxic effects on frogs; elimination of undercut banks that provide cover for frogs; loss of cover provided by wetland and riparian vegetation; loss of deep backwater pools; spread of disease; and facilitation of the dispersal of non-native predators.[219]

Indirect adverse effects occur through a variety of means during the year even when CLF are inactive (e.g., between November and February). Increased erosion in the watershed caused by

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America. *Conservation biology*, *8*(3), pp. 629-644.; Ohmart, R.D., 1996. Ecological condition of the East Fork of the Gila River and selected tributaries: Gila National Forest, New Mexico. *General Technical Report RM.*, *272*, p. 312.

[214] Platts, W.S., 1990. Managing fisheries and wildlife on rangelands grazed by livestock: a guidance and reference document for biologists.; Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.

[215] Schulz, T. T., & Leininger, W. C. (1990). Differences in riparian vegetation structure between grazed areas and exclosures. Journal of Range Management, 43(4), 295-299.

[216] Vallentine, J. F. 1990. Grazing management. San Diego, CA, USA: Academic Press. 533 pp.; Popolizio, C.A., Goetz, H. and Chapman, P.L., 1994. Short-term response of riparian vegetation to 4 grazing treatments. *Rangeland Ecology & Management/Journal of Range Management Archives*, *47*(1), pp. 48-53.

[217] Erman et al. 1977, Osborne, L.L. and Kovacic, D.A., 1993. Riparian vegetated buffer strips in water-quality restoration and stream management. *Freshwater biology*, *29*(2), pp. 243-258.

[218] Harper, K.T. and Marble, J.R., 1988. A role for nonvascular plants in management of arid and semiarid rangelands. In *Vegetation science applications for rangeland analysis and management* (pp. 135-169).; Springer, Dordrecht., Orodho, A.B., Trlica, M.J. and Bonham, C.D., 1990. Long-term heavy-grazing effects on soil and vegetation in the four corners region. *The Southwestern Naturalist*, pp.9-14.; Schlesinger, W.H., Reynolds, J.F., Cunningham, G.L., Huenneke, L.F., Jarrell, W.M., Virginia, R.A. and Whitford, W.G., 1990. Biological feedbacks in global desertification. *Science*, *247*(4946), pp. 1043-1048.; Bahre, C.J., 1991. *A legacy of change: historic human impact on vegetation in the Arizona borderlands*. University of Arizona Press.

[219] Hendrickson, D.A. and Minckley, W.L., 1985. Cienegas-vanishing climax communities of the American Southwest. *TNHC-Publications*.; Jancovich, J.K., Davidson, E.W., Morado, J.F., Jacobs, B.L. and Collins, J.P., 1997. Isolation of a lethal virus from the endangered tiger salamander Ambystoma tigrinum stebbinsi. *Diseases of Aquatic Organisms*, *31*(3), pp.161-167.; Listing of the Chiricahua Leopard Frog (*Rana chiricahuensis*), Final rule with a special rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 67, No. 114, June 13, 2002, page 40801.; Belsky, A.J., Matzke, A. and Uselman, S., 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and Water Conservation*, *54*(1), pp. 419-431.; Poff, B., Koestner, K.A., Neary, D.G. and Henderson, V., 2011. Threats to riparian ecosystems in Western North America: an analysis of existing literature [Journal of the American Water Resources Association, 47(6)] pp. 1241-1254.

livestock grazing accelerates sedimentation of deep pools used by frogs.[220] Sediment alters primary productivity and fills interstitial spaces in streambed materials with fine particulates that impede water flow, reduce oxygen levels, and restrict waste removal.[221] CLF are also adversely affected by degraded water quality and subsequent toxic effects caused by cattle urine and feces. For example, at Headquarters Windmill Tank on the Coronado National Forest in the Chiricahua Mountains in southeastern Arizona, Sredl et al. (1997) documented cattle impacts at a stock tank that resulted in degraded water quality, including elevated hydrogen sulfide concentrations.[222] A die-off of CLFs at the site was attributed to cattle-associated water quality problems and, as a result, the species has been extirpated from the site.[223] Larval frogs are particularly susceptible to nitrogenous compounds that can be associated with grazing.[224] Toxicity results from high concentrations of un-ionized ammonia, particularly in combination with primary-production induced elevation in pH.[225]

Disruption of metapopulation dynamics is likely an important factor in the regional loss of populations.[226] CLF populations are often small, and their habitats are dynamic, resulting in a relatively low probability of long-term population persistence. Historically, populations were more numerous and closer together. If populations winked out due to drought, disease, or other causes, extirpated sites could be recolonized via immigration from nearby populations. However, as numbers of populations declined and as populations have become more isolated, they are less likely to be recolonized if a local extirpation occurs. Also, most of the larger source populations along major rivers and in cienega complexes have disappeared.[227] When cattle damage streams that connect isolated ponds, frogs cannot disperse and move between breeding sites.

Although the status of CLF in Arizona was considered "roughly stable" with no evidence of decline between 2002 and 2009, the population has been augmented with captive-reared frogs and translocations of egg masses for at least 25 years. In 2020, the Phoenix Zoo celebrated the release of 25,000 captive-reared frogs and tadpoles into the wild since 1995. Without these conservation efforts, CLF might well already have disappeared across much of their residual natural range due to

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[220] Gunderson, D.R., 1968. Floodplain use related to stream morphology and fish populations. The Journal of Wildlife Management, pp. 507-514.

[221] Chapman, D.W., 1988. Critical review of variables used to define effects of fines in redds of large salmonids. Transactions of the American Fisheries Society, 117(1), pp. 1-21.

[222] Sredl, M.J., Howland, J.M., Wallace, J.E. and Saylor, L.S., 1997. Status and distribution of Arizona's native ranid frogs. *Ranid frog conservation and management. Arizona Game and Fish Department, Nongame and Endangered Wildlife Program, Technical Report*, *121*(2002), pp. 45-101.

[223] Listing of the Chiricahua Leopard Frog (*Rana chiricahuensis*), Final rule with a special rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 67, No. 114, June 13, 2002, page 40801.

[224] Schepers, J.S. and Francis, D.D., 1982. *Chemical water quality of runoff from grazing land in Nebraska: I. Influence of grazing livestock* (Vol. 11, No. 3, pp. 351-354). American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America.; Boyer, R. and Grue, C.E., 1995. The need for water quality criteria for frogs. *Environmental Health Perspectives*, *103*(4), pp. 352-357.

[225] Schuytema, G.S. and Nebeker, A.V., 1999. Effects of ammonium nitrate, sodium nitrate, and urea on red-legged frogs, Pacific treefrogs, and African clawed frogs. *Bulletin of Environmental Contamination and Toxicology*, *63*(3), pp. 357-364.

[226] Sredl, M.J. and Howland, J.M., 1994. Conservation and management of Madrean populations of the Chiricahua leopard frog, Rana chiricahuensis.; Sredl, M.J., Howland, J.M., Wallace, J.E. and Saylor, L.S., 1997. Status and distribution of Arizona's native ranid frogs. *Ranid frog conservation and management. Arizona Game and Fish Department, Nongame and Endangered Wildlife Program, Technical Report*, *121*(2002), pp. 45-101.

[227] Reinitiated Biological Opinion on Stocking of Trout at Peña Blanca Lake, Santa Cruz County, Arizona. USFWS document 22410-2010-F-0279R1.

habitat degradation and disease. A review of range-wide CLF population trends has not been conducted since 2011.[228]

Commercial livestock operations on public land have been and continue to be detrimental to CLF. Unfortunately, due to widespread landscape alteration to support this highly prioritized and subsidized industry, CLF are now forced to depend on artificial livestock tanks to meet most of their life history requirements. We do not argue that stock tanks are not presently an important landscape component for CLF. However, we argue that their management needs to be adjusted so that they remain functional in serving their purpose in supporting CLF PCE's and can continually aid in the recovery of CLF. In reference to livestock use of stock tanks, the CLF Recovery Plan states:

> "While livestock and frog use of aquatic sites is generally compatible, careful management of livestock use at tanks occupied by leopard frogs will be essential to recovery. Absent such management, livestock use could result in destruction or deterioration of leopard frog habitat through excessive trampling, destruction of egg masses and vegetation, and fouling of water quality. Livestock use could also inadvertently result in transmission of chytridiomycosis."[229]

The first goal in recovering the species is to reduce or eliminate threats in areas needed for recovery. According to USFWS, "although significant progress has been made, particularly in regard to establishing or reestablishing populations, if on-going recovery actions are interrupted, drought worsens, or other threats intensify, the status of the species could easily deteriorate."[230]

Our 2020 report documented deterioration of leopard frog habitat through trampling, grazing of vegetation, and fouling of water quality. It focused solely on designated CLF critical habitat on public land. Since CLF's listing in 2002, publication of its Recovery Plan in 2007, and designation of critical habitat in 2012, USFS has never implemented a meaningful strategy to protect CLF habitat and PCE's from livestock grazing. With exceedingly few exceptions, USFWS's own recommendations are not being followed, in violation of the Administrative Procedure Act requirement that federal decisions are not "arbitrary, capricious, or an abuse of discretion."[231] For example, in 2008, and updated in 2009, the Southwest Endangered Species Act Team, which included ample agency representation from both USFS and USFWS, produced a report, "Chiricahua leopard frog (*Lithobates* [*Rana*] *chiricahuensis*): Considerations for making effects determinations and recommendations for reducing and avoiding adverse effects," that proposed explicit conservation recommendations to reduce or avoid adverse effects from cattle grazing to CLF occupied habitat.[232]

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[228] Chiricahua Leopard Frog (*Lithobates* [=*Rana*] *chiricahuensis*); 5-Year Review: Summary and Evaluation; USFWS Arizona Ecological Services Office, Phoenix, Arizona, January 2011.

[229] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007, page A-7.

[230] USFWS Chiricahua Leopard Frog 5-Year Review: Summary and Evaluation, 2011, page 16.

[231] 5 USC §706(2)(A).

[232] Chiricahua leopard frog (*Lithobates* [*Rana] chiricahuensis*): Considerations for making effects determinations and recommendations for reducing and avoiding adverse effects, Southwest Endangered Species Act Team, U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office, Albuquerque, New Mexico; December 2008, updated August 31, 2009, 75 pp.

The 2008 report states:

"1. To avoid direct and indirect adverse effects associated with livestock activities:

a. No grazing or livestock management activities will occur in occupied habitat or where the frog is reasonably likely to occur, including aquatic sites and potential dispersal corridors where the frog is reasonably likely to occur.

b. No grazing or livestock management activities will occur in occupied watersheds.

2. To minimize effects (and take) associated with maintenance and livestock use of stock tanks within dispersal distance from occupied sites:

a. All earthen stock tanks within reasonable dispersal distance of occupied habitat will be surveyed for Chiricahua leopard frogs prior to maintenance activities.

b. Where frogs are present in stock tanks needing maintenance, coordinate with the USFWS to develop and implement a site specific plan to either: 1) forego maintenance; 2) salvage and temporarily hold frogs (following recovery plan guidance); 3) limit disturbance and work areas to the minimum practicable (i.e., leave stands of emergent vegetation in place, implement measures to minimize the likelihood of disease transmission); 4) fence portions of the occupied pond or tank (portions may be left unfenced to allow some access by livestock); or 5) otherwise develop a comprehensive plan as part of the proposed action to provide necessary tank maintenance that addresses protection of Chiricahua leopard frogs.

c. Where frogs are present, implement recommendations and guidance provided in the recovery plan for stock tank use and maintenance (Appendix A and I).

3. To minimize adverse effects (and take) associated with grazing within occupied habitat (or habitat where the frog is reasonably likely to occur) that is not already excluded from livestock:

a. Identify habitats and survey suitable habitats for the presence of frogs (using protocol in the recovery plan, Appendix E) prior to livestock entry, or work with USFWS to establish a specified time frame in which surveys will be completed.

b. Where frogs are found, coordinate with USFWS to develop a site-specific plan to either: 1) ensure that Chiricahua leopard frog habitat will be maintained, or 2) preclude grazing from the site. This may involve constructing alternate water source(s) for livestock (see recovery plan, Appendix A).

c. Water shall not be pumped or diverted from a site occupied by Chiricahua leopard frogs.

d. To minimize trampling and/or ingestion of frogs, metamorphosing frogs, larvae, and eggs in occupied habitat, protect stock tanks sufficiently to permit regeneration of emergent and submergent vegetation.

4. To minimize the contamination of occupied Chiricahua leopard frog habitat by non-native species and *Bd* [*Batrachochytrium dendrobatidis*, or amphibian chytrid fungus]:

    a. Where new or existing sites occupied by Chiricahua leopard frogs occur, water shall not be hauled to the site from another aquatic site that supports leopard frogs, bullfrogs, tiger salamanders, crayfish, or fish.

    b. To avoid the transfer of *Bd*, water hauled to occupied sites should originate from sources either within the same drainage as the target site, or preferably from ground water or domestic/treated sources.

    c. The permittees and their employees will be instructed to sanitize (following recovery plan recommendations) or dry out equipment used in maintenance of stock tanks or after other activities occurring in wetland or riparian areas prior to visiting occupied sites to prevent the spread of chytridiomycosis.

    d. When new tanks are to be constructed, coordinate with AGFD or NMDGF and USFWS to identify known locations of non-native aquatic species in relation to the proposed new tanks. Assess the threats and review the locations of the new tanks based on the occurrence of non-native species and their likely dispersal ranges.

    e. Live fish, crayfish, bullfrogs, leopard frogs, salamanders, or other aquatic organisms shall not be intentionally moved by permittees or their employees among livestock tanks or other aquatic sites.

5. To reduce adverse effects to aquatic sites from livestock impacts in surrounding uplands (e.g., sediment input to occupied habitats):

    a. Apply utilization standards (e.g., forage use guidelines) or other accepted methods to ensure upland and riparian vegetation conditions provide filtration of sediments and protect bank stability. Identify a means of monitoring the standard or method and identify action that will be taken to prevent exceeding the standard.

    b. Establish a non-grazed buffer around or along occupied aquatic sites sufficient to adequately filter sediments and excrement generated by livestock use of surrounding uplands.

6. To reduce adverse effects to occupied habitats from other land treatments associated with livestock management (e.g., herbicide application, prescribed fire, road construction), incorporate measures such as buffers around drainages (upstream and downstream of occupied sites), erosion control structures, and buffers around the sites themselves. If herbicides are proposed, use recommendations from White (2004).

7. To reduce adverse effects to frogs that may disperse from occupied sites to unoccupied sites within the action area:

    a. Identify likely or potential dispersal corridors with the assistance of Recovery Team/USFWS personnel. Include uplands, and ephemeral and perennial drainages within accepted dispersal distances.

b. Protect these habitats from livestock use or concentrations of livestock during likely times of dispersal, or minimize impacts from livestock and associated land treatments to these habitats during those times.

8. To promote the conservation of the species, evaluate suitable habitat to identify potential recovery sites, particularly if the grazing allotment lies within a Management Area. Work with USFWS and the Recovery Team to investigate such opportunities. If such sites are identified and are not already considered among habitats where frogs are reasonably likely to occur during the life of the grazing project, protect them as if they were occupied (see Recovery Actions 1.1-1.4 and 2 in the recovery plan) and include them in effects analyses as such."[233]

CLF delisting criteria, according to the Recovery Plan, are presented below. The Chiricahua leopard frog will be considered for delisting when:

> "1. At least two metapopulations located in different drainages (defined here as USGS 10- digit Hydrologic Units) plus at least one isolated and robust population occur in each RU that exhibit long-term persistence and stability (even though local populations may go extinct in metapopulations) as demonstrated by a scientifically acceptable population monitoring program. Interpreting the results of the monitoring program will take into account precipitation cycles of drought or wet periods and the effects of such cycles on population persistence.
>
> 2. Aquatic breeding habitats, including suitable, restored, and created habitats necessary for persistence of metapopulations and robust isolated populations identified in criterion 1, are protected and managed in accordance with the recommendations in this plan.
>
> 3. The additional habitat needed for population connectivity, recolonization, and dispersal is protected and managed for Chiricahua leopard frogs, in accordance with the recommendations in this plan.
>
> 4. Threats and causes of decline have been reduced or eliminated, and commitments for long-term management are in place in each RU such that the Chiricahua leopard frog is unlikely to need protection under the ESA in the foreseeable future."[234]

First and foremost, aquatic breeding habitats are **not** being created and restored. They are also not being protected according to interagency recommendations listed above or the recommendations put forth in the 2007 Recovery Plan:

> "Livestock grazing in and around stock tanks supporting leopard frogs should be managed so as to avoid destruction or excessive deterioration of leopard frog

[233] Id., Section III, pages 19-21.

[234] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007, p. v.

> habitat. This includes: 1) subject to available funding and approval by the participating land manager, fencing of portions of tanks that allows both access for cattle and places where frogs and their habitat will be undisturbed by cattle; 2) avoidance of excessive trampling, especially during frog breeding periods when egg masses are easily destroyed; and 3) appropriate management of the numbers and seasonality of livestock use to avoid excessive sedimentation, erosion, or degradation of water quality."

Second, habitat for dispersal is not being protected and managed for frog recovery. Threats and causes of decline are not being reduced or eliminated. CLF metapopulations are not persisting without human intervention in their reproductive cycle. There has been no meaningful measure to protect and restore habitat, instead CLF conservation focuses solely on captive reproduction and release of doomed individuals.

The April 1, 2010 Biological Opinion[235] does not support CLF long-term persistence and stability. Instead, an entire CLF population and its breeding habitat could be affected or even wiped out for a year without even triggering take, as long as captive-reared frog are released back into the area. And to make matters worse, the ITS fails not only to provide for a dependency on the action itself, the ITS fails to provide for protection of non-stock pond designated riparian Critical Habitat which is directly dependent on the action.

Importantly, cattle exclosures do not extend to designated streams (riparian dispersal corridors), thus hindering CLF movement from one occupied site to another. These important breeding habitat connectors, vital to supporting metapopulation dynamics, are protected using utilization standards. ITS statements for the respective 2007 and 2010 Biological Opinions focus not on protecting designated critical streams, but rather on maintaining pasture fences to ensure rest-rotation schemes can be practice. Thus, USFWS has abrogated its professional and legal responsibility to protect designated riparian Critical Habitat to the Tonto National Forest's scheme of managing the riparian habitat based on cow "forage utilization standards…and rest-rotation grazing activities," which are not applicable for the protection of threatened and endangered riparian species. Furthermore, our surveys document that neither of these inapplicable conservation strategies are even adhered to in practice.

Consequently, both the 2007 and 2010 CLF Incidental Take Statement are arbitrary and capricious and violate the Administrative Procedure Act.[236]

YELLOW-BILLED CUCKOO BACKGROUND AND HABITAT NEEDS

The U.S. Fish and Wildlife Service listed YBC as a Threatened Species in 2014.[237] This listing compiled by USFWS included comprehensive coverage of Yellow-billed Cuckoo dramatic

[235] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[236] 5 USC §706(2)(A).

[237] Rules and Regulations. Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192. October 3, 2014.

habitat loss, fragmentation and degradation, severe widespread population declines, climate change and the number and importance of associated cumulative impacts.[238]

Yellow-billed Cuckoo are facing steep population declines in its western breeding grounds owing primarily to loss of native habitat.[239] Once a fairly common summer resident from throughout Arizona, USFWS concluded that Arizona Yellow-billed Cuckoo populations declined significantly starting in the 1970's and that this was directly paralleled by the decline of its preferred breeding habitat, cottonwood-willow riparian communities.[240] Despite the extraordinary ecological and biodiversity values of riparian ecosystems, these places have been the most disturbed and degraded land type in the western United States.[241]

California historically possessed the greatest number of nesting Yellow-billed Cuckoos north of Mexico. California's Yellow-billed Cuckoo populations have been decimated, predictably following the loss, fragmentation, and degradation of Yellow-billed Cuckoo breeding habitat consisting of mature and contiguous cottonwood-willow riparian gallery forests. Arizona now maintains the largest Yellow-billed Cuckoo populations in the United States even though it is currently experiencing dramatic population declines.[242]

Optimal reproductive habitat and its micro-environments for Yellow-billed Cuckoo have been established, are well known, and are thoroughly documented. Optimal Yellow-billed Cuckoo reproductive habitat consists of very large non-fragmented landscapes of old growth mature cottonwood-willow gallery forest, with dense multistory layers of vegetation in both the subcanopy and ground layers, and the presence of perennial surface water.[243] Range-wide breeding habitat is composed of riparian woodlands within floodplains or in upland areas or terraces often greater than 325 ft (100 m) in width and 200 ac (81 ha) or more in extent ***with an overstory and understory vegetation component in contiguous or nearly contiguous patches*** adjacent to intermittent or perennial watercourses.[244]

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[238] Rules and Regulations. Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192. October 3, 2014.

[239] Wallace, C.S., Villarreal, M.L. and van Riper III, C., 2013. Influence of monsoon-related riparian phenology on yellow-billed cuckoo habitat selection in Arizona. *Journal of Biogeography*, *40*(11), pp.2094-2107.

[240] USFWS. 2013. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (Coccyzus americanus); Proposed Rule. 50 CFR Part 17. Federal Register, Vol. 78, No. 192, Part V. 3 October 2013. Pages 61621-61666.

[241] Bock, C.E., Saab, V.A., Rich, T.D. and Dobkin, D.S., 1993. Effects of livestock grazing on neotropical migratory landbirds in western North America. *Status and management of Neotropical migratory birds. USDA Forest Service, General Technical Report RM-229*, pp.296-309.

[242] Krzysik 2014. Western Yellow-billed Cuckoo Critical Habitat in Arizona. Technical Report. Prescott, AZ 12 October 2014.

[243] Rosenberg, K.V., R.D. Ohmart, W.C. Hunter, and B.W. Anderson. 1991. Birds of the Lower Colorado River Valley. Univ. Arizona Press, Tucson, AZ. 416pp.; Johnson, M.J., S.L. Durst, C.M. Calvo, L. Stewart, M.K. Sogge, G. Bland, and T. Arundel. 2008. Yellow-billed Cuckoo Distribution, Abundance, and Habitat Use Along the Lower Colorado River and its Tributaries, 2007 Annual Report. USGS, Open File Report 2008-1177. 274pp.

[244] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20939.

According to USFWS in their 2021 final determination of critical habitat:

> "As described in the Critical Habitat section, features such as **understory and overstory components with high humidity** are considered important for habitat selection for breeding western yellow-billed cuckoos. This is especially true in ephemeral, tree-lined xeroriparian drainages."[245]

Food availability for Yellow-billed Cuckoo is largely influenced by the health, density, and species composition of understory and overstory vegetation.[246] USFWS has determined the presence of abundant, large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, and dragonflies) and tree frogs during nesting season to be an essential physical or biological feature for this species.[247] In terms of providing foraging opportunities that will ensure Yellow-billed Cuckoo nesting success, understory vegetation or ground cover may be as important as overstory vegetation to suitable western yellow-billed cuckoo habitat. For example:

> "At the ground level, increased forb cover was positively associated with cuckoo site occupancy… low vegetation may also provide an indirect source of food (i.e., an insect breeding and/or feeding ground)… in the South Fork Kern River, cuckoos nested at sites with significantly greater forb cover than was found in the forest at random. Yellow-billed cuckoos feed on a variety of prey, including large macroinvertebrates such as caterpillars, katydids, grasshoppers, crickets, and mantids (Laymon 1980; Halterman 2009), which can be found in this type of habitat (Borror et al. 1989).[248]

Despite the importance of understory vegetation and ground cover to Yellow-billed Cuckoo, especially in their breeding grounds in AZ that are protected with critical habitat designations, cattle grazing degrades these important features in riparian and aquatic habitats throughout the arid Southwest.[249] Overgrazing in riparian (including xeroriparian) habitat has been identified by USFWS as an ongoing threat to Yellow-billed Cuckoo habitat that may require special management,

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[245] Ibid., page 20815.

[246] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48551.

[247] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48552.

[248] Johnson, M.J., S.L. Durst, C.M. Calvo, L. Stewart, M.K. Sogge, G. Bland, and T. Arundel. 2008. Yellow-billed Cuckoo Distribution, Abundance, and Habitat Use Along the Lower Colorado River and its Tributaries, 2007 Annual Report. USGS, Open File Report 2008-1177. 274pp.

[249] Bock, C.E., J.H. Bock, L. Kennedy, and Z.F. Jones. 2007. Spread of non-native grasses into grazed versus ungrazed desert grasslands. Journal of Arid Environments 71:229-235; Bock, C.E., V.A. Saab, T.D. Rich, and D.S. Dobkin. 1993. Effects of livestock grazing on Neotropical migratory land birds in Western North America. Pages 296-309 in Status and Management of Neotropical Migratory Birds. D.M. Finch and P.W. Stangel, editors. USDA, Forest Service, GTR RM-229. 422pp.; Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. Conservation Biology 8:629-644.; Krueper, D.J. 1993. Effects of land use practices on Western riparian ecosystems. Pages 321-330 in Status and Management of Neotropical Migratory Birds. D.M. Finch and P.W. Stangel, editors. USDA, Forest Service, GTR RM-229. 422pp.

especially where water is limited (i.e. the Coronado National Forest critical habitat units). Grazing at any level can impact riparian habitat according to USFWS.[250]

USFWS discusses the full suite of threats to Yellow-billed Cuckoo caused by cow grazing below:

> "(4) Actions that would result in alteration of western yellow-billed cuckoo habitat from overgrazing of livestock or ungulate (for example, horses, burros) management. Such activities could include, but are not limited to, unrestricted ungulate access and use of riparian vegetation; excessive ungulate use of riparian vegetation during the non-growing season (for example, leaf drop to bud break); overuse of riparian habitat and upland vegetation due to insufficient herbaceous vegetation available to ungulates; and improper herding, water development, or other livestock management actions. These activities could reduce the volume and composition of riparian vegetation, prevent regeneration of riparian plant species, physically disturb nests, alter floodplain dynamics, alter watershed and soil characteristics, alter stream morphology, and facilitate the growth of flammable nonnative plant species."[251]

Furthermore, USFWS defines overgrazing as "grazing activity (that) degrades riparian habitat attributes and prevents long-term health and persistence of these systems.[252] In another example, USFWS defines overgrazing as grazing activities that reduce quality and quantity of breeding habitat.[253]

Cattle grazing in Yellow-billed Cuckoo critical habitat, as we document in this Notice, has significantly impacted riparian systems, fouled remaining water, and left little to no herbaceous food and cover for invertebrate communities. We demonstrate that abundant and healthy riparian vegetation is missing from the majority of grazing allotments that contain designated riparian Yellow-billed Cuckoo critical habitat in the Tonto National Forest. Indeed, according to USFWS, habitat degradation associated with poorly managed livestock grazing (generally identified as ''overgrazing'') is a recognized threat in 70 out of 72 (97%) of critical habitat units.[254]

Besides directly affecting Yellow-billed Cuckoo behavior and foraging opportunities, cattle grazing causes loss of riparian regeneration. Loss of riparian habitat regeneration caused by poorly managed grazing is an acknowledged and prominent threat to Yellow-billed Cuckoo by USFWS,[255]

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[250] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20813.

[251] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48571.

[252] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20808.

[253] Ibid., page 20853.

[254] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48558.

[255] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48555.

and the 2014 Yellow-billed Cuckoo ESA listing clearly states that "managing grazing so that native riparian trees and shrubs will regenerate on a regular basis is especially beneficial."[256]

Unfortunately, managing grazing for regeneration is not the case in the Tonto National Forest. As documented in this Notice, cattle are consistently concentrated in riparian zones during the growing season and are removing riparian vegetation down to the roots, leaving bare ground and dust-bowl conditions. These impacts, as demonstrated in this Notice, reasonably fit the definition of overgrazing or poorly-managed grazing and are causing direct and indirect harm to Yellow-billed Cuckoo populations by removing habitat structure and associated prey base.

Diminished riparian vegetation, as observed throughout the Tonto National Forest, negatively affect streamflow processes and impact abundance and distribution of fine sediment deposited on floodplains which is critical for the development, abundance, distribution, maintenance, and germination of trees in the riparian zone that become future Yellow-billed Cuckoo habitat.[257] Riparian vegetation and intact grasses are required to capture sediment during rainy seasons that becomes seedbeds for germination and growth of the riparian vegetation upon which Yellow-billed Cuckoo depend. Significantly grazed riparian zones fail to capture sediment and instead begin to erode. This disruption of stream flow processes ultimately leads riparian forests to senesce, unable to sustain recruitment of the new trees and unable to provide for the varied vegetative structure required for western yellow-billed cuckoo nesting and foraging. [258] Therefore, grazing of the severity that we have observed on the Tonto National Forest has immediate short-term impacts on Yellow-billed Cuckoo fitness as well as long-term impacts that gradually cause the loss of riparian gallery forest.

Functional fencing is direly needed to exclude and better manage authorized livestock than what we are observing in the field. Riparian vegetation should be fully allowed to propagate for the full course of the growing season. Yellow-billed Cuckoo critical habitat should be completely protected from livestock grazing, especially in exceptional drought years. Monitored and maintained cow exclosures of designated Yellow-billed Cuckoo riparian Critical Habitat are essential to ensure survival much less recovery.

USFWS states that "because the western yellow-billed cuckoo is listed as threatened, all the units are occupied during the breeding season and habitat would need to be protected during the nonbreeding season, the majority of actions necessary to conserve the species would be required based on the listing of the western yellow-billed cuckoo."[259] Unfortunately, USFWS admits in its Critical Habitat Designation Notice that they failed to designate all areas with the geographical area occupied by the Yellow-billed Cuckoo:

> "We are not currently designating any areas outside the geographical area occupied by the species because the western yellow-billed cuckoo is found throughout its historical

[256] *Ibid*.

[257] *Id.,* page 48552.

[258] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48552.

[259] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20831.

> range, nor are we designating all areas with the geographical area occupied by the species."[260]

To make matters worse, Yellow-billed Cuckoo habitat protection exists only on paper, not in practice. Based on the impacts of current authorized actions, as illustrated in this Notice, Yellow-billed Cuckoo are reasonably expected to continue declining until an uplisting to "Endangered" ESA status will be required.

SOUTHWESTERN WILLOW FLYCATCHER BACKGROUND AND HABITAT NEEDS

The southwestern willow flycatcher (*Empidonax traillii extimus)* ("WFC") was listed as federally endangered in 1995 and received a Recovery Plan in 2002.[261] This small bird breeds in dense riparian habitats in the southwestern United States, requiring relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes and reservoirs.[262]

The southwestern willow flycatcher has experienced extensive loss and modification of breeding habitat which has resulted in a similarly extensive loss of individuals within the population. Destruction and modification of riparian habitats have been caused by a variety of human actions and one known threat that is ongoing is grazing livestock in riparian systems[263], especially when this practice occurs in the riparian growing season or in the nesting season for WFC.

The first and foremost recovery action listed in the 2002 WFC Recovery Plan is to increase and improve occupied, suitable, and potential breeding habitat.[264] Immediately, the Tonto National Forest has failed to perform basic recovery action inside of designated WFC critical habitat, and has instead aided in the destruction of occupied, suitable, and potential breeding habitat by allowing cattle to degrade WFC critical habitat areas, including the Tonto Creek Riparian Unit (an area set aside for mitigating loss of WFC nesting sites following modification of Roosevelt Reservoir).

In the 2002 WFC Recovery Plan, 'Appendix G' focuses specifically on "*Management of Livestock Grazing in the Recovery of the Southwestern Willow Flycatcher*". This important analysis and discussion

> "the primary responsibility of the Technical Subgroup is to chart the recovery of the southwestern willow flycatcher. The goal of a recovery plan is to recommend actions that will bring about recovery of a species. The evidence and field examples indicate that with respect to livestock grazing, southwestern willow flycatcher recovery would be most assured, and in the shortest time, with total exclusion of livestock grazing

[260] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20846.

[261] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico.

[262] *Id.,* page. iv.

[263] *Ibid.*

[264] *Id.,* page. v.

from those riparian areas that are deemed necessary to recover the flycatcher and where grazing has been identified as a principal stressor."

According to the Recovery Plan, "If livestock grazing is a major stressor, implement general livestock grazing guidelines from Appendix G in currently suitable or potentially suitable habitat." [265] According to Appendix G and the recommendations of the WFC Technical Subgroup of experts on the species, there should be no grazing in any 'restorable or regenerating habitat', whether occupied or unoccupied, during the growing season for vegetation. Even during the non-growing season, there should be no grazing in nesting habitat characterized by low stature (3-4m willows) and only provisional grazing in all other habitat types (assuming that grazing is not a significant stressor). [266]

Therefore, despite the recommendations stated in the Recovery Plan for WFC, the Tonto National Forest is negating its responsibilities to assist in the recovery of this imperiled bird by continually greenlighting destructive land use activities.

NORTHERN MEXICAN AND NARROW-HEADED GARTER SNAKE GARTER SNAKE BACKGROUND AND HABITAT NEEDS

Both NMGS and NHGS are native Arizona reptiles that have declined dramatically throughout their range, reflected by widespread reductions of extant populations as well as local extirpations.[267] The northern Mexican gartersnake and the narrow-headed gartersnake are each highly imperiled as a consequence of habitat destruction, modification and fragmentation; introduction and proliferation of non-native species; small and poorly-connected populations vulnerable to inbreeding depression; and climate change and associated drought.[268]

Although northern Mexican gartersnakes have been found in a variety of vegetation types within the riparian zone (i.e., grasses, shrubs, and wetland plants), the underlying characteristic of this habitat needed by the gartersnake appears to be dense vegetation or other natural structural components that provide cover for the species[269]. Northern Mexican gartersnakes use habitats with perennial stream flow in northern Arizona, but outside of water are observed concealed under dense vegetative most of the time.[270]

According to the April 28, 2020, proposed rule for Northern Mexican gartersnake critical habitat designation[271], the Primary Biological Features required by the snakes include:

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[265] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico page. 114.

[266] *Id*., Table 2 at page G-27.

[267] Brennan, Thomas C., and Andrew T. Holycross. Field guide to amphibians and reptiles in Arizona. Arizona Game and Fish Dept., 2006.

[268] Wood, D.A., Emmons, I.D., Nowak, E.M., Christman, B.L., Holycross, A.T. and Vandergast, A.G., 2018. Conservation genomics of the Mogollon Narrow-headed gartersnake (Thamnophis rufipunctatus) and Northern Mexican gartersnake (Thamnophis eques megalops) (No. 2018-1141). US Geological Survey.

[269] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23615.

[270] *Ibid*., page 23617.

[271] *Ibid.,* page 23623-4.

1. "Perennial or spatially intermittent streams that provide both aquatic and terrestrial habitat that allows for immigration, emigration, and maintenance of population connectivity of northern Mexican gartersnakes and contain:

(A) Slow-moving water (walking speed) with in-stream pools, off-channel pools, and backwater habitat;

(B) Organic and natural inorganic structural features (e.g., boulders, dense aquatic and wetland vegetation, leaf litter, logs, and debris jams) within the stream channel for thermoregulation, shelter, foraging opportunities, and protection from predators;

(C) Terrestrial habitat adjacent to the stream channel that includes riparian vegetation, small mammal burrows, boulder fields, rock crevices, and downed woody debris for thermoregulation, shelter, foraging opportunities, brumation, and protection from predators; and

(D) Water quality that is absent of pollutants or, if pollutants are present, at levels low enough such that recruitment of northern Mexican gartersnakes is not inhibited."[272]

"6. Lentic wetlands including offchannel springs, cienegas, and natural and constructed ponds (small earthen impoundment) with:

(A) Organic and natural inorganic structural features (e.g., boulders, dense aquatic and wetland vegetation, leaf litter, logs, and debris jams) within the ordinary high water mark for thermoregulation, shelter, foraging opportunities, brumation, and protection from predators;

(B) Riparian habitat adjacent to ordinary high water mark that includes riparian vegetation, small mammal burrows, boulder fields, rock crevices, and downed woody debris for thermoregulation, shelter, foraging opportunities, and protection from predators; and

(C) Water quality that is absent of pollutants or, if pollutants are present, at levels low enough such that recruitment of northern Mexican gartersnakes is not inhibited.

7. Ephemeral channels that connect perennial or spatially intermittent perennial streams to lentic wetlands in southern Arizona where water resources are limited." [273]

For these specified habitat features, cow grazing can directly result in negative impacts to riparian ecosystems, cienegas and other wetlands. Cow grazing affects small stream channels and

[272] *Id.*
[273] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23623-4.

backwater pools by chiseling and trampling banks and shorelines, results in removal of dense vegetation that decreases shelter, cover, foraging opportunities and protection from predators, and also leads to trampled and vegetatively diminished uplands and water quality fouled by feces.

According to USFWS, "Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may violate 7(a)(2) of the Act by destroying or adversely modifying such habitat, or that may be affected by such designation. Activities that the Services may, during a consultation under section 7(a)(2) of the Act, find are likely to destroy or adversely modify critical habitat include, but are not limited to:"[274]

> 1) "Actions that would significantly increase sediment deposition or scouring within the stream channel or pond that is habitat for the northern Mexican or narrow-headed gartersnake, or one or more of their prey species within the range of either gartersnake species. Such activities could include, but are not limited to: Poorly managed livestock grazing…"[275]
>
> 2) "Actions that would alter water chemistry beyond the tolerance limits of a gartersnake prey base. Such activities could include…biological pollutants… livestock grazing that results in waters heavily polluted by feces;"[276]
>
> 3) "Actions that would remove, diminish, or significantly alter the structural complexity of key natural structural habitat features in and adjacent to aquatic habitat." [277]

This NOI presents new information that cattle grazing on the Tonto National Forest has resulted in adverse modification of riparian garter snake habitat that has been designated as critical to recovering these species.

USFWS states that maintaining fencing and managing trespass cattle limits grazing of riparian pastures to the non-growing season and lessens impacts to proposed critical habitat;[278] however, this is not adequate as we document in this Notice that such simple cattle management either isn't happening and/or isn't monitored or enforced on the Tonto. Because of the absence of management plans or conservation agreements that meaningfully conserve the physical and biological features upon which these garter snakes depend,[279] cow grazing must be excluded in all riparian areas designated as critical habitat. Imperiled garter snakes will ultimately depend on riparian restoration, not degradation, as we will illustrate in this Notice. Grazing activities result in a reduction of the amount or distribution of these key habitat features that are important for garter snake thermoregulation, shelter, protection from predators, and foraging opportunities. Based on our

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[274] *Ibid.,* page 23633.

[275] *Id.*

[276] *Id.*

[277] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23633.

[278] *Ibid.,* page 23641.

[279] Nowak, E.M. and Santana-Bendix, M.A., 2002. Status, distribution and management recommendations for the narrow-headed gartersnake (Thamnophis rufipunctatus) in Oak Creek, Arizona. Arizona Game and Fish Department.

recent habitat surveys, cow grazing activities are continually diminishing riparian ecosystems on which these imperiled native reptiles depend and should no longer be allowed to continue in riparian areas designated as critical habitat.

SPIKEDACE BACKGROUND AND HABITAT NEEDS

The spikedace (*Meda fulgida*) is a small cyprinid that historically ranged throughout most of the Gila River's major tributaries in Arizona, New Mexico, and Sonora[280]. Spikedace were listed as threatened in 1986 with critical habitat designated on April 25, 2000[281]. Spikedace have declined markedly in distribution and abundance throughout its range. By 1996, spikedace were extirpated from over 85 percent of its historic range,[282] and declines continue. Currently, remnant subpopulations in the upper Verde River, Eagle Creek, and Aravaipa Creek in Arizona, and the Gila River in New Mexico occupy a mere six percent of the species' former range.[283]

Spikedace occupy stream habitats usually less than a meter deep, with slow to moderate water velocities over sand, gravel, or cobble substrates.[284] Adults often aggregate in shear zones along gravel-sand bars where rapid water borders slower flow, quiet eddies on the downstream edges of riffles, and broad shallow areas above gravel-sand bars. A dynamic diversity of instream zones (eddies, riffles, broad shallow gravel bars adjacent to fast flowing water) and periodic, recurrent flooding are essential to the feeding and reproduction of the spikedace by scouring the sands and keeping gravels clean.[285] Spikedace larvae and juveniles tend to occupy shallow, peripheral portions of streams that have slow currents and sand or fine gravel substrates but will also occupy backwater habitats.

Distribution and abundance of spikedace has declined due to riparian degradation, water diversion, groundwater pumping, and introduction and spread of non-native predatory and competitive fishes.[286] According to USFWS, any activity that affects sedimentation, water quality, and removal of riparian vegetation (i.e. cattle grazing), can affect spikedace habitat quality and should be avoided or corrected.[287] Unfortunately, all remaining potential spikedace habitat (including critical habitat) on the Tonto National Forest is suboptimal for spikedace because of

[280] Propst, D.L., Bestgen, K.R. and Painter, C.W., 1986. *Distribution, status, biology, and conservation of the spikedace (Meda fulgida) in New Mexico*. US Fish and Wildlife Service.
[281] Federal Register / Vol. 72, No. 54 / Wednesday, March 21, 2007 / Rules and Regulations. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Spikedace (Meda fulgida) and the Loach Minnow (Tiaroga cobitis).
[282] The October 24, 2002, Biological Opinion for Continuation of Livestock Grazing on the Coronado National Forest (2-21-98-F-399-R1) pg. 23.
[283] Anderson, Allison A., and A. Hendrickson. "Geographic Variation in Morphology of Spikedace, Meda Fulgida, in Arizona and New Mexico." *The Southwestern Naturalist*, vol. 39, no. 2, 1994, pp. 148–155. *JSTOR*, www.jstor.org/stable/3672239. Accessed 4 Aug. 2021.
[284] Propst, D.L., Bestgen, K.R. and Painter, C.W., 1986. *Distribution, status, biology, and conservation of the spikedace (Meda fulgida) in New Mexico*. US Fish and Wildlife Service.
[285] Propst, D.L., Bestgen, K.R. and Painter, C.W., 1986. *Distribution, status, biology, and conservation of the spikedace (Meda fulgida) in New Mexico*. US Fish and Wildlife Service.
[286] Propst, D.L., Bestgen, K.R. and Painter, C.W., 1986. *Distribution, status, biology, and conservation of the spikedace (Meda fulgida) in New Mexico*. US Fish and Wildlife Service.
[287] The October 24, 2002, Biological Opinion for Continuation of Livestock Grazing on the Coronado National Forest (2-21-98-F-399-R1) pg. 23.

physical habitat degradation and the presence of non-native fish.[288] Degraded aquatic habitat is a major factor in the establishment and domination by non-native fish.

Furthermore, "…allotments, **especially those in the Tonto Creek and Salt River watersheds**, have contributed to the current habitat degradation."[289]

RAZORBACK SUCKER BACKGROUND AND HABITAT NEEDS

Endangered Razorback Sucker (*Xyrauchen texanus,* "RBS") were listed on October 23, 1991[290], with critical habitat designated on March 21, 1994.[291] RBS received a Recovery Plan in 1998.[292]

A relatively large, endemic fish of the Colorado River basin, RBS was once abundant and widespread but has been extirpated from most of its geographic range. Populations declined due to alteration, fragmentation and degradation of freshwater streams and rivers. Predation of RBS fry by nonnative fishes also played an important role in the demise of RBS, and between predation and habitat loss very few RBS are able to reach adulthood.

An integral part of preventing additional RBS extirpation and extinction is ensuring that habitat exists for RBS to complete its life history needs, including quiet backwater tributaries that serve as nurseries for fry. An example of a potential nursery creek is Cherry Creek on the Dagger allotment, and this stream is designated RBS critical habitat. Cherry Creek is a tributary to the Salt River, where RBS have been reintroduced since 1981.[293] Delisting of RBS will not be possible until populations are secure and connected, and RBS can persist in the wild reproducing and recruiting into the breeding population without human intervention.

Augmenting RBS populations with captive-reared individuals is an imperative strategy to save RBS, but so is protection and restoration of potential RBS habitat so that expansion of existing and reestablished populations can occur. This restoration logically includes habitat that has been legally designated as vital to RBS survival and recovery. There is no room for significant cow grazing impacts to occur in potential RBS nursery tributaries.

GILA CHUB BACKGROUND AND HABITAT NEEDS

Gila Chub were granted Endangered species status in 2005 and received critical habitat designation concurrently with their listing.[294] Historically, Gila Chub (*Gila intermedia*, "GC") were

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[288] The February 28, 2002, Biological Opinion for On-Going And Long-Term Grazing On The Tonto National Forest (2-21-99-F-300) pg. 25.

[289] I*d.*

[290] 56 FR 54957

[291] 59 FR 13374

[292] USFWS. Razorback Sucker (*Xyrauchen texanus*) Recovery Plan. Denver, Colorado, 81pp.

[293] Correspondence to Tonto Regional Forester Charles W. Cartwright Jr. from Arizona Field Supervisor Sam F. Spiller; RE: December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl and Bald Eagle from the Proposed Region # Management Activities. AESO/SE #2-21-92-F-693, page 10.

[294] USFWS. Rules and Regulations. Listing Gila Chub as Endangered With Critical Habitat; Final Rule. Federal Register Vol. 70, No. 211. Wednesday, November 2, 2005.

found in approximately 43 rivers, streams, and spring-fed tributaries throughout the Gila River basin in southwestern New Mexico, central and southeastern Arizona, and northern Sonora, Mexico[295] but now occur in only 10-15% of their former range. GC require perennial pools, uncontaminated water or an appropriate temperature, healthy instream and riparian vegetation and a natural hydrologic regime[296] all of which are impacted and altered by grazing cattle[297]

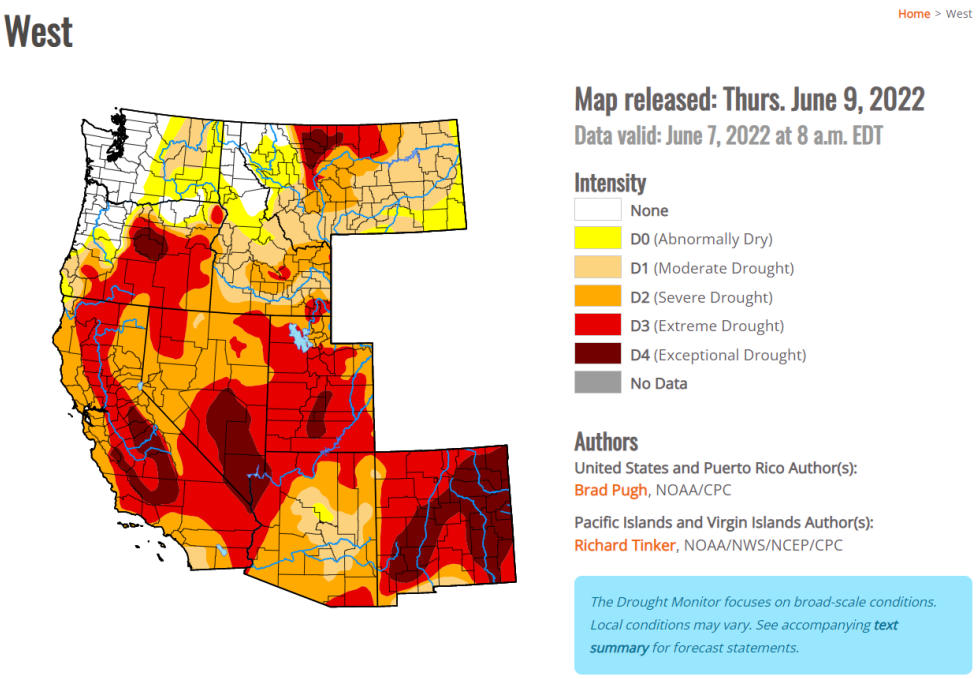
Riparian and aquatic communities across the southwest have been lost, degraded and destroyed by human activities. By the late 1800s, many southern Arizona watersheds were in poor condition due in part to livestock grazing.[298] Watershed degradation, caused by colonial management practices, ultimately led to widespread erosion and channel entrenchment, which then led to long-term stream, cienega, and riparian habitat degradation that continues today due to the very same causes.

Small, isolated populations cause GC to be highly susceptible to threats, including habitat degradation from livestock.[299] In an extensive 2004 survey of impaired riparian zones in southeastern Arizona, Stefferud and Stefferud (2004)[300] provide several examples of how small, arid-land streams can heal following cattle exclusion, including improvement in vegetative cover, stream function and extent of perennial water. GC and other native, imperiled fish will ultimately require this management action to persist in a hotter and drier climate.

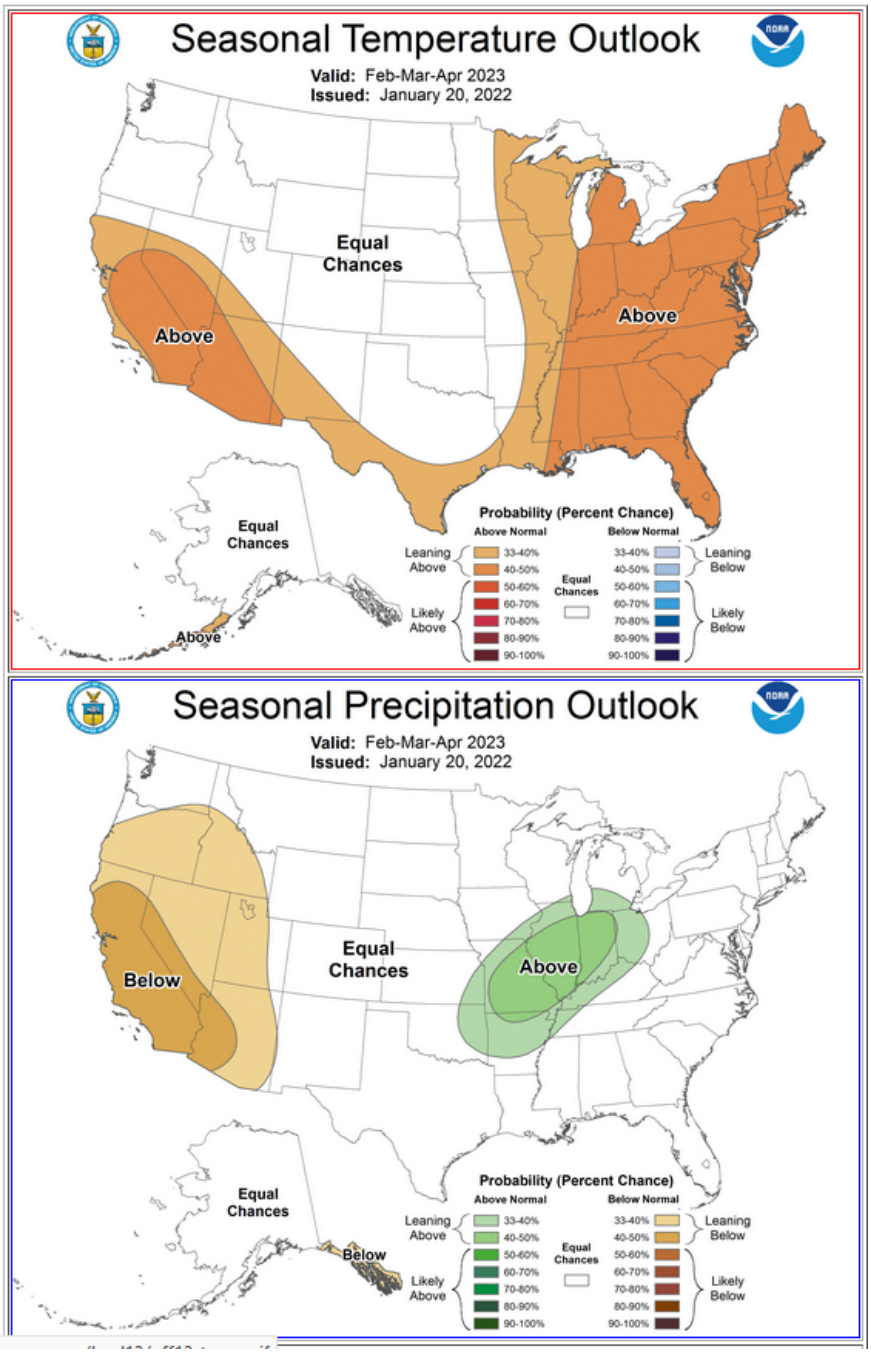
[295] *Ibid.*
[296] *Ibid.*
[297] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.
[298] USFWS. Rules and Regulations. Listing Gila Chub as Endangered With Critical Habitat; Final Rule. Federal Register Vol. 70, No. 211. Wednesday, November 2, 2005.
[299] *Ibid.*
[300] Jerome A. Stefferud Sally E. Stefferud 2004. Aquatic and Riparian Surveys of Selected Stream Courses on Sierra Vista and Nogales Ranger Districts, Coronado National Forest, Cochise and Santa Cruz Counties, Arizona.

RIPARIAN DEPENDENT ENDANGERED SPECIES HABITAT NEEDS WITH CLIMATE CHANGE AND DROUGHT

Worsening climate change and the Southwest's resulting persistent and increasing temperatures and drought are particularly concerning where the Tonto National Forest manages designated riparian Critical Habitat by a scheme based on the use of cow grazing utilization metrics to govern habitat conditions; metrics that do not protect riparian dependent endangered species.



This is a problem short term (https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?West above).



This is also a problem in the longer term (https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=13:, above). There is no evidence to suggest climate trends will improve.[301]

As Beschta *et al*. note:

> "The combined effects of ungulates (domestic, wild, and feral) and a changing climate present a pervasive set of stressors on public lands, which are significantly

[301] Large contribution from anthropogenic warming to an emerging North American megadrought, A. Park Williams, et al.; Science 368, 314-318; April 17, 2020.

different from those encountered during the evolutionary history of the region's native species. The intersection of these stressors is setting the stage for fundamental and unprecedented changes to forest, arid, and semi-arid landscapes in the western US (Table 1) and increasing the likelihood of alternative states. Thus, public-land management needs to focus on restoring and maintaining structure, function, and integrity of ecosystems to improve their resilience to climate change (Rieman and Isaak 2010)."[302]

And as Donahue summarized,

"Livestock grazing exacerbates the effects of climate change on the public lands, hinders the ability of ecosystems to adapt to climate change, and contributes to climate change as a result of methane emissions and reduced potential of soils to sequester carbon.[303]

And as USFWS' lead Yellow-billed Cuckoo species expert reported in "Grazing Impacts Input"[304]:

"**As drought and climate change progress and livestock grazing continues, the riparian and xero-riparian shrub and tree recruitment and survival will diminish. Riparian and xero-riparian tree and shrub cover in drainage bottoms will diminish unless offsetting actions are taken**."[305]

"**A single summer of above average monsoon rain does not compensate for years of drought and livestock impacts. Reducing/eliminating livestock access to ephemeral, intermittent, and perennial drainages following these rare periods of good rainfall will allow tree and shrub seedlings to grow and survive**."[306]

"**Livestock grazing and climate change both contribute toward reduced overstory and subcanopy cover** and/or conversion to more arid adapted tree species in ephemeral, intermittent, and perennial drainages. **We cannot control climate change, but we can control livestock impacts from grazing, trampling, erosion, and soil compaction**."[307]

Currently, the Biological Opinions in use on Tonto National Forest cow grazing allotments continue to fail to utilize and acknowledge the "best scientific data available"[308] as required by law to analyze and to incorporate the deleterious combined effects of cows and climate change on designed riparian Critical Habitat. The Tonto is also failing to monitor exclusion and boundary

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[302] Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild and Feral Ungulates; Robert L. Beschta, Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, and Cindy Deacon Williams, Environmental Management (2013) 51:474-491.

[303] Livestock Production, Climate Change, and Human Health: Closing the Awareness Gap, Debra L. Donahue, Environmental Law Reporter, 45 ELR 11112, 12-2015, http://ssrn.com/abstract=2696741; citing: *See, e.g.*, Beschta et al., *supra* note 59, at 476-81; Ripple et al., *supra* note 2, at 2, 3. Almost nothing is known, however, about the ability of shrublands to sequester carbon. *See* Jack A. Morgan et al., *Carbon Sequestration in Agricultural Lands of the United States*, 65 J. Soil & Water Conservation 6A, 7A (2010), doi:10.2489/jswc.65.1.6A. This is a "critical research need," *see id.*, particularly since shrubs dominate large areas of the public lands.

[304] Grazing Impacts Input, Susan Sferra, November 11, 2021.

[305] *Id.,* page 1.

[306] *Id*., page 2.

[307] *Id*., page 3.

[308] 16 U.S.C. § 1533(b)(2).

fences and failing to monitor and enforce grazing rules and restrictions for permittees. In doing so, the Forest Service palpably neglects their lawful duty to conserve.

GENERAL ENDANGERED SPECIES ACT VIOLATIONS

Section 7 of the ESA requires federal agencies, in consultation with USFWS, to ensure that any action authorized, funded, or carried out by the agency is not likely to (1) jeopardize the continued existence of any threatened or endangered species, or (2) result in the destruction or adverse modification of the critical habitat of such species. 16 U.S.C. § 1536(a)(2). "Action" is broadly defined to include all activities or programs of any kind authorized, funded, or carried out by federal agencies, including actions directly or indirectly causing modifications to the land, water, or air; and actions intended to conserve listed species or their habitat. 50 C.F.R. § 402.02.

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with the USFWS, to "carry[] out programs for the conservation" of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." Sierra Club v. Glickman, 156 F.3d 606,616 (5th Cir. 1998); accord Pyramid Lake Paiute Tribe, 898 F.2d at 1416-17 (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the ESA to mean recovery, i.e., the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary." 16 U.S.C § l 536(a)(1).

For each proposed federal action, the action agency must request from USFWS whether any listed or proposed species may be present in the area of the agency action. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12. If listed or proposed species may be present in such area, the action agency must prepare a "biological assessment" to determine whether the listed species may be affected by the proposed action. Id. If the action agency determines that its proposed action may affect any listed species or critical habitat, the agency must engage in formal consultation with USFWS. 50 C.F.R. § 402.14. To complete formal consultation, USFWS must provide the action agency with a "biological opinion" explaining how the proposed action will affect the listed species or habitat. 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14.

If USFWS concludes that the proposed action will jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat, the biological opinion must outline "reasonable and prudent alternatives." 16 U.S.C. § 1536(b)(3)(A). If USFWS concludes in the biological opinion that the action is not likely to jeopardize the continued existence of a listed species, and will not result in the destruction or adverse modification of critical habitat, USFWS must provide an "incidental take statement" ("ITS"), specifying the amount or extent of such incidental taking on the listed species, any "reasonable and prudent measures" that USFWS considers necessary or appropriate to minimize such impact, and setting forth the "terms and conditions" that must be complied with by the BLM to implement those measures. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i).

The reinitiation of consultation is required and must be requested by the action agency or USFWS if discretionary federal involvement or control over the action has been retained or is

authorized by law and (1) the amount or extent of taking specified in the ITS has been exceeded; (2) new information reveals effects of the action that may affected listed species or critical habitat in a manner or to an extent not previously considered; (3) the action is modified in a manner that causes an effect to a listed species or critical habitat that was not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the identified action. 50 C.F.R. § 402.16(a).

To monitor the impacts of incidental take, the action agency must monitor and report the impact of its action on the listed species to USFWS as specified in the ITS. 16 U.S.C. § 1536(b)(4); 50 C.F.R. §§ 402.14(i)(1)(iv), 402.14(i)(3). If during the course of the action, the amount or extent of incidental taking is exceeded, the action agency must reinitiate consultation with USFWS immediately. 50 C.F.R. § 401.14(i)(4).

Section 9 of the ESA and its implementing regulations prohibit the unauthorized "take" of listed species. 16 U.S.C. § 1538(a)(1); 16 U.S.C. § 1533(d); 50 C.F.R. § 17.31. "Take" is defined broadly to include harming, harassing, trapping, capturing, wounding or killing a protected species either directly or by degrading its habitat. 16 U.S.C. § 1532(19). Taking that is in compliance with the terms and conditions specified in a biological opinion is not considered a prohibited taking under Section 9. 16 U.S.C. § 1536(o)(2).

In addition, action agencies, such as USFS must ensure their own compliance with the ESA; an action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species" merely by relying upon a BiOp, concurrence, or other consultation document issued by the USFWS. Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy, 898 F.2d 1410, 1415 (9th Cir. 1990).

FAILURE TO ADEQUATELY PROTECT CHIRICAHUA LEOPARD FROG AND ITS CRITICAL HABITAT

Permitted cattle grazing has significantly damaged designated riparian CLF Critical Habitat in the Tonto National Forest, with cows removing vegetation and defecating in riparian areas and ponds that the frogs depend on for dispersal, survival, and reproduction.

Many riparian areas specifically set aside to recover an imperiled frog were so significantly trampled and polluted by cattle that their function as breeding habitat is diminished. Designated riparian Critical Habitat is not being adequately protected as the Tonto National Forest. With USFWS concurrence, the Tonto National Forest manages designated riparian CLF Critical Habitat by a scheme based on the use of cow grazing utilization metrics that do not protect riparian dependent endangered species to govern habitat conditions. In addition, the Tonto has avoided providing protective Critical Habitat riparian exclosures for CLF.

The few isolated exceptions show that it is possible to maintain, improve and recover wetland ecosystems that support CLF, but only if cattle are kept out of these areas.

USFWS, in its 2007, CLF Recovery Plan, acknowledges that degradation of CLF habitat is a known threat, along with invasive species and the fungus, *Batrachochytrium dendrobatidis* or "Bd":

> "Documented threats to the Chiricahua leopard frog were described in the final listing rule as they pertain to the five listing factors of the ESA (67 FR 40790) and are expanded upon herein. The five listing factors discussed in that rule include: A) the present or threatened destruction, modification, or curtailment of its habitat or range; B) overutilization for commercial, recreational, scientific, or educational purposes; C) disease or predation; D) the inadequacy of existing regulatory mechanisms; and E) other natural or manmade factors affecting its continued existence. Of these, threats associated with factor C are the most important to the Chiricahua leopard frog, including predation by non-native organisms, especially American bullfrogs, fish, and crayfish, and an often lethal, apparently introduced fungal disease (chytridiomycosis). Also of importance are degradation and loss of habitat as a result of water diversions and groundwater pumping, livestock management that degrades frog habitat…"[309]

USFWS defined "'poor' livestock management"' in its March 20, 2012, designation of Critical Habitat:

> "We consider poor livestock management to mean grazing conducted in a manner not in accordance with approved allotment management plans **or otherwise considered adverse to maintaining natural habitat characteristics**."[310]

In its March 20, 2012, Final Rule to Designate Critical Habitat, USFWS says:

> "Chiricahua leopard frogs are fairly tolerant of variations in water quality, but likely do not persist in waters severely polluted with cattle feces."[311] …

But, ignoring this threat to leopard frog persistence, USFWS also says:

> "We understand that in most circumstances where frogs occur in tanks actively used by livestock, livestock feces are likely present in the water, and frogs are not appreciably affected by their presence. We also acknowledge the potential that in tanks that have limited water and are subjected to intense livestock activity, adverse affects to the Chiricahua leopard frog are likely from concentrated amounts of livestock feces, which could limit a population's persistence … we are not requiring ranchers to manage their livestock tanks specifically with this factor in mind…"[312]

[309] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007, page 19.

[310] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16328.

[311] *Ibid*.

[312] *Ibid.*

Our surveys documented numerous instances of feces-polluted water. As an example, Trail Tank on the Red Lake Allotment, Pleasant Valley Ranger District on the Tonto National Forest:

Grazed CLF Critical Habitat in the Red Lake allotment, Tonto National Forest Pleasant Valley Ranger District. Location: 34.17625, -110.81234, September 3, 2020.

Primary Constituent Elements ("PCEs") are the elements of physical or biological features that together provide for a species' life history processes and are essential to the conservation and recovery of CLF.[313] According to the USFWS,

> "The purpose of the designation of Critical Habitat is to conserve the PCEs essential to the conservation of the species through the identification of the appropriate quantity and spatial arrangement of the PCEs sufficient to support the life-history functions of the species….Each of the areas designated as Critical Habitat have been determined to

[313] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, pages 16340 and 16343.

contain sufficient PCEs, or with reasonable effort, PCEs can be restored to provide for one or more of the life-history functions of the Chiricahua leopard frog."[314]

As an example of the loss of these PCEs, please note the following images of designated critical habitat on the Red Lake allotment, Tonto National Forest Pleasant Valley Ranger District. Even though designated as Critical Habitat, except for the presence of water, the PCEs have been destroyed by cows:

Grazed CLF Critical Habitat in the Red Lake allotment, Tonto National Forest Pleasant Valley Ranger District. The pond has a non-functioning exclosure fence. Location: 34.14858, -110.83114, September 3, 2020.

[314] Correspondence to Coronado National Forest Supervisor Kerwin Dewberry, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: impacts that may result from the proposed Coronado National Forest (CNF) Revised Land and Resource Management Plan (LRMP) located in Cochise, Graham, Pima, Pinal, and Santa Cruz Counties, Arizona, and Hidalgo County, New Mexico; AESO/SE 02EAAZ00-2015-F-0347, R2/TE 2012-F-0005, R2/TE 2-22-03-F-366, Region 2/ES/SE-000087RO, April 13, 2017, page 73.

The April 1, 2010 Biological Opinion[315] do not support CLF long-term persistence and stability. These Biological Opinions rely primarily on unmonitored and unenforced exclosure and pasture fences, as well as utilization and rest-rotation schemes to protect frog populations. We document in this Notice numerous examples of supposedly off-limit riparian zones significantly impacted by cattle and cattle feces and show that vaguely described utilization and rest-rotation schemes are not monitored or enforced. And to make matters worse, the ITS fails not only to provide for a dependency on the action itself, the ITS fails to provide for protection of non-stock pond designated riparian Critical Habitat which is directly dependent on the action.

Threats and causes of decline are not being reduced or eliminated. CLF metapopulations are not persisting without human intervention in their reproductive cycle. There has been no meaningful measure to protect and restore habitat, instead conservation focuses solely on captive reproduction and release of doomed individuals. Indeed, according to the April 1, 2010, Biological Opinion,[316] an entire CLF population and its breeding habitat could be affected or even wiped out for a year without even triggering take, as long as captive-reared CLF are released back into the area. Consequently, both the 2007 and 2010 CLF Incidental Take Statement are arbitrary and capricious and violate the Administrative Procedure Act.[317]

[315] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[316] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[317] 5 USC §706(2)(A).

FAILURE TO ADEQUATELY PROTECT YELLOW-BILLED CUCKOO AND ITS CRITICAL HABITAT

Grazing has long been recognized as a detriment to the reproduction of riparian trees.[318,319,320,321,322,323,324,325,326,327] For example, cattle interfere directly with the cottonwood tree's life cycle, and thus cattle presence can directly preclude cottonwood recruitment and forest regeneration.[328,329,330,331] Such impacts of cattle grazing on riparian vegetation are magnified in arid and semi-arid regions[332,333] and are one of the main causes of Yellow-billed Cuckoo declines.[334]

Cattle impacts are often most severe in riparian areas because available water, shade and forage causes cattle to congregate in riparian areas 5-30 times longer than in adjacent uplands.[335]

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[318] Crouch, G.L., 1979. Long-term changes in cottonwoods on a grazed and an ungrazed plains bottomland in northeastern Colorado (Vol. 370). US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

[319] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[320] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[321] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[322] Carothers, S.W., 1977. Importance, preservation, and management of riparian habitats: an overview. In *Importance, preservation, and management of riparian habitats: a symposium. USDA Forest Service General Technical Report RM-43* (pp. 2-4).

[323] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In *California Riparian Systems* (pp. 97-108). University of California Press.

[324] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.

[325] Kauffman, J.B., Krueger, W.C. and Vavra, M., 1983. Effects of late season cattle grazing on riparian plant communities. *Rangeland Ecology & Management/Journal of Range Management Archives*, *36*(6), pp.685-691.

[326] Carothers, S.W., 1977, July. Importance, preservation, and management of riparian habitats: an overview. In *Importance, preservation, and management of riparian habitats: a symposium. USDA Forest Service General Technical Report RM-43* (pp. 2-4).

[327] Ames, C.R., 1977. in Riparian Management: Grazing'. In *Importance, Preservation and Management of Riparian Habitat: A Symposium, Tucson, Arizona, July 9, 1977* (Vol. 43, p. 49). Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

[328] Ames, C.R., 1977. in Riparian Management: Grazing'. In *Importance, Preservation and Management of Riparian Habitat: A Symposium, Tucson, Arizona, July 9, 1977* (Vol. 43, p. 49). Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

[329] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[330] Kalischuk, A.R., Rood, S.B. and Mahoney, J.M., 2001. Environmental influences on seedling growth of cottonwood species following a major flood. *Forest Ecology and Management*, *144*(1-3), pp.75-89.

[331] Stromberg, J.C., 1997. Growth and survivorship of Fremont cottonwood, Goodding willow, and salt cedar seedlings after large floods in central Arizona. *The Great Basin Naturalist*, pp.198-208.

[332] Raleigh, R.F., 1979. Grazing and the riparian zone: Impact and management perspectives. In Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems: Proceedings of the Symposium, December 11-13, 1978, Callaway Gardens, Georgia (No. 12, p. 263). Department of Agriculture, Forest Service.

[333] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation biology, 8(3), pp.629-644.

[334] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021.

[335] Skovlin, J.M. 1984. Impacts of grazing on wetlands and riparian habitat: a review of our knowledge. p. 1001-1103. In: Developing strategies for range management. Westview Press, Boulder,CO.

Without mechanisms of riparian exclusion, cattle degrade riparian conditions by removing vegetation, preventing tree establishment, compacting soil, increasing surface runoff, and reducing water infiltration and bank stability.[336,337,338,339,340] In combination, such landscape alterations can eliminate and prevent the regeneration of riparian plant communities.[341,342,343,344] Riparian zones suffering from long-term grazing effects are more susceptible to extreme flooding events resulting in accelerated rates of channel incision and a lack of sedimentation required to support sprouting trees.[345]

Many bird species associated with mature cottonwood trees are rare or endangered in the Southwest.[346,347] Yellow-billed Cuckoo have disappeared throughout most of its former range due to habitat loss.[348,349] Arizona now represents one of the strongholds for this declining species. For example,

> "The cuckoo is now very rare in scattered drainages in western Colorado, Idaho, Nevada, and Utah, with single, nonbreeding birds most likely to occur (79 FR 48548, 79 FR 59992). The largest remaining breeding areas are in southern and central California, Arizona, along the Rio Grande in New Mexico, and in northwestern Mexico (79 FR 59992). In Arizona, the species was a common resident in the (chiefly lower) Sonoran zones of southern, central, and western Arizona; scarce in the north-central part of the state; and

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[336] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation biology, 8(3), pp.629-644.

[337] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[338] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. Desert Plants.

[339] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[340] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[341] Dreesen, D., Harrington, J., Subirge, T., Stewart, P. and Fenchel, G., 2002. Riparian restoration in the Southwest: species selection, propagation, planting methods, and case studies. In: Dumroese, RK; Riley, LE; Landis, TD, technical coordinators. National proceedings: forest and conservation nursery associations-1999, 2000, and 2001. Proceedings RMRS-P-24. Ogden, UT: US Department of Agriculture Forest Service, Rocky Mountain Research Station. p. 253-272, 24.

[342] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[343] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation biology, 8(3), pp.629-644.

[344] Bock, Carl E., Victoria A. Saab, Terrell D. Rich, and David S. Dobkin. "Effects of livestock grazing on neotropical migratory landbirds in western North America." In: Finch, Deborah M.; Stangel, Peter W.(eds.). Status and management of neotropical migratory birds: September 21-25, 1992, Estes Park, Colorado. Gen. Tech. Rep. RM-229. Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, US Dept. of Agriculture, Forest Service: 296-309 229 (1993): 296-309.

[345] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[346] Carriony, N.B. and Turner, R.M., 1977. Inventory of Riparian Habitats'. In Importance, Preservation, and Management of Riparian Habitat: A Symposium, Tucson, Arizona, July 9, 1977 (Vol. 43). Rocky Mountain Forest and Range Experiment Station, Forest Service, US Department of Agriculture.

[347] Engel-Wilson, R.W. and Ohmart, R.D., 1978. Floral and Attendant Faunal Changes on the Lower Rio Grande Between Fort Quitman and Presidio, Texas.

[348] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021.

[349] Biological Opinion on Ongoing Grazing on the Coronado National Forest, Graham, Cochise, Pima, Pinal, and Santa Cruz Counties, Arizona and Hidalgo County, New Mexico. AESO/SE, 2-21-98-F-399, 2-21-98-F-399R1, 02EAAZ00-2019-F-0867, September 30, 2021, p. 174.

> very rare in the northeast (Phillips et al. 1964). In Arizona, the cuckoo now nests primarily in the central and southern parts of the state."[350]

According to USFWS,

> "the primary threat to the cuckoo is loss or fragmentation of high-quality riparian habitat suitable for nesting (USFWS 2014a, b). Habitat loss and degradation results from several interrelated factors, including alteration of flows in rivers and streams, mining, encroachment into suitable habitat from agricultural and other development activities on breeding and wintering grounds, stream channelization and stabilization, diversion of surface and ground water for agricultural and municipal purposes, livestock grazing, wildfire, establishment of nonnative vegetation, drought, and prey scarcity due to pesticides."[351]

Also, according to USFWS,

> "reduction in riparian habitat (including mesquite bosques) in Arizona has been well documented and western yellow-billed cuckoos are no longer found in areas where riparian habitat no longer exists. Yet, remaining habitat within Arizona remains an important stronghold for breeding western yellow-billed cuckoos. As part of the core of the DPS, habitat in Arizona needs to be conserved to enable western yellow-billed cuckoos to produce young that may eventually disperse to other parts of the DPS's range."[352]

We've established that Yellow-billed Cuckoo are in decline due to "well documented" habitat loss, that cattle preclude regeneration of cuckoo habitat (which is well documented in the scientific literature), and that cuckoo habitat in AZ "needs to be conserved".[353]

Yellow-billed Cuckoo require multi-aged and multi-height forests for breeding and foraging, or alternatively patches of overstory trees and/or young riparian trees adjacent to mesquite terraces.[354] Vegetative structure and cover must be diverse and varied.[355] Yellow-billed Cuckoo often nest where young trees interface with more mature trees, such as along the scour zone of rivers or newly planted revegetation sites.[356] Humid and cooler conditions created by surface and subsurface moisture and trapped by the multilayered canopy appear to be important habitat

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[350] Diebolt, S., Chief, A.B. and Diebolt, D.M., 2018. Fish and Wildlife Service Arizona Ecological Services Office.

[351] Biological Opinion on Ongoing Grazing on the Coronado National Forest, Graham, Cochise, Pima, Pinal, and Santa Cruz Counties, Arizona and Hidalgo County, New Mexico. AESO/SE, 2-21-98-F-399, 2-21-98-F-399R1, 02EAAZ00-2019-F-0867, September 30, 2021, p. 174.

[352] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20813.

[353] Id.

[354] Ibid., page 20839.

[355] Ibid., page 20842.

[356] The December 4, 2017, Biological Opinion for Catalina-Rincon FireScape Project, AESO/SE 02EAAZ00-2016-F-0773, p. 49.

parameters for the Yellow-billed Cuckoo.[357] In southeastern AZ, Yellow-billed Cuckoo are known to breed in ephemeral and intermittent drainages as well, as they do in Sonora.[358] These breeding habitats are composed of more xeroriparian trees like oak, sycamore, hackberry, juniper, ash, walnut, and desert willow. Elevated humidity is especially important in southeastern Arizona, where Yellow-billed Cuckoo breed in intermittent and ephemeral drainages.[359] According to USFWS in their 2021 final determination of critical habitat "As described in the Critical Habitat section, features such as understory and overstory components with high humidity are considered important for habitat selection for breeding Yellow-billed Cuckoo. This is especially true in ephemeral, tree-lined xeroriparian drainages."[360]

Ephemeral drainages are hot spots of productivity with proportionally higher moisture content, higher vegetation volume and diversity, and higher associated wildlife abundance than surrounding uplands.[361, 362, 363] Ephemeral and intermittent drainages have high conservation value and provide the same ecological and hydrological functions as perennial streams.[364] Special management of ephemeral drainages is needed to prevent degradation from increasing aridity.[365, 366, 367] Much like perennial streams, xeroriparian can experience reduced vigor, regeneration, and survival of young trees with chronic grazing pressure.[368] Chronic grazing will remove riparian seedlings and saplings, largely eliminating the youngest age class from developing into future riparian gallery forest. Cattle consumption of grass and other herbaceous plants in riparian drainages also quickly reduces herbaceous cover important for temperature amelioration, humidity, insect

[357] Id.

[358] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20836.

[359] Ibid., page 20940.

[360] Ibid., page 20815.

[361] Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

[362] Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., 2017. Riparian vegetation of ephemeral streams. *Journal of Arid Environments*, *138*, pp.27-37.

[363] Búrquez, A., Martínez-Yrízar, A., Núñez, S., Quintero, T. and Aparicio, A., 2010. Aboveground biomass in three Sonoran Desert communities: Variability within and among sites using replicated plot harvesting. *Journal of Arid Environments*, *74*(10), pp.1240-1247.

[364] Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

[365] Beschta, R.L., Donahue, D.L., DellaSala, D.A., Rhodes, J.J., Karr, J.R., O'Brien, M.H., Fleischner, T.L. and Williams, C.D., 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, 51(2), pp.474-491.

[366] Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., 2017. Riparian vegetation of ephemeral streams. *Journal of Arid Environments*, *138*, pp.27-37.

[367] Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

[368] *Ibid.*

production.[369, 370] Grazing exacerbates climate change and aridification and converts mesic riparian vegetation to a more xeric condition, thereby having a disproportionally negative effect on grass abundance.[371] Over time, sustained grazing pressure concurrent with unprecedented drought will result in a decline in Yellow-billed Cuckoo habitat.

Putting this into context, it has been estimated that within the past one hundred years, 95 percent of riparian habitat in the West has been destroyed.[372] And this destruction is ongoing.

According to USFWS, "where tree regeneration and survival are lacking, suitable cuckoo habitat may cease to exist or may support fewer cuckoos when mature trees die."[373] In addition, "humidity, important for prey production and cuckoo nesting in southeastern Arizona, will decline and temperature and evapotranspiration will increase as habitat declines and fragmentation increases. These factors may reach a threshold in which cuckoos may no longer breed or may breed in reduced densities in some reaches."[374]

According to USFWS, "if an area with grazing activity degrades riparian habitat attributes and prevents long-term health and persistence of these systems, it is considered overgrazing."[375] In another example, USFWS defines overgrazing as grazing activities that reduce quality and quantity of breeding habitat.[376] USFWS identified "overgrazing in riparian (including xeroriparian) habitat as an ongoing threat to western yellow-billed cuckoo habitat that may require special management" and "where water is limited and recruitment events are infrequent, grazing at any level can impact riparian habitat."[377] Yellow-billed Cuckoo usually occupy wider, shallower portions of drainages with gradually sloped walls than the steeper narrower portions of the canyons.[378] These are also areas that are more accessible and attractive to cattle, necessitating the need for functional cattle exclosures.

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[369] Skovlin, J.M. 1984. Impacts of grazing on wetlands and riparian habitat: a review of our knowledge. p. 1001-1103. In: Developing strategies for range management. Westview Press, Boulder,CO.

[370] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, pp.281-301.

[371] Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., 2017. Riparian vegetation of ephemeral streams. *Journal of Arid Environments*, *138*, pp.27-37.

[372] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. *Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station*, pp.281-301.

[373] April 28, 2016, Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, p. 244.

[374] *Ibid.*

[375] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20808.

[376] *Id.,* page 20853.

[377] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021.

[378] The December 4, 2017, Biological Opinion for Catalina-Rincon FireScape Project, AESO/SE 02EAAZ00-2016-F-0773, p. 57.

Seedlings of cottonwood, willow, and other riparian trees tend to recover rapidly after exclusion of livestock grazing.[379,380,381] Removal of cattle grazing has been correlated with dramatic increases in dense willow thickets, necessary for Yellow-billed Cuckoo and other riparian species.[382,383,384] For example, in a comparison of perennial streams in Arizona including the Gila River, the San Francisco River, Bonita Creek, Mescal Creek and Aravaipa Creek, only Aravaipa Creek had been excluded from cattle (since 1973) and was the only area with a dominant broadleaf riparian community and the only site that showed a trend towards maintenance of the riparian vegetative community.[385]

In another study in central California,

> "prior to removal of cattle in 1983, plots contained mature sycamores, one young sycamore, and five willows. By 1985, over 320 willows 16 sycamores and 1 cottonwood *Populus fremontii* had appeared and basal sprouts had developed on the mature sycamores. Young willows and sycamores grew slowly and establishment and growth generally ceased as surface flows disappeared. Because of slow growth at the sites a significant willow corridor is probably only possible in the absence of cattle browsing."[386]

Elimination of grazing in Little Ash Creek in Arizona quickly resulted in changes in tree size distribution, with many more younger cottonwoods on the ungrazed site as well as some stand reproduction.[387] In another local example in Pima County's Cienega Creek, USFWS explains what happens when grazing threats are removed:

> "Response to Removal of Cattle Grazing on Empire Cienega and Cienega Creek.
>
> Prior to the establishment of the Pima County CCNP there was extensive cattle grazing on the site, but once cattle were removed from the system, vegetation height and volume increased significantly and likely plateaued in the early 2000s (unpublished data). Vegetation often responds positively to removal of cattle

[379] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[380] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[381] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

[382] Cannon, R.W. and Knopf, F.L., 1984. Species composition of a willow community relative to seasonal grazing histories in Colorado. *The Southwestern Naturalist*, *29*(2), pp.234-237.

[383] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[384] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[385] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

[386] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[387] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona *Populus fremontii*, velvet ash, *Fraxinus velutina*, Goodding willow, *Salix gooddingii*. Rangeland Ecology & Management/Journal of Range Management Archives, 36(3), pp.382-384.

> (Krueper et al. 2003), but since 2005 there has only been a slight increase in the extent of cottonwood canopies in the Pima County CCNP, though this analysis does not address the density of vegetation within the canopy. The extent and vigor of mesquite trees has declined since 2005. Removal of cattle grazing has resulted in increased vegetation in Empire Cienega and Upper Cienega Creek (M. Radke, pers. comm. January 27, 2016). Although effects of the drought are evident throughout Upper Cienega Creek, pockets of hydroriparian habitat continue to improve in suitability for both cuckoos and willow flycatchers."[388]

Furthermore, below is an accurate description of grazing impacts to Arizona riparian zones given by Milchunas (2006):

> "Only one other study assessed both understory and overstory vegetation responses to protection from grazing, and this study included three replicates along Trout Creek in Arizona (Reichenbacher 1984). The ungrazed treatments were geologic refuges formed by granite rubble, making this unique for riparian grazing studies. Reichenbacher describes the pristine ungrazed sites as "remarkable riparian luxuriance" unlike anywhere along the grazed stretches of the river. Understory species composition was drastically different between grazing treatments (Table 18). Ungrazed sites had dense stands of American bulrush, cattail, sweet clover, and tree saplings, while grazed sites were dominated by the shrubby, opportunistic seepwillow. Total vegetative cover was nearly three-times greater, and density nearly seven times greater, on ungrazed compared to grazed areas. Diversity (calculated as H', which incorporates both richness and evenness components of diversity) was nearly three-times greater in ungrazed compared to grazed sites (2.83 vs. 1.0, respectively). The high density of trees in ungrazed refuges was due to large numbers of seedlings and saplings."[389]

Considering the above case studies, any designated or occupied habitat for YBC should logically be protected from cattle in order to protect, conserve and restore. According to a recent Conference Opinion on the Tonto,

> "Although we have not compiled cuckoo breeding territory numbers for the Tonto Basin area, breeding cuckoos occur on a variety of creeks and rivers other than Pinto Creek. Breeding
> cuckoos have occurred on Tonto Creek from Gisela downstream to Roosevelt Lake, including
> tributaries like Rye and Cucamunga Creek. Additionally, breeding cuckoos occur within the
> Roosevelt Lake conservation space where Tonto Creek and the Salt River converge. Cuckoos

[388] April 28, 2016, Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, p. 235.

[389] Milchunas, D.G. 2006. Responses of plant communities to grazing in the southwestern United States. Gen. Tech. Rep. RMRS-GTR-169. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 126 p.

> also breed on the Salt River Arm of Roosevelt Lake at the off channel Rockhouse Demonstration Restoration Site, Pinal Creek, and Cherry Creek. We anticipate that future surveys are likely to detect cuckoos in other Tonto Creek and Salt River tributaries. These streams retain the natural hydrologic regime, and in the case of Roosevelt Lake, is where water is stored, generating the dynamic conditions and elevated groundwater to support cuckoo breeding habitat." [390]

Unlike what we document in this Notice, **full exclusion** is required to sustain and promote Yellow-billed Cuckoo habitat everywhere that they occur on Tonto Creek and its tributaries. This is also the best way to mitigate for climate change and aridification. But full exclusion is not synonymous with chronic unauthorized impacts, even if they are light or transient, as has been consistently documented in the Tonto Creek Riparian Unit ("TCRU") and explained in detail below.

FAILURE TO ADEQUATELY PROTECT SOUTHWESTERN WILLOW FLYCATCHER AND ITS CRITICAL HABITAT

The primary recovery action listed in the 2002 WFC Recovery Plan is to increase and improve occupied, suitable, and potential breeding habitat.[391] The following is a snapshot of WFC critical habitat along Tonto Creek, within a no-grazing area (TCRU) in the Tonto Basin allotment, Tonto Basin Ranger District.

Grazed southwestern willow flycatcher critical habitat in Tonto creek within the TCRU on the Tonto Basin allotment. 33.896018, -111.306614, June 7, 2021.

[390] The August 4, 2020 Biological and Conference Opinion for Pinto Valley Mine Operation and Expansion on the Tonto NF, AESO/SE 02EAAZ00-2020-F-0490, page 18.

[391] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico pg. v.

The TCRU was established as a special subunit of the Tonto Basin grazing allotment in 1989 by the Bureau of Reclamation as an amendment to the Roosevelt Lake Fish and Wildlife Coordination Act, as mitigation for the Modified Roosevelt Dam, which addressed concerns for wildlife habitat lost when Roosevelt Dam was raised. Limited grazing was initially authorized within the unit; however grazing has not been authorized in recent years due to potential effects to threatened, endangered, and sensitive species within the unit.

The 15-mile long TCRU[392] is supposed to exclude livestock grazing year-round.[393] Fencing associated with the TCRU is supposed to prevent cattle from grazing directly within designated critical habitat. However, this Notice documents degraded Critical Habitat within the TCRU. FWS has previously documented numerous unauthorized actions and livestock trespass on National Forest lands in the Tonto Creek Riparian Unit have contributed to past disturbances of flycatcher habitat.[394] For example,

> "Trespass Cattle- Ensuring that only the permitted cattle are present on an allotment and during the appropriate time are important to not exceeding use limits. Following the Forest's request for permittees to remove cattle from allotments by March 31, 2000 due to drought, cattle continued to be found during the summer of 2000 on Tonto Creek (Tonto Basin allotment), Salt River (Poison Spring/Sierra Ancha allotments) (J. Rourke, AGFD, pers. comm., 2000) and Sycamore Creek (Sunflower allotment)(C. Klug, AGFD, pers. comm., 2000). Ganda (1999) recorded trespass cattle in the Tonto Creek Riparian Unit that had nearly exceeded use limits before the time cattle were supposed to be in the pasture. Maintaining fences and monitoring conditions and use of allotments before, during, and after cattle are present is needed to ensure that trespass cattle are not contributing to or causing use limits to be surpassed."[395]

This Notice makes evident that trespass cattle in TCRU is a chronic problem.

A major threat to WFC, concurrent with habitat loss, has been increases in brood parasitism by the brown-headed cowbird (*Molothrus ater*), which inhibit reproductive success and further reduce population levels.[396] Tonto NF formerly trapped cowbirds in order to boost nest success of WFC. However, since cattle were 'excluded' from the TCRU, the Tonto NF used this as justification to cease trapping cowbirds.

> "Currently, livestock grazing is excluded in areas within 5 miles of occupied flycatcher habitat; therefore, the Tonto National Forest is no longer trapping

[392] https://www.usbr.gov/lc/phoenix/biology/gorip.html Accessed July 21, 2021
[393] The July 24, 2014 Biological Opinion on the Tonto Basin, Walnut, and 7/k allotments on the Tonto National Forest pg. 6.
[394] 2002 USFWS Draft Environmental Impact Statement for the Roosevelt Habitat Conservation Plan Gila and Maricopa Counties, Arizona pg. 192.
[395] The February 28, 2002, Biological Opinion For On-Going And Long-Term Grazing On The Tonto National Forest (2-21-99-F-300) pg. 114.
[396] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico pg. iv.

cowbirds. The elimination of cowbird trapping, if livestock are excluded, conforms to the conditions of the BOs."[397]

Unfortunately, this management strategy operates on the assumption that there is no grazing pressure in the TCRU. This Notice illustrates the opposite, and WFC are now left to deal with the pressure of cattle impacts in addition to cowbird parasitism.

The same assumption of 'no grazing in the TCRU' forms the basis of the Conservation Measures and Incidental Take Statement for WFC on the Tonto Basin allotment. According to the July 24, 2014 Biological Opinion:

> "AMOUNT OR EXTENT OF TAKE
>
> The FWS does not anticipate the proposed action will incidentally take southwestern willow flycatcher for the following reasons:
>
> • The TCRU is fenced from cattle grazing year-round, preventing cattle from directly disturbing adult flycatchers, eggs, and nestlings at nesting sites.
>
> • Non-Federal attractants including houses, agricultural fields, and private corrals occur in the area and are a source of cowbirds in the action area. We cannot reasonably distinguish the natural variation and sources of cowbird parasitism to attribute any cause of parasitism to the proposed action.
>
> • The beneficial effects associated with the conservation measures will sufficiently protect suitable habitat conditions and avoid any likelihood of incidental take." [398]

The Incidental Take Statement is flawed because it fails to account for cattle impacts on the ground. As illustrated in this Notice, 'no-grazing' in the TCRU exists only on paper, not in reality. Cattle are directly degrading WFC nesting habitat, and they are disturbing nesting activities by concentrating themselves near water in the TCRU during WFC nesting season.

Tonto National Forest is failing to perform basic recovery actions inside of designated WFC critical habitat. According to the Recovery Plan, "If livestock grazing is a major stressor, implement general livestock grazing guidelines from Appendix G in currently suitable or potentially suitable habitat." [399] According to Appendix G of the WFC Recovery Plan and the recommendations of the WFC Technical Subgroup of experts on the species, there should be **no grazing in any 'restorable or regenerating habitat', whether occupied or unoccupied, during the growing season for vegetation.** The Recovery Plan also states that even during the non-growing season, there should be

[397] 2002 USFWS Draft Environmental Impact Statement for the Roosevelt Habitat Conservation Plan Gila and Maricopa Counties, Arizona pg. 31
[398] The July 24, 2014, Biological Opinion on the Tonto Basin, Walnut, and 7/k allotments on the Tonto National Forest pg. 21.
[399] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico pg. 114.

no grazing in nesting habitat characterized by low stature and only provisional grazing in all other habitat types (assuming that grazing is not a significant stressor).[400]

FAILURE TO ADEQUATELY PROTECT NORTHERN MEXICAN GARTERSNAKE AND NARROW-HEADED GARTERSNAKE AND THEIR CRITICAL HABITAT

Authorized and unauthorized cattle grazing is resulting in negative impacts to riparian ecosystems, cienegas and other wetlands designated as critical to recovery for two threatened Arizona snakes, northern Mexican garters snakes (NMGS) and narrow-headed garter snakes (NHGS). Again, there is no protection for designated riparian Critical Habitat essential for Recovery in the Tonto, in spite of the fact that USFWS states in the April 28, 2021, Critical Habitat rule:

> "In the revised proposed critical habitat rule (85 FR 23608; April 28, 2020), we explained that although northern Mexican gartersnakes have been found in a variety of vegetation types within the riparian zone (*i.e.,* grasses, shrubs, and wetland plants), the underlying characteristic of this habitat needed by the gartersnake appears to be dense vegetation or other natural structural components that provide cover for the species."[401]
>
> "As explained in the revised proposed critical habitat rule (85 FR 23608; April 28, 2020), terrestrial habitat adjacent to the stream channel that includes riparian vegetation, small mammal burrows, boulder fields, rock crevices, and downed woody debris provides areas for thermoregulation, shelter, foraging opportunities, brumation, and protection from predators."[402]
>
> "In the revised proposed critical habitat rule (85 FR 23608; April 28, 2020) and this final rule, critical habitat includes occupied streams or stream reaches within the historical range with survey records of the northern Mexican gartersnake dated from 1998 to 2019 that have retained the necessary PBFs [physical or biological features] that will allow for the maintenance and expansion of existing populations. We placed outer boundaries on the portion of a stream that is considered occupied. We identified the most upstream and downstream records of the northern Mexican gartersnake along each continuous stream reach determined by presence of PBFs, and we extended the stream reach to include a dispersal distance of 2.2 mi (3.6 km). After identifying the stream reaches that meet the above parameters, we then connected those reaches with areas between that have the PBFs. We consider these areas between survey records occupied because the species occurs upstream and downstream and multiple PBFs are present that allow the species to move through these stream reaches.[403]
>
> "*Summary of Essential Physical or Biological Features* … We have determined that the following physical or biological features are essential to the conservation of the northern Mexican gartersnake:

[400] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Appendix G, Table 2 at page G-27.
[401] Designation of Critical Habitat for the Northern Mexican Gartersnake, Final Rule, 86 FR 22518, USFWS, April 28, 2021, page 22528.
[402] *Id*., page 22529.
[403] *Ibid.*

> 1. Perennial or spatially intermittent streams that provide both aquatic and terrestrial habitat that allows for immigration, emigration, and maintenance of population connectivity of northern Mexican gartersnakes and contain:
>
> > (A) Slow-moving water (walking speed) with in-stream pools, off-channel pools, and backwater habitat;
> >
> > (B) Organic and natural inorganic structural features (*e.g.,* boulders, dense aquatic and wetland vegetation, leaf litter, logs, and debris jams) within the stream channel for thermoregulation, shelter, foraging opportunities, and protection from predators;
> >
> > (C) Terrestrial habitat adjacent to the stream channel that includes riparian vegetation, small mammal burrows, boulder fields, rock crevices, and downed woody debris for thermoregulation, shelter, foraging opportunities, brumation, and protection from predators"[404] …
>
> In summary, for areas within the geographic area occupied by the species at the time of listing, we delineated critical habitat unit boundaries using the following criteria: … We identified and included the wetland and riparian area adjacent to streams, springs, cienegas, and ponds to capture the wetland and riparian habitat needed by the species for thermoregulation, foraging, and protection from predators."[405]

Poorly managed livestock grazing, a known threat to NMGS and NHGS according to USFWS,[406] is currently resulting in removal, diminishment, and/or significantly alteration of natural habitat features and vegetation structure in and adjacent to critical aquatic habitat.

USFWS has defined "'poor' livestock management'" as:

> "We consider poor livestock management to mean grazing conducted in a manner not in accordance with approved allotment management plans or otherwise considered adverse to maintaining natural habitat characteristics."[407]

Detriment to these iconic native reptiles, and their riparian and upland habitat requirements, we have documented unauthorized cattle, nonfunctional exclusion fences, and impacts to riparian vegetation and water on the Tonto. Furthermore, designated upland critical habitat- a vital habitat component for both species' life history requirements- has been significantly impacted by cattle through vegetation removal and extensive soil disturbances.

In the context of conserving and recovering our rapidly declining native garter snakes, there is no room for removal of riparian vegetation needed for thermoregulation, foraging opportunities and protection from predators as documented in this notice, as well as removal of upland vegetation which will drastically reduce density of small mammal burrows used for shelter and brumation.[408] Without urgent and significant changes in management of riparian and adjacent upland habitat in

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[404] *Id*., page 22536.

[405] *Id*., pages 22538-9.

[406] Federal Register /Vol. 85, No. 82 /Tuesday, April 28, 2020 / Proposed Rules 23633.

[407] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16328.

[408] *Id.,* page 22529.

designated garter snake critical habitat, these snakes will continue their decline and must be up-listed to endangered status.

Biological Opinions in this notice contain no consultation for either snake species. Even the July 24, 2014, Biological Opinion for Tonto Basin Ranger District allotments includes no Incidental Take Statement for northern Mexican garter snake and/or narrow-headed garter snake, both of which have final designated critical habitat within the Tonto Basin allotment, and which had an even greater acreage of proposed critical habitat in 2013, a year prior to the issuance of this biological opinion.

This NOI presents new information that unauthorized cattle grazing on the Tonto National Forest has resulted in degradation of NMGS and NHGS designated critical habitat. The Tonto cannot protect, conserve, and recover NMGS and NHGS without eliminating the impacts of cattle from riparian zones and adjacent designated uplands, and this must include adequate monitoring and rule enforcement. Grazing activities result in a reduction of the quality, amount and distribution of key habitat features vital for garter snake life history requirements and must be immediately discontinued in critical habitat designations in order to remain in legal compliance.

As provided in 50 CFR '402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with the FWS, to “carry[] out programs for the conservation” of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an “affirmative duty on each federal agency to conserve each of the species listed.” Sierra Club v. Glickman, 156 F.3d 606,616 (5th Cir. 1998); accord Pyramid Lake Paiute Tribe, 898 F.2d at 1416-17 (noting that federal agencies have “affirmative obligations to conserve under [S]ection 7(a)(1)”). “Conserve” is defined by the ESA to mean recovery, i.e., the “use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary.” 16 U.S.C § l 536(a)(1).

Cattle in narrow-headed garter snake critical upland habitat, Seventy-Six allotment, Tonto National Forest. 34.015572, -111.293897, June 6, 2021 (1) and grazed Mexican garter snake riparian critical habitat in Tonto creek within the excluded TCRU. 33.896113, -111.306635, April 1, 2021 (2).

FAILURE TO ADEQUATELY PROTECT SPIKEDACE, RAZORBACK SUCKER, GILA CHUB AND THEIR CRITICAL HABITAT

According to the February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing On The Tonto National Forest (2-21-99-F-300), the ITS for spikedace is a single line, as follows:

> "The Service does not anticipate any incidental take of spikedace resulting from this proposed action."[409]

In the June 21, 2005 Biological Opinion, there is no ITS for spikedace, even though there is designated critical habitat in the Soldier Camp and Buzzard Roost allotments. According to USFWS,

> "We concur with the finding of "may affect, not likely to adversely affect," for the loach minnow and spikedace from the proposed action and conclude that this project meets the 2004 grazing guidance criteria for the following reason:
>
> Loach minnow and spikedace currently do not occupy the analysis area."[410]

With this concurrence, designated critical habitat set aside for the recovery of these native fish, is left unprotected.

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[409] *Id.*. page 30.

[410] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273., pg. 34.

The January 15, 2008, Biological Opinion concerning the Lyons Fork allotment contains no ITS for Gila Chub, despite the designation of critical habitat there. Even though GC were documented downstream and can disperse into designated habitat seasonally and/or in wet years, it appears that USFWS has simply given up on recovering this habitat for chub, and USFS authorizes cattle here with no restrictions other than utilization limits.

The July 24, 2014, Biological Opinion for the Tonto Basin allotment includes no Incidental Take Statement for spikedace, even though 2.1 of 8.2 miles of critical habitat are knowingly accessible to cattle and authorized for cattle usage on the Tonto Basin allotment.

Grazed spikedace critical habitat in Greenback creek within Tonto Basin allotment, Tonto National Forest. 33.809039, -111.184549, June 5, 2021.

According to the July 24, 2014, Biological Opinion for the Tonto Basin allotment,

> "Within the action area there are 8.2 miles of stream designated as critical habitat along Greenback Creek, Tonto Creek, and Rock Creek. Within the Tonto Basin Allotment there are 8.2 miles of critical habitat along Greenback Creek with 6.1 miles fenced from cattle grazing year-round. The remaining 2.1 unfenced miles are located on the lower section where perennial water flow is not present.
>
> The following conservation measures will be implemented along Greenback Creek in the Tonto Basin Allotment and Tonto Creek within the Walnut, Tonto Basin, and 7/K allotments.

> 1. The TCRU, which runs through portions of the Walnut and Tonto Basin allotments, is fenced from cattle grazing year-round.
>
> 2. Upland ranges and riparian areas on Walnut, Tonto Basin, and 7/K allotments will continue to be grazed at conservative levels (defined as 30-40 percent use for sustainable use of rangelands).
>
> 3. Within the Tonto Basin Allotment there are 8.2 miles of critical habitat along Greenback Creek, of which 6.1 miles are fenced from cattle grazing year-round.

> We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" designated critical habitat for spikedace for the following reasons:
>
> • The exclusion of cattle from Tonto Creek due to management related to the TCRU minimizes potential adverse effects to PCEs along Tonto Creek.
>
> • Conservative grazing use (30-40 percent) in adjacent uplands is anticipated to minimize effects to PCEs associated with stream flow and sediment.
>
> • The exclusion of cattle from the perennial sections of Greenback Creek and the implementation of conservative grazing are expected to minimize potential adverse effects to the PCEs on Greenback Creek.
>
> • Substantial portions of Greenback, Tonto, and Rock creeks are located within canyons where livestock access is difficult and mostly inaccessible."[411]

For spikedace, protective measures are either completely lacking, are inadequate, exist only on paper, depend on cow-centered utilization estimates, or operate on the assumption that grazing rules and restrictions are being adhered to on the Tonto. The same is true for RBS. Along the Salt River and designated tributaries such as Cherry Creek in the Dagger allotment, RBS are protected only with the assumption that important waterways are not subjected to the ecological damage caused by grazing cattle. We demonstrate in this notice that exclusion is not happening on the ground.

Again, USFWS has defined "'poor' livestock management"' as:

> "We consider poor livestock management to mean grazing conducted in a manner not in accordance with approved allotment management plans **or otherwise considered adverse to maintaining natural habitat characteristics**."[412]

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[411] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from USFWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014 Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221, page 29.

[412] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16328.

This NOI illustrates that grazing is being conducted in a manner not in accordance with allotment management plans, and also compromises or eliminates natural habitat features especially during drought. Grazing activities result in a reduction of the quality, amount and distribution of key habitat features vital for native fish life history requirements and must be immediately discontinued in critical habitat designations to remain in legal compliance.

As provided in 50 CFR '402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with the FWS, to "carry[] out programs for the conservation" of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." Sierra Club v. Glickman, 156 F.3d 606,616 (5th Cir. 1998); accord Pyramid Lake Paiute Tribe, 898 F.2d at 1416-17 (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the ESA to mean recovery, i.e., the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary." 16 U.S.C § l 536(a)(1).

SPECIFIC ESA VIOLATIONS

The following descriptions and photos, from cattle impact surveys completed throughout the Tonto National Forest represent new information that indicate authorized cattle cow grazing is diminishing and degrading designated riparian Critical Habitat. Reinitiation of consultation must take place based on new information presented in this Notice,[413] in order to fulfil the action agency's **duty to protect and conserve** listed species.

Also added to the descriptions and photo for each allotment are Cattle Impact Survey (CIS) maps. The purpose of these surveys was to determine and quantify cattle impacts in designated critical habitat throughout the Tonto National Forest. Trained surveyors carefully investigated critical habitat areas for evidence of livestock presence including feces, trails, wallows, as well as extent and severity of grazing pressure on vegetation. Data were recorded and multiple georeferenced photo points were taken along each survey segment to document evidence of livestock impacts. These data represent

[413] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

comprehensive and quantifiable inspections of riparian and xeroriparian conditions on Tonto National Forest allotments.

Following field surveys, each segment's "overall impact level" (defined as absent, light, moderate or significant) was calculated. To determine overall impact level, condition severity scores for each segment endpoint were collated and weighted. Generally, if specific category impacts were light or limited in four categories, the overall impact was considered light. If impact severity in five or more categories were light, then the overall impact was evaluated as moderate. Overall impact scores of moderate also included combinations of limited, light and moderate scores in all six categories. If three or more category conditions were moderate, then the overall impact level rose to significant. If at least one impact category was severe or pervasive, then the overall impact level was evaluated as significant. Color-coded survey segments follow river centerline on all maps. Colors correspond to grazing impact level.

THE DECEMBER 1, 1995, BIOLOGICAL OPINION ON THE EFFECTS TO THE RAZORBACK SUCKER, MEXICAN SPOTTED OWL AND BALD EAGLE FROM THE PROPOSED REGION # MANAGEMENT ACTIVITIES (2-21-92-F-693)

The Incidental Take Statement in the December 1, 1995, Biological Opinion states:

> "The extent of incidental take of razorback suckers and southwestern willow flycatchers is not definable at this time.
>
> **Reasonable and Prudent Measures (RPMs)**: For razorback sucker, three RPMs were proposed as follows: 1) Take measures to ensure that the monitoring program for this action is sufficient to evaluate real improvement to wildlife habitats and vegetation communities; 2) Take measures to provide for additional revision of the grazing plans if significant progress toward meeting objectives has not occurred by the end of the 10-year grazing permit period; and 3) Take measures to ensure that those improvements affecting endangered or threatened species or in their habitat are constructed."

First, this ITS is obviously antiquated. Secondly, this ITS is inadequate and, moving forward, should contain a habitat component to assess whether authorized grazing is having a significant impact on designated RBS streams. Thirdly, monitoring programs are not working on the Tonto, as notices such as this are what bring urgent matters of environmental degradation to the attention of Forest supervisors. Fourth, we illustrate in the following section that there are not improvements but numerous examples of critical habitat degradation occurring on unauthorized areas on the Dagger allotment.

DAGGER ALLOTMENT

The Dagger allotment, Globe Ranger District, contains designated critical habitat for RBS in Cherry Creek. The December 1, 1995, Biological Opinion was the most recent consultation specific to

the Dagger allotment[414], even though the boundaries of the Dagger allotment have been altered over the past 27 years. Grazing on the Dagger allotment was disallowed for a ten-year permit cycle in 2000 due to permittees not following Allotment Management Plans. In 2009, grazing privileges were reinstated but no consultation for endangered species has been conducted specific for the Dagger allotment since.

We first noted cattle impacts within the boundaries of the Dagger allotment on March 30, 2021, while conducting surveys in designated WFC critical habitat along the Salt River, northern boundary of the Hick-Pikes Peak allotment. With the understanding that these Dagger allotment pastures are not authorized for grazing, we conducted cattle impact surveys along Cherry Creek on March 11, 2022. We documented significant cattle impacts and riparian degradation here from these illegal grazing activities.

The following photos were taken near and along the Salt River and Cherry Creek in the Dagger allotment. These observations serve as "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."

Unauthorized and illegal grazing in designated critical habitat within closed pastures of the Dagger allotment must cease immediately.

[414] Correspondence to Tonto Regional Forester Charles W. Cartwright Jr. from Arizona Field Supervisor Sam F. Spiller; RE: December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl and Bald Eagle from the Proposed Region #3 Management Activities. AESO/SE #2-21-92-F-693.

Grazed Salt River WFC critical habitat, trampled and defecated upon, in the Dagger allotment, Tonto National Forest. This pasture is not authorized for grazing. 33.643434, -110.791267, March 30, 2021.

Grazed West Devore pasture of the Dagger allotment, Globe Ranger District, adjacent to RBS designated critical habitat in Cherry Creek. This pasture is not authorized for grazing. 33.702373, -110.820245. March 11, 2022.

Grazed RBS designated critical habitat in Cherry Creek, West Devore pasture of the Dagger allotment, Globe Ranger District. This pasture is not authorized for grazing. 33.694167, -110.811104. March 11, 2022.

Grazed West Devore pasture of the Dagger allotment, Globe Ranger District, adjacent to RBS designated critical habitat in Cherry Creek. This pasture is not authorized for grazing. 33.702373, -110.820245. March 11, 2022.

Grazed West Devore pasture of the Dagger allotment, Globe Ranger District, adjacent to RBS designated critical habitat in Cherry Creek. This pasture is not authorized for grazing. 33.708251, -110.819815 (1), 33.682538, -110.810188 (2). March 11, 2022.

Grazed RBS designated critical habitat in Cherry Creek, West Devore pasture of the Dagger allotment, Globe Ranger District. This pasture is not authorized for grazing. 33.691405, -110.811747. March 11, 2022.

Grazed uplands adjacent to Cherry Creek, designated RBS critical habitat in the West Devore pasture of the Dagger allotment, Globe Ranger District, Tonto National Forest. This pasture is not authorized for grazing. 33.687537, -110.813021 (1), 33.688394, -110.811218 (2). March 11, 2022.

Grazed streambanks in designated RBS critical habitat, Cherry Creek, West Devore pasture of the Dagger allotment, Globe Ranger District. This pasture is not authorized for grazing. 33.681407, -110.808414. March 11, 2022.

Grazed WFC critical habitat along the Salt River within the Dagger allotment, Tonto National Forest. 33.646527, -110.794862, March 30, 2021.

Grazed WFC critical habitat along the Salt River within the Dagger allotment, Tonto National Forest. 33.645379, -110.792033, March 30, 2021.

THE FEBRUARY 28, 2002, BIOLOGICAL OPINION FOR ON-GOING AND LONG-TERM GRAZING ON THE TONTO NATIONAL FOREST (2-21-99-F-300)

According to the February 28, 2002, Biological Opinion for On-Going And Long-Term Grazing On The Tonto National Forest (2-21-99-F-300), the brief ITS for WFC is as follows:

> "Recent, comprehensive survey data documenting presence or absence of the southwestern willow flycatcher is lacking for some areas in the allotments addressed in this consultation. As a result, the Service cannot reasonably conclude that incidental take is likely to occur as a result of the proposed action. Thus we anticipate no take of southwestern willow flycatchers. If a southwestern willow flycatcher is located in an allotment or nearby, and it may be adversely affected by the proposed

action, then reinitiation of consultation is warranted [50 CFR 402.16(b)]. The Service would reevaluate the need for an incidental take statement then."[415]

According to the February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing On The Tonto National Forest (2-21-99-F-300), the ITS for spikedace is a single line, as follows:

> "The Service does not anticipate any incidental take of spikedace resulting from this proposed action."[416]

There is no ITS or Concurrence for either federally listed garter snake in the February 28, 2002, Biological Opinion. There is no ITS or Concurrence for YBC or RBS. Reinitiation of consultation must take place.[417]

Contrast this inadequate protection and illegal scheme with the other grazing Biological Opinions that actually afford meaningful protection. For example, USFWS provides for a habitat surrogate for determining when authorized take has been exceeded for New Mexico Meadow Jumping Mouse "using suitable habitat within exclosures… as well as riparian and upland habitat outside of exclosures as a surrogate for determining when the authorized take has been exceeded." Or as another example, USFWS provides for Loach Minnow and Spikedace protection by defining "incidental take in terms of habitat conditions, and uses surrogate measures to identify when take has been exceeded. The failure to adopt similar habitat conditions as a proxy for measuring incidental take – to provide a clear trigger for reinitiation of consultation when take has been exceeded – not only violates the explicit provisions of the ESA, but also arbitrarily and capriciously fails to comport with USFWS' own well-established practice in connection with similar grazing authorizations in other national forests.

SEVENTY-SIX/ HARDT CREEK ALLOTMENTS

The Seventy-Six and Hardt Creek allotments share a boundary on Tonto creek in the Tonto National Forest. This shared riparian boundary is designated critical habitat for four species; WFC, NMGS, NHGS, and spikedace. Cattle impacts were prevalent and in some areas were significant. Numerous cows were observed during the survey, which was completed June 6, 2021, inside the riparian growing season and nesting season for WFC (as well as YBC). A near complete removal of groundcover, clear signs of woody vegetation browsing, and frequent fecal deposits common in this section. Feces was deposited along the creekside, adjacent banks and benches, and within the water itself. Erosion and sloughing of banks were prevalent wherever cattle approached shorelines.

Less significant cattle damage was seen in northwestern and southeastern section of the allotment, both of which were close to rocky narrows that naturally excluded cattle from grazing those areas. Although cattle were not extremely active in these areas, cattle sign, old and new, was still found.

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[415] February 28, 2002, Biological Opinion For On-Going And Long-Term Grazing On The Tonto National Forest (2-21-99-F-300) pg. 119.
[416] *Id.*. page 30.
[417] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

Grazed WFC and NHGS riparian critical habitat in Tonto creek on the Seventy-Six allotment, Tonto National Forest. 34.025653, -111.283131, June 6, 2021.

Grazed WFC, NHGS, NMGS and spikedace critical habitat in Tonto creek on Seventy-Six allotment in Tonto National Forest. 34.005228, -111.295190, June 6, 2021.

Fence line bordering critical habitat for WFC, NHGS, and NMGS in Tonto creek on Seventy-Six allotment in Tonto National Forest. Cattle impacts are equal on either side. 34.017295, -111.293718, June 6, 2021.

A herd of cattle in WFC, NMGS, NHGS and spikedace riparian critical habitat, during WFC nesting season, in Tonto creek on Seventy-Six allotment. 34.020513, -111.291042, June 6, 2021.

Grazed WFC, NMGS, NHGS riparian critical habitat in Tonto creek on Seventy-Six allotment during nesting season. 34.015572 N, 111.293897, June 6, 2021.

Cattle in WFC critical habitat during nesting season on the Seventy-Six allotment in Tonto National Forest. 34.044714, 111.287282, June 6, 2021.

GISELA ALLOTMENT

The Gisela allotment, along Tonto creek in Tonto National Forest, Payson Ranger District, contains critical habitat for four species, WFC, NMGS, NHGS, and spikedace. The portion of the Gisela allotment surveyed was along the riparian of Tonto creek. Cattle sign, both old and new, was present throughout the entirety of the area surveyed. Numerous 4-wheel trails and frequent cattle use has created a patchwork of barren soil, erosion, and plant community degradation within critical habitat designations. Uplands are characterized with large areas of exposed soil and understory removal.

Evidence of streamside grazing and erosion was frequent throughout the survey where water was present. Though cattle impacts were omnipresent throughout the entire length of allotment, damage seemed to taper off on both the north and south sides of the survey due to natural topographical barriers.

This allotment has no consultation coverage for WFC as the Payson Ranger District largely ignores the site/species. Consultation coverage is also lacking for NMGS and NHGS. Continued failure by the Forest Service and USFWS to reinitiate consultation on the Gisela allotment on the Tonto National Forest violates the law.

Grazed WFC, NMGS, NHGS and spikedace critical habitat in Tonto creek on the Gisela allotment, Tonto National Forest, Payson Ranger District. 34.083829, -111.285371, June 5, 2021.

Grazed NMGS and NHGS critical habitat in Tonto creek on Gisela allotment, Payson Ranger District. 34.088050, -111.282539, June 5, 2021.

Fouled creek water in WFC, NHGS and NMGS critical habitat in Tonto creek on Gisela allotment, Tonto National Forest, Payson Ranger District. 34.090606, -111.280384, June 5, 2021.

Grazed WFC, NHGS and NMGS critical habitat along Tonto creek, Gisela allotment, Tonto National Forest, Payson Ranger District. 34.079601, -111.284873, June 5, 2021.

Grazed WFC, NHGS, NMGS and spikedace riparian critical habitat in Tonto creek, Gisela allotment, Payson Ranger District. 34.097318, -111.277693, June 5, 2021.

Grazed NHGS and NMGS critical habitat in Tonto Creek on the Gisela allotment, Tonto National Forest, Payson Ranger District. 34.105612, -111.270525, June 5, 2021.

Grazed NHGS critical habitat in Tonto creek on Gisela allotment, Tonto National Forest, Payson Ranger District. 34.120738, -111.268914, June 5, 2021.

Grazed NHGS critical habitat in Tonto creek on Gisela allotment, Tonto National Forest. 34.122811, -111.265110, June 5, 2021.

Grazed uplands bordering critical habitat for NHGS in Tonto creek on Gisela allotment, Tonto National Forest, Payson Ranger District. 34.125450, -111.253749, June 5, 2021.

Grazed NHGS critical habitat along Tonto creek on Gisela allotment, Tonto National Forest, Payson Ranger District. 34.122018, -111.263896. March 20, 2022.

HICK-PIKES PEAK ALLOTMENT

The Hick-Pikes Peak allotment (Globe Ranger District) and Dagger allotment (Tonto Basin Ranger District) in the Tonto National Forest share a boundary at the Salt River. This segment of the Salt River is designated critical habitat for WFC. Our survey here took place on March 30, 2021, within this critical habitat designation along the Salt River. Cattle sign were seen throughout most of the allotment, though canyon narrows acted as natural cattle exclusion barriers.

Significant grazing impacts were observed within the riparian zone. Numerous cattle trails weaved through riparian and trampling of ground cover was prevalent. Cows left little grass ungrazed and most streamside woody recruitment (aside from tamarisk) was browsed to some extent. Because fence lines were inadequate and river was low enough to easily cross at the time of the survey, it is hard to say which allotment the cattle came from.

These observations indicate that allotment boundary fencing is nonfunctional, and is thus “new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the Hick-Pikes Peak allotment on the Tonto National Forest violates the law.

A riparian fence within WFC critical habitat on the Hick-Pikes Peak allotment in Tonto National Forest. Cattle impacts are equal on either side of the fence. 33.635743, -110.796703 (1), 33.635693, -110.79673 (2), March 30, 2021.

Grazed riparian vegetation in WFC critical habitat along the Salt River within Hicks/Pikes Peak allotment, Tonto National Forest. 33.659790, -110.798300, March 30, 2021.

Grazed WFC critical habitat with a nonfunctional fence on the Hick-Pikes Peak allotment, Tonto National Forest. 33.637476, -110.794686, March 30, 2021.

Abundant cattle feces in WFC critical habitat along Salt River within Hicks/Pikes Peak allotment, Tonto National Forest. 33.640256, -110.792258, March 30, 2021.

NO CONSULTATION FOR COPPER CREEK ALLOTMENT, CAVE CREEK RANGER DISTRICT ON THE TONTO NATIONAL FOREST (TNF)

The Copper Creek allotment, Cave Creek Ranger District, contains designated Gila Chub critical habitat in and along Silver Creek in the Bobcat Pasture. This allotment shares its western boundary with the Bureau of Land Management's Horseshoe allotment located within Agua Fria National Monument.

In 1998, a Coordinated Resource Management Plan (CRMP) was developed for the Copper Creek Allotment and the Horseshoe Allotment.[418] In 2011, after the AZGFD Commission purchased the base property of the Horseshoe allotment in Agua Fria National Monument, USFS, BLM, and AZGFD entered into a renewed agreement to manage the Copper Creek allotment in concert with BLM's Horseshoe allotment to the west, in part for the purpose of conserving and restoring Gila chub and its habitat.[419]

As part of this agreement, Copper Creek allotment was declared vacant (i.e., no permanent grazing permit would be issued). However, temporary grazing permits were still issued annually upon request from the Horseshoe allotment permittee. Since 2011, USFS has issued temporary grazing permits and AOIs for grazing the Copper Creek allotment.

From 2011-2017, USFS did not authorize grazing in the Bobcat pasture of Copper Creek allotment, where designated critical habitat for Gila Chub is located in Silver Creek. Despite no authorized grazing on the Bobcat pasture, construction of a fence around Silver Creek was first mentioned in the 2013 Copper Creek allotment AOI "due to Gila chub concerns".[420] In the 2015 AOI for Copper Creek, USFS discussed unauthorized cattle in Silver Creek, which the permittee suggested may be trespass cattle from Prescott NF.[421]

In the 2014 Copper Creek AOI, USFS states that the AOI "complies with the Endangered Species Act on-going grazing consultation for the Copper Creek Allotment".[422] The same language is found in the 2015, 2016 & 2018 AOI's for Copper Creek, even though no consultation has been completed to date for the authorized action here.

In 2017, a preliminary EA was drafted for term grazing authorization on Copper Creek allotment. In 2018, for the first time since the 2011 Agreement, the Bobcat pasture was authorized for 200 head of cattle from September 15-November 15. This authorization occurred even though no consultation had been completed for Copper Creek allotment and no exclusion fence had been constructed around Silver Creek. Annual AOI's are still being issued.

The Center conducted CIS surveys in Silver Creek on January 4, 2022. Riparian zones and surrounding terraces within designated Gila chub critical habitat were significantly impacted by cattle in

[418] The November 2, 2006, Biological Opinion for the Existing Phoenix Field Office Planning Decisions and Associated Activities on Gila Chub in the Agua Fria National Monument, AESO #02-21-03-F-0409-R1. pg. 3.
[419] The August 9, 2011, Horseshoe and Copper Creek Agreement among U.S. Forest Service Tonto National Forest, Bureau of Land Management and Arizona Game and Fish Commission. HAB-10-1009AML; BLM AZ-2011-04-06. Page 3.
[420] Copper Creek Allotment Operating Instructions, Tonto National Forest Cave Creek Ranger District, 2013.
[421] Copper Creek Allotment Operating Instructions, Tonto National Forest Cave Creek Ranger District, 2015, page 3.
[422] Copper Creek Allotment Operating Instructions, Tonto National Forest Cave Creek Ranger District, 2014, page 4.

the Bobcat pasture of the Copper Creek allotment. Bank erosion and significant soil impacts, including large areas of bare soil, were documented by surveyors. This stream is recovering in that water is still present; however, as long as cow grazing is not terminated, recovery cannot occur. Due to the riparian degradation shown in photos below, and due to the fact that this area has potential for recovery, we intend to force consultation for the Copper Creek allotment.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.255845, -111.984951 (1); 34.256057, -111.983921 (2). January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.257051, -111.978514. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.256838, -111.975853. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.257103, -111.972535. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.25663, -111.969073. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.25663, -111.969073. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.258404, -111.961863. January 4, 2022.

THE JUNE 21, 2005, BIOLOGICAL OPINION ON GRAZING PERMIT RENEWAL AND IMPLEMENTATION OF ALLOTMENT MANAGEMENT PLANS FOR THE BUZZARD ROOST AND SOLDIER CAMP ALLOTMENTS, GILA COUNTY, ARIZONA.

In the June 21, 2005 Biological Opinion, there is no ITS for spikedace, even though there is designated critical habitat in the Soldier Camp and Buzzard Roost allotments.

According to USFWS,

> "We concur with the finding of "may affect, not likely to adversely affect," for the loach minnow and spikedace from the proposed action and conclude that this project meets the 2004 grazing guidance criteria for the following reason: Loach minnow and spikedace currently do not occupy the analysis area."[423]

[423] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273., pg. 34.

SOLDIER CAMP ALLOTMENT

Prior to the June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, no previous consultation existed for the Soldier Camp Allotment.[424] According to the June 21, 2005, Biological Opinion, "A new fence will be constructed to exclude Spring Creek from the currently designated Spring Creek Pasture. The new pasture will be renamed Juniper Pasture."[425]

Designated Spikedace critical habitat on the Buzzard Roost and Soldier Camp allotments was surveyed on November 1, 2021, and again on March 19, 2022. The following photos were taken near and along Spring Creek in the Spring Creek pasture of the Soldier Camp allotment. These segments of Spring Creek are designated spikedace critical habitat and should be excluded from grazing, according to the June 21, 2005, Biological Opinion.

These observations serve as "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." Reinitiation of consultation must take place.

[424] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273., pg.2.
[425] *Id*., pg. 6.

A grazed segment of designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.119099, -111.095373 (1), 34.116118, -111.093134 (2). March 19, 2022.

A grazed segment along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.118451, -111.094572 (1), 34.118522, -111.093971 (2). March 19, 2022.

A grazed segment along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.113932, -111.090252. March 19, 2022.

Grazed designated spikedace riparian critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. 34.113559, -111.089694. March 19, 2022.

Grazing impacts along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.112671, -111.089436 (1), 34.112369, -111.089243 (2) March 19, 2022.

Grazing along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.111836, -111.088664. March 19, 2022.

Grazed designated spikedace riparian critical habitat in Spring Creek, within the Bryant Mountain pasture, Soldier Basin allotment. This creek segment is authorized for winter grazing, beginning November 1.[426] Unauthorized cattle were either in the pasture before the authorized start date, or these photos represent 48 hours of grazing impacts which are authorized by the Biological Opinion to start on November 1. 34.052641, -111.056921. November 3, 2021.

[426] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273, pg. 6.

Grazed designated spikedace riparian critical habitat in Spring Creek, within the Bryant Mountain pasture, Soldier Basin allotment. This creek segment is authorized for winter grazing, beginning November 1. Unauthorized cattle were either in the pasture before the authorized start date, or these photos represent 48 hours of grazing impacts which are authorized by the Biological Opinion to start on November 1. 34.056481, -111.062672 (1), 34.052676, -111.05712 (2). November 3, 2021.

Grazed designated spikedace riparian critical habitat in Spring Creek, within the Bryant Mountain pasture, Soldier Basin allotment. This creek segment is authorized for winter grazing, beginning November 1. Unauthorized cattle were either in the pasture before the authorized start date, or these photos represent 48 hours of grazing impacts which are authorized by the Biological Opinion to start on November 1. 34.053779, -111.059496. November 3, 2021.

BUZZARD ROOST ALLOTMENT

Grazed spikedace riparian critical habitat in the Buzzard Roost allotment. This pasture, the Buzzard Roost Mesa pasture, is authorized for summer use only (April-September).[427] 34.05558 -111.074486. March 19, 2022.

NON-ALLOTTED SEGMENTS OF SPRING CREEK

Cattle sign was continuous along Spring Creek and continued into sections of the creek that were not part of any grazing allotment. Cattle impact severity varied from light/transient to moderate or significant depending on terrain and accessibility to cows. These observations indicate that allotment boundary fencing is nonfunctional and is thus “new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on adjacent allotments on the Tonto National Forest violates the law. Continued failure to protect Spring Creek represents a failure of the Tonto National Forest's ESA 7(a)(1) "duty to conserve."

[427] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273. page 17.

Cattle impacts outside of grazing allotment boundaries, along a spikedace-designated section of Spring Creek. 34.064871, -111.070724 (1), 34.060853, -111.074228 (2). November 3, 2021 (1), March 19, 2022 (2).

THE JANUARY 15, 2008, BIOLOGICAL OPINION FOR PROPOSED GRAZING ON 33 ALLOTMENTS IN THE TONTO BASIN, GLOBE, PAYSON, PLEASANT VALLEY, AND MESA RANGER DISTRICTS ON THE TONTO NATIONAL FOREST

LYONS FORK ALLOTMENT

The Lyons Fork allotment, Globe Ranger District, contains designated critical habitat for endangered Gila Chub in Mineral Creek.

The Lyons Fork allotment within Tonto NF boundaries was surveyed on March 9, 2022. No functional fencing was observed along the Lyons Fork/Government Spring allotment boundary on Mill Creek. Significant

cattle impacts along Mill Creek were correlated surface waters. Downstream of this severe section were dry, and here impact severity and frequency decline. Post-fire floods (presumably following the Telegraph Fire in 2021) have scoured this watershed. Riparian vegetation was sparse to non-existent, yet cattle ae still present and degrading an impaired critical habitat stream, hindering any chances of recovery. Several cattle were seen along Mill Creek during the survey.

The January 15, 2008, Biological Opinion states "because of the lack of perennial water on the allotment and rarity or absence of Gila Chub in the stream, we anticipate the proposed action will not directly or indirectly affect Gila Chub"[428], even though Gila Chub were documented downstream in 2000[429] and can disperse into designated habitat seasonally and in wet years.

It appears USFWS and the action agency have simply given up on recovering this habitat for an endangered fish, and based on the rarity of an endangered species, cattle are permitted to destroy riparian vegetation and consume whatever water remains.

USFS is content on managing impaired critical habitat riparian zone using livestock forage standards with no ecological context.[430] For example, "conservative use standards of upland ranges and herbaceous and woody riparian plants will prevent the proposed action from adversely affecting critical habitat"[431] USFWS also state in their concurrence that "the lack of water and streamside habitat may result in dispersal of livestock". In other words, when there is nothing left, then perhaps cattle will move on, and the critical designation will be protected from cattle. This conclusion is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[432]

Surface water was present during our survey in March 2022, but what remained was significantly impacted by cattle. USFWS species experts' opinion is inconsistent with the "best scientific data available," which recognizes that perennial stream reaches can be recovered and restored through full cattle exclusion in arid lands.[433] Cattle impacts hamper this steams ability to stabilize following post-fire floods. Exclusion would be a warranted course of action in this scenario and would fulfill agency duty to conserve. Thus, the legal requirement to use the "best scientific data available,"[434] is violated as this critical designation is chronically degraded by authorized action.

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[428] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-I-0221, page 14.

[429] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-I-0221.

[430] According to the Interagency Technical Reference (1999), utilization measures the proportion or degree of current year's forage production that is consumed or destroyed. Utilization may refer either to a single plant species, a group of species, or the vegetation as a whole.

[431] *Ibid.*

[432] 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 709 (9th Cir. 2005).

[433] Jerome A. Stefferud Sally E. Stefferud 2004. Aquatic and Riparian Surveys of Selected Stream Courses on Sierra Vista and Nogales Ranger Districts, Coronado National Forest, Cochise and Santa Cruz Counties, Arizona.

[434] 16 U.S.C. § 1533(b)(2).

Summer 2021 was one of the wettest monsoon seasons on record in Arizona.[435] Such conditions would have made endangered Gila Chub **'likely'** to disperse.[436] In this Notice, we document a degraded state of designated Gila Chub critical habitat into which the endangered fish could disperse into the Tonto National Forest.

The law prohibits any action that reduces "appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[437] The law also prohibits any action causing "direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."[438]

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.247571, -110.945754. March 9, 2022.

[435] https://www.weather.gov/psr/2021MonsoonReview accessed April 2, 2022.

[436] The November 2, 2006 Biological Opinion for the Existing Phoenix Field Office Planning Decisions and Associated Activities on Gila Chub in the Agua Fria National Monument, 02-21-03-F-0409-R1, pg. 12.

[437] 50 CFR § 402.02; 16 U.S.C. 1531 *et seq*.

[438] *Ibid.*

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.257414, -110.907193. March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.25308, -110.918233. March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.253619, -110.916881. March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.250648, -110.927672. March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.253448, -110.918138 (1), 33.253484, -110.916142 (2). March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.253888, -110.915057 (1), 33.254381, -110.913675 (2). March 9, 2022.

OW ALLOTMENT

Canyon Creek in the OW allotment, Pleasant Valley Ranger District, is designated critical habitat for NHGS. It is also desert sucker (*Catostomus clarki*) and speckled dace (*Catostomus clarki*)

occupied.[439] According to the February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. Canyon Creek is supposed to be excluded from cattle. This Biological Opinion states:

"Canyon Creek riparian habitat (which constitutes 1 percent of the allotment) is largely fenced. As a result, effects to winter-time foraging habitat and breeding/foraging/roosting habitat downstream are not expected to occur from cattle. Ecological conditions are rated as good to excellent."[440]

Also, according to the Tonto, **an additional** elk exclusion fence was completed in Canyon Creek in 2006…[441]

Canyon Creek Elk Exclosure, Phase 2 DM	- Watershed management - Vegetation management (other than forest products)	Completed		07/2005	Chris Thiel 928-462-4320 cathiel@fs.fed.us
	Description: Construct an 8 foot tall fence of field wire and metal t-posts along approximately 1/2 mile of Canyon Creek within the OW allotment to protect riparian vegetation from grazing by elk and livestock.				
	Location: UNIT - Pleasant Valley Ranger District. STATE - Arizona. COUNTY - Gila. LEGAL - T. 10-1/2 N., R. 15 E., Sections 27 and 34, G&SRM. Canyon Creek.				

We surveyed NHGS designated critical habitat in Canyon Creek, OW allotment, on November 5, 2021. Cattle impacts to designated riparian critical habitat were significant. Impacts were most significant nearest the base property, and multiple examples of nonfunctioning fences were recorded. Cattle sign was apparent in Canyon Creek throughout the OW allotment.

A herd of cattle within designated NHGS critical habitat on the OW allotment, in close proximity to an open fence, with a well-worn cattle trail leading to Canyon Creek. 34.277375, -110.801932 (1), 34.277353, -110.801899 (2). November 5, 2021.

[439] Tonto National Forest - Canyon Creek (usda.gov) accessed 1/4/22.

[440] Correspondence to Tonto National Forest Supervisor Karl Siderits, from USFWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300, page 204.

[441] 2006 SOPA Schedule of proposed action (SOPA). Tonto National Forest. - Arizona National Parks, Forests, and Other Public Lands - Federal Materials - Arizona Memory Project (azlibrary.gov) accessed 1/4/2022.

Cattle trails lead from an open fence line to grazed designated NHGS riparian critical habitat in Canyon Creek on the OW allotment. 34.277503, -110.801744. November 5, 2021.

Grazed designated NHGS riparian critical habitat in Canyon Creek on the OW allotment. 34.277333, -110.801409. November 5, 2021.

Cattle loafing in grazed designated NHGS riparian critical habitat in Canyon Creek on the OW allotment. 34.277592, -110.801577. November 5, 2021.

Grazing impacts along a nonfunctional riparian fence along Canyon Creek, within designated NHGS critical habitat, on the OW allotment. 34.275459, -110.800673. November 5, 2021.

Nonfunctional riparian fence along Canyon Creek, within designated NHGS critical habitat, on the OW allotment. 34.247569, -110.79131. November 5, 2021.

Manipulated fence line with cattle trail leading to Canyon Creek, designated NHGS critical habitat, on the OW allotment. 34.247421, -110.790959. November 5, 2021.

Trampled designated NHGS critical habitat on the OW allotment. 34.272829, -110.799972 (1), 34.276021, -110.800789 (2). November 5, 2021.

An ungrazed segment of designated NHGS critical habitat on Canyon Creek, OW allotment, for comparison. 34.270913, -110.799376. November 5, 2021.

Significant cattle impacts along Canyon Creek on the OW allotment represent new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a

manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[442] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the OW allotment violates the law.[443]

POISON SPRINGS ALLOTMENT

The Salt River east of Roosevelt Reservoir, in the vicinity of Meddler Point, **is not part of any active grazing allotment** but is almost entirely nested within the Poison Springs allotment of the Tonto Basin Ranger District. This area is designated critical habitat for two federally threatened birds, YBC and WFC. On March 31, 2021, we documented extensive grazing and cattle impacts in this unauthorized area. We again documented impacts on March 12, 2022.

Cattle sign of various ages was documented throughout the entire area, indicating prolonged and non-transient grazing activity. A near-complete removal of grasses and forbs was a common sight during the survey. Streamside grazing impacts were significant here and feces was found on shorelines and in water. Numerous cattle trails and 4x4 trails weaved throughout what remained of the protected riparian area. This is a good example of uncontrolled resource management that defines the Tonto. It violates ESA 7(a)(1) "duty to conserve."

WFC and YBC critical habitat along Salt River adjacent to Poison Springs allotment, Tonto National Forest. This is not part of an active allotment. 33.627761, -110.950398, March 31, 2021.

[442] 50 C.F.R. 402.16.

[443] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

Grazed WFC and YBC critical habitat along Salt River adjacent to Poison Springs allotment, Tonto National Forest. This is not part of a grazing allotment. 33.624948, -110.949479 (1), 33.622362, -110.951926 (2), March 31, 2021.

Grazed WFC and YBC riparian critical habitat along Salt River adjacent to Poison Springs allotment. This is not part of an active grazing allotment. 33.621724, -110.963479. March 31, 2021

Grazed WFC critical habitat along the Salt River adjacent to Poison Springs allotment. These impacts are form unauthorized cattle. 33.621724, -110.963479 (1), 33.630140, -110.967947 (2), March 31, 2021.

Grazed WFC and YBC critical habitat along the Salt River adjacent to Poison Springs allotment. These impacts are from unauthorized cattle. 33.624956, -110.949454. March 12, 2022.

Grazed WFC and YBC critical habitat along the Salt River adjacent to Poison Springs allotment. These impacts are from unauthorized cattle. 33.625849, -110.948853. March 12, 2022.

THE AUGUST 17, 2009, BIOLOGICAL OPINION FOR ONGOING GRAZING FOR THREE ALLOTMENTS ON THE TONTO NATIONAL FOREST

CHRYSOTILE ALLOTMENT

The Salt River along the western boundary of the Chrysotile allotment is designated RBS Critical Habitat. We surveyed the southern and eastern shore of the Salt River for cattle impacts on March 30-31, 2022. Impacts were most significant in the vicinity of Gleason Flat, northward until the canyon pinch point prohibits cattle access, just north of Mud Springs Draw.

According to the August 17, 2009 biological opinion for ongoing grazing on the Chrysotile allotment, FWS states:

> "We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" the razorback sucker and its designated critical habitat. We base our concurrence on the following: Chrysotile allotment- There is no proposed grazing within the Salt River or surrounding riparian area, as a result we do not anticipate any direct effects from the proposed action."[444]

[444] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-F-0218. Appendix A, pg. 44.

Our CIS surveys not only confirmed cattle presence in this unauthorized zone, but an analysis of survey data indicated that impacts were significant throughout most of the survey segment within the boundaries of the Chrysotile allotment. Cows were detected audibly during the survey on both sides of the Salt River. Cattle trails weave around thick tamarisk and lead to the chutes to the river wherever possible. Wallows, browsed and stunted willows and a cow carcass were documented. Impacts were both recent and old.

Significant cattle impacts along the Salt River on the Chrysotile allotment represent new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[445] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Chrysotile allotment violates the law.[446]

The following images were captured on the Chrysotile allotment between March 30-31, 2022:

Cow carcass along the shore of the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.76609, -110.689159. March 31, 2022.

[445] 50 C.F.R. 402.16.

[446] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

Grazed riparian and floodplain along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.766904, -110.689381 (1), 33.766904, -110.688416 (2). March 31, 2022.

Grazed riparian and floodplain along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.768439, -110.689206 (1), 33.767895, -110.688133 (2). March 31, 2022.

Grazed floodplain along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.770488, -110.684034 (1), 33.769525, -110.68487 (2). March 31, 2022.

Cattle wallows and trails leading to the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.77276, -110.67711 (1), 33.775923, -110.67520 (2). March 31, 2022.

Bank disturbances and browsed young willows along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.775923, -110.67520 (1), 33.779704, -110.674235 (2). March 31, 2022.

Grazed riparian and browsed young willows along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.781458, -110.673348 (1), 33.781921, -110.673004 (2). March 31, 2022.

Grazed floodplain along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.834025, -110.580886 (1), 33.833757, -110.579942 (2). March 30, 2022.

THE APRIL 1, 2010, BIOLOGICAL OPINION ON THE CROUCH MESA ALLOTMENT ON THE TONTO NATIONAL FOREST PLEASANT VALLEY RANGER DISTRICT

The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District[447] states,"

"DESCRIPTION OF THE PROPOSED ACTION

Control features such as fences and cattle guards are designed to hold permitted livestock within the appropriate pastures.[448] …

After reviewing the current status of the CLF, the environmental baseline for the action area, the effects of the proposed livestock grazing and the cumulative effects, it is the FWS's biological opinion that on-going livestock grazing on the Crouch Mesa Allotment, as proposed, is not likely to jeopardize the continued existence of the CLF. No critical habitat has been designated for this species, therefore none will be affected. We present this conclusion for the CLF for the following reasons:

The proposed action will employ livestock grazing management strategies that will maintain or improve the existing range and watershed conditions during the life of the AMP to support suitable habitat for the species in the allotment;

Implementation of the proposed conservation measures are expected to reduce direct effects on CLF by the proposed action by identifying and protecting newly established populations;

[447] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[448] *Id.,* page 3.

The continued success of the Gentry Creek MA and the expected progress towards achieving resource management objectives on the ground, should allow for the establishment and persistence of the species on the Crouch Mesa Allotment.[449] …

In the LRMP BO and as of June 10, 2005, the Pleasant Valley Ranger District was identified as possessing four extant populations of CLF. As of 2008, there were seven occupied sites. A new population in the Crouch Mesa Allotment would be considered an eighth or additional occupied site. As provided for in the LRMP BO, the authorized level of incidental take of CLF from the proposed action will be exceeded if, after a period of two consecutive years, the total number of occupied CLF sites totals less than four in the Pleasant Valley Ranger District as a result of livestock management. [450] …

In this biological opinion, the FWS determines that this level of anticipated take is not likely to result in jeopardy to the species for the reasons stated in the Conclusions section.

REASONABLE AND PRUDENT MEASURES and TERMS AND CONDITIONS

The following reasonable and prudent measure(s) are necessary and appropriate to minimize take of CLF:

1. Ensure the continued integrity of all current or future pasture boundary or livestock exclosure fence lines.

a. The TNF shall ensure that any pasture boundary and any appropriate livestock exclosure fence lines in the Crouch Mesa Allotment are inspected once at the beginning of pasture use.

b. If breaches are found, the TNF shall ensure the fence line is immediately repaired or repaired as soon as feasibly possible. In addition, the TNF shall ensure that any unauthorized livestock that are observed in the allotment are removed."[451]

CROUCH MESA ALLOTMENT

CLF Critical Habitat on the Crouch Mesa allotment consists of segments of two ephemeral/perennial waterways, Crouch Creek and the Pine Spring drainage. These areas are located east of Young, AZ just west of the boundary of Apache Sitgreaves/Tonto national forests. Ponderosa pine/madrean oak woodlands and riparian vegetation characterize the flora of the area. This allotment was surveyed on Sept. 3, 2020.

We observed that cattle impacts were significant throughout CLF Critical Habitat in the Crouch Mesa allotment. Evidence of cows passing seamlessly through the Crouch Mesa/Gentry Mountain and Crouch Mesa/Catholic Peak allotment interfaces was documented. Fence lines are downed and/or non-existent, and cattle impacts exist on both sides of these boundaries from the same herds that impact different allotments discussed in different Biological Opinions.[452]

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[449] *Id*., page 12.

[450] *Id.,* page 14.

[451] *Ibid.*

[452] Correspondence, to Tonto National Forest Payson Ranger District District Ranger Matthew Paciorek, from USFWS Arizona Field Supervisor Heather Whitlaw; RE: effects of continued livestock grazing on the Red Lake, Catholic Peak, and Gentry Mountain grazing allotments in the Pleasant Valley Ranger District of the Tonto National Forest for 10 years; AESO/SE 2022-0004460-S7 02EAAZ00-2022-f-0407, June 22, 2022.; and, Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona

Both cow and elk impacts are significant throughout this stretch of Crouch Creek. The lower 300 feet of the Pine Creek drainage holds water and is impacted by cattle, however impacts are infrequent and old heading upstream until the allotment boundary. Evidence of cows passing seamlessly through the Crouch Mesa/Gentry Mountain and Crouch Mesa/Catholic Peak allotment interfaces was documented. Fence lines are downed and/or non-existent, and cattle impacts exist on both sides of these boundaries. No CLF were observed.

Grazed CLF Critical Habitat stream in Crouch Creek in the Crouch Mesa allotment, Tonto National Forest Pleasant Valley Ranger District. 34.10259, -110.86244. September 3, 2020.

Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

Grazed CLF Critical Habitat stream and adjacent riparian benches in Crouch Creek in the Crouch Mesa allotment, Tonto National Forest Pleasant Valley Ranger District. 34.10039, -110.85799 (1); 34.10109, -110.86031 (2); 34.10141, -110.86228 (3); 34.09750, -110.85588 (4). September 3, 2020.

According to Arizona Game and Fish Department records of augmentation and observation obtained by Public Records Law request, Crouch Creek has been augmented in 2006, 2007, 2008, 2011, 2012, and 2014, with CLF observed during surveys from 2002-2019, but not in 2020. [453]

The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District[454] states that,

> "on-going livestock grazing on the Crouch Mesa Allotment, as proposed, is not likely to jeopardize the continued existence of the CLF … for the CLF for the following reasons: The proposed action will employ livestock grazing management strategies that will maintain or improve the existing range and watershed conditions during the life of the AMP to support suitable habitat for the species in the allotment."[455]

The Incidental Take Statement for the April 1, 2010, Biological Opinion says,

> The following reasonable and prudent measure(s) are necessary and appropriate to minimize take of CLF: … Ensure the continued integrity of all current or future pasture boundary or livestock exclosure fence lines."[456] …

As we document in this Notice and in Center (2020), the Tonto National Forest Pleasant Valley Ranger District as failed to "[e]nsure the continued integrity" of the fencing. **This is a take,** and neglectful management of a CLF augmentation site.

The "livestock grazing management strategies" mentioned above refer to utilization estimates and rest-rotation schemes. These inapplicable schemes, together with non-functional fences, documented take and frequent and significant cattle impacts represent new information regarding the Crouch Mesa allotment that is "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[457] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Crouch Mesa allotment violates the law.[458]

In addition, since the April 1, 2010, Biological Opinion,[459] CLF Critical Habitat has been designated.[460] Because Critical Habitat was not designated at the time of consultation and is being destroyed by the action reinitiation of consultation is necessary.

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[453] Public Records response, from Arizona Game and Fish Department to Center for Biological Diversity, November 19, 2020, Public Records request, responsive to request for (1) releases and translocations, and (2) survey results; January 6, 2021.

[454] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[455] *Id*., page 12.

[456] *Id*., page 14.

[457] 50 C.F.R. 402.16.

[458] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[459] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[460] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012.

Continued failure by the Forest Service and USFWS to reinitiate consultation on the Crouch Mesa allotment on the Tonto National Forest Pleasant Valley Ranger District violates the law.[461]

THE JULY 24, 2014, BIOLOGICAL OPINION ON THE TONTO BASIN, WALNUT, AND 7/K ALLOTMENTS ON THE TONTO NATIONAL FOREST (TNF)

According to the July 24th, 2014, Biological Opinion:

> "The FWS does not anticipate the proposed action will incidentally take southwestern willow flycatcher for the following reasons:
>
> • The TCRU is fenced from cattle grazing year-round, preventing cattle from directly disturbing adult flycatchers, eggs, and nestlings at nesting sites.
>
> • Non-Federal attractants including houses, agricultural fields, and private corrals occur in the area and are a source of cowbirds in the action area. We cannot reasonably distinguish the natural variation and sources of cowbird parasitism to attribute any cause of parasitism to the proposed action.
>
> • The beneficial effects associated with the conservation measures will sufficiently protect suitable habitat conditions and avoid any likelihood of incidental take." [462]

Regarding YBC, there is no ITS. The July 24, 2014, Biological Opinion states in Appendix A (Concurrences):

> "We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" the proposed yellow-billed cuckoo for the following reasons:
>
> • Grazing is excluded from areas where cuckoos have been detected, including the TCRU, Reno Creek (no detections), and Kayler Spring (small offshoot from Tonto Creek), effectively minimizing potential adverse effects to the species.
>
> • Conservative utilization of 30-40 percent annually is expected to minimize potential adverse effects of upland grazing on riparian vegetation.
>
> • Riparian use guidelines are: obligate riparian tree species – limit use to < 50 percent of terminal leaders (top one third of plant) on palatable riparian tree species accessible to livestock (usually < 6 feet tall); deergrass – limit use to < 40 percent of plant species biomass; emergent species (rushes, sedges, cat-tails, horse-tails) – maintain six to eight inches of stubble height during the grazing period; stream banks - limit use to < 20 percent of alterable banks where stream banks are present or forming.

[461] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[462] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from USFWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014, Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221, page 20-21.

> • Once riparian utilization guidelines are met, cattle would be moved from the area, or to the next scheduled pasture regardless of available forage in the uplands.[463]

And regarding NMGS and NHGS, there is no ITS. The July 24, 2014, Biological Opinion uses the same verbiage for both species in Appendix A (Concurrences):

> "We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" the (northern Mexican gartersnake and northern narrow-headed gartersnake) and its proposed critical habitat for the following reasons:
>
> > • Grazing is excluded from riparian corridors along Tonto Creek where individuals have been documented and critical habitat is proposed, effectively minimizing the potential for adverse effects from direct grazing.
> >
> > • Conservative use of adjacent uplands and riparian guidelines are anticipated to minimize potential adverse effects where gartersnakes have the potential to occur and where critical habitat is proposed." [464]

There is no Incidental Take Statement for spikedace. Regarding spikedace designated critical habitat in Appendix A (Concurrences), the July 24, 2014, Biological Opinion states:

> "Within the action area there are 8.2 miles of stream designated as critical habitat along Greenback Creek, Tonto Creek, and Rock Creek. Within the Tonto Basin Allotment there are 8.2 miles of critical habitat along Greenback Creek with 6.1 miles fenced from cattle grazing year-round. The remaining 2.1 unfenced miles are located on the lower section where perennial water flow is not present.
>
> The following conservation measures will be implemented along Greenback Creek in the Tonto Basin Allotment and Tonto Creek within the Walnut, Tonto Basin, and 7/K allotments.
>
> 1. The TCRU, which runs through portions of the Walnut and Tonto Basin allotments, is fenced from cattle grazing year-round.
>
> 2. Upland ranges and riparian areas on Walnut, Tonto Basin, and 7/K allotments will continue to be grazed at conservative levels (defined as 30-40 percent use for sustainable use of rangelands).
>
> 3. Within the Tonto Basin Allotment there are 8.2 miles of critical habitat along Greenback Creek, of which 6.1 miles are fenced from cattle grazing year-round.

[463] *Ibid*, page 30.
[464] The July 24, 2014 Biological Opinion On The Tonto Basin, Walnut, and 7/K Allotments On The Tonto National Forest pg. 30.

We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" designated critical habitat for spikedace for the following reasons:

> • The exclusion of cattle from Tonto Creek due to management related to the TCRU minimizes potential adverse effects to PCEs along Tonto Creek.
>
> • Conservative grazing use (30-40 percent) in adjacent uplands is anticipated to minimize effects to PCEs associated with stream flow and sediment.
>
> • The exclusion of cattle from the perennial sections of Greenback Creek and the implementation of conservative grazing are expected to minimize potential adverse effects to the PCEs on Greenback Creek.
>
> • Substantial portions of Greenback, Tonto, and Rock creeks are located within canyons where livestock access is difficult and mostly inaccessible."

TONTO BASIN (& 7/K ALLOTMENT)

The Tonto Basin allotment contains critical habitat for YBC, WFC, NMGS, NHGS, and spikedace.

Critical habitat on the Tonto Basin allotment was surveyed on April 1, 2021 and again on June 7th, 2021. Most of this critical habitat was located within the Tonto Creek Riparian Unit (TCRU). The TCRU is a riparian exclosure within the Tonto Basin allotment, and livestock are excluded from grazing here year-round.[465] Cattle damage south of Punkin center was scored as either light or absent. However, cattle sign both old and new was present and significant throughout stretches of the TCRU north of Punkin Center. These cows likely came from Tonto Basin or the adjacent 7/K allotment. In the area with the most damage from cattle use, large areas of barren soil were present due to grazing of grasses and forbs. Feces were present throughout the area including in the water and on the shoreline. Streamside grazing was widespread, causing erosion and reduction of semi-aquatic vegetation. A dead cow was observed along the water's edge during the survey.

Cattle impacts were seen throughout the entire stretch of Greenback creek up until the last quarter mile surveyed. Nearly all mesquite-grassland benches adjacent to creek bed were lacking in groundcover, leaving barren loose soil amongst mesquite trees. At the base of the Sierra Anchas, water appears in the creek and cattle sign increased. Shorelines were significantly grazed with feces present in and around the water. The water here had an oily film on the surface and aquatic vegetation and stream structure was lacking. Natural rock formations excluded the cattle from upper reaches of the canyon, resulting in an incredibly lush, diverse and untrammeled riparian ecosystem. The differences were striking.

The following images were taken during our surveys from areas that are supposedly excluded from cattle on the Tonto Basin allotment.

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[465] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from USFWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014 Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221. Page 6.

Grazed southwestern willow flycatcher, yellow-billed cuckoo, spikedace, and northern Mexican garter snake critical habitat in Tonto creek within the TCRU on Tonto Basin allotment. 33.896018, -111.306614, June 7, 2021.

Grazed southwestern willow flycatcher, yellow-billed cuckoo, spikedace, and northern Mexican garter snake riparian critical habitat in Tonto creek within TCRU on the Tonto Basin allotment. 33.897240, -111.306400, June 7, 2021.

Southwestern willow flycatcher, yellow-billed cuckoo and northern Mexican garter snake critical habitat in Tonto creek within Tonto Basin allotment. 33.909294, -111.307081, June 7, 2021.

Southwestern willow flycatcher and northern Mexican garter snake critical habitat in Tonto creek within Tonto Basin allotment. 33.976199, -111.310035, June 7, 2021.

Grazed spikedace critical habitat in Greenback creek within Tonto Basin allotment, Tonto National Forest. 33.809039, -111.184549, June 5, 2021.

Spikedace critical habitat in Greenback creek within Tonto Basin allotment, Tonto National Forest. 33.810384, -111.181577, June 5, 2021.

Ungrazed Spikedace critical habitat in Greenback creek where cattle are topographically excluded (for comparison). Tonto Basin allotment, Tonto National Forest. 33.820362, -111.169891, June 5, 2021.

CONCLUSION

Prior to our initiating our recent successful legal challenges against the Apache-Sitgreaves,[466] Coconino,[467] Gila,[468] Prescott[469] and Tonto[470] National Forests, we were appalled and disgusted by our observations and documentation of widespread adverse modification of designated riparian Critical Habitat on these Forests.

Now, ***again*** on the Tonto National Forest, we find that again the Region 3 Forest Service culture and practice of servicing their chosen rancher patrons has also resulted in adverse modification of designated riparian Critical Habitat.

Allotment conditions on the Tonto National Forest are among the worst of all Region 3 Forests. Few imposed and enforced constraints are provided on livestock grazing, which has degraded significant areas of the Tonto. The Tonto, evident in their recent Forest Plan, not only ignores a trove of science supporting the need for drastic reductions in grazing in the arid and drought-stricken southwest but proposes significantly higher intensity of allowable grazing intensity compared to the previous Plan. This is unacceptable. We have the same ongoing unresolved concerns about grazing, especially in riparian areas; concerns over Forest Service unwillingness to enforce grazing permits and hold permittees accountable; concerns over the lack of monitoring of riparian areas; and concerns that Tonto permittees are monitoring their own allotments per the Reading the Range program, a proverbial 'fox in the henhouse' scenario.

More publications discuss cow grazing as a threat to western riparian ecosystems than any other single threat.[471] At least 95 percent of riparian habitat in the West has already been altered or destroyed.[472] Riparian cottonwood/willow forest is now the rarest forest type in North America.[473]

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[466] Sixty-Day Notice of Endangered Species Act Violations, Apache-Sitgreaves National Forest, CBD, June 27, 2019, http://forestpolicypub.com/wp-content/uploads/2019/07/000007_Center-for-Bio-Div-re-ESA-re-Jumping-Mouse_Region-3.pdf.; Sixty-day Notice of Endangered Species Act Violations, Upper Gila River Watershed, CBD, July 17, 2019, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.

[467] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[468] Sixty-day Notice of Endangered Species Act Violations, Upper Gila River Watershed, CBD, July 17, 2019, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.

[469] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[470] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[471] Poff, B., Koestner, K.A., Neary, D.G. and Henderson, V., 2011. Threats to riparian ecosystems in Western North America: an analysis of existing literature 1. *JAWRA Journal of the American Water Resources Association*, *47*(6), pp.1241-1254.

[472] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. *Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station*, pp.281-301.

[473] Streams of Life, The Nature Conservancy, 1987.

Seemingly in response, the Regional Forest Service's August 24, 2018, Southwestern Region Riparian and Aquatic Ecosystem Strategy says,

> "Rivers and streambeds are conduits for life. In no other ecosystem can we as an agency have a greater impact in "*Caring for the land and serving people*."[474] Protection and enhancement of riparian and enhancement of riparian and aquatic areas is paramount in providing habitat and sustainable water for dependent fish, wildlife, plant species, and human communities alike. …"[475]
>
> "The overarching goal of this strategy is to ensure that the ecological integrity of riparian and aquatic habitats is maintained and/or restored."[476]

And now with climate change and drought, the Forest Service' adds,

> "A first principal of for increasing resilience and adaptation is to avoid management actions that exacerbate the effects of current or future drought."[477]

The Regional Forest Service homage to riparian areas is consistent with what Seavy et al., say in their publication, "Why Climate Change Makes Riparian Restoration More Important than Ever," which states,

> "Riparian ecosystems are naturally resilient, provide linear habitat connectivity, link aquatic and terrestrial ecosystems, and create thermal refugia for wildlife: all characteristics that can contribute to ecological adaptation to climate change."[478]

But as we document in this Notice, the Regional Forest Service's policies to protect riparian areas mean nothing on the Tonto National Forest.

Completely germane to the underlying problem here are the excerpts from a new publication the must be considered in the evaluation of the abuse of Public Lands documented in this Notice.

In "Livestock Use on Public Lands in the Western USA Exacerbates Climate Change: Implications for Climate Change Mitigation and Adaptation," J. Boone Kauffman, Robert L. Beschta, Peter M. Lacy, and Marc Liverman state,

> "… About 85% of public lands in the western USA are grazed by domestic livestock, and they influence climate change in three profound ways: (1) they are significant sources of greenhouse gases through enteric fermentation and manure deposition; (2) they defoliate native plants, trample vegetation and soils, and accelerate the spread of exotic species resulting in a shift in landscape function from carbon sinks to sources of greenhouse gases; and (3) they exacerbate the effects of climate change on ecosystems by creating warmer and drier conditions. …

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[474] "What We Believe … The phrase, "Caring for the Land and Serving People," captures the Forest Service mission."; https://www.fs.usda.gov/about-agency/what-we-believe ; web accessed, January 28, 2020.

[475] USDA Forest Service Southwestern Region Riparian and Aquatic Ecosystem Strategy, August 24, 2018, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd602126.pdf.; page 1.

[476] *Id*., page 2.

[477] Vose, James M., Clark, James S., Luce, Charles H., and Patel-Weynand, Toral, Effects of Drought on Forests and Rangelands in the U.S.: A Comprehensive Science Synthesis, USDA Forest Service, Gen. Tech. Report WO-93b, January 2016.

[478] Seavy, Nathaniel E., Thomas Gardali, Golet,Gregory H., Griggs, F. Thomas, Howell, Christine A., Kelsey, Rodd, Small, Stacy L., Viers, Joshua H., and Weigand, James F., Why Climate Change Makes Riparian Restoration More Important than Ever: Recommendations for Practice and Research, Ecological Restoration, Vol. 27, No. 3, 2009, September 2009.

The social costs of carbon are > $500 million year^{-1} or approximately 26 times greater than annual grazing fees collected by managing federal agencies. These emissions and social costs do not include the likely greater ecosystems costs from grazing impacts and associated livestock management activities that reduce biodiversity, carbon stocks and rates of carbon sequestration. Cessation of grazing would decrease greenhouse gas emissions, improve soil and water resources, and would enhance/sustain native species biodiversity thus representing an important and cost-effective adaptive approach to climate change." …

Rimbey et al. (2015) estimated that only 3.8% of annual livestock forage comes from western US public lands, but this is an overestimate as they only included cows and no other animal type (e.g., bulls, steers). Nor did they account for the increases in beef cattle weights over the past few decades.

Livestock use on public lands is measured in animal unit months (AUMs); a term developed more than a century ago (Smith 2017). An AUM is defined as the amount of forage required to feed one 1000 lb. (454 kg) cow and calf for one month (Heady 1975; Smith 2017). But the average cattle weight today is significantly greater than 454 kg. The US Environmental Protection Agency (USEPA 2018) reported the mean weight of a cow was 554 kg (1221 lbs) in 1990 and 611 kg (1348 lbs) in 2015. Thus, the same number of domestic animals (cows) on public lands over time represents a de facto increase in overall forage use and physical influences (Heady 1975; Smith 2017). Based upon the metabolic weight of modern cattle, a single cow and calf in 2021 would account for ≈1.25 AUMs. Yet, this increase in cattle weight and associated influences (greater feed intake, greater physical damage) are not currently considered in forage allocations, carrying capacities, or stocking rates. If the increase in the average size of cattle were included, the AUMs counted on public lands may have actually increased by 25% over the past two decades. In 2015, there were about 29 million head of beef cattle in the US (US Department of Agriculture National Agricultural Statistics Service 2021; USEPA 2018) and the mean weight of a cow was 611 kg for that year. Thus, there were 441 million AUMs of forage required for USA beef cows alone. The 14.1 million AUMs arising from western public lands provide about 3.2% of the forage used by all cows in the USA, which is similar to the estimate of 3.8% reported by Rimbey et al. (2015) (Supplementary Table S5). However, this estimate does not account for other types of beef cattle such as bulls, steers, and replacement heifers. Including all beef cattle (except calves) suggests that the total AUMs of forage used by the USA cattle population was ≈860 million AUMs. Therefore, public lands actually provide <1.6% of all forage consumed by beef cattle in the USA.

Land degradation, including loss of native vegetation, annual grass invasion, devastating fires, and losses of major carbon sinks is a heavy price to pay for the minimal economic gains from use of these intrinsically unproductive lands for livestock production (Meyer 2011). Grazing exclusion is an effective ecosystem restoration approach to sequester and store carbon in the living biomass and soil profiles, and hence, an important tool for climate change mitigation (Reda 2018). Removing livestock can increase soil carbon sequestration on lands that have been depleted in the past by poor management. Removing livestock is not only a viable, cost-effective natural climate solution; it also offers enhanced

water quality, flood buffering, soil health, habitat diversity, and climate resilience (Beschta et al. 2012)."[479]

The observations and documentation presented here in this Notice and in Center (2020) deserve and demand emergent attention and remedy.

To summarize our concerns:

1. The February 28, 2002, Biological Opinion contain inadequate and insufficient consultation coverage for WFC or spikedace. The facts presented in this Notice "the amount or extent of taking specified in the incidental take statement [has been] exceeded," "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." Reinitiation of consultation must take place.[480]

2. There is no ITS or Concurrence for either federally listed garter snake. Reinitiation of consultation must take place.[481] Continued failure by the Forest Service and USFWS to reinitiate consultation on the Seventy-six, Hardt Creek, Gisela, and Hick-Pikes Peak allotments on the Tonto National Forest violates the law.

3. Supposedly vacant pastures of the Dagger allotment are being heavily grazed and exhibit significant cattle impacts in and near designated critical habitat. These illegal activities must cease immediately.

4. According to the June 21, 2005, Biological Opinion, Spring Creek on the Soldier Camp allotment should be excluded from grazing. The facts presented in this Notice "the amount or extent of taking specified in the incidental take statement [has been] exceeded," "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the Soldier Camp and Buzzard Roost allotments on the Tonto National Forest violates the law. Cattle are also grazing in non-allotted areas in the vicinity.

5. Gila Chub critical habitat is degraded and unprotected on the Lyons Fork allotment. The law prohibits any action that reduces "appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[482] The law also prohibits any action causing "direct or indirect

[479] Livestock Use on Public Lands in the Western USA Exacerbates Climate Change: Implications for Climate Change Mitigation and Adaptation, J. Boone Kauffman, Robert L. Beschta, Peter M. Lacy, and Marc Liverman, Environmental Management 69:1137-1152, April 2, 2022, https://doi.org/10.1007/s00267-022-01633-8.
[480] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).
[481] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).
[482] **50 CFR § 402.02; 16 U.S.C. 1531 *et seq*.**

alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."[483]

6. Downed fences and significant cattle impacts along Canyon Creek in the OW allotment, designated critical habitat for narrow-headed garter snakes and desert sucker and speckled dace occupied[484], represent new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[485] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the OW allotment violates the law.[486]

7. Trespass cattle are grazing and damaging resources and designated critical habitat adjacent to the Poison Springs allotment boundaries. This illegal activity must cease immediately.

8. Significant cattle impacts along the Salt River on the Chrysotile allotment represent "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[487] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Chrysotile allotment violates the law.[488]

9. Documented Take and the frequent and severe cattle impacts represent new information regarding the Crouch Mesa allotment that is "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[489] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Crouch Mesa allotment violates the law.[490]

10. July 24, 2014, Biological Opinion is inadequate and illegal because:

    a. The 2014 Biological Opinion's Incidental Take Statement for Yellow-billed cuckoo, Southwestern Willow Flycatcher, Northern Mexican Garter snake, Narrow-headed Garter snake, Spikedace and Loach minnow are nonexistent, exempted from the Biological Opinion based on the assumption that the TCRU is fenced off from cattle grazing. We have demonstrated in this Notice that this is **not** the case and that cattle are in fact damaging the TCRU. Without an adequate and

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[483] *Ibid.*

[484] Tonto National Forest - Canyon Creek (usda.gov) accessed 1/4/22.

[485] 50 C.F.R. 402.16.

[486] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[487] 50 C.F.R. 402.16.

[488] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[489] 50 C.F.R. 402.16.

[490] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

lawful Incidental Take Statement in place, any activities likely to result in incidental take of members of listed species are unlawful.[491] Multiple other legal authorities speak to the inadequacy[492] of the 2014 Biological Opinion's Incidental Take Statement in addition to the Administrative Procedures Act, which requires federal courts to set aside agency action found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[493]; and,

b. The 2014 Biological Opinion allows designated riparian Critical Habitat on the Tonto National Forest to be managed by a disingenuous scheme that provides few riparian exclosures and instead uses cow grazing utilization metrics that do not protect riparian dependent endangered species. This violates the legal requirement to utilize "the best scientific . . . data available." ;

c. The 2014 Biological Opinion failed to include and consider the additive and cumulative of riparian cow grazing and climate change in spite of the extensive body of scientific literature that exists to the contrary.[494]

11. Reinitiation of consultation must take place expeditiously based on the facts above as well as that:

a. new species have been granted protection and have had riparian Critical Habitat designated for their Recovery under the Endangered Species Act since the issuance of the Biological Opinions that are addressed in this Notice and that apply to Tonto National Forest grazing allotments; and,

b. the new information presented prior to and in this Notice documents effects of the Tonto National Forest's cow grazing that are affecting listed species and designated riparian Critical Habitat in a manner and to an extent not considered in the Biological Opinions addressed in this Notice; and,

c. the new information presented prior to and in this Notice documents that cow grazing on the Tonto National Forest has been and continues to be modified in a

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[491] 16 U.S.C § 1538(a)(1)(B).

[492] *Or. Nat. Res. Council v. Allen*, 476 F.3d 1031 (9th Cir. 2007).; *Wild Fish Conservancy v. Salazar*, 628 F.3d 513 (9th Cir. 2010).; *Ctr. for Biological Diversity v. Provencio*, No. 10-cv-330, 2012 WL 966031 (D. Ariz. Jan. 23, 2012).; *Ctr. for Biological Diversity v. NMFS*, 977 F. Supp. 2d 55 (D.P.R. 2013).; *Native Fish Soc'y v. NMFS*, 992 F. Supp. 2d 1095 (D. Or. 2014).; *Sierra Club v. U.S. Dep't of the Interior*, 899 F.3d 260 (4th Cir. 2018).

[493] 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 709 (9th Cir. 2005).

[494] For example: Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007.; Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild and Feral Ungulates; Robert L. Beschta, Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, and Cindy Deacon Williams, Environmental Management (2013) 51:474-491.; Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192, Page 59992, October 3, 2014.; Livestock Production, Climate Change, and Human Health: Closing the Awareness Gap, Debra L. Donahue, Environmental Law Reporter, 45 ELR 11112, 12-2015, http://ssrn.com/abstract=2696741; citing: *See, e.g.*, Beschta et al., *supra* note 59, at 476-81; Ripple et al., *supra* note 2, at 2, 3. Almost nothing is known, however, about the ability of shrublands to sequester carbon. *See* Jack A. Morgan et al., *Carbon Sequestration in Agricultural Lands of the United States*, 65 J. Soil & Water Conservation 6A, 7A (2010), doi:10.2489/jswc.65.1.6A. This is a "critical research need," *see id.*, particularly since shrubs dominate large areas of the public lands.; Climate change scenarios of herbaceous production along an aridity gradient: vulnerability increases with aridity, Carly Golodets, Marcelo Sternberg, Jaime Kiegel, Bertrand Boeken, Azlmen Henkin, No'am G. Silgmean and Eugene D. Ungar, DOI 10.1007/s00442-015-3234-5, February 7, 2015.; Riparian vegetation of ephemeral streams, Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., *Journal of Arid Environments*, *138*, 2017, pages 27-37.

manner that is causing an effect to listed species and their Critical Habitat that was not considered in the Biological Opinions addressed in this Notice.[495]

12. Destructive cow grazing in designated riparian Critical Habitat on the Tonto National Forest continues currently. This destructive cow grazing must cease during the new consultation to prevent the Tonto National Forest from further jeopardizing Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter snake, Narrow-Headed Garter snake, Spikedace, Loach Minnow, Razorback Sucker, and Gila Chub and further destruction of their designated riparian Critical Habitat.

13. Termination of the destructive cow grazing during consultation is required by Section 7(d) of the Endangered Species Act to prevent the Tonto National Forest from further jeopardizing the continued existence of an endangered species and from causing further destruction and adverse modification of designated riparian Critical Habitat. Specifically, Section 7(d) states that the Tonto National Forest must stop "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection 7(a)(2)."[496]; and,

14. The Forest Service's reliance on the Biological Opinions specified in this Notice is not legal. The Forest Service must ensure its own compliance with the Endangered Species Act as action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species" merely by relying upon a Biological Opinion issued by USFWS.[497]; and,

15. The ESA commands federal agencies to "insure" listed species' survival *and* recovery. In addition to requiring consulting agencies to incorporate recovery concerns into project-specific consultations, Section 4 reinforces the Act's emphasis on ensuring recovery. There, Congress required that FWS "*shall* develop and *implement* [recovery] plans for the conservation and survival of endangered species . . ."[498] "Conservation," as explained, is defined under the ESA as the "use of all methods and procedures which are necessary to bring [listed] species to the point at which the measures provided pursuant to this chapter are no longer necessary."[499] Failure to 'Implement' Recovery Plan(s) Violates Section 4(f) of the ESA.

In using the word "shall," Congress could not have been clearer about its intent to require FWS to actually "implement" recovery plans. The Supreme Court has repeatedly provided that "when a statute uses the word 'shall,' Congress has imposed a mandatory duty upon the subject of the command."[500] Courts have found that where recovery plans go beyond "general guidance" by "specif[ying] species-level and habitat-level recovery actions," Section 4(f) imposes a legal duty on FWS to implement those measures.[501]

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[495] 50 C.F.R. § 402.16(a).

[496] 16 U.S.C. § 1536(d).

[497] *Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990).

[498] 16 U.S.C. § 1533(f)(1) (emphases added).

[499] *Id.* § 1532(3).

[500] *Forest Guardians v. Babbitt*, 174 F.3d 1178, 1187 (10th Cir. 1999).

[501] *See Biodiversity L. Found. v. Norton*, 285 F. Supp. 2d 1, 13 (D.D.C. 2003); *see also Friends of the Blackwater v. Salazar*, 691 F.3d 428, 436-37 (D.C. Cir. 2012) (noting that "§ 4(f)(1) of the Act imposes mandatory obligations upon" FWS "to work toward the goals set in its recovery plan" by actually implementing the plan before delisting a species); *Sw. Center for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1136 (S.D. Cal. 2006) (rejecting BiOp that was "inconsistent with the strategies and objectives in the [species'] recovery plan," and holding that FWS must, at minimum, "explain why it" departed from the plan in site-specific actions).

The WFC recovery plan is clear about the importance of restoring degraded habitats as a major priority for recovery. Habitat designated as critical must have management objectives that follow recommendations in Recovery Plans.[502] Because population numbers and habitat are currently much reduced, projects to restore and/or create WFC habitat must be developed and implemented. According to the 2002 WFC Recovery Plan,

> "…recommended recovery actions that would minimize these threats are: 1. Increase and improve currently suitable and potentially suitable habitat; 1.1. Secure and enhance currently suitable and potentially suitable habitat on Federal lands, lands affected by Federal actions, and cooperating non-Federal and Tribal lands; 1.1.1. Develop management plans to reduce threats and promote processes that secure, restore, and enhance currently suitable and potentially suitable habitat; 1.1.2. Manage physical elements and processes to reduce threats and promote processes that secure, restore, and enhance currently suitable and potentially suitable habitat; 1.1.2.1." [503]

In addition,

> "Convincing evidence from within and outside of the flycatcher's range comes from exclosure studies such as the San Pedro River (Krueper 1992), where after major stressors – principally livestock grazing – were removed, the riparian habitat, channel morphology, and riparian bird fauna improved substantially within five years (Figures 1-4). Although these studies lack experimental rigor, they provide evidence that in riparian habitats where livestock grazing is the major stressor, exclosure may be the quickest method of accomplishing recovery."[504]

Federal lands comprise nearly half the area of the eleven western states.[505] Grazing has been the most widespread management practice on federal lands.[506] It is time for agencies to respond appropriately with improved grazing guidance and updated resource management philosophies to curb species loss during this global biodiversity crisis and extreme regional drought. 'Multiple use' no matter the consequence is proving to be a failed policy and is precluding environmental protection, let alone restoration. A paradigm shift in the way livestock is managed is required moving forward into a dryer, hotter, and climatically unstable future.

The Tonto National Forest's non-imposed protection of designated riparian Critical Habitat must end to assure Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter Snake, Narrow-Headed Garter Snake, Spikedace, Razorback Sucker, and Gila

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[502] *See Biodiversity L. Found. v. Norton*, 285 F. Supp. 2d 1, 13 (D.D.C. 2003); *see also Friends of the Blackwater v. Salazar*, 691 F.3d 428, 436-37 (D.C. Cir. 2012) (noting that "§ 4(f)(1) of the Act imposes mandatory obligations upon" FWS "to work toward the goals set in its recovery plan" by actually implementing the plan before delisting a species); *Sw. Center for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1136 (S.D. Cal. 2006) (rejecting BiOp that was "inconsistent with the strategies and objectives in the [species'] recovery plan," and holding that FWS must, at minimum, "explain why it" departed from the plan in site-specific actions).

[503] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico pg. 137.

[504] Ibid., page G-1.

[505] Vincent, C.H., L.A. Hanson, L.F. Bermejo. 2021. Federal Land Ownership: Overview and Data. Congressional Research Service. R42346. https://crsreports.congress.gov.

[506] Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. Conservation Biology. 8: 629-644.

Chub survival, much less their recovery. Only complete exclusion of cows from the Tonto National Forest's designated riparian Critical Habitat can rehabilitate and truly protect these fragile areas.[507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521]

In sixty days, if you have still not taken corrective action and have not reinitiated formal consultation to correct the legal deficiencies of applicable Biological Opinions, in accordance with the Endangered Species Act citizen suit provision, 16 U.S.C. § 1540(g), the Center for Biological Diversity and Maricopa Audubon Society will seek judicial relief.

[507] Meehan, W.R. and Platts, W.S., 1978. Livestock grazing and the aquatic environment. *Journal of Soil and Water Conservation*, *33*(6), pp.274-278.

[508] Platts, W.S. and Wagstaff, F.J., 1984. Fencing to control livestock grazing on riparian habitats along streams: is it a viable alternative? *North American Journal of Fisheries Management*, *4*(3), pp.266-272.

[509] Platts, W.S., 1981. *Influence of forest and rangeland management on anadromous fish habitat in Western North America: effects of livestock grazing* (Vol. 7). US Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station.

[510] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona Populus fremontii, velvet ash, Fraxinus velutina, Goodding willow, Salix gooddingii. *Rangeland Ecology & Management/Journal of Range Management Archives*, *36*(3), pp.382-384.

[511] Szaro, R.C., Belfit, S.C., Aitkin, J.K. and Rinne, J.N., 1985. Impact of grazing on a riparian gartersnake. *Johnson, RR technical coordinator. Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. United States Forest Service, General Technical Report RM-120*, pp.359-363.

[512] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, April 28, 2016, p. 235.

[513] Response of breeding birds to the removal of cattle on the San Pedro River, Arizona, Krueper, D. J., J. L. Bart, and T. D. Rich. 2003. Conservation Biology 17(2): 607-615.

[514] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[515] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

[516] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[517] Cannon, R.W. and Knopf, F.L., 1984. Species composition of a willow community relative to seasonal grazing histories in Colorado. *The Southwestern Naturalist*, *29*(2), pp.234-237.

[518] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[519] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[520] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, USFWS, April 28, 2016, pages 235 and 248.

[521] Poessel, S.A., J. C. Hagar, P. K. Haggerty, and T. E. Katzner. 2020. Removal of cattle grazing correlates with increases in vegetation productivity and in abundance of imperiled breeding birds. Biological Conservation 241 (2020) 108378: 1-9. www.elsevier.com/locate/biocon.

CONTACT INFORMATION

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,

Chris Bugbee
Southwest Conservation Advocate

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

CC: AGFD Director Ty Gray

ATTACHMENT 2

CENTER for BIOLOGICAL DIVERSITY Because life is good.

VIA CERTIFIED MAIL and E-MAIL

January 21, 2025

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RE: Sixty-Day Notice of Intent to Sue U.S. Forest Service and the U.S. Fish and Wildlife Service for Endangered Species Act Violations for Failing to Ensure that Forest Service Authorized Cattle Grazing on 16 Allotments on the Tonto National Forest Does Not Continue Destroying Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter Snake, Narrow-headed Garter Snake, Spikedace, Razorback Sucker, and Gila Chub Critical Habitat.

Dear Acting Secretaries Washington and Cruickshank, Chief Moore, and Deputy Director Guertin:

The U.S. Department of Agriculture Secretary, U.S. Forest Service ("USFS") Chief, USFS Southwest Region Regional Forester, USFS Tonto National Forest Supervisor, U.S. Secretary of the Interior, U.S. Fish and Wildlife Service ("FWS") Director, FWS Region 2 Director, and FWS Arizona Ecological Services Director are hereby notified by the Center for Biological Diversity ("Center") and Maricopa Audubon Society of our intention to file suit 60 days after the service of this Notice for ongoing violations of the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531-1544, and its implementing regulations, 50 C.F.R. §§ 402.01-402.16, and the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 701-706.

On November 9, 2022, the Center filed a notice of intent ("2022 NOI") to sue the Tonto National Forest ("Tonto") and FWS for ESA violations that involved **16** Tonto grazing allotments including 1) Seventy-Six, 2) Hardt Creek, 3) Dagger, 4) Poison Springs and 5) Tonto Basin allotments on the Tonto Basin Ranger District; the 6) Gisela allotment on the Payson Ranger District; the 7) Hick-Pikes Peak, 8) Chrysotile and 9) Lyons Fork allotments on the Globe Ranger District; the 10) Crouch Mesa, 11) Red Lake, 12) Gentry Mountain, 13) Catholic Peak, 14) Soldier Camp, 15) Buzzard Roost, and 16) OW allotments on the Pleasant Valley Ranger District. See **Attachment 1** (2022 NOI). The 2022 NOI, together with follow-up requests from the Center, triggered the Tonto to reinitiate consultation with FWS in accordance with ESA Section 7(a)(2) on the effects of ongoing grazing on active allotments to all listed species and their critical habitats on the Tonto. The Tonto's formal request to reinitiate ESA Section 7 consultation with FWS was filed on February 9, 2023. See **Attachment 2** ("2023 reinitiation request"). As of the date of this letter, FWS and the Tonto National Forest have failed to complete consultation.

Following a meeting with the Center on February 15, 2023, the Tonto agreed to provide the Center with quarterly reports, starting in April 2023, documenting efforts to bar cattle from off-limits riparian critical habitat on the allotments at issue in the 2022 NOI, and to monitor and to maintain exclosure fencing. See **Attachment 3** ("2023 settlement agreement").

We now expressly incorporate the 2022 NOI as part of this new NOI, because ongoing violations on many of the allotments remain unresolved despite our previous efforts. We also incorporate **Attachment 4** and **Attachment 5**, the Center's 2024 Surveys of Critical Habitat in Grazing Allotments of the Tonto National Forest, which document continued, post-settlement cattle damage observed during field surveys and which also includes a summary of ongoing grazing issues according to Tonto's own settlement reporting.

After two years of more cattle grazing transgressions, the Center in 2024 has again observed and documented moderate to severe environmental damage caused by cattle throughout many of the same allotments at issue in the 2022 NOI, including 1) Seventy-Six, 2) Dagger, 3) Tonto Basin allotments on the Tonto Basin Ranger District; the 4) Gisela allotment on the Payson Ranger District; the 5) Hick-Pikes Peak, and 6) Chrysotile allotments on the Globe Ranger District; the 7) Crouch Mesa, 8) Red Lake, 9) Gentry Mountain, and 10) Catholic Peak allotments on the Pleasant Valley Ranger District (see **Attachments 4 & 5**).

This NOI—our third NOI with respect to the Tonto's livestock grazing program1—provides further documentation that cattle continue to cause significant and widespread damage to designated Critical Habitat across the Tonto National Forest, including numerous area that are strictly off-limits to grazing pursuant to **the eight** Biological Opinions for continued livestock grazing on allotments in the Tonto National Forest, listed and cited below, that are still in effect until a new BiOp is issued. This NOI supplements (rather than supersedes) the 2022 NOI as our original concerns and allegations are ongoing and remain unresolved in most cases.

1 The first NOI was the March 16, 2020, Sixty-Day Notice of Endangered Species Act Violations in the Verde River Drainage on Tonto, Prescott and Coconino National Forests (with subsequent complaint, case # 3:20-cv-08243-DGC, filed September 17, 2020).

BACKGROUND

I. The ESA and its Implementing Regulations

The ESA "represent[s] the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). Section 9 of the ESA prohibits any "person" from "tak[ing]" any member of an endangered or threatened species without authorization from FWS. 16 U.S.C. § 1538(a)(1)(B), (G); 50 C.F.R. § 17.21(c); 50 C.F.R. § 17.31. The term "take" is defined broadly to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). FWS has further defined "harass" to include "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering." 50 C.F.R. § 17.3. In addition, "harm" is defined to "include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." *Id*.

Under Section 7 of the ESA, before taking any action that may have direct or indirect effects on any listed species, an action agency must consult with FWS to evaluate the impact of the proposed action. *See* 16 U.S.C. § 1536(a). The purpose of consultation is to ensure that the proposed action "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [designated critical] habitat of such species." *Id*. § 1536(a)(2). According to ESA regulations, an action causes jeopardy to a listed species if it "reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02.

The evaluation of the effects of the proposed action on listed species during consultation must use "the best scientific . . . data available." 16 U.S.C. § 1536(a)(2). Additionally, once consultation is initiated, the action agency is prohibited from making "any irreversible or irretrievable commitment[s] of resources. . . which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures." *Id.* § 1536(d).

Consultation under Section 7 may be "formal" or "informal" in nature. Informal consultation is "an optional process" involving all correspondence between the action agency and FWS, which is designed to assist the action agency, rather than FWS, in determining whether formal consultation is required. *See* 50 C.F.R. § 402.02. During an informal consultation, the action agency requests information from FWS as to whether any listed species may be present in the action area. If so, the action agency is required by Section 7(c) of the ESA to prepare and submit to FWS a "biological assessment" that evaluates the potential effects of the action on listed species and critical habitat. 16 U.S.C. § 1536(c)(1). As part of the biological assessment, the action agency must make a finding as to whether the proposed action may affect listed species and submit the biological assessment to FWS for review and potential concurrence with its finding. *Id*. If the action agency determines the proposed action "is not likely to

adversely affect" listed species or critical habitat, and FWS concurs, the informal consultation process ends. 50 C.F.R. § 402.14(b)(1).

However, if the action agency finds that the proposed action "may affect" listed species or critical habitat, formal consultation is required. 50 C.F.R. § 402.14(a); *see also* FWS, Endangered Species Consultation Handbook at 3-13 (1998) [hereinafter ["Consultation Handbook"]. The result of formal consultation is a Biological Opinion ("BiOp") from FWS, which analyzes the best available scientific data on the pre-existing status of the species and evaluates how the proposed action would impact the species' status compared to its baseline condition.[2]

A BiOp must include a description of the proposed action, a review of the species' status and critical habitat, an evaluation of the environmental baseline, and an analysis of the direct and indirect effects of the proposed action, along with the cumulative effects of reasonably certain future state, tribal, local, and private actions. *See* 50 C.F.R. § 402.14(g); *see also* Consultation Handbook at 4-14 to 4-31. At the conclusion of formal consultation, FWS determines whether the proposed action—in addition to the pre-existing environmental baseline of the species—is likely to jeopardize the continued existence of a listed species or destroy or adversely modify any designated critical habitat.

If FWS concludes that the action is not likely to jeopardize listed species or result in the destruction or adverse modification of critical habitat but will result in incidental take, it must provide the action agency with a written Incidental Take Statement ("ITS"). The ITS specifies the "impact of such incidental taking on the species" and "those reasonable and prudent measures that the [FWS] considers necessary or appropriate to minimize" those impacts, as well as "terms and conditions" that the action agency must follow. 16 U.S.C. § 1536(b)(4). Should FWS determine that the action will jeopardize a listed species or adversely modify critical habitat, it must suggest reasonable and prudent alternatives to avoid such outcomes. *Id*. § 1536(b)(3)(A).

An ITS must specify the impact of incidental take on the species. 50 C.F.R. § 402.14(i)(l)(i). FWS may use a surrogate to express the amount or extent of anticipated take, provided the BiOp explains the connection between the surrogate and the take of the listed species, justifies why measuring take directly is not practical, and establishes a clear standard for determining when the take limit has been exceeded. *Id*. If an exceedance occurs, the action agency must reinitiate consultation immediately. *Id*. § 402.14(i)(5); *see also id*. § 402.16(a)(1) (requiring reinitiation of consultation "[i]f the amount or extent of taking specified in the [ITS] is exceeded"). Immediate reinitiation of consultation is also required "[i]f new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered." *Id.* § 402.16(a)(2).

[2] When preparing a BiOp, FWS must (1) "[r]eview all relevant information," (2) "[e]valuate the current status and environmental baseline of the listed species or critical habitat," and (3) "evaluate the effects of the action and cumulative effects on the listed species or critical habitat," 50 C.F.R. § 402.14(g), using "the best scientific and commercial data available," 16 U.S.C. § 1536(a)(2).

Without a valid BiOp and ITS—or a lawful concurrence in a "not likely to adversely affect" determination during informal consultation—any activities resulting in take of listed species are unlawful. 16 U.S.C. § 1538(a)(1)(B), (G); 50 C.F.R. § 17.21(c); 50 C.F.R. § 17.31. Anyone who undertakes or authorizes such activities may face criminal and civil federal enforcement actions, as well as civil citizen suits seeking declaratory and injunctive relief. *See* 16 U.S.C. §§ 1538(g), 1540. This includes action agencies, which bear independent responsibility for ensuring their activities comply with the ESA; an action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species" merely by relying upon a BiOp, concurrence, or other consultation document issued by FWS. *Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990).

II. Factual Background

The 2022 NOI expressly incorporated herein (see **Attachment 1**) contains extensive discussion of the natural history, listing history and status of the ESA-listed species that have designated critical habitat in the Tonto, including Yellow-billed cuckoo ("cuckoo"), Southwestern willow flycatcher ("flycatcher"), northern Mexican and narrow-headed garter snakes ("garter snakes"); Chiricahua leopard frog ("frog"), Gila chub ("chub"), Razorback sucker ("sucker"), and spikedace. The 2022 NOI contains discussion of the **16** grazing allotments[3] at issue where the Center has documented inadequate protection of designated riparian Critical Habitat and subsequent ESA violations.

The 2022 NOI provides discussion on FWS's **eight** different Biological Opinions for continued livestock grazing on allotments in the Tonto National Forest that are still in effect until a new BiOp is issued. These include (1) FWS' December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl And Bald Eagle from the Proposed Region 3 Management Activities (2-21-92-F-693)[4]; (2) FWS' February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest (2-21-99-F-300)[5]; (3) FWS' June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona[6]; (4) FWS' May 17, 2007, Biological Opinion on the Catholic Peak, Gentry and Red

[3] Seventy-Six, Hardt Creek, Dagger, Poison Springs and Tonto Basin allotments on the Tonto Basin Ranger District; the Gisela allotment on the Payson Ranger District; Poison Springs, Hick-Pikes Peak, Dagger, Chrysotile and Lyons Fork allotments on the Globe Ranger District; Crouch Mesa, Red Lake, Gentry Mountain, Soldier Camp, Buzzard Roost, and OW allotments on the Pleasant Valley Ranger District.

[4] Correspondence to Tonto Regional Forester Charles W. Cartwright Jr. from Arizona Field Supervisor Sam F. Spiller; RE: December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl And Bald Eagle from the Proposed Region # Management Activities. AESO/SE #2-21-92-F-693.

[5] Correspondence to Tonto National Forest Supervisor Karl Siderits, from FWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300.

[6] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and

Lake Allotments on the Tonto National Forest Pleasant Valley Ranger District[7]; (5) FWS' January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest[8]; (6) FWS' August 17, 2009, Biological Opinion for Ongoing Grazing for Three Allotments on the Tonto National Forest[9]; (7) FWS' April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District[10]; and (8) FWS' July 24, 2014 Biological Opinion on the Tonto Basin, Walnut, and 7/K allotments on the Tonto National Forest.[11]

Lastly, the 2022 NOI highlights Tonto's failure to consult on the Gisela and Copper Creek Allotments, the USFS' reliance on insufficient and arbitrary consultation documents in allowing continued destructive cattle grazing on the Tonto National Forest, and several related, pertinent issues. These include the Tonto's scheme of managing ESA-listed species using cattle forage metrics, its monitoring program that allows grazing permittees to self-monitor their allotments, and issues related to ongoing drought and climate change.

To avoid unnecessary duplication, this NOI provides only a brief factual summary of recent ESA violations not already addressed in detail in the 2022 NOI.

Following the November 9, 2022 submission of the 2022 NOI, settlement talks between the Center and the Tonto commenced on February 15, 2023. As part of the settlement agreement, the Tonto committed to monitoring critical habitat riparian areas in the 16 allotments at issue for unauthorized livestock and damaged fences, promising to remove the former and repair the latter

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Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273.

[7] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: May 17, 2007, Biological Opinion on the Catholic Peak, Gentry and Red Lake Allotments on the Tonto National Forest Pleasant Valley Ranger District. AESO/SE #22410-2007-F-0052, 02-21-04-F-0487, 22410-04-F-0487.

[8] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-I-0221.

[9] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: The August 17, 2009 Biological for Ongoing Grazing for Three Allotments on the Tonto National Forest (NF). AESO/SE #02-21-95-F-0303-R1 (Cross F), #22410-2007-F-0075 (Chrysotile), #02-22-03-F-366 (all allotments), and #22410-2007-F-0218.

[10] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District AESO/SE #22410-F-2009-0217.

[11] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from FWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014 Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221.

expeditiously. See Attachment 3. The Tonto agreed to provide the Center with quarterly reports, starting in April 2023, documenting and summarizing their efforts to protect designated critical habitat from the deleterious impacts of their grazing program.

Since entering the 2023 settlement agreement, several events have occurred that reinforce the ongoing, unlawful actions of the Forest Service and FWS in connection with continued livestock grazing in the Tonto National Forest. First, the Tonto's quarterly reports reveal ongoing compliance issues in many of the allotments at issue in the 2022 NOI. Despite agency assurances that cattle effects to listed species would be minimized, the Tonto's mismanagement has resulted in continued livestock grazing within areas closed to livestock for the protection of ESA-listed species. However, progress on some allotments included in the 2022 NOI, such as the OW allotment, indicates that it is entirely possible to remedy ongoing critical habitat degradation with proper management.

The ever-growing record of trespass and unauthorized cattle on the Tonto—documented in the Tonto's own monitoring reports—along with numerous unaddressed grazing permit violations and compliance issues, prompted the Center to revisit the allotments at issue in 2024. Between April 24 and September 12, 2024, the Center conducted detailed surveys of cattle impacts in riparian areas designated as Critical Habitat on the Tonto National Forest grazing allotments formerly addressed in 2022. Center surveys documented widespread cattle damage and numerous instances of damaged, nonfunctional or missing exclusion fencing within **ten** of these allotments including the Red Lake, Gentry Mountain, Crouch Mesa, Catholic Peak, Hick-Pikes Peak, Dagger, Seventy-Six, Gisela, Tonto Basin and Chrysotile allotments. See Table 1 below. These findings reaffirm the results of previous surveys, highlighting significant cattle damage in ecologically important areas that contain threatened and endangered species and designated critical habitats— areas where FWS assumes that USFS has effectively closed access to livestock.

Table 1. Allotments with significant cattle damage to designated critical habitat on the Tonto National Forest, 2022-2024.

Allotments included in the 2022 NOI	Continued significant cattle impacts in 2024
Seventy-Six	X
Hardt Creek	
Dagger	X
Poison Springs	
Tonto Basin	X
Gisela	X
Hick-Pikes Peak	X
Chrysotile	X
Lyons Fork	
Crouch Mesa	X
Red Lake	X
Gentry Mountain	X
Catholic Peak	X
Soldier Camp	
Buzzard Roost	
OW	

This NOI presents evidence (through observation and photographs from post-settlement 2024 surveys) documenting livestock presence, feces, and significant impacts and habitat degradation in designated critical habitat on ten allotments, including within inactive pastures and inside of livestock exclosures protecting riparian critical habitat. Attachments 4 & 5 provide specific examples of, and photographic evidence demonstrating, livestock grazing degrading critical habitat, including: browsing on woody streamside recruitment; trails meandering through riparian zones; streamside impacts resulting in shearing of banks into vertical surfaces; heavily diminished grass and herbaceous growth; myriad instances of wallows and bare soils; significant removal of riparian vegetation and adjacent understory; extensive areas of exposed, compacted soils around natural springs, seeps, and surface water; and pervasive trampling and severe soil disturbance.

This evidence constitutes new information demonstrating ongoing significant, destructive cattle grazing within off-limits critical habitat in a manner or to an extent not previously considered or authorized in any biological opinion still in effect on the Tonto.

Where applicable, the Center's 2024 survey results were compared to the Tonto's most recent settlement reporting that occurred in a comparable timeframe. Concerningly, the Center's 2024 surveys on the Tonto revealed that in some instances cattle impacts were much more significant and pervasive than what the Tonto reported to the Center. See **Attachment 5 (**examples of stark discrepancies between the Tonto's monitoring reports and actual field conditions). Based on these significant discrepancies, the Center concludes that the Tonto's reporting is routinely inadequate, inaccurate, fails to reflect on-the-ground realities, underreports cattle damage, and fails its purpose of protecting critical habitat for species recovery.

On July 1, 2024, the Center finalized a comprehensive, three-year field survey effort and compiled a report to document the condition of cuckoo critical habitat in Arizona and New Mexico, including in various grazing allotments on the Tonto. See **Attachment 6** (Grazed to Death: Livestock Production Adversely Modifying Majority of Drought-Stricken Western Yellow-billed Cuckoo Critical Habitat on Public Lands in Arizona and New Mexico). The report concludes, on the basis of the best available science (compiled through standardized survey methods applied immediately prior to or during the cuckoo nesting and breeding season), that livestock grazing has adversely modified at least 57% of the cuckoo's critical habitat on public lands grazing allotments in Arizona and New Mexico. The surveys demonstrated moderate to significant impacts and adverse modification of habitat on 31,509 acres (i.e., 80% of 39,170 acres of critical habitat surveyed by field biologists). In light of the worsening, combined threats of climate change[12] and livestock grazing on public lands in the Southwest, the report concludes that agencies should exclude livestock from cuckoo breeding and nesting habitat, and emphasizes that eliminating livestock access to ephemeral, intermittent, and perennial drainages is essential to allow tree and shrub seedlings to grow and survive to support cuckoo breeding and nesting.

Cuckoos require multi-age riparian vegetation with an overstory and understory component consisting of a diversity of plant species (preferably dominated by willow or cottonwood).[13] These habitat components provide appropriate cover along with high humidity, high moisture, and cooler temperatures needed for breeding sites that support insect production[14] to feed fast-growing chicks. Ecological processes provide for maintaining and regenerating riparian forest including the successional vegetation change that produces suitable habitat for breeding cuckoos.[15] Through direct consumption, e.g., consumption of cottonwood tree seedlings or consumption of apical meristems of young saplings, and through trampling, which can prevent successful seed germination altogether, cattle can directly and indirectly eliminate entire cohorts of young trees, preclude varied vegetative structure of riparian forests, and prevent regeneration of riparian gallery forest altogether. Cattle impacts therefore degrade, destroy, prevent, and preclude primary constituent elements of cuckoo critical habitat.

On September 10, 2024, the Center finalized another comprehensive, three-year field survey effort and compiled a report to document the condition of northern Mexican garter snake critical habitat in Arizona and New Mexico, including in grazing allotments on the Tonto. See **Attachment 7** (Grazed to Death: Livestock Production Adversely Modifying Most Critical

[12] The report explained that FWS itself has raised questions about the long-term survival and recovery prospects of the cuckoo, especially given the rapidly worsening threat of climate change.

[13] The first essential Physical or Biological Feature (PBF 1) of western yellow-billed cuckoo habitat, re: Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021 ("2021 Final Rule"), page 20840.

[14] The second essential Physical or Biological Feature (PBF 2) of western yellow-billed cuckoo habitat, 2021 Final Rule, page 20842.

[15] The third essential Physical or Biological Feature (PBF 3) of western yellow-billed cuckoo habitat, 2021 Final Rule, page 20842.

Habitat for Northern Mexican Garter Snakes on Public Lands in Arizona). The report concludes, on the basis of the best available science (compiled through standardized survey methods), that livestock grazing has adversely modified at least 58% of the garter snake's critical habitat on public lands grazing allotments in Arizona. The surveys demonstrated moderate to significant impacts and adverse modification of habitat on 6,835 acres (i.e., 84% of 8,127 acres of critical habitat surveyed by field biologists). Again, the report concludes that agencies should exclude livestock from garter snake habitat, and emphasizes that eliminating livestock access to ephemeral, intermittent, and perennial drainages is essential to allow regeneration of habitat features that can support self-sustaining garter snake populations.

Evidence presented in the Center's July 2024 cuckoo report and the September 2024 garter snake report (**Attachments 6 & 7**) constitute new information demonstrating the range-wide scale of ongoing, significant, and destructive grazing within designated critical habitat for two ESA-listed species that occur on the Tonto on the allotments addressed in this NOI. These reports represent new information that should be addressed directly in any reinitiated consultation.

As the U.S. Department of Justice aptly stated, "[i]t's well settled that cattle and riparian areas do not mix."[16]

LEGAL VIOLATIONS

FWS' Biological Opinions and the Tonto's Reliance on these Biological Opinions Violates ESA Section 7(a)(2).

In this Notice and in the 2022 NOI, we document degraded riparian conditions—including degraded primary constituent elements for multiple species—pervasive across critical habitat legally designated for the survival and recovery of listed endangered species on 16 Tonto grazing allotments. These two Notices present irrefutable documentation of widespread destruction of designated Critical Habitat where (1) the amount or extent of incidental take is exceeded, (2) final actions, including the issuance of term grazing permits, AMPs, and AOIs or AOPs, are affecting listed species and Critical Habitat in a manner and to an extent not considered in previous BiOps, and (3) the Tonto's final agency actions authorizing cattle grazing have been modified in a manner that causes effects to listed species and Critical Habitat explicitly not considered in current BiOps.

ESA Section 7 embodies the statute's "substantive and procedural provisions designed to protect endangered species and their habitat." *Am. Rivers v. Nat'l Marine Fisheries Serv*., 126 F.3d 1118, 1121 (9th Cir. 1997). While Section 7's "procedural requirements call for a systematic determination of the effects of a federal project on endangered species," *Thomas v. Peterson*, 753 F.2d 754, 764 (9th Cir. 1985), its substantive requirement obliges federal agencies to "insure that any action authorized, funded, or carried out by [the] agency . . . is not likely to

[16] Environment and Natural Resources Division Senior Trial Attorney Andrew A. Smith. *New Mexico Cattle Growers' Association, et al. v. United States Forest Service, et al*., Case No. 1:23-cv-00150-JB-GBW, Albuquerque, NM, February 1, 2024, page 126; NM CATTLE v USFS OMNI 020124.

jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat of such species," 16 U.S.C. § 1536(a)(2). Courts have repeatedly held that an action agency's reliance on a faulty BiOp violates this duty. *See, e.g., Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, 698 F.3d 1101, 1127-28 (9th Cir. 2012) ("In particular, [the] agency cannot meet its section 7 obligations by relying on a [BiOp] that is legally flawed or by failing to discuss information that would undercut the [BiOp's] conclusions.").

Although the Tonto agreed to reinitiate consultation on February 9, 2023, it continues to rely on outdated BiOps – some nearly 30 years old – that fail to address newly listed species and designated critical habitats. As detailed in the 2022 NOI, these include: (1) FWS' December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl And Bald Eagle from the Proposed Region 3 Management Activities (2-21-92-F-693)[17]; (2) FWS' February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest (2-21-99-F-300)[18]; (3) FWS' June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona[19]; (4) FWS' May 17, 2007, Biological Opinion on the Catholic Peak, Gentry and Red Lake Allotments on the Tonto National Forest Pleasant Valley Ranger District[20]; (5) FWS' January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest[21]; (6) FWS' August 17, 2009, Biological Opinion for Ongoing Grazing for Three Allotments on the Tonto National Forest[22]; (7) FWS' April 1, 2010,

[17] Correspondence to Tonto Regional Forester Charles W. Cartwright Jr. from Arizona Field Supervisor Sam F. Spiller; RE: December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl And Bald Eagle from the Proposed Region # Management Activities. AESO/SE #2-21-92-F-693.

[18] Correspondence to Tonto National Forest Supervisor Karl Siderits, from FWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300.

[19] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273.

[20] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE May 17, 2007, Biological Opinion on the Catholic Peak, Gentry and Red Lake Allotments on the Tonto National Forest Pleasant Valley Ranger District. AESO/SE #22410-2007-F-0052, 02-21-04-F-0487, 22410-04-F-0487.

[21] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-I-0221.

[22] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: The August 17, 2009 Biological for Ongoing Grazing for Three Allotments on the Tonto National Forest (NF). AESO/SE #02-21-95-F-0303-R1 (Cross F), #22410-2007-F-0075 (Chrysotile), #02-22-03-F-366 (all allotments), and #22410-2007-F-0218.

Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District[23]; (8) FWS' July 24, 2014 Biological Opinion on the Tonto Basin[24]; and an altogether failure to consult at all on the Gisela and Copper Creek Allotments.

The aforementioned consultation documents are all legally flawed because, as it has been demonstrated for years, and as the new information submitted with this letter reveals, the effects of the action may affect listed species or critical habitat in a manner or to an extent not previously considered; the action is modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or a new species is listed or critical habitat designated that may be affected by the identified action. 50 C.F.R. § 402.16(a).

In the absence of the appropriate and required consultation on the 16 allotments, and because the Tonto continues to rely on legally flawed consultations that fail to analyze the actual impacts of chronic cattle degradation of critical habitat through nonfunctional or inadequate fencing, the Tonto is in ongoing violation of its obligation under ESA Section 7 to ensure that its actions are not likely to jeopardize the continued existence of the numerous ESA-listed species assessed, including flycatchers, cuckoos, garter snakes, chub, suckers, and spikedace, or result in the destruction or adverse modification of designated critical habitat. 16 U.S.C. § 1536(a)(2). USFS' reliance on insufficient and arbitrary consultation documents in allowing continued destructive cattle grazing on the Tonto National Forest is unlawful. See, e.g., *Silver v. Babbitt*, 924 F. Supp. 976 (D. Ariz. 1995) (enjoining non-conforming activities during the pendency of consultation, per ESA Section 7(d)).

Moreover, even if consultation has been reinitiated, USFS and FWS have failed to complete the required ESA consultation for the 16 allotments at issue. This failure constitutes a violation of the agencies' duties under section 7(a)(2) of the ESA.

The Tonto Has Violated and Is in Ongoing Violation of ESA Section 7(a)(1).

The Tonto is further in violation of Section 7(a)(1) of the ESA for failing to utilize its authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of the threatened and endangered species on the Tonto National Forest. Instead, on 16 different grazing allotments, the Tonto and FWS have failed to meaningfully address destructive unauthorized trespass cattle and the Tonto's grazing program causes continual harm to endangered species on a forest-wide scale.

[23] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from FWS Arizona Field Supervisor Steve Spangle; RE: The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District AESO/SE #22410-F-2009-0217.

[24] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from FWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014 Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221.

Section 7(a)(1) imposes an affirmative obligation on all federal agencies, in consultation with FWS, to "carry[] out programs for conservation" – *i.e*., recovery of listed species. 16 U.S.C. § 1536(a)(1). The Tonto's failure to carry out a program or otherwise take affirmative action to protect designated Critical Habitat is an ongoing violation of ESA Section 7(a)(1).

The Tonto Has Violated and Is in Ongoing Violation of ESA Section 7(d).

Based on evidence in the Center's 2022 NOI, on February 9, 2023, Forest Supervisor Bosworth formally reinitiated consultation for the effects of ongoing grazing on all active allotments to all listed species and their critical habitats on the Tonto National Forest. *See* Attachment 2.

Once consultation has been reinitiated, the Tonto is prohibited from making any irreversible or irretrievable commitment of resources with respect to the action which may foreclose the formulation or implementation of any reasonable and prudent alternative measures. 16 U.S.C. § 1536(d). Accordingly, until reinitiation of consultation has been completed, the Tonto National Forest cannot authorize and commence livestock grazing on the **ten** grazing allotments formerly addressed in 2022 and still at issue in 2024. *See Pacific Rivers Council v. Thomas*, 936 F. Supp. 738 (D. Idaho 1996). These allotments include the Red Lake, Gentry Mountain, Crouch Mesa, Catholic Peak, Hick-Pikes Peak, Dagger, Seventy-Six, Gisela, Tonto Basin and Chrysotile allotments.

If the Forest Service initiates consultation for their grazing program on the Tonto, grazing activities cannot continue until consultation on their program's effect on ESA-listed species is completed. The wide-ranging degradation of critical habitat by cattle—documented in the 2022 NOI (see Attachment 1), Tonto's own monitoring reports (see Attachment 4), and this 2024 NOI (see Attachments 4 & 5)—constitutes *per se* irreversible and irretrievable commitments of resources under Section 7(d). As such, grazing must cease during the consultation period,[25] which has already lasted nearly two years already.

On September 24, 2024, in response to a Center inquiry, the DOJ indicated via email that the Tonto is working with FWS on the preparation of a Biological Assessment expected to be completed at some unspecified time in 2025. The DOJ confirmed that no Biological Assessment has been developed yet.

The 21-month delay between the Tonto's formal request and the (lack of) completion of consultation underscores the Forest Service and FWS's failure to fulfill their legal obligations under the Endangered Species Act, constituting agency action that has been "unlawfully withheld or unreasonably delayed" in violation of the APA, 5 U.S.C. § 706(1), and arbitrary and capricious action without observance of procedure required by law under § 706(2)(A), (D). Accordingly, continuation of cattle grazing in the **ten** chronic offender grazing allotments, as

[25] *Lane County Audubon Soc. v. Jamison*, 958 F.2d 290 at 295 (9th Cir. 1992); *Pacific Rivers Council v. Thomas*, 30 F.3d 1050, 1057 (9th Cir. 1994).

featured in this 2024 NOI (see Attachment 4), must immediately cease, and the agencies must immediately conclude consultation, as they have themselves acknowledged is necessary.[26]

The Tonto Has Violated, and Is in Ongoing Violation of, ESA Section 9.

Without the safe harbor of an ITS, the Tonto has violated and is in ongoing violation of ESA Section 9, having chronically failed, on 16 different grazing allotments, to uphold the terms and conditions put forth in grazing permits and in Section 7 consultations. The Center's repeated documentation and the Tonto's own records indisputably demonstrate that trespass cattle grazing and unauthorized permitted cattle grazing are adversely affecting listed species and modifying their Critical Habitat in a manner that constitutes "take" in violation of Section 9 of the ESA (killing, injuring, harming, harassing, and otherwise taking members of these species). Because the Tonto could eliminate or at least reduce the risk of take by constructing and maintaining functional fencing, removing the trespass cattle, and closing allotments that overlap off-limits areas, the Tonto is "caus[ing] to be committed" unlawful take of listed species by poorly-managed, improper grazing practices. 16 U.S.C. § 1538(a), (g); *see also* 50 C.F.R. § 17.3 (clarifying that the harass prong of the take prohibition includes not only "an intentional or negligent act" but also any "omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering").

Because there is no consultation in place to accurately assess or lawfully authorize the foreseeable effects of the proposed action to flycatchers, cuckoos, garter snakes, chub, suckers, and spikedace—and because years of survey data demonstrates routine departures of the authorized action rendering any ITS arbitrary and capricious—the Tonto is in ongoing violation of Section 9 of the ESA by authorizing activities that are taking ESA-listed species in myriad ways and destroying and adversely modifying critical habitat across the Forest on 16 different grazing allotments. Because the Tonto lacks legally adequate authorization from the FWS to take any listed species or harm their critical habitat, the Tonto's actions are in ongoing—and significant—violation of Section 9. *See* 16 U.S.C. § 1538(a)(1)(B), (G).

CONCLUSION

The Center remains concerned about the ongoing and disastrous situation on the Tonto National Forest, as outlined in this Notice. The issues described herein go beyond what has been addressed previously. Unauthorized grazing continues to be rampant across the Tonto, occurring on a landscape scale with far-reaching impacts, and aided, abetted, facilitated, and caused by the Forest Service.

This letter supplements the information presented in our 2022 NOI and describes new and/or ongoing violations of the ESA. As detailed in this November 2024 NOI, the 2022 NOI, and the Tonto's own evidence (attached herein), USFS and FWS remain engaged in myriad, ongoing violations of the ESA. These violations stem from reliance on flawed and outdated

[26] 16 U.S.C. § 1540(g); 5 U.S.C. § 706.

biological opinions, the Tonto's continued authorization of livestock grazing on allotments with well-documented histories of ESA violations, and the chronic, repeated failure of permittees and agencies to manage their livestock properly according to rules, regulations, permit stipulations and Section 7 consultations.

Overall, cattle management throughout the Tonto fails to protect public land resources and imperiled native species. This mismanagement persists alongside a disregard for worsening impacts of climate change and drought. In fact, the Tonto's drought response involves an endless stream of Categorical Exclusions for spring developments, water installations, and for running miles of pipelines across the desert to sustain an environmentally incompatible livestock industry.

As a second line of "resource protection," the Tonto leans on utilization-based monitoring to ensure "conservative use" to protect riparian zones and uplands. However, as detailed in the 2022 NOI, estimating utilization is an ineffective and inappropriate technique for protecting habitat and ecosystem components critical to imperiled species. Worse, this inappropriate monitoring scheme is largely conducted by grazing permittees themselves through the Reading the Range program (see Attachment 1, pages 10-12). This program, primarily funded and implemented by permittees, presents a glaring conflict of interest and excludes any meaningful riparian monitoring component.

The Center's previous settlement with the Tonto National Forest merely commits Forest Service personnel to carry out their existing duties for a short period of time. The Forest Service's routine failure to manage livestock inside or outside of the context of legal settlements must be factored into all future consultations regarding cattle grazing in riparian areas. It is unsurprising that before the settlement term has ended, we are forced to litigate due to the Forest Service's failure to manage livestock grazing, untrustworthy settlement reports, and ongoing damage to Critical Habitat that remains effectively unchanged on the ground.

To avoid litigation over this notice letter, the Center urges the Forest Service to take the following actions immediately:

1) completion of ESA Section 7(a)(2) consultation on the 16 allotments to remedy Forest Service authorized grazing activities that are impairing listed species and destroying designated Critical Habitat in a manner or to an extent not previously considered, and exceeding take authorized by prior biological opinions;

2) completion of ESA Section 7(a)(2) consultation on the 16 allotments to reflect changed circumstances due to new ESA listings (described in detail in the 2022 NOI), designation of Critical Habitat (described in detail in the 2022 NOI), and advances in climate change;

3) conclusion of ESA Section 7(a)(2) consultation on the 16 allotments to prepare new incidental take statements that have objective, clear, and enforceable triggers for reinitiation of consultation, and to adopt reasonable and prudent measures that are tethered to habitat conditions caused by the permitted activities (i.e., grazing);

4) compliance with the Forest Service's ESA Section 7(a)(1) obligation of "carrying out programs for the conservation of endangered species" on the 16 allotments;

5) compliance with ESA Section 7(d) by halting livestock grazing on the Red Lake, Gentry Mountain, Crouch Mesa, Catholic Peak, Hick-Pikes Peak, Dagger, Seventy-Six, Gisela, Tonto Basin and Chrysotile allotments until reinitiation of consultation has been completed; and

6) halting ongoing violations on the 16 allotments of Section 9 of the ESA and its implementing regulations that prohibit the unauthorized "take" of any endangered or threatened species of fish or wildlife.

For the reasons explained above (and as demonstrated in Attachments 4 & 5), if the agencies refuse to complete consultation prior to the expiration of the 60-day window set forth in the ESA's citizen suit provision and provide for increased protections for the listed species and critical habitat during consultation, we will add this new information to the growing record and proceed with legal action. We urge the agencies to focus their resources on completing reinitiated consultation, addressing these serious, chronic violations of federal law, and prioritizing the survival and recovery of flycatchers, cuckoos, garter snakes, chub, suckers, and spikedace over continued cattle grazing in these sensitive areas of our public lands.

Sincerely,

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LIST OF ATTACHMENTS

Attachment 1 The Center's previous 2022 NOI to USFS and FWS for ESA violations.

Attachment 2 The Tonto's 2023 reinitiation request to FWS.

Attachment 3 The 2023 settlement agreement between the Center and Tonto National Forest.

Attachment 4 The Center's 2024 Surveys of Critical Habitat in the Tonto National Forest.

Attachment 5 Notable discrepancies between the Tonto's monitoring reports and the Center's documentation of field conditions.

Attachment 6 Grazed to Death: Livestock Production Adversely Modifying Majority of Drought-Stricken Western Yellow-billed Cuckoo Critical Habitat on Public Lands in Arizona and New Mexico.

Attachment 7 Grazed to Death: Livestock Production Adversely Modifying Most Critical Habitat for Northern Mexican Garter Snakes on Public Lands in Arizona.

CENTER for BIOLOGICAL DIVERSITY Because life is good.

November 9, 2022

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Dear Secretaries Vilsack and Haaland, Chief Moore, Director Williams, Regional Forester Martin, Regional Director Lueders, Forest Supervisor Bosworth, and Supervisor Whitlaw,

RE: Sixty-Day Notice of Intent to Sue U.S. Forest Service and the U.S. Fish and Wildlife Service for Endangered Species Act Violations regarding livestock grazing on the Tonto National Forest and the ongoing impacts to the Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog and Northern Mexican Garter Snake, Narrow-headed Garter Snake, Spikedace, Razorback Sucker, Gila Chub, and these species' designated Critical Habitat.

The U.S. Department of Agriculture Secretary, U.S. Forest Service ("USFS") Chief, USFS Southwest Region Regional Forester, USFS Tonto National Forest Supervisor, U.S. Secretary of the

Interior, U.S. Fish and Wildlife Service ("USFWS") Director, USFWS Region 2 Director, and USFWS Arizona Ecological Services Director are hereby notified by the Center for Biological Diversity ("Center") and Maricopa Audubon Society of our intention to file suit 60 days after the filing of this Notice for unremedied violations of the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531-1544, and its implementing regulations, 50 C.F.R. §§ 402.01-402.17, and the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 701-706.

As explained in detail throughout this notice, USFS is violating Section 7 of the ESA by failing to ensure that ongoing livestock grazing on the Tonto National Forest is not likely to jeopardize the continued existence of the Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter Snake, Narrow-headed Garter Snake, Spikedace, Razorback Sucker, or Gila Chub; and is not likely to result in the destruction or adverse modification of any of these species' critical habitat. 16 U.S.C. 1636(a)(2). USFS and USFWS are also in ongoing violation of the ESA for failing to reinitiate and complete consultation concerning the impacts of livestock grazing on threatened and endangered species and their critical habitat on the Tonto National Forest, despite the amount and extent of anticipated takings being exceeded, new information and modifications to the actions, and new listings of species and designations of critical habitat. 40 C.F.R. 402.16(a). USFS is further in violation of Section 7(a)(1) of the ESA for failing to utilize its authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of the threatened and endangered species on the Tonto National Forest. USFWS has further violated the ESA in its preparation of biological opinions concerning livestock grazing on the Tonto National Forest, and USFS has further violated Section 7 of the ESA by relying on those unlawful opinions.

We file this Notice in connection with (1) USFWS' December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl And Bald Eagle from the Proposed Region 3 Management Activities (2-21-92-F-693)[1]; (2) USFWS' February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest (2-21-99-F-300)[2]; (3) USFWS' June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona[3]; (4) USFWS' January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest[4]; (5) USFWS' August 17, 2009, Biological Opinion for Ongoing Grazing for

[1] Correspondence to Tonto Regional Forester Charles W. Cartwright Jr. from Arizona Field Supervisor Sam F. Spiller; RE: December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl And Bald Eagle from the Proposed Region # Management Activities. AESO/SE #2-21-92-F-693.

[2] Correspondence to Tonto National Forest Supervisor Karl Siderits, from USFWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300.

[3] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273.

[4] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-I-0221.

Three Allotments on the Tonto National Forest[5]; (6) USFWS' April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District[6]; (7) USFWS' July 24, 2014 Biological Opinion on the Tonto Basin, Walnut, and 7/K allotments on the Tonto National Forest[7]; (8) failure to consult on the Gisela and Copper Creek Allotments; (9) USFS' reliance on insufficient and arbitrary consultation documents in allowing continued destructive cow grazing on the Tonto National Forest; and (10) the Reading The Range program, wherein grazing permittees, in spite of obvious conflict of interest, conduct monitoring of their own leased allotments because the USFS apparently refuses to do so.

A common theme in this Notice is rampant and widespread cow grazing in areas not authorized to be grazed by cows on the Tonto. Incidental Take Statements from Biological Opinions discussed in this Notice consistently assume that functional cattle exclusion fencing exists to protect sensitive and important riparian resources, and as a result USFWS concludes that negative effects from grazing are not expected to occur. However, ground truthing of this assumption reveals a different story.

In this Notice, we present numerous examples of significant cow grazing impacts in areas where cow grazing is not allowed. These examples represent new information that cow grazing on these public lands is occurring to an extent not considered in applicable Biological Opinions in question and reinitiation must follow.[8]

As a second line of 'resource protection', USFS leans on utilization-based monitoring to ensure 'conservative use' in order to protect riparian zones and uplands. However, estimating utilization is an inappropriate technique for Tonto and an inappropriate technique to ensure protection of habitat and ecosystem components for imperiled species. This is explained in detail below. What's worse, this inappropriate monitoring scheme is largely conducted by grazing permittees themselves on the Tonto in spite of obvious conflict of interest. This monitoring scheme, called, Reading the Range program, is primarily funded and conducted by permittees themselves. It does not even contain a riparian component.

Thirdly, all Biological Opinions included in this Notice are outdated in terms of newly listed species. This in itself requires reinitiation.[9] Overall, cow management throughout the Tonto fails to protect Public Lands' resources, all the while there a palpable, head-in-the sand approach to climate change and drought. In fact, the Tonto's drought response involves an endless stream of Categorical Exclusions for spring developments, water installations, and for running miles of pipelines across the desert in order to sustain an industry that is clearly damaging and non-sustainable.

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[5] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The August 17, 2009 Biological for Ongoing Grazing for Three Allotments on the Tonto National Forest (NF). AESO/SE #02-21-95-F-0303-R1 (Cross F), #22410-2007-F-0075 (Chrysotile), #02-22-03-F-366 (all allotments), and #22410-2007-F-0218.

[6] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District AESO/SE #22410-F-2009-0217.

[7] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from USFWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014 Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221.

[8] 50 CFR 402.16.

[9] 50 CFR 402.16.

In addition, all consultations must include an accurate evaluation of the environmental baseline and a defensible cumulative effects analysis.[10] Cumulatively, USFWS has failed miserably in doing so regionwide. For example, for Yellow-billed Cuckoo, the April 28, 2016, USFWS Biological Opinion for Rosemont Mine states that "[w]e also anticipate that climate change will degrade habitat to the point of being incapable of supporting the occurrence of yellow-billed cuckoos."[11] Yet this fact is completely ignored in the September 30, 2021, Biological Opinion on Ongoing Grazing on the Coronado National Forest.

Other examples besides climate change, include Bureau of Land Management mismanagement of cow grazing nearby to the Tonto National Forest along the Agua Fria River and its tributaries[12] and similarly on the Coronado National Forest where USFWS own species experts have concluded that cow grazing continues contributing to the further endangerment and the impediment of recovery,[13] and that designated riparian Critical Habitat on the Coronado National Forest is being managed by a disingenuous and ineffective scheme that provides few riparian exclosures and instead uses cow grazing utilization metrics that do not protect riparian dependent endangered species.[14] And then there is the fact that while the Tonto National Forest, in addition to the Coconino and Prescott National Forests, only would agree to a settlement for cow removal from a significant number of its riparian allotments only for three years,[15] thereby likely subjecting to the areas once again to historically unprofessional and irresponsible management into the future until our next lawsuit. The settlement merely commits the Forest Service personnel to doing their jobs for a short period time. The fact that the Forest Service refused to commit to doing their jobs for more than three years must be considered in all future consultations regarding cow grazing in riparian areas.

In this Notice, we document degraded landscape conditions pervasive across habitat legally designated for the survival and recovery of listed endangered species and their designated Critical Habitat. We intend to (1) challenge the aforementioned 1995, 2002, 2005, 2007, 2008, 2009, 2010 and 2014 Biological Opinions' reliance on nonfunctional exclosures to avoid 'take' of ESA-listed species, and (2) to force reinitiation of consultation to redo the 1995, 2002, 2005, 2007, 2008, 2009, 2010 and 2014 Biological Opinions to incorporate new listings and new information documenting that Tonto National Forest cow grazing is affecting Yellow-billed Cuckoo ("YBC"), Southwestern Willow Flycatcher ("WFC"), Chiricahua Leopard Frog ("CLF"), Northern Mexican Garter Snake

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[10] 50 CFR 402.02.

[11] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, April 28, 2016, page 242.

[12] Supplemental Sixty-Day Notice of Intent to Sue Pursuant to the Endangered Species Act, Horseshoe Allotment, Agua Fria National Monument in Arizona, August 26, 2021, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/blm-agua-fria-20210826-NOI-SUPPLEMENTAL.pdf.; Sixty-Day Notice of Intent to Sue the Bureau of Land Management and the U.S. Fish and Wildlife Service for Endangered Species Act Violations for Failing to Ensure that Authorized Cow Grazing Does Not Continue Destroying Western Yellow-Billed Cuckoo and Gila Chub Critical Habitat on Agua Fria National Monument, May 9, 2022, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/blm-agua-fria-20220509-NOI-2.pdf.

[13] Coronado National Forest (FS) Grazing Consultation Supplemental Summary of Concerns, U.S. Fish and Wildlife Service, October 29, 2018.; Email from Sferra, Susan, to: Servoss, Jeff; RE: suggestion from Shawn [Sartorius] on grazing BO; July 5, 2019.; Yellow-billed Cuckoo Protocol Survey Results at Five Sites on the Coronado National Forest, Arizona 2021, Draft, Susan Sferra, U.S. Fish and Wildlife Service, Arizona Ecological Services, November 2021.; Grazing Impacts Input, Susan Sferra, November 11, 2021.

[14] Email from Sferra, Susan, to: Servoss, Jeff; RE: suggestion from Shawn [Sartorius] on grazing BO; July 5, 2019.; Yellow-billed Cuckoo Protocol Survey Results at Five Sites on the Coronado National Forest, Arizona 2021, Draft, Susan Sferra, U.S. Fish and Wildlife Service, Arizona Ecological Services, November 2021.; Grazing Impacts Input, Susan Sferra, November 11, 2021.; And the documentation provided in this Notice.

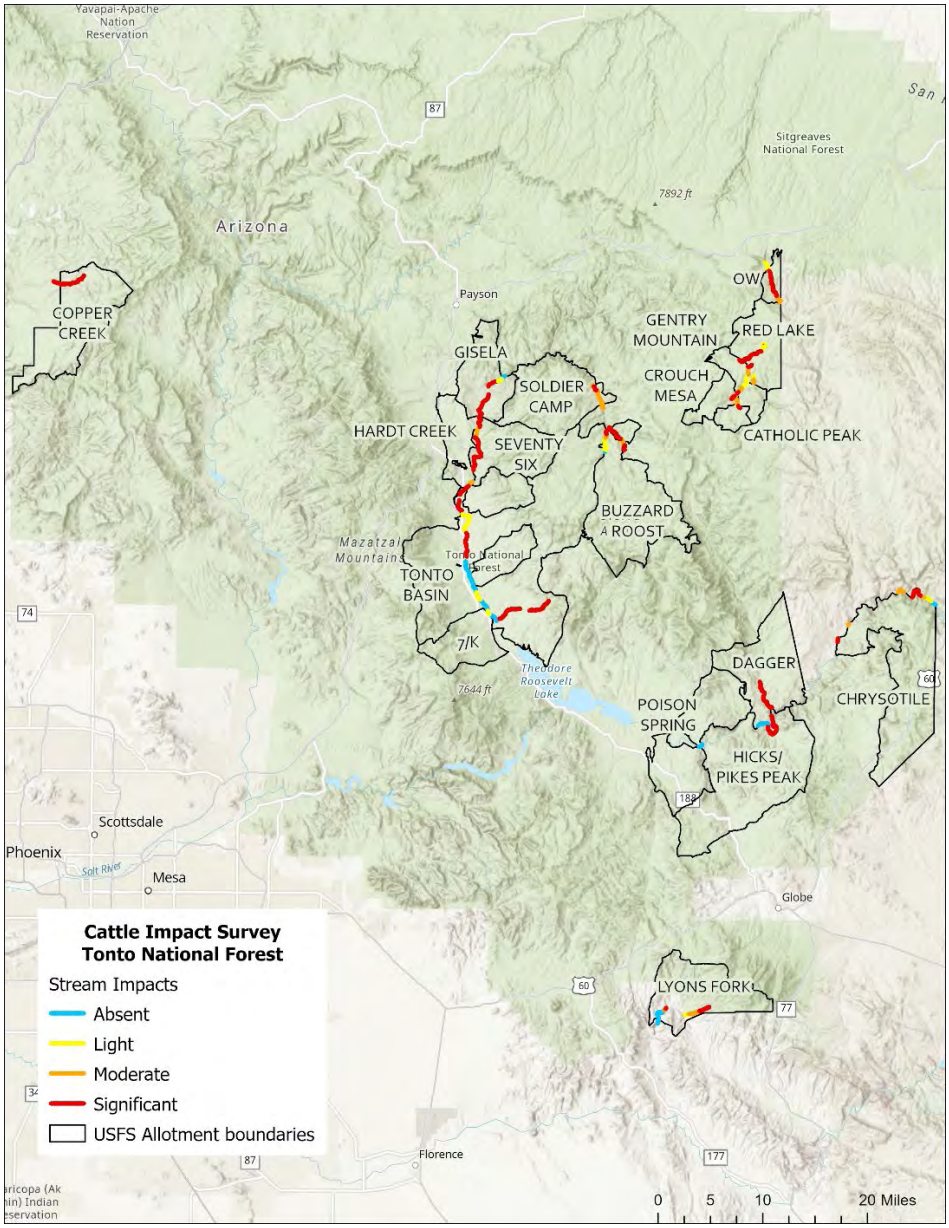
[15] Stipulated Settlement Agreement, Center for Biological Diversity and Maricopa Audubon Society, v. United States Forest Service and United States Fish and Wildlife Service, Case 3:20-cv-08243-DGC Document 23-1 Filed 10/05/21.

("NMGS"), Narrow-headed Garter Snake ("NHGS"), Spikedace, Razorback Sucker ("RBS"), Gila Chub ("GC") and their designated riparian Critical Habitat in a manner and to an extent not considered in the eight Biological Opinions specified above.

In this Notice, the Center and Maricopa Audubon provide pertinent new and previously ignored background information and identify the legal violations that we intend to challenge in federal court should USFWS and USFS fail to correct these violations within sixty 60 days.

We will continue to be available to discuss these matters at your convenience; however, as destructive illegal cow grazing continues, we are not willing to further delay filing a lawsuit should USFWS and USFS continue failing to correct these violations within 60 days.

PLEASE SEE THE FOLLOWING SUMMARY MAP OF THE COW GRAZING DAMAGE DOCUMENTED IN THIS NOTICE:



EXECUTIVE SUMMARY

Region 3 Forest Service's August 24, 2018, Southwestern Region Riparian and Aquatic Ecosystem Strategy says about its riparian habitat,

> "Rivers and streambeds are conduits for life. In no other ecosystem can we as an agency have a greater impact in "*Caring for the land and serving people*."[16] Protection and enhancement of riparian and enhancement of riparian and aquatic areas is paramount in providing habitat and sustainable water for dependent fish, wildlife, plant species, and human communities alike. …"[17]
>
> "The overarching goal of this strategy is to ensure that the ecological integrity of riparian and aquatic habitats is maintained and/or restored."[18]

But the Regional Forest Service homage to the value of riparian habitat quoted above has proven to be nothing but empty rhetoric.

In our recent successful legal challenges against the Apache-Sitgreaves,[19] Coconino,[20] Gila,[21] Prescott[22] and Tonto[23] National Forests, the primary problem has been Forest Service employees' failure to respect, maintain and monitor Critical Habitat riparian exclosures resulting in widespread adverse modification of designated Critical Habitat.

On the Tonto National Forest, as documented in this Notice, an unfortunate and disastrous situation continues widely and on a landscape scale well beyond what has been addressed previously. Unauthorized grazing is rampant across the Tonto. Our latest surveys document and present new information that the Tonto National Forest's highest priority, cow grazing, is harming imperiled native species to an extent not previously considered. Reinitiation of consultation must follow.

Not only is the Regional USFS homage to the value of riparian habitat being ignored, widespread adverse destruction of designated riparian Critical Habitat is being ignored and perpetuated by the Tonto National Forest's management scheme that ultimately relies on permittees to protect riparian dependent endangered species.

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[16] "What We Believe … The phrase, "Caring for the Land and Serving People," captures the Forest Service mission."; https://www.fs.usda.gov/about-agency/what-we-believe ; web accessed, January 28, 2020.

[17] USDA Forest Service Southwestern Region Riparian and Aquatic Ecosystem Strategy, August 24, 2018, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd602126.pdf.; page 1.

[18] *Id*., page 2.

[19] Sixty-Day Notice of Endangered Species Act Violations, Apache-Sitgreaves National Forest, CBD, June 27, 2019, http://forestpolicypub.com/wp-content/uploads/2019/07/000007_Center-for-Bio-Div-re-ESA-re-Jumping-Mouse_Region-3.pdf.; Sixty-day Notice of Endangered Species Act Violations, Upper Gila River Watershed, CBD, July 17, 2019, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.

[20] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[21] Sixty-day Notice of Endangered Species Act Violations, Upper Gila River Watershed, CBD, July 17, 2019, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.

[22] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[23] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

THE INADEQUACY OF RELYING ON UTILIZATION ESTIMATES

If cattle grazing isn't excluded via fencing, then its impacts to critical habitat are governed by cow forage utilization standards which are not applicable for the protection of threatened and endangered riparian species. For example, from the April 1, 2010, Biological Opinion for Crouch Mesa allotment:

> "Grazing will be conducted at conservative-use levels. The objective of conservative-use is to manage grazed vegetation for the maintenance of good to excellent conditions, and enhancement of poor to fair watersheds and wildlife habitat. Wildlife habitat and range, and watershed conditions, may be gauged by monitoring seasonal utilization on key forage species during the grazing period. Forage utilization would be managed at a level that corresponds to light to moderate grazing intensity, in order to provide for grazed plant recovery, increases in herbage production, and retention of herbaceous litter to protect soils. Conservative-use equates to 30% to 40% on herbaceous species and less than 50% use on browse (current year's leaders). Consistent patterns of utilization in excess of 40% of key herbaceous species and 50% of browse species in key areas would be used as a basis to modify management practices or take administrative actions necessary to reduce utilization in subsequent grazing seasons. The TNF will utilize the document entitled "**Principles of Obtaining and Interpreting Utilization Data on Southwestern Rangelands**" for guidance and direction on utilization monitoring." [24]

Utilization metrics are also being used to "protect" riparian resources from cattle damage. According to the February 28, 2002, Biological Opinion for ongoing grazing:

> "Discussions with Forest staff (Janet Johnson, Mike Ross, and Patti Fenner, Tonto National Forest, pers. comms. 2001) revealed that based on monitoring data, and to maintain satisfactory riparian condition, a 30 percent (of plant biomass) utilization rate had been implemented for herbaceous riparian vegetation. The riparian herbaceous utilization standard has therefore been changed throughout the document to the 30 percent standard to reflect current management."[25]

But quantitative methods for measuring utilization were mostly developed for perennial grasses.[26] Utilization is directly related to the physiological response of the plants being grazed, as is usually the case where utilization is measured on perennial grasses and shrubs.[27] The 50% rate is based on a decades old laboratory experiment that showed under optimal conditions, 50% utilization of a plant is the maximum before roots cease growing. In the context of the drought which has befallen the region since this experiment was conducted, conditions are far from optimal, and 50% utilization will likely lead to rapid loss of vegetation.

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[24] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District AESO/SE #22410-F-2009-0217. Pg. 3.

[25] Correspondence to Tonto National Forest Supervisor Karl Siderits, from USFWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300, page 6.

[26] Principles of Obtaining and Interpreting Utilization Data on Rangelands at 9.

[27] *Ibid*., page 2.

According to the *Principles of Obtaining and Interpreting Utilization Data on Southwest Rangelands*, University of Arizona Cooperative Extension publication AZ1375, the **Tonto's own guiding document** for utilization,

> "Most of the quantitative methods for measuring utilization have been developed for perennial grasses. However, there are many rangelands where shrubs and/or annuals comprise a major portion of the forage resource for both livestock and wildlife. Some examples include Desert Scrub, chaparral, annual grassland, and some formerly grassland areas invaded by shrubby species. In these situations, the basic assumptions regarding proper use and the relationship between use on key forage species and total forage consumption may not hold, i.e. estimated utilization may not be well-correlated with the amount of forage used unless all forage classes are considered."[28]

Tonto grazing allotments are defined as lands where shrubs and/or annuals comprise a major portion of the forage resource for livestock, and cattle exhibit seasonal shifts in forage. The specific examples given in the above paragraph fit the landscape of much of the Tonto allotments, i.e. desert scrub, chaparral, annual grassland, and some formerly grassland areas invaded by shrubby species. Are utilization measurements correlated with forage use in oak-juniper woodlands, semi-desert grasslands, or transition zones? Likely not. The document goes on:

> "As described earlier, estimates of utilization on key forage species to indicate grazing intensity assume a constant relationship between use on key forage species and other species in the plant community. This assumption may be reasonable on ranges used in a limited grazing season or where most forage species have similar life forms. It breaks down when grazing occurs yearlong, or at least across different seasons, and the forage resource is comprised of diverse life forms and varying seasonal growth responses. Studies have shown that livestock diet selection varies markedly depending on the growth response of different categories of plants. For example, Smith, Ogden and Gomes (1993) observed drastic changes in cattle diet preference depending on season **in southern Arizona**. Cattle shifted their preference among cool-season annuals, shrubs, cacti and warm-season perennial grasses from month to month depending on availability and attractiveness of each category of plants. Clearly, in this case, the percentage utilization on a perennial grass key species would have to be considered in terms of the season of use and would not be well-correlated with total forage harvest by livestock".[29]

In the Tonto, most grazing occurs yearlong and/or across multiple seasons, and the forage resource is diverse and varies seasonally and sometimes dramatically. Cattle consume a wide variety of shrubs, cacti, and annuals in southern Arizona. Further,

> "Utilization guidelines cannot be employed for seasonal utilization because there is no known consistent relationship between seasonal utilization estimates and utilization based on the entire growing season's forage production. To establish such a relationship would require that the amount of subsequent forage growth could be accurately predicted at any

[28] *Ibid*., page 9.
[29] Principles of Obtaining and Interpreting Utilization Data on Rangelands at 9.

> given time during the growing season. Information to make such predictions does not exist. For this reason, seasonal utilization estimates are not reliable for grazing compliance decisions employing utilization guidelines based on end-of-season production."[30]

To corroborate the conclusions of Smith, Ogden and Gomes (1993), the Society for Rangelands Management (2018) states:

> "Measuring utilization on "key species" as a basis for adjusting stocking rates (i.e., either removing some or all animals from a pasture) or for calculating the "desired" stocking rate for following years, is based on the concept that the use on the key species is gradual throughout the grazing period and correlated with stocking rate. Except for monocultures or very short grazing periods, this is not often the case because animal preferences shift as different plants or locations become more or less attractive to them. The above issues make it unlikely that "utilization limits" have much actual relevance except maybe where the growing season and grazing season are concurrent, and utilization is measured at the end of both."[31]

The recurring theme is that utilization estimates **cannot** be used to make inferences on anything except the responses of cattle-preferred forage to grazing. Measuring utilization has no value for evaluating the effects of the on-going livestock grazing on federally proposed and listed threated and endangered species and their critical habitats. One cannot make inferences on the quality of wildlife habitat, or the health of the ecosystem based on annual utilization measurements of preferred cattle forage.

Habitat designated as critical should have management objectives that follow recommendations in Recovery Plans. Utilization estimates are meaningless within critical habitat. In critical habitat, there are species-specific objectives to be met. These should be clearly defined per species and new, customized monitoring strategies must be implemented where the objective is to avoid adverse modification. To reiterate, utilization estimates can only be useful if your objectives are to describe the physiological response of cattle-preferred plant species to grazing. There is no known relationship to make inferences on T&E species and their habitat based on utilization estimates.

To make matters worse, the Tonto prefers to maximize utilization limits so that natural resources are always stressed to the brink. For example,

> "The Forest often applies the maximum utilization limits as provided for within the Forest Plan despite the condition of an individual allotment. For example, a recent environmental assessment for the Greenback allotment proposes expensive fencing, while acknowledging the present poor condition of the allotment and that the proposed action will not allow allotment condition to improve (Terrell 1999).[32]

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[30] *Id*., page 5.

[31] Society for Rangelands Management. 2018. Utilization and Residual Measurements: Tools for Adaptive Rangeland Management. Technical Report by SRM Rangeland Assessment and Monitoring Committee. Rangelands 40(5):146-151 (doi 10.1016/j.rala.2018.07.003).

[32] Correspondence to Tonto National Forest Supervisor Karl Siderits, from USFWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300, page 9.

As our surveys have revealed, this cow grazing utilization and rest-rotation scheme has resulted in widespread degradation, loss, and regeneration impediment to essential woody riparian vegetation. This information represents new information revealing that the Tonto National Forest's cow grazing is harming listed species' Critical Habitat to an extent not previously considered. Again, reinitiation of consultation must follow.[33]

To corroborate our stance that utilization and rest-rotation schemes are inappropriate and inapplicable to guide conservation of imperiled species, **USFWS' own species experts said** in the "Supplemental Summary of Concerns"[34] to the nearby Coronado National Forest:

> "Grazing monitoring measures and standards do not accurately assess effects on cuckoo habitat, as well as other listed species' habitat."[35]
>
> "Management actions for cuckoos and other riparian or ephemeral drainage-dependent species: **we recommend** no spring capping (development), no development of water tanks that are likely to cause a decline in riparian habitat, **no grazing in riparian habitat (including ephemeral drainages with hackberry, oak, ash, sycamore, Arizona cypress, walnut, soapberry, etc.) where cuckoos breed at any time** …"[36]

On July 5, 2019, **USFWS' lead Yellow-billed Cuckoo species expert wrote**:

> "**We all discussed that the range grazing measures are inadequate to measure needs for sensitive/listed for wildlife**."[37]

READING THE RANGE

To make matters worse, between 2000-2002 the University of Arizona Cooperative Extension in Gila County, the Gila County Cattle Growers Association and the Tonto National Forest established the 'Reading the Range' monitoring program (Intergovernmental Agreement No. 123015 with Tonto Natural Resource Conservation District). 'Reading the Range' is a collaborative range monitoring program developed in part as a response to ongoing NEPA litigation brought on by environmental groups, and because the Forest Service "do not have enough personnel to complete an on-going need for range monitoring." [38]

> "In 2001, Jim Sprinkle, then Area Cooperative Extension Agent for Animal Sciences in Gila County, responding to ranchers' and land management agency personnels' expressed needs for training in rangeland monitoring [Figure 4, image of ranchers monitoring] started the Reading the Range (RTR) programme. The programme's objectives were to provide training in range monitoring to ranchers and agency personnel, establish

[33] 50 CFR 402.16.

[34] Coronado National Forest (FS) Grazing Consultation Supplemental Summary of Concerns, U.S. Fish and Wildlife Service, October 29, 2018.

[35] *Id*., page 1.

[36] *Id*., page 3.

[37] Email from Sferra, Susan, to: Servoss, Jeff; RE: suggestion from Shawn [Sartorius] on grazing BO; July 5, 2019.

[38] February 16, 2016 Gila County Board Of Supervisors Meeting Minutes, 1400 East Ash Street, Globe, AZ. page 2 of 7.

> demonstration ranches with technical support, use the data to assist in management, and provide training for the NEPA process."[39]

'Reading the Range' is one of three programs that comprise the Arizona Cooperative Extension Rangeland Monitoring Program.[40] Unlike the other two programs, 'Reading the Range' relies on extension agents, independent contractors, and permittees instead of research specialists to complete monitoring.[41] 'Reading the Range' is funded mostly by private sources (livestock permittees[42], 49%), federal sources (46%), and lastly through state and local governments (5%).[43] At least 50% of allotment permittees in Gila County participate in the program.[44]

There are 1.5 million acres in TNF using RTR program[45], with 100% rancher participation in the Tonto Conservation District.[46] In essence, approximately 1.5 million acres of land are monitored through a program largely funded by ranching permittees.

The program is rapidly expanding and recruiting allotments outside of the Tonto. For example, "the focus for the 2019-2020 RTR season and beyond will be ranches (29 allotments) that are outside the Tonto NF and not currently participating in RTR".[47]

According to University of Arizona Cooperative Extension agents, Reading the Range is **not** used to inform stocking rates[48], even though its original purpose was to provide data to assist in grazing management.[49] However, we present below examples that indicate the opposite, that information from the Reading the Range program **is in fact** used to inform range management decisions[50] including adjusting stocking rates. Regarding stocking rates, the excerpts below describe the 'Reading the Range' program in action on the Millsite allotment in the Mesa Ranger District, Tonto National Forest:

> **"2010**
>
> **"Monitoring information from the Cooperative Extension's, "Reading the Range" program would be evaluated and considered**. Data include dry weight rank, fetch relationships (distance to closest perennial plants), utilization, and palatable forage production information. Consistent patterns of utilization meeting conservative use guidelines of 30-40% on key species in key upland areas or exceeding guidelines for riparian areas **would be used as a basis to modify management practices** or take administrative actions such

[39] Julie Brugger, Mitchel P. McClaran & James E. Sprinkle (2020) 'Storytelling' Natural Resource Conflict on U.S. Public Lands, Ethnos, 85:1, 54-78, DOI: 10.1080/00141844.2018.1456476.
[40] The Arizona Cooperative Extension Rangeland Monitoring Program, University of Arizona Cooperative Extension, Agriculture & Natural Resources, 2021.
[41] *Id*., page 2.
[42] Forest Plan Monitoring and Inventory Report, Fiscal Year 2015. Tonto National Forest, United States Forest Service Southwestern Region pg. 8.
[43] February 16, 2016 Gila County Board Of Supervisors Meeting Minutes, 1400 East Ash Street, Globe, AZ.
[44] *Ibid.*
[45] Julie Brugger, Mitchel P. McClaran & James E. Sprinkle (2019): 'Storytelling' Natural Resource Conflict on U.S. Public Lands, Ethnos (DOI: 10.1080/00141844.2018.1456476), page 19.
[46] Natural Resource Conservation Commissioner Lisa A. Atkins 2019 Annual Report, page.26.
[47] *Ibid.*
[48] Email from: Robin Silver, to: Ashley Hall; Subject: A POTENTIAL PROBLEM FW: Reading the Range notes; January 28, 2021; https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/tonto-READING-THE-RANGE-20210128-email-SILVER-to-ASHLEY-HALL-re-READING-THE-RANGE-PERPETUATING-MISMANAGEMENT-OF-PUBLIC-LANDS.pdf
[49] Julie Brugger, Mitchel P. McClaran & James E. Sprinkle (2019): 'Storytelling' Natural Resource Conflict on U.S. Public Lands, Ethnos (DOI: 10.1080/00141844.2018.1456476), page 19.
[50] February 16, 2016 Gila County Board Of Supervisors Meeting Minutes, 1400 East Ash Street, Globe, AZ.

as reducing authorized and permitted numbers in order to reduce utilization in subsequent grazing seasons." [51]

2012

"The UA presented Reading the Range monitoring data on the NEPA Appeal for the Millsite Allotment at Superior to US Forest Service officials. **The data presented helped resolve the appeal and enabled the permittee to increase the stocking rate in conjunction with monitoring data**. The economic impact of that decision to the ranching operation was conservatively worth $24,819 per year." [52]

2015

"In FY 2015, 1.2 million acres of rangeland were evaluated and administered to standard across the forest. Livestock grazing is monitored through inspections to determine short-term needs **for adjustment in stocking numbers** and through use of data collected for analysis of grazing projects as required by National Environmental Policy Act (NEPA). Monitoring was accomplished by forest personnel, livestock permittees, and University of Arizona staff. **Reading-the-Range** is a program funded by the forest, Natural Resources Conservation District (NRCD), and livestock permittees to cooperatively monitor range allotments with University of Arizona staff. The program conducts short- and long-term upland and riparian monitoring. Reading-the-Range completed monitoring on 10 allotments in 2015." [53]

2016

"Permitted stocking rates up to 307 adult livestock yearlong and 197 Yearlings, of natural increase, from January to May. Baseline will be 110 cow/calf, 15 bulls and carryover. **Livestock numbers may change based on various factors: Reading the Range or similar monitoring and successful implementation of management practices**. Other considerations include development of range improvements, forage utilization patterns, economic factors, and climate forecasts. Permittee will either carry over of *Yi* yearlings or add equivalent number to herd based on monitoring analysis, until herd reaches permitted numbers. Annual livestock numbers will be determined with District Ranger, Range Staff and permittee." [54]

[51] 2010 Environmental Assessment, Millsite Allotment, Mesa Ranger District, Tonto National Forest

[52] W1012 Annual Meeting Denver, CO Tuesday, August 7, 2012. (W1012: Improving ruminant use of forages in sustainable production systems for the western U.S. – NIMSS)

[53] Forest Plan Monitoring and Inventory Report, Fiscal Year 2015. Tonto National Forest, United States Forest Service Southwestern Region pg. 8.

[54] 2016 Millsite allotment Allotment Management Plan.

DROUGHT

Public-land range conditions have generally worsened in recent decades,[55] exhibiting reduced productivity caused by past grazing in conjunction with a changing climate.[56] Drought conditions in the western United States continue with over 97% of lands in the western region experiencing some level of drought (D0-D4). Nearly half of these lands are in the extreme (D3) or exceptional (D4) drought category.[57] Current forecasts indicate little change with drought conditions expected to continue for the foreseeable future.[58]

Cattle management decisions made by USFS continually disregard the ecological impacts of prolonged and extreme drought. This arbitrary and capricious act forecloses any evaluation of the near-term effect of prolonged drought on endangered species and designated Critical Habitat, particularly the lost essential streamside vegetation. This vegetation loss is worsened by unchecked and unenforced grazing rules, use of a grazing promotion and perpetuation scheme that is not relevant to the protection of endangered species and their designated riparian Critical Habitat and handing range monitoring duties over to permittees. Management decisions that do not rely on practical and applicable measures is a violation of the Administrative Procedure Act, which is intended to stop conclusions that are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[59] This act also violates the Endangered Species Act requirement to use "the best scientific . . . data available."[60]

USFWS species experts' opinion is consistent with the "best scientific data available,"[61] which recognizes that cow grazing exacerbates the effects of climate change.[62] On November 11, 2021, **USFWS' lead Yellow-billed Cuckoo species expert reported** in "Grazing Impacts Input"[63]:

> "**As drought and climate change progress and livestock grazing continues, the riparian and xero-riparian shrub and tree recruitment and survival will diminish.**

[55] Donahue, D.L., 2006. Federal rangeland policy: perverting law and jeopardizing ecosystem services. J. Land Use & Envtl. L., 22, p. 299.

[56] Beschta, R.L., Donahue, D.L., DellaSala, D.A., Rhodes, J.J., Karr, J.R., O'Brien, M.H., Fleischner, T.L. and Williams, C.D., 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, 51(2), pp.474-491.

[57] https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?West

[58] https://droughtmonitor.unl.edu/ConditionsOutlooks/Outlooks.aspx

[59] Administration Procedures Act, 5 U.S. Code § 706(2)(A)

[60] 16 U.S.C. § 1536(a)(2).

[61] 16 U.S.C. § 1533(b)(2).

[62] Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild and Feral Ungulates; Robert L. Beschta, Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, and Cindy Deacon Williams, Environmental Management (2013) 51:474-491.; Livestock Production, Climate Change, and Human Health: Closing the Awareness Gap, Debra L. Donahue, Environmental Law Reporter, 45 ELR 11112, 12-2015, http://ssrn.com/abstract=2696741; citing: *See, e.g.*, Beschta et al., *supra* note 59, at 476-81; Ripple et al., *supra* note 2, at 2, 3. Almost nothing is known, however, about the ability of shrublands to sequester carbon. *See* Jack A. Morgan et al., *Carbon Sequestration in Agricultural Lands of the United States*, 65 J. Soil & Water Conservation 6A, 7A (2010), doi:10.2489/jswc.65.1.6A. This is a "critical research need," *see id.*, particularly since shrubs dominate large areas of the public lands.; Climate change scenarios of herbaceous production along an aridity gradient: vulnerability increases with aridity, Carly Golodets, Marcelo Sternberg, Jaime Kiegel, Bertrand Boeken, Azlmen Henkin, No'am G. Silgmean and Eugene D. Ungar, DOI 10.1007/s00442-015-3234-5, February 7, 2015.; Grazing Impacts Input, Susan Sferra, November 11, 2021.

[63] Grazing Impacts Input, Susan Sferra, November 11, 2021.

Riparian and xero-riparian tree and shrub cover in drainage bottoms will diminish unless offsetting actions are taken."[64]

"To maintain healthy plant communities, new trees need to replace older trees that are dying at higher rates due to drought and increased temperatures. **The tree and shrub regeneration produced by this past third wettest monsoon in history may help replenish some of the trees lost by drought and livestock (grazing, trampling, compacting soil, erosion, etc.) if enough moisture persists for survival and if protected from herbivory [cow grazing] and trampling**."[65]

"These infrequent and unpredictable periods of above average rainfall are important in recruiting trees needed by cuckoos and other riparian and xeroriparian dependent species for nest sites, cover, temperature amelioration, and food production. These habitats are more humid, cooler, and insect-rich than adjacent habitats. **Protecting these new trees in years when rainfall and moisture are sufficient may be one of the most productive management actions that can ensure future woodland cover. The tree and shrub regeneration in drainage bottoms has a greater probability of survival to maturity if livestock are prevented from accessing new growth** (Sferra 2021)."[66]

"**Many studies document that removal of cattle grazing correlates with increases in plant productivity and abundance of breeding birds**, especially when riparian ecosystems are restored. Poessel et al. (2020)[67] is just one of the most recent studies."[68]

"**A single summer of above average monsoon rain does not compensate for years of drought and livestock impacts. Reducing/eliminating livestock access to ephemeral, intermittent, and perennial drainages following these rare periods of good rainfall will allow tree and shrub seedlings to grow and survive**."[69]

"**In June 2021, trees in drainage bottoms and hillsides in areas surveyed for cuckoos showed signs of stress (Sferra 2021).**[70] **… Young trees were lacking, except in isolated pockets**."[71]

"**Perennial plant recruits can be killed by just a few cattle in drainage bottoms in the same season, regardless of time of year**."[72]

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[64] *Ibid*., page 1.

[65] *Id*.

[66] *Ibid.*

[67] Poessel, S.A., J. C. Hagar, P. K. Haggerty, and T. E. Katzner. 2020. Removal of cattle grazing correlates with increases in vegetation productivity and in abundance of imperiled breeding birds. Biological Conservation 241 (2020) 108378: 1-9. www.elsevier.com/locate/biocon.

[68] Grazing Impacts Input, Susan Sferra, November 11, 2021, page 1.

[69] *Id*., page 2.

[70] Sferra, S.J. 2021. Yellow-billed cuckoo protocol survey results at five sites on the Coronado National Forest, Arizona, 2021. U.S. Fish and Wildlife Service. Arizona Ecological Services Office. Tucson, AZ.

[71] Grazing Impacts Input, Susan Sferra, November 11, 2021, page 2.

[72] *Id*., page 2.

"**Livestock congregating in shaded areas and water sources compact the soil and lead to seed germination failure**. **Replacement habitat cannot develop in these compacted areas**."[73]

"**Livestock grazing and climate change both contribute toward reduced overstory and subcanopy cover** and/or conversion to more arid adapted tree species in ephemeral, intermittent, and perennial drainages. **We cannot control climate change, but we can control livestock impacts from grazing, trampling, erosion, and soil compaction**."[74]

"**Utilization rates for grazing often exceed standards for healthy ecosystems and should be adjusted**."[75]

For CLF on the Tonto, designated riparian Critical Habitat is effectively left unprotected from destructive cow grazing. The April 1, 2010, Biological Opinion[76] relies primarily on unmonitored and unenforced exclosure and pasture fences, as well as utilization and rest-rotation schemes to protect frog populations, and thus do not support CLF long-term persistence and stability.

We document in this Notice numerous examples of supposedly off-limit riparian zones significantly impacted by cows and cow feces and show that vaguely described utilization and rest-rotation schemes are not monitored or enforced.

For YBC and WFC Critical Habitat on Tonto National Forest cow grazing allotments addressed in this Notice, we document detrimental unauthorized grazing impacts. These imperiled birds are similarly left unprotected from destructive grazing, as we document numerous examples of supposedly off-limit riparian zones significantly impacted by cows and cow feces.

For NMGS and NHGS on the Tonto, there is no consultation coverage for any grazing allotment addressed in this Notice. These threatened snakes and their designated riparian Critical Habitat therefore depend on preexisting, nonfunctional exclosures and non-applicable cow utilization metrics for their conservation and recovery, with no specific guidance or terms and conditions to avoid Take.

Designated riparian Critical Habitat for imperiled native fish on Tonto grazing allotments, similar to that for CLF, NMGS and NHGS, is inadequately protected with non-functioning exclosures and non-applicable cow utilization metrics. Pastures containing designated critical habitat for spikedace and RBS on the Tonto, as illustrated in this Notice, showed significant impacts from cattle, most of which is unauthorized. Gila Topminnow (*Poeciliopsis occidentalis occidentalis*) and Desert Pupfish (*Cyprinodon macularius*) do not have designated Critical Habitat.[77] On the Tonto, pastures containing

[73] *Ibid.*

[74] *Id.*, page 3.

[75] *Ibid.*

[76] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[77] General Species Information for Gila Topminnow (*Poeciliopsis occidentalis occidentalis*), USFWS, May 2008.

occupied Gila Topminnow sites are inadequately protected by the same scheme of non-applicable cow utilization metrics instead of exclosures.

The Tonto National Forest's 16 allotments surveyed to date where we have documented inadequate protection of designated riparian Critical Habitat include the Seventy-Six, Hardt Creek, Dagger, Poison Springs and Tonto Basin allotments on the Tonto Basin Ranger District; the Gisela allotment on the Payson Ranger District; Hick-Pikes Peak, Chrysotile and Lyons Fork allotments on the Globe Ranger District; Crouch Mesa, Soldier Camp, Buzzard Roost, and OW allotments on the Pleasant Valley Ranger District.

To summarize our concerns:

1. The February 28, 2002, Biological Opinion contains inadequate and insufficient consultation coverage for WFC and spikedace. We document in this Notice that "the amount or extent of taking specified in the incidental take statement [has been] exceeded," "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." Reinitiation of consultation must take place.[78];
2. There is no ITS or Concurrence for either federally listed garter snake. Reinitiation of consultation must take place.[79] Continued failure by the Forest Service and USFWS to reinitiate consultation on the Seventy-six, Hardt Creek, Gisela, and Hick-Pikes Peak allotments on the Tonto National Forest violates the law.;
3. Supposedly vacant pastures of the Dagger allotment are being heavily grazed and exhibit significant cattle impacts in and near designated critical habitat. These illegal activities must cease immediately.;
4. According to the June 21, 2005, Biological Opinion, Spring Creek on the Soldier Camp allotment should be excluded from grazing. The facts presented in this Notice "the amount or extent of taking specified in the incidental take statement [has been] exceeded," "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the Soldier Camp and Buzzard Roost allotments on the Tonto National Forest violates the law. Cattle are also grazing in non-allotted areas in the vicinity.;
5. Gila Chub critical habitat is degraded and unprotected on the Lyons Fork allotment. The law prohibits any action that reduces "appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[80] The law also prohibits any action causing "direct or

[78] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

[79] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

[80] 50 CFR § 402.02; 16 U.S.C. 1531 *et seq*.

indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."[81];

6. Downed fences and significant cow grazing impacts along Canyon Creek in the OW allotment, which is , designated critical habitat for narrow-headed garter snakes, and is desert sucker and speckled dace occupied.[82] This represents new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[83] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the OW allotment violates the law.[84];
7. Trespass cows are grazing and damaging resources and designated critical habitat adjacent to the Poison Springs allotment boundaries. This illegal activity must cease immediately.;
8. Documentation of significant cow grazing impacts along the Salt River on the Chrysotile allotment represents new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[85] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Chrysotile allotment violates the law.[86];
9. Documented Take and the frequent and severe cow grazing impacts represent new information regarding the Crouch Mesa allotment that is "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[87] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Crouch Mesa allotment violates the law.[88];
10. July 24, 2014, Biological Opinion is inadequate and illegal because:
    a. The 2014 Biological Opinion does not include an Incidental Take Statement for Yellow-billed cuckoo, Southwestern Willow Flycatcher, Northern Mexican Garter snake, Narrow-headed Garter snake, Spikedace and Loach minnow because the Biological Opinion assumes that the Tonto Creek Riparian Unit

[81] *Ibid.*

[82] Tonto National Forest - Canyon Creek (usda.gov) accessed 1/4/22.

[83] 50 C.F.R. 402.16.

[84] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[85] 50 C.F.R. 402.16.

[86] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[87] 50 C.F.R. 402.16.

[88] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

("TCRU") is fenced off from cattle grazing. We document in this Notice that this is **not** the case and that cattle are in fact damaging the TCRU. Without an adequate and lawful Incidental Take Statement in place, any activities likely to result in incidental take of members of listed species are not lawful.[89] Multiple other legal authorities speak to the inadequacy[90] of the 2014 Biological Opinion's Incidental Take Statement in addition to the Administrative Procedures Act, which requires federal courts to set aside agency action found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[91];

b. The 2014 Biological Opinion allows designated riparian Critical Habitat on the Tonto National Forest to be managed by a disingenuous scheme that provides few riparian exclosures and instead uses cow grazing utilization metrics that do not protect riparian dependent endangered species. This violates the legal requirement to utilize "the best scientific . . . data available."; and,

c. The 2014 Biological Opinion failed to include and consider the additive and cumulative of riparian cow grazing and climate change in spite of the extensive body of scientific literature that exists to the contrary.[92];

11. Reinitiation of consultation must take place expeditiously based on the facts above as well as that:

a. new species have been granted protection and have had riparian Critical Habitat designated for their Recovery under the Endangered Species Act since the issuance of the Biological Opinions that are addressed in this Notice and that apply to Tonto National Forest grazing allotments; and,

b. the new information presented prior to and in this Notice documents effects of the Tonto National Forest's cow grazing that are affecting listed species and designated riparian Critical Habitat in a manner and to an extent not considered in the Biological Opinions addressed in this Notice; and,

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[89] 16 U.S.C § 1538(a)(1)(B).

[90] *Or. Nat. Res. Council v. Allen*, 476 F.3d 1031 (9th Cir. 2007).; *Wild Fish Conservancy v. Salazar*, 628 F.3d 513 (9th Cir. 2010).; *Ctr. for Biological Diversity v. Provencio*, No. 10-cv-330, 2012 WL 966031 (D. Ariz. Jan. 23, 2012).; *Ctr. for Biological Diversity v. NMFS*, 977 F. Supp. 2d 55 (D.P.R. 2013).; *Native Fish Soc'y v. NMFS*, 992 F. Supp. 2d 1095 (D. Or. 2014).; *Sierra Club v. U.S. Dep't of the Interior*, 899 F.3d 260 (4th Cir. 2018).

[91] 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 709 (9th Cir. 2005).

[92] For example: Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007.; Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild and Feral Ungulates; Robert L. Beschta, Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, and Cindy Deacon Williams, Environmental Management (2013) 51:474-491.; Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192, Page 59992, October 3, 2014.; Livestock Production, Climate Change, and Human Health: Closing the Awareness Gap, Debra L. Donahue, Environmental Law Reporter, 45 ELR 11112, 12-2015, http://ssrn.com/abstract=2696741; citing: *See, e.g.*, Beschta et al., *supra* note 59, at 476-81; Ripple et al., *supra* note 2, at 2, 3. Almost nothing is known, however, about the ability of shrublands to sequester carbon. *See* Jack A. Morgan et al., *Carbon Sequestration in Agricultural Lands of the United States*, 65 J. Soil & Water Conservation 6A, 7A (2010), doi:10.2489/jswc.65.1.6A. This is a "critical research need," *see id.*, particularly since shrubs dominate large areas of the public lands.; Climate change scenarios of herbaceous production along an aridity gradient: vulnerability increases with aridity, Carly Golodets, Marcelo Sternberg, Jaime Kiegel, Bertrand Boeken, Azlmen Henkin, No'am G. Silgmean and Eugene D. Ungar, DOI 10.1007/s00442-015-3234-5, February 7, 2015.; Riparian vegetation of ephemeral streams, Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., *Journal of Arid Environments*, *138*, 2017, pages 27-37.

c. the new information presented prior to and in this Notice documents that cow grazing on the Tonto National Forest has been and continues to be modified in a manner that is causing an effect to listed species and their Critical Habitat that was not considered in the Biological Opinions addressed in this Notice.[93];

12. Destructive cow grazing in designated riparian Critical Habitat on the Tonto National Forest continues currently. This destructive cow grazing must cease during the new consultation to prevent the Tonto National Forest from further jeopardizing Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter snake, Narrow-Headed Garter snake, Spikedace, Loach Minnow, Razorback Sucker, and Gila Chub and further destruction of their designated riparian Critical Habitat. Termination of the destructive cow grazing during consultation is required by Section 7(d) of the Endangered Species Act to prevent the Tonto National Forest from further jeopardizing the continued existence of an endangered species and from causing further destruction and adverse modification of designated riparian Critical Habitat. Specifically, Section 7(d) states that the Tonto National Forest must stop "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection 7(a)(2)."[94];

13. The Forest Service's reliance on the Biological Opinions specified in this Notice is not legal. The Forest Service must ensure its own compliance with the Endangered Species Act as action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species" merely by relying upon a Biological Opinion issued by USFWS.[95]; and,

14. The ESA commands federal agencies to "insure" listed species' survival *and* recovery. In addition to requiring consulting agencies to incorporate recovery concerns into project-specific consultations, Section 4 reinforces the Act's emphasis on ensuring recovery. There, Congress required that FWS "*shall* develop and *implement* [recovery] plans for the conservation and survival of endangered species . . ."[96] "Conservation," as explained, is defined under the ESA as the "use of all methods and procedures which are necessary to bring [listed] species to the point at which the measures provided pursuant to this chapter are no longer necessary."[97] Failure to 'Implement' Recovery Plan(s) Violates Section 4(f) of the ESA.

[93] 50 C.F.R. § 402.16(a).

[94] 16 U.S.C. § 1536(d).

[95] *Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990).

[96] 16 U.S.C. § 1533(f)(1) (emphases added).

[97] *Id.* § 1532(3).

Only complete exclusion of cows from the Tonto National Forest's designated riparian Critical Habitat can rehabilitate and truly protect these fragile areas.[98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112]

The Center for Biological Diversity ("Center") is a non-profit, public interest, conservation organization with more than 1.7 million members and online activists dedicated to the protection of endangered species and wild places and to the fulfillment of the continuing educational goals of our membership and the general public in the process.

Maricopa Audubon Society is a nonprofit organization with over 2,000 members dedicated to the study and enjoyment of birds and other wildlife, and to the protection and restoration of their habitat in the Southwest. Maricopa Audubon is run by volunteers and strives to protect and restore wildlife habitat through education and community involvement. Maricopa Audubon has worked to protect wetlands in Arizona since July 1953.

In 60 days, if Tonto National Forest and USFWS refuse to reevaluate via reinitiation of consultation their inappropriate and ineffective grazing management, we intend to seek judicial relief.

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[98] Meehan, W.R. and Platts, W.S., 1978. Livestock grazing and the aquatic environment. *Journal of Soil and Water Conservation*, *33*(6), pp.274-278.

[99] Platts, W.S. and Wagstaff, F.J., 1984. Fencing to control livestock grazing on riparian habitats along streams: is it a viable alternative?. *North American Journal of Fisheries Management*, *4*(3), pp.266-272.

[100] Platts, W.S., 1981. *Influence of forest and rangeland management on anadromous fish habitat in Western North America: effects of livestock grazing* (Vol. 7). US Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station.

[101] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona Populus fremontii, velvet ash, Fraxinus velutina, Goodding willow, Salix gooddingii. *Rangeland Ecology & Management/Journal of Range Management Archives*, *36*(3), pp.382-384.

[102] Szaro, R.C., Belfit, S.C., Aitkin, J.K. and Rinne, J.N., 1985. Impact of grazing on a riparian gartersnake. *Johnson, RR technical coordinator. Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. United States Forest Service, General Technical Report RM-120*, pp.359-363.

[103] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, April 28, 2016, p. 235.

[104] Response of breeding birds to the removal of cattle on the San Pedro River, Arizona, Krueper, D. J., J. L. Bart, and T. D. Rich. 2003. Conservation Biology 17(2): 607-615.

[105] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[106] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

[107] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[108] Cannon, R.W. and Knopf, F.L., 1984. Species composition of a willow community relative to seasonal grazing histories in Colorado. *The Southwestern Naturalist*, *29*(2), pp.234-237.

[109] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[110] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[111] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, USFWS, April 28, 2016, pages 235 and 248.

[112] Poessel, S.A., J. C. Hagar, P. K. Haggerty, and T. E. Katzner. 2020. Removal of cattle grazing correlates with increases in vegetation productivity and in abundance of imperiled breeding birds. Biological Conservation 241 (2020) 108378: 1-9. www.elsevier.com/locate/biocon.

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The February 28, 2002, Biological Opinion: **page 89**.

No consultation for Copper Creek Allotment: **page 104**.

The June 21, 2005, Biological Opinion: **page 108**.

The January 15, 2008, Biological Opinion: **page 119**.

The August 17, 2009, Biological Opinion: **page 148**.

The April 1, 2010, Biological Opinion: **page 138**.

The July 24, 2014, Biological Opinion: **page 143.**

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GENERAL BACKGROUND

The Center's field surveys of designated Critical Habitat in the Tonto National Forest as presented in this Notice were conducted from September 3, 2020 through March 31, 2022. Our professional field biologists documented livestock grazing impacts to standing waters, riparian vegetation, soils, and streambanks and examined condition of cattle exclosure fencing. Using our Cattle Impact Survey ("CIS") data, stream reaches were analyzed and ranked with absent, light, moderate or significant grazing impacts. We surveyed dozens of miles of designated Critical Habitat on the Tonto National Forest.

The Chiricahua leopard frog (*Lithobates chiricahuensis*, "CLF") was listed as threatened under the Endangered Species Act ("ESA") in 2002.[113] Since the development of the CLF Recovery Plan in 2007[114] and designation of Critical Habitat in 2012,[115] the USFWS and the Forest Service continue greenlighting cattle grazing plans and continue allowing cattle grazing that is causing the destruction of designated riparian Critical Habitat, is diminishing the likelihood of CLF survival, dispersal, and recovery, and is causing direct destruction of riparian Critical Habitat that is diminishing the value of Critical Habitat as a whole for the conservation of the species. A review of range-wide CLF population trends has not been conducted since 2011.[116]

In this Notice and in the hyperlinked report, "On the Brink, How Federal Agency Neglect is Killing Chiricahua Leopard Frogs" ("Center 2020"),[117] we document that cattle impacts are significant in designated riparian CLF Critical Habitat. Nearly all riparian sites visited were damaged by cows and their feces. All were lacking streamside riparian vegetation.

A few isolated exceptions were noted in our surveys showing that it is possible to maintain, improve and recover wetland ecosystems supporting Chiricahua leopard frogs as well as a diversity of other native wildlife, if cattle are kept out of these areas. For CLF on the Tonto National Forest, the allotment at issue are is the Crouch Mesa Allotment on the Pleasant Valley Ranger District.

The southwestern willow flycatcher (*Empidonax traillii extimus*,"WFC") was listed as federally endangered in 1995, received a Recovery Plan in 2002[118], and Critical Habitat designation in 2013.[119] The Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*,"YBC") was listed as threatened under the ESA in 2014.[120] Critical Habitat was designated on April 21, 2021.[121]

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[113] Listing of the Chiricahua Leopard Frog (*Rana chiricahuensis*), Final rule with a special rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 67, No. 114, June 13, 2002, page 40790.

[114] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007.

[115] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16324.

[116] Chiricahua Leopard Frog (*Lithobates* [=*Rana*] *chiricahuensis*); 5-Year Review: Summary and Evaluation; USFWS Arizona Ecological Services Office, Phoenix, Arizona, January 2011.

[117] On the Brink, How Federal Agency Neglect is Killing Chiricahua Leopard Frogs, Chris Bugbee, Center for Biological Diversity, December 2020.

[118]U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico.

[119] Designation of Critical Habitat for Southwestern Willow Flycatcher: Final rule. 78 FR 344 534

[120] Rules and Regulations. Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192. October 3, 2014

[121] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo, Final Rule, U.S. Fish and Wildlife Service, Federal Register, Vol. 86, No. 75, April 21, 2021, page 20798.

In this Notice, we document that cows have significantly impacted designated riparian WFC and YBC Critical Habitat. The damage that we have identified is acute and chronic. Cattle are grazing, trampling and defecating in riparian areas that WFC and YBC depend on for their reproduction. Nearly all unauthorized grazing sites visited were damaged by cows and their feces. Many riparian ecosystems surveyed were so significantly impacted by cattle that their function as designated WFC and YBC critical foraging and breeding habitat is diminished. For WFC and YBC on the Tonto National Forest, the 7 allotments at issue are Tonto Basin, Poison Springs, Seventy-Six, Hardt Creek, Gisela, Hick-Pikes Peak, and Dagger allotments.

In this Notice we also document cow damaged designated Northern Mexican garter snake (*Thamnophis eques megalops*,"NMGS") and Narrow-headed garter snake (*Thamnophis rufipunctatus,* "NHGS") Critical Habitat. The damage that we have identified is both acute and chronic. Cows are grazing, trampling and defecating in riparian areas that NMGS and NHGS depend on for foraging, cover, and brumation. This Notice provides new information that (1) the effects of agency actions are affecting listed garter snakes and their designated Critical Habitat in a manner and to an extent not considered in any of the Biological Opinions at issue here, and (2) that the Forest Service authorized cattle grazing has been dramatically modified in a manner that is causing effects to NMGS and NHGS designated Critical Habitat that was not considered in any recent consultations for the Seventy-Six, Hardt Creek, Gisela, Soldier Camp, Buzzard Roost, OW, and Tonto Basin allotments.

The law prohibits any action that reduces "appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[122] The law also prohibits any action causing "direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."[123] Our surveys demonstrate damage to water and riparian vegetation from livestock grazing in designated Critical Habitat. The widespread adverse impacts caused by cattle grazing that we observed and documented occurs as the result of Forest Service personnel's callous disregard for the protection of Public Lands, of rare wetland habitat, and of endangered species protection laws.

Cows effect ecosystem resources in ways that accentuate climate impacts.[124] The vast majority of grazed western riparian areas are already deficient in willow understory and nearly devoid of overstory cottonwood.[125,126] Foraging cattle continue to reduce the density of willow and other shrubs, eliminate cottonwood and willow reproduction by feeding on and trampling seedlings,

[122] 50 CFR § 402.02; 16 U.S.C. 1531 *et seq*.

[123] *Ibid.*

[124] Beschta, R.L., Donahue, D.L., DellaSala, D.A., Rhodes, J.J., Karr, J.R., O'Brien, M.H., Fleischner, T.L. and Williams, C.D., 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, 51(2), pp.474-491.

[125] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.

[126] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

and modify habitat through soil compaction and other means.[127,128,129,130,131] This unwarranted ecological impact has resulted in doomed stands where old cottonwood trees in the overstory are dying with no new recruitment to replace themselves.[132,133,134,135] An obvious conclusion is that cow grazing can prevent riparian areas from yielding habitat for imperiled species in perpetuity in Arizona. Despite these dire climate circumstances, status quo cow grazing continues to occur without revision, continuously harming future vegetation recovery and removing what little cover is available for wildlife requiring complex vegetative structure.

If climate change alone poses such an obvious and immediate threat to water and wildlife, it cannot be justified to add another known negative stressor such as cow grazing in designated riparian critical habitat. This Notice documents trampled riparian ecosystems impacted by cows to the extent that their future is uncertain.

To make matters worse, cow grazing impacts on the Tonto are measured using livestock forage standards with no ecological context.[136] Structural habitat requirements for wildlife, including native herpetofauna and nesting birds like WFC and YBC, cannot be assessed or measured by utilization or stubble height measurements, according to rangeland experts. For example, according to a 2007 collaborative rangeland monitoring guide entitled '*Principles of obtaining and interpreting utilization data on rangelands'*, "some types of residual cover guidelines (e.g. "structure" requirements or visual obstruction estimates for upland bird nesting) are neither utilization nor stubble height measurements."[137]

There are many aspects of cow grazing that utilization or stubble measurement do not capture, including cattle use of preferentially selected and highly palatable forage species known as "ice cream species." This term has been used for exceptionally palatable plants since at least the

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[127] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[128] Belsky, A.J., Matzke, A. and Uselman, S., 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and water Conservation*, *54*(1), pp.419-431.

[129] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. *Desert Plants*.

[130] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation Biology, *8*(3), pp.629-644.

[131] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[132] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[133] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. *Desert Plants*.

[134] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[135] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[136] According to the Interagency Technical Reference (1999), utilization measures the proportion or degree of current year's forage production that is consumed or destroyed. Utilization may refer either to a single plant species, a group of species, or the vegetation as a whole.

[137] Smith, L., Ruyle, G.B., Maynard, J., Barker, S., Meyer, W., Stewart, D., Coulloudon, B., Williams, S. and Dyess, J., 2007. *Principles of obtaining and interpreting utilization data on rangelands*. University of Arizona, Cooperative Extension Serv.

1930's.[138] According to the Arizona Grazing Lands Conservation Association's "Guide to Rangeland Monitoring and Assessment," an "ice cream species" is "an exceptionally palatable species sought and grazed frequently by livestock or game animals. Such species are often overutilized even under proper grazing."[139] Highly palatable and protein rich, cattle selectively browse Fremont cottonwood seedlings and saplings[140, 141, 142] and can wipe out entire seedling reestablishment sites in a single week through hoof action alone.[143]

In measuring utilization, Holecheck (1988) states "one to three plant species are used as key species. These plants should be abundant, productive, and palatable. They should provide the bulk of the forage for the grazing animals within the pasture. The ice-cream plants are not used because of their scarcity and low resistance to grazing."[144] Generally, when the key species and key area are considered properly used, the entire pasture is considered correctly used.[145] However, this conclusion is flawed and breaks down in describing riparian systems, where the highly palatable 'ice cream' species are the next cohorts of riparian trees, the very seedlings that ensure regeneration of the riparian forest itself. According to Holechek et al. (2001), "under the key-species approach, secondary forage species ... will receive light use (10% to 25%), key species ... will receive moderate use (30% to 40%), and the ice-cream plants ... may be used excessively (over 40%)."[146] It appears that no monitoring been done on the Tonto regarding cattle consumption or trampling of cottonwood and willow seedlings, and likewise no monitoring of herbaceous cover pre- and post-monsoon, tree and shrub regeneration and growth, tree cohorts and age classes, and species composition. Such a system would not allow germination and critical growth periods of riparian trees to advance in size past the reach of cows.

Furthermore, according to the June 21, 2005, Biological Opinion for the Soldier Camp allotment addressed in this Notice, "key areas for monitoring will normally be ¼ to 1 mile from water, located on productive soils on level to intermediate slopes."[147] The reason for this monitoring strategy is that cows often congregate near water, causing disproportionate impacts and

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[138] Standing, A.R., 1938. Uses of Key Species, Key Areas and Utilization Standards in Range Management. *Ames Forester*, *26*(1), p.3.

[139] Smith, L., Ruyle, G., Dyess, J., Meyer, W., Barker, S., Lane, C.B., Williams, S.M., Maynard, J.L., Bell, D., Stewart, D. and Coulloudon, A., 2012. Guide to rangeland monitoring and assessment, basic concepts for collecting, interpreting and use of rangeland data for management planning and decisions. Arizona Grazing Lands Conservation Association, Tucson, Arizona, USA.

[140] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[141] Martin, S.C., 1979. Evaluating the impacts of cattle grazing on riparian habitats in the National Forests of Arizona and New Mexico. In *Proceedings of the Forum-Grazing and Riparian/Stream Ecosystems. Trout Unlimited Inc., Denver, Colo* (pp. 35-38).

[142] Stromberg, J.C., 1997. Growth and survivorship of Fremont cottonwood, Goodding willow, and salt cedar seedlings after large floods in central Arizona. *The Great Basin Naturalist*, pp.198-208.

[143] Kalischuk, A.R., Rood, S.B. and Mahoney, J.M., 2001. Environmental influences on seedling growth of cottonwood species following a major flood. *Forest Ecology and Management*, *144*(1-3), pp.75-89.

[144] Holechek, J.L., 1988. An approach for setting the stocking rate. Rangelands, 10(1), 10-14.

[145] *Ibid.*

[146] Holechek, J.L., R.D. Piper, and C.H. Herbel. 2001. Range Management: Principles and Practices. Prentice Hall, Upper Saddle River, N.J.

[147] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273. pg. 4.

spending up to 30x longer in in riparian zones compared to adjacent uplands.[148] This is especially true where the riparian zone is the primary water source within a pasture, and this is why cow impacts are generally monitored *away* from water.

According to Holechek, "even under light grazing intensities, areas around watering points, salt grounds, valley bottoms, and driveways will often be intensely used. These preferred areas are referred to as "sacrifice areas" because setting stocking rates for proper use of these areas will result in underuse of the bulk of the pasture."[149] Here, it is directly inferred that watering areas receive *improper* use, which is exactly what we tend to observe in our surveys. In many cases, the designated riparian Critical Habitat *is* the watering point or valley bottom where cattle concentrate, and therefore is the "sacrifice area"! Again, these are not monitored. Monitoring efforts are focused ¼ to 1 mile away from these sacrifice areas, so that the true environmental impact of cattle simply goes unrecorded. There should be no "sacrifice areas" in designated critical habitat. Full cattle exclusion is warranted in these situations.

The February 28, 2002, June 21, 2005, January 15, 2008, August 17, 2009, April 1, 2010, and July 24, 2014, Biological Opinions addressed in this Notice lack consultations for CLF, NMGS, NHGS, and have Incidental Take Statements that fail to discuss CLF, WFC, YBC, Spikedace, and RBS Critical Habitat and mitigation measures that will adequately address impacts to these species consistent with ESA's protective intent.[150] When new information becomes available, or when take has been exceeded, agencies, such as the Forest Service and USFWS, who fail to reinitiate consultation violate 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14. Besides violating the ESA, such a scheme also violates the Administrative Procedure Act requirement that federal decisions are not "arbitrary, capricious, or an abuse of discretion."[151] Revised Biological Opinions need to be initiated that meaningfully incorporate the information presented in this Notice.

With this new information, continued failure by the Forest Service and USFWS to reinitiate consultation on these allotments violates the law.[152] Reinitiation of consultation must take place.[153]

As provided in 50 CFR '402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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[148] Skovlin, J.M. 1984. Impacts of grazing on wetlands and riparian habitat: a review of our knowledge. p. 1001-1103. In: Developing strategies for range management. Westview Press, Boulder, CO.

[149] Holechek, J.L., 1988. An approach for setting the stocking rate. Rangelands, 10(1), 10-14.

[150] *Center for Biological Diversity v.* BLM, 698 F.3d 1101, 1115 (9th Cir. 2012)

[151] 5 USC §706(2)(A).

[152] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[153] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with theUSFWS, to "carry[] out programs for the conservation" of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." Sierra Club v. Glickman, 156 F.3d 606,616 (5th Cir. 1998); accord Pyramid Lake Paiute Tribe, 898 F.2d at 1416-17 (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the ESA to mean recovery, i.e., the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary." 16 U.S.C § l 536(a)(1).

We provided Center (2020) to the Forest Service and USFWS on January 6, 2021. Hopefully, now that Center (2020) is presented again with this Notice, along with additional documentation of direct cattle degradation critical habitat designated for the recovery of additional imperiled species, the Forest Service and USFWS will utilize the following 60 days to address and remedy the violations documented and presented in this Notice and in Center (2020). Short of the violations documented and presented in this Notice and in Center (2020) being remedied in the next 60 days, the Center for Biological Diversity and Maricopa Audubon Society intend to file suit to address these serious legal violations.

STATUTORY BACKGROUND

The ESA is "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation."[154] The statute's primary goal is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved."[155] The U.S. Supreme Court has recognized that "the plain intent of Congress in enacting the [ESA] was to halt and reverse the trend toward species extinction, whatever the cost."[156]

Section 4 of the ESA directs the Secretary of the Interior to designate species that are threatened or endangered with extinction, and to designate "critical habitat" for such species.[157] Section 4 also requires the Secretary to develop and implement recovery plans for the conservation and survival of threatened and endangered species, unless the Secretary finds that such a plan will not promote the conservation of the species.[158]

To receive the protection of the ESA, a species must first be listed by the Secretary of the Interior as "endangered" or "threatened."[159] After a species is listed, the substantive obligations of the ESA apply to that species. These include the prohibition on take, the duty of federal agencies to

[154] Tenn. Valley Auth. v. Hill, 437 U.S. 153, 180 (1978).

[155] 16 U.S.C. § 1531(b).

[156] *Hill*, 437 U.S. at 184.

[157] 16 U.S.C. § 1533(a).

[158] 16 U.S.C. § 1533(f).

[159] *See* 16 U.S.C. § 1533.

consult with USFWS, and the duty to ensure that those agencies' actions do not jeopardize the continued existence of listed species or adversely modify critical habitat.[160]

Within the ESA's statutory scheme, the designation and protection of Critical Habitat is especially important. Congress recognized the significance of habitat protection when it found that:

> "[C]lassifying a species as endangered or threatened is only the first step in insuring its survival. Of equal or more importance is the determination of the habitat necessary for that species' continued existence. . . . If the protection of endangered and threatened species depends in large measure on the preservation of the species' habitat, then the ultimate effectiveness of the Endangered Species Act will depend on the designation of critical habitat."[161]

Thus, the ESA requires USFWS to designate Critical Habitat at the same time a species is listed.[162] Any designation of Critical Habitat must be based on the "best scientific data available."[163]

Reflecting the statute's focus on species recovery, Critical Habitat may include both occupied and unoccupied areas that are "essential for the conservation of the species."[164] "Conservation," is defined in turn to include all methods that that can be employed to "bring any endangered species or threatened species to the point at which" the protection of the ESA is "no longer necessary."[165] As such, "the purpose of establishing 'critical habitat' is for the government to carve out territory that not only is necessary for the species' survival but also is essential for the species' recovery."[166]

Once a species is listed and critical habitat designated, Section 7 of the ESA requires each federal agency, in consultation with a federal wildlife agency (in this case, USFWS), to ensure that any proposed action is not likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of Critical Habitat.[167] To "jeopardize the continued existence of" means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[168] "Destruction or adverse modification" of critical habitat means "a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation or a listed species."[169] And "conservation," as noted, means recovery to the point where the ESA's protections are no longer needed.[170] Thus, the ultimate aim of consultation is to ensure that federal agency action does not impair the survival or recovery of a listed species.

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[160] *See Hill*, 437 U.S. at 180-82.

[161] H.R. Rep. No. 94-887 at 3 (1976).

[162] 16 U.S.C. §§ 1533(a)(3)(A)(i), 1533(b)(6)(C).

[163] *Id.* § 1533(b)(2).

[164] *Ibid.*

[165] *Id.* § 1532(3).

[166] *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004).

[167] 16 U.S.C. § 1536(a)(2).

[168] 50 C.F.R. § 402.02.

[169] *Ibid.*

[170] 16 U.S.C. § 1532(3).

For each proposed action, the action agency must request from USFWS whether any listed or proposed species may be present in the area of the proposed action.[171] If listed or proposed species may be present, the action agency must prepare a "biological assessment" to determine whether the listed species may be affected by the proposed action.[172] If the agency determines that its proposed action may affect any listed species or critical habitat, the agency must engage in "formal consultation" with USFWS.[173]

When the "action agency" (the Forest Service in this case) determines that a proposed action may affect a listed species, it must engage in formal consultation with USFWS.[174] Formal consultation results in a biological opinion detailing "how the agency action affects the species or its critical habitat."[175]

It is essential that USFWS define the scope of formal consultation to encompass the entire proposed action.[176] The term "agency action" should be interpreted broadly because "caution can only be exercised if the agency takes a look at all the possible ramifications of the agency action."[177] USFWS is accordingly required to consider "all phases" of the agency action in its analysis.[178]

USFWS must also take a broad view of the action's impacts on listed species. Under Section 7's implementing regulations:

> "Effects of the action are *all consequences* to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. … Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action."[179]

Federal agencies must "use the best scientific and commercial data available" in assessing a proposed action's impact on a protected species.[180]

To complete formal consultation, USFWS must provide the action agency with a "biological opinion" explaining how the proposed action will affect the listed species or habitat.[181] The biological opinion "is required to address both the 'no jeopardy' and 'no adverse modification' prongs of Section 7."[182] If USFWS concludes in the biological opinion that the proposed action will jeopardize the continued existence of a listed species, or will result in the destruction or adverse modification of critical habitat, USFWS must outline "reasonable and prudent alternatives" to the proposed action that USFWS believes would not jeopardize the listed species or result in the

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[171] 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12.

[172] Ibid.

[173] 50 C.F.R. § 402.14.

[174] 50 C.F.R. § 402.02.

[175] 16 U.S.C. 1536(b)(3)(A).

[176] *Conner v. Burford*, 848 F.2d 1441, 1453 (9th Cir. 1988) (citing *North Slope Borough v. Andrus*, 642 F.2d 589, 608 (D.C. Cir. 1980)).

[177] *Ibid.*

[178] *Ibid.*

[179] 50 C.F.R. § 402.02 (emphasis added).

[180] 16 U.S.C. § 1536(a)(2).

[181] 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14.

[182] *Center for Biological Diversity v. Bureau of Land Management*, 422 F. Supp. 2d 1115, 1127 (N.D. Cal. 2006), *citing* 50 C.F.R. § 402.14(g)(4).

destruction or adverse modification of its Critical Habitat.[183]

If the biological opinion concludes that the proposed action is not likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of critical habitat, USFWS must provide an "incidental take statement," specifying the amount or extent of such incidental taking on the species, any "reasonable and prudent measures" that USFWS considers necessary or appropriate to minimize such impact, and setting forth the "terms and conditions" that must be complied with by the agency to implement those measures.[184] In order to monitor the impacts of incidental take, the agency must report the impact of its action on the listed species to USFWS.[185] If during the course of the action the amount or extent of incidental taking is exceeded, the agency must reinitiate consultation immediately.[186]

After a species has been listed and with every action evaluated by a USFWS biological opinion where a listed species is likely to be adversely affected, it is prohibited to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect in any such conduct."[187] With a USFWS biological opinion where a listed species is likely to be adversely affected, USFWS must provide an Incidental Take Statement and Reasonable and Prudent Measures to ensure that any proposed action is not likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of critical habitat.[188] Incidental Take Statements provide for mitigation measures that adequately address impacts on listed species consistent with ESA's protective intent,[189] that are causally linked between the action and the take of the species,[190] and that provides for a take-triggering metric that is finite and measurable.[191]

After the procedural requirements of consultation are complete, the ultimate duty to protect and conserve listed species lies with the action agency. Consequently, an action agency's reliance on an inadequate, incomplete, or flawed biological opinion is arbitrary, capricious, and unlawful.[192]

A biological opinion is a final agency action subject to judicial review under the federal Administrative Procedure Act, which requires federal courts to set aside agency action found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[193] A court's review under this standard, while "narrow," is also "searching and careful."[194]

Reinitiation of Section 7 consultation is required and shall be requested by the Federal action agency or by USFWS if (a) the amount or extent of taking specified in the incidental take statement

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[183] 16 U.S.C. § 1536(b)(3)(A).

[184] 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i).

[185] 50 C.F.R. § 402.14(i)(3).

[186] 50 C.F.R. § 401.14(i)(4); *see also* 50 C.F.R. § 402.16.

[187] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

[188] 16 U.S.C. § 1536(a)(2).

[189] *Center for Biological Diversity v.* BLM, 698 F.3d 1101, 1115 (9th Cir. 2012).

[190] 50 C.F.R. 402.14(i)(1)(i); *Miccosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1275 (11th Cir. 2009).

[191] Center for Biological Diversity, et al., v. Donald H. Rumsfeld, Secretary of Defense, et al., CIV99-203 TUC ACM, *198 F. Supp. 2d 1139; 2002 U.S. Dist LEXIS 7419; 54 ERC (BNA) 1391; 32 ELR 20640*; April 8, 2002: "Mitigation measures must be reasonably specific, certain to occur, and capable of implementation; they must be subject to deadlines or otherwise-enforceable obligations; and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards."

[192] *See, e.g., Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 532 (9th Cir. 2010).

[193] 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 709 (9th Cir. 2005).

[194] *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989).

is exceeded; (b) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (c) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) if a new species is listed or critical habitat designated that may be affected by the identified action.[195]

While a consultation is taking place, Section 7(d) prohibits Federal agencies from making "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection 7(a)(2)"[196] [insuring any action is not likely to jeopardize the continued existence of an endangered species or result in the destruction or adverse modification of Critical Habitat].

In addition to the obligation to avoid jeopardizing species under section 7(a)(2), Section 7(a)(1) of the ESA also imposes an obligation on all federal agencies, in consultation with the USFWS, to "carry out programs for the conservation" of listed species.[197] This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." *Sierra Club v. Glickman,* 156 F.3d 606,616 (5th Cir. 1998); *accord Pyramid Lake Paiute Tribe of Indians v. Dep't of the Navy,* 898 F.2d 1410, 1416-17 (9th Cir. 1990) (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the Act to mean *recovery, i.e.,* the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary."[198] We have recently reaffirmed the obligation of all federal agencies to "carry out programs for the conservation" of listed species in *Center for Biological Diversity v. Tom Vilsack,* 276 F. Supp. 3d 1015 (D.Nev. 2017).[199]

Section 7(a)(4) requires Federal agencies to confer with the Service on actions likely to jeopardize the continued existence of any species proposed for listing or result in the destruction or adverse modification of any proposed critical habitat. When new species are added to the federal list and are affected by federal actions such as grazing on Forest Service land, the law requires that the Forest Service consults with USFWS to ensure that Forest Service's activities will not jeopardize survival and recovery of these species.[200]

Section 7(d) prohibits Federal agencies from making "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection 7(a)(2)"[201] [insuring any action is not likely to jeopardize the continued existence of an endangered species or result in the destruction or adverse modification of Critical Habitat].

Section 9 of the ESA and its implementing regulations prohibit the unauthorized "take" of any endangered or threatened species of fish or wildlife. 16 U.S.C. § 1538(a)(1); 16 U.S.C. §

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[195] 50 CFR § 402.16 Reinitiation of formal consultation.

[196] 16 U.S.C. § 1536(d).

[197] 16 U.S.C. § 1536(a)(1).

[198] *Ibid.*

[199] Order, Center for Biological Diversity, et al., Plaintiffs, v. Tom Vilsack, et al., Defendants; Case No. 2?13-cv-01785-RFB-GWH; August 1, 2017.

[200] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[201] 16 U.S.C. § 1536(d)

1533(d); 50 C.F.R. § 17.31. "Take" is defined broadly under the ESA to include harming, harassing, trapping, capturing, wounding or killing a protected species either directly or by degrading its habitat. 16 U.S.C. § 1532(19).

The ESA commands federal agencies to "insure" listed species' survival *and* recovery. In addition to requiring consulting agencies to incorporate recovery concerns into project-specific consultations, Section 4 reinforces the Act's emphasis on ensuring recovery. There, Congress required that FWS "*shall* develop and *implement* [recovery] plans for the conservation and survival of endangered species . . . ." 16 U.S.C. § 1533(f)(1) (emphases added). "Conservation," as explained, is defined under the ESA as the "use of all methods and procedures which are necessary to bring [listed] species to the point at which the measures provided pursuant to this chapter are no longer necessary." *Id.* § 1532(3),

In using the word "shall," Congress could not have been clearer about its intent to require FWS to actually "implement" recovery plans. The Supreme Court has repeatedly provided that "when a statute uses the word 'shall,' Congress has imposed a mandatory duty upon the subject of the command." *Forest Guardians v. Babbitt*, 174 F.3d 1178, 1187 (10th Cir. 1999) (collecting cases). For this reason, courts have found that where recovery plans go beyond "general guidance" by "specif[ying] species-level and habitat-level recovery actions," Section 4(f) imposes a legal duty on FWS to implement those measures. *See Biodiversity L. Found. v. Norton*, 285 F. Supp. 2d 1, 13 (D.D.C. 2003); *see also Friends of the Blackwater v. Salazar*, 691 F.3d 428, 436-37 (D.C. Cir. 2012) (noting that "§ 4(f)(1) of the Act imposes mandatory obligations upon" FWS "to work toward the goals set in its recovery plan" by actually implementing the plan before delisting a species); *Sw. Center for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1136 (S.D. Cal. 2006) (rejecting BiOp that was "inconsistent with the strategies and objectives in the [species'] recovery plan," and holding that FWS must, at minimum, "explain why it" departed from the plan in site-specific actions).

The Administrative Procedure Act requires that federal decisions are not "arbitrary, capricious, or an abuse of discretion."[202]

CHIRICAHUA LEOPARD FROG BACKGROUND AND HABITAT NEEDS

Almost half of all amphibian species worldwide are declining in abundance or distribution, and a third are immediately threatened with extinction,[203] including the CLF, which gained protection under the Endangered Species Act in 2002,[204] a Recovery Plan in 2007,[205] and Critical Habitat designation in 2012.[206] Like other amphibians, CLF faces ongoing threats that include

[202] 5 USC §706(2)(A).

[203] Lötters, S., Kielgast, J., Bielby, J., Schmidtlein, S., Bosch, J., Veith, M., Walker, S.F., Fisher, M.C. and Rödder, D., 2009. The link between rapid enigmatic amphibian decline and the globally emerging chytrid fungus. *EcoHealth*, *6*(3), pp. 358-372.

[204] Listing of the Chiricahua Leopard Frog (*Rana chiricahuensis*), Final rule with a special rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 67, No. 114, June 13, 2002, page 40790.

[205] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007.

[206] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16324.

disease, predation by non-native species, habitat degradation and fragmentation, environmental contamination, and climate change.[207] CLF have disappeared from more than 80% of their historical habitat in the United States as a result of extensive loss of wetland habitat.[208]

Center (2020) documents the fact that cattle have significantly damaged designated CLF Critical Habitat on four national forests in Arizona, the Apache-Sitgreaves, Coconino, Coronado, and Tonto National Forests. This damage is the result of trampling and defecating by cattle in ponds critical for CLF survival and by grazing in designated riparian Critical Habitat away from stock ponds. Center (2020) documents recent field surveys of 17 Arizona grazing allotments, where CLF were found in less than 10% of the Critical Habitat breeding ponds visited, where nearly all were degraded by cows and their feces, and where designated riparian Critical Habitat has been damaged with extensive vegetation removal. Many aquatic ecosystems surveyed were so badly trampled by cattle and polluted by cow manure that their function as designated Critical breeding habitat has been diminished. Survey results from the Tonto National Forest are presented in this Notice.

Livestock grazing can cause a decline in diversity, abundance, and species composition of riparian herpetofauna communities from direct or indirect threats, including: (1) declines in the structural richness of the vegetative community; (2) losses or reductions of the prey base; (3) increased aridity of habitat; (4) loss of thermal cover and protection from predators; and (5) a rise in water temperatures to levels lethal to larval stages of amphibian and fish development.[209] Livestock grazing may also lead to desertification (the process of becoming arid land or desert as a result of land mismanagement, climate change, or other extenuating circumstances) due to a loss in soil fertility from erosion and gaseous emissions spurred by a reduction in vegetative ground cover, particularly at lower elevations.[210] Specific attributes of ecosystems, such as composition, function, and structure, have been documented as being altered by livestock grazing through a variety of means, including: (1) decreasing the density and biomass of individual species, reducing species richness, and changing biological community organization; (2) interfering with nutrient cycling and ecological succession; and (3) changing vegetation stratification, contributing to soil erosion, and decreasing availability of water to biotic communities.[211]

Livestock grazing causes long-term changes to the watershed and its functions.[212] Livestock grazing causes soil compaction, decreased moisture infiltration rates, increased runoff, changed vegetative species composition, decreased riparian vegetation, increased erosion, increased stream sedimentation, increased stream water temperature, and changes in channel form.[213]

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[207] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007, page C-8.

[208] *Id.*, page 7.

[209] *Ibid*.

[210] Schlesinger, W.H., Reynolds, J.F., Cunningham, G.L., Huenneke, L.F., Jarrell, W.M., Virginia, R.A. and Whitford, W.G., 1990. Biological feedbacks in global desertification. *Science*, *247*(4946), pp. 1043-1048.

[211] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp. 629-644.

[212] Armour, C., Duff, D. and Elmore, W., 1994. The effects of livestock grazing on western riparian and stream ecosystem. *Fisheries*, *19*(9), pp. 9-12.; Belsky, A.J., Matzke, A. and Uselman, S., 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and water Conservation*, *54*(1), pp. 419-431.; Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp. 629-644.; Poff, B., Koestner, K.A., Neary, D.G. and Henderson, V., 2011. Threats to riparian ecosystems in Western North America: an analysis of existing literature 1. *JAWRA Journal of the American Water Resources Association*, *47*(6), pp. 1241-1254.

[213] Schulz, T. T., & Leininger, W. C. (1990). Differences in riparian vegetation structure between grazed areas and exclosures. Journal of Range Management, 43(4), 295-299.; Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North

Water-column alterations can be caused by changes in the magnitude and timing of organic and inorganic inputs into the stream, increases in fecal contamination, changes in water temperatures due to removal of vegetation, reduction of stream shore water depth, changes in timing and magnitude of stream flow events from changes in watershed vegetative cover, and an increase in stream temperature.[214] These alterations in stream conditions can affect the food chain, including CLF and its prey base.

Cattle remove bank-line vegetation that provides escape cover for frogs and a source of insect prey. The CLF uses riparian herbaceous vegetation for cover, thermoregulation, and foraging. Litter is reduced by trampling and churning into the soil, thus reducing cover for soil, plants, and wildlife.[215] Overuse of vegetation by livestock causes changes to plant root structures, altering plant species composition and overall biomass.[216] Reduced herbaceous vegetation leads to accelerated soil loss due to increased exposure of soils to downpour events and reduced sediment filtering capabilities of the vegetation.[217] Hoof action causes loss of cryptobiotic soil crusts, soil compaction, erosion, and gullying.[218]

Possible adverse effects to CLF and its habitat as a result of livestock grazing include: trampling of egg masses, tadpoles, and frogs; possible incidental ingestion of small larvae or eggs while drinking; deterioration of watersheds; degraded water quality with subsequent toxic effects on frogs; elimination of undercut banks that provide cover for frogs; loss of cover provided by wetland and riparian vegetation; loss of deep backwater pools; spread of disease; and facilitation of the dispersal of non-native predators.[219]

Indirect adverse effects occur through a variety of means during the year even when CLF are inactive (e.g., between November and February). Increased erosion in the watershed caused by

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America. *Conservation biology*, *8*(3), pp. 629-644.; Ohmart, R.D., 1996. Ecological condition of the East Fork of the Gila River and selected tributaries: Gila National Forest, New Mexico. *General Technical Report RM.*, *272*, p. 312.

[214] Platts, W.S., 1990. Managing fisheries and wildlife on rangelands grazed by livestock: a guidance and reference document for biologists.; Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.

[215] Schulz, T. T., & Leininger, W. C. (1990). Differences in riparian vegetation structure between grazed areas and exclosures. Journal of Range Management, 43(4), 295-299.

[216] Vallentine, J. F. 1990. Grazing management. San Diego, CA, USA: Academic Press. 533 pp.; Popolizio, C.A., Goetz, H. and Chapman, P.L., 1994. Short-term response of riparian vegetation to 4 grazing treatments. *Rangeland Ecology & Management/Journal of Range Management Archives*, *47*(1), pp. 48-53.

[217] Erman et al. 1977, Osborne, L.L. and Kovacic, D.A., 1993. Riparian vegetated buffer strips in water-quality restoration and stream management. *Freshwater biology*, *29*(2), pp. 243-258.

[218] Harper, K.T. and Marble, J.R., 1988. A role for nonvascular plants in management of arid and semiarid rangelands. In *Vegetation science applications for rangeland analysis and management* (pp. 135-169).; Springer, Dordrecht., Orodho, A.B., Trlica, M.J. and Bonham, C.D., 1990. Long-term heavy-grazing effects on soil and vegetation in the four corners region. *The Southwestern Naturalist*, pp.9-14.; Schlesinger, W.H., Reynolds, J.F., Cunningham, G.L., Huenneke, L.F., Jarrell, W.M., Virginia, R.A. and Whitford, W.G., 1990. Biological feedbacks in global desertification. *Science*, *247*(4946), pp. 1043-1048.; Bahre, C.J., 1991. *A legacy of change: historic human impact on vegetation in the Arizona borderlands*. University of Arizona Press.

[219] Hendrickson, D.A. and Minckley, W.L., 1985. Cienegas-vanishing climax communities of the American Southwest. *TNHC-Publications*.; Jancovich, J.K., Davidson, E.W., Morado, J.F., Jacobs, B.L. and Collins, J.P., 1997. Isolation of a lethal virus from the endangered tiger salamander Ambystoma tigrinum stebbinsi. *Diseases of Aquatic Organisms*, *31*(3), pp.161-167.; Listing of the Chiricahua Leopard Frog (*Rana chiricahuensis*), Final rule with a special rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 67, No. 114, June 13, 2002, page 40801.; Belsky, A.J., Matzke, A. and Uselman, S., 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and Water Conservation*, *54*(1), pp. 419-431.; Poff, B., Koestner, K.A., Neary, D.G. and Henderson, V., 2011. Threats to riparian ecosystems in Western North America: an analysis of existing literature [Journal of the American Water Resources Association, 47(6)] pp. 1241-1254.

livestock grazing accelerates sedimentation of deep pools used by frogs.[220] Sediment alters primary productivity and fills interstitial spaces in streambed materials with fine particulates that impede water flow, reduce oxygen levels, and restrict waste removal.[221] CLF are also adversely affected by degraded water quality and subsequent toxic effects caused by cattle urine and feces. For example, at Headquarters Windmill Tank on the Coronado National Forest in the Chiricahua Mountains in southeastern Arizona, Sredl et al. (1997) documented cattle impacts at a stock tank that resulted in degraded water quality, including elevated hydrogen sulfide concentrations.[222] A die-off of CLFs at the site was attributed to cattle-associated water quality problems and, as a result, the species has been extirpated from the site.[223] Larval frogs are particularly susceptible to nitrogenous compounds that can be associated with grazing.[224] Toxicity results from high concentrations of un-ionized ammonia, particularly in combination with primary-production induced elevation in pH.[225]

Disruption of metapopulation dynamics is likely an important factor in the regional loss of populations.[226] CLF populations are often small, and their habitats are dynamic, resulting in a relatively low probability of long-term population persistence. Historically, populations were more numerous and closer together. If populations winked out due to drought, disease, or other causes, extirpated sites could be recolonized via immigration from nearby populations. However, as numbers of populations declined and as populations have become more isolated, they are less likely to be recolonized if a local extirpation occurs. Also, most of the larger source populations along major rivers and in cienega complexes have disappeared.[227] When cattle damage streams that connect isolated ponds, frogs cannot disperse and move between breeding sites.

Although the status of CLF in Arizona was considered "roughly stable" with no evidence of decline between 2002 and 2009, the population has been augmented with captive-reared frogs and translocations of egg masses for at least 25 years. In 2020, the Phoenix Zoo celebrated the release of 25,000 captive-reared frogs and tadpoles into the wild since 1995. Without these conservation efforts, CLF might well already have disappeared across much of their residual natural range due to

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[220] Gunderson, D.R., 1968. Floodplain use related to stream morphology and fish populations. The Journal of Wildlife Management, pp. 507-514.

[221] Chapman, D.W., 1988. Critical review of variables used to define effects of fines in redds of large salmonids. Transactions of the American Fisheries Society, 117(1), pp. 1-21.

[222] Sredl, M.J., Howland, J.M., Wallace, J.E. and Saylor, L.S., 1997. Status and distribution of Arizona's native ranid frogs. *Ranid frog conservation and management. Arizona Game and Fish Department, Nongame and Endangered Wildlife Program, Technical Report*, *121*(2002), pp. 45-101.

[223] Listing of the Chiricahua Leopard Frog (*Rana chiricahuensis*), Final rule with a special rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 67, No. 114, June 13, 2002, page 40801.

[224] Schepers, J.S. and Francis, D.D., 1982. *Chemical water quality of runoff from grazing land in Nebraska: I. Influence of grazing livestock* (Vol. 11, No. 3, pp. 351-354). American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America.; Boyer, R. and Grue, C.E., 1995. The need for water quality criteria for frogs. *Environmental Health Perspectives*, *103*(4), pp. 352-357.

[225] Schuytema, G.S. and Nebeker, A.V., 1999. Effects of ammonium nitrate, sodium nitrate, and urea on red-legged frogs, Pacific treefrogs, and African clawed frogs. *Bulletin of Environmental Contamination and Toxicology*, *63*(3), pp. 357-364.

[226] Sredl, M.J. and Howland, J.M., 1994. Conservation and management of Madrean populations of the Chiricahua leopard frog, Rana chiricahuensis.; Sredl, M.J., Howland, J.M., Wallace, J.E. and Saylor, L.S., 1997. Status and distribution of Arizona's native ranid frogs. *Ranid frog conservation and management. Arizona Game and Fish Department, Nongame and Endangered Wildlife Program, Technical Report*, *121*(2002), pp. 45-101.

[227] Reinitiated Biological Opinion on Stocking of Trout at Peña Blanca Lake, Santa Cruz County, Arizona. USFWS document 22410-2010-F-0279R1.

habitat degradation and disease. A review of range-wide CLF population trends has not been conducted since 2011.[228]

Commercial livestock operations on public land have been and continue to be detrimental to CLF. Unfortunately, due to widespread landscape alteration to support this highly prioritized and subsidized industry, CLF are now forced to depend on artificial livestock tanks to meet most of their life history requirements. We do not argue that stock tanks are not presently an important landscape component for CLF. However, we argue that their management needs to be adjusted so that they remain functional in serving their purpose in supporting CLF PCE's and can continually aid in the recovery of CLF. In reference to livestock use of stock tanks, the CLF Recovery Plan states:

> "While livestock and frog use of aquatic sites is generally compatible, careful management of livestock use at tanks occupied by leopard frogs will be essential to recovery. Absent such management, livestock use could result in destruction or deterioration of leopard frog habitat through excessive trampling, destruction of egg masses and vegetation, and fouling of water quality. Livestock use could also inadvertently result in transmission of chytridiomycosis."[229]

The first goal in recovering the species is to reduce or eliminate threats in areas needed for recovery. According to USFWS, "although significant progress has been made, particularly in regard to establishing or reestablishing populations, if on-going recovery actions are interrupted, drought worsens, or other threats intensify, the status of the species could easily deteriorate."[230]

Our 2020 report documented deterioration of leopard frog habitat through trampling, grazing of vegetation, and fouling of water quality. It focused solely on designated CLF critical habitat on public land. Since CLF's listing in 2002, publication of its Recovery Plan in 2007, and designation of critical habitat in 2012, USFS has never implemented a meaningful strategy to protect CLF habitat and PCE's from livestock grazing. With exceedingly few exceptions, USFWS's own recommendations are not being followed, in violation of the Administrative Procedure Act requirement that federal decisions are not "arbitrary, capricious, or an abuse of discretion."[231] For example, in 2008, and updated in 2009, the Southwest Endangered Species Act Team, which included ample agency representation from both USFS and USFWS, produced a report, "Chiricahua leopard frog (*Lithobates* [*Rana*] *chiricahuensis*): Considerations for making effects determinations and recommendations for reducing and avoiding adverse effects," that proposed explicit conservation recommendations to reduce or avoid adverse effects from cattle grazing to CLF occupied habitat.[232]

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[228] Chiricahua Leopard Frog (*Lithobates* [=*Rana*] *chiricahuensis*); 5-Year Review: Summary and Evaluation; USFWS Arizona Ecological Services Office, Phoenix, Arizona, January 2011.

[229] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007, page A-7.

[230] USFWS Chiricahua Leopard Frog 5-Year Review: Summary and Evaluation, 2011, page 16.

[231] 5 USC §706(2)(A).

[232] Chiricahua leopard frog (*Lithobates* [*Rana] chiricahuensis*): Considerations for making effects determinations and recommendations for reducing and avoiding adverse effects, Southwest Endangered Species Act Team, U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office, Albuquerque, New Mexico; December 2008, updated August 31, 2009, 75 pp.

The 2008 report states:

"1. To avoid direct and indirect adverse effects associated with livestock activities:

a. No grazing or livestock management activities will occur in occupied habitat or where the frog is reasonably likely to occur, including aquatic sites and potential dispersal corridors where the frog is reasonably likely to occur.

b. No grazing or livestock management activities will occur in occupied watersheds.

2. To minimize effects (and take) associated with maintenance and livestock use of stock tanks within dispersal distance from occupied sites:

a. All earthen stock tanks within reasonable dispersal distance of occupied habitat will be surveyed for Chiricahua leopard frogs prior to maintenance activities.

b. Where frogs are present in stock tanks needing maintenance, coordinate with the USFWS to develop and implement a site specific plan to either: 1) forego maintenance; 2) salvage and temporarily hold frogs (following recovery plan guidance); 3) limit disturbance and work areas to the minimum practicable (i.e., leave stands of emergent vegetation in place, implement measures to minimize the likelihood of disease transmission); 4) fence portions of the occupied pond or tank (portions may be left unfenced to allow some access by livestock); or 5) otherwise develop a comprehensive plan as part of the proposed action to provide necessary tank maintenance that addresses protection of Chiricahua leopard frogs.

c. Where frogs are present, implement recommendations and guidance provided in the recovery plan for stock tank use and maintenance (Appendix A and I).

3. To minimize adverse effects (and take) associated with grazing within occupied habitat (or habitat where the frog is reasonably likely to occur) that is not already excluded from livestock:

a. Identify habitats and survey suitable habitats for the presence of frogs (using protocol in the recovery plan, Appendix E) prior to livestock entry, or work with USFWS to establish a specified time frame in which surveys will be completed.

b. Where frogs are found, coordinate with USFWS to develop a site-specific plan to either: 1) ensure that Chiricahua leopard frog habitat will be maintained, or 2) preclude grazing from the site. This may involve constructing alternate water source(s) for livestock (see recovery plan, Appendix A).

c. Water shall not be pumped or diverted from a site occupied by Chiricahua leopard frogs.

d. To minimize trampling and/or ingestion of frogs, metamorphosing frogs, larvae, and eggs in occupied habitat, protect stock tanks sufficiently to permit regeneration of emergent and submergent vegetation.

4. To minimize the contamination of occupied Chiricahua leopard frog habitat by non-native species and *Bd* [*Batrachochytrium dendrobatidis*, or amphibian chytrid fungus]:

    a. Where new or existing sites occupied by Chiricahua leopard frogs occur, water shall not be hauled to the site from another aquatic site that supports leopard frogs, bullfrogs, tiger salamanders, crayfish, or fish.

    b. To avoid the transfer of *Bd*, water hauled to occupied sites should originate from sources either within the same drainage as the target site, or preferably from ground water or domestic/treated sources.

    c. The permittees and their employees will be instructed to sanitize (following recovery plan recommendations) or dry out equipment used in maintenance of stock tanks or after other activities occurring in wetland or riparian areas prior to visiting occupied sites to prevent the spread of chytridiomycosis.

    d. When new tanks are to be constructed, coordinate with AGFD or NMDGF and USFWS to identify known locations of non-native aquatic species in relation to the proposed new tanks. Assess the threats and review the locations of the new tanks based on the occurrence of non-native species and their likely dispersal ranges.

    e. Live fish, crayfish, bullfrogs, leopard frogs, salamanders, or other aquatic organisms shall not be intentionally moved by permittees or their employees among livestock tanks or other aquatic sites.

5. To reduce adverse effects to aquatic sites from livestock impacts in surrounding uplands (e.g., sediment input to occupied habitats):

    a. Apply utilization standards (e.g., forage use guidelines) or other accepted methods to ensure upland and riparian vegetation conditions provide filtration of sediments and protect bank stability. Identify a means of monitoring the standard or method and identify action that will be taken to prevent exceeding the standard.

    b. Establish a non-grazed buffer around or along occupied aquatic sites sufficient to adequately filter sediments and excrement generated by livestock use of surrounding uplands.

6. To reduce adverse effects to occupied habitats from other land treatments associated with livestock management (e.g., herbicide application, prescribed fire, road construction), incorporate measures such as buffers around drainages (upstream and downstream of occupied sites), erosion control structures, and buffers around the sites themselves. If herbicides are proposed, use recommendations from White (2004).

7. To reduce adverse effects to frogs that may disperse from occupied sites to unoccupied sites within the action area:

    a. Identify likely or potential dispersal corridors with the assistance of Recovery Team/USFWS personnel. Include uplands, and ephemeral and perennial drainages within accepted dispersal distances.

b. Protect these habitats from livestock use or concentrations of livestock during likely times of dispersal, or minimize impacts from livestock and associated land treatments to these habitats during those times.

8. To promote the conservation of the species, evaluate suitable habitat to identify potential recovery sites, particularly if the grazing allotment lies within a Management Area. Work with USFWS and the Recovery Team to investigate such opportunities. If such sites are identified and are not already considered among habitats where frogs are reasonably likely to occur during the life of the grazing project, protect them as if they were occupied (see Recovery Actions 1.1-1.4 and 2 in the recovery plan) and include them in effects analyses as such."[233]

CLF delisting criteria, according to the Recovery Plan, are presented below. The Chiricahua leopard frog will be considered for delisting when:

> "1. At least two metapopulations located in different drainages (defined here as USGS 10- digit Hydrologic Units) plus at least one isolated and robust population occur in each RU that exhibit long-term persistence and stability (even though local populations may go extinct in metapopulations) as demonstrated by a scientifically acceptable population monitoring program. Interpreting the results of the monitoring program will take into account precipitation cycles of drought or wet periods and the effects of such cycles on population persistence.
>
> 2. Aquatic breeding habitats, including suitable, restored, and created habitats necessary for persistence of metapopulations and robust isolated populations identified in criterion 1, are protected and managed in accordance with the recommendations in this plan.
>
> 3. The additional habitat needed for population connectivity, recolonization, and dispersal is protected and managed for Chiricahua leopard frogs, in accordance with the recommendations in this plan.
>
> 4. Threats and causes of decline have been reduced or eliminated, and commitments for long-term management are in place in each RU such that the Chiricahua leopard frog is unlikely to need protection under the ESA in the foreseeable future."[234]

First and foremost, aquatic breeding habitats are **not** being created and restored. They are also not being protected according to interagency recommendations listed above or the recommendations put forth in the 2007 Recovery Plan:

> "Livestock grazing in and around stock tanks supporting leopard frogs should be managed so as to avoid destruction or excessive deterioration of leopard frog

[233] Id., Section III, pages 19-21.

[234] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007, p. v.

> habitat. This includes: 1) subject to available funding and approval by the participating land manager, fencing of portions of tanks that allows both access for cattle and places where frogs and their habitat will be undisturbed by cattle; 2) avoidance of excessive trampling, especially during frog breeding periods when egg masses are easily destroyed; and 3) appropriate management of the numbers and seasonality of livestock use to avoid excessive sedimentation, erosion, or degradation of water quality."

Second, habitat for dispersal is not being protected and managed for frog recovery. Threats and causes of decline are not being reduced or eliminated. CLF metapopulations are not persisting without human intervention in their reproductive cycle. There has been no meaningful measure to protect and restore habitat, instead CLF conservation focuses solely on captive reproduction and release of doomed individuals.

The April 1, 2010 Biological Opinion[235] does not support CLF long-term persistence and stability. Instead, an entire CLF population and its breeding habitat could be affected or even wiped out for a year without even triggering take, as long as captive-reared frog are released back into the area. And to make matters worse, the ITS fails not only to provide for a dependency on the action itself, the ITS fails to provide for protection of non-stock pond designated riparian Critical Habitat which is directly dependent on the action.

Importantly, cattle exclosures do not extend to designated streams (riparian dispersal corridors), thus hindering CLF movement from one occupied site to another. These important breeding habitat connectors, vital to supporting metapopulation dynamics, are protected using utilization standards. ITS statements for the respective 2007 and 2010 Biological Opinions focus not on protecting designated critical streams, but rather on maintaining pasture fences to ensure rest-rotation schemes can be practice. Thus, USFWS has abrogated its professional and legal responsibility to protect designated riparian Critical Habitat to the Tonto National Forest's scheme of managing the riparian habitat based on cow "forage utilization standards…and rest-rotation grazing activities," which are not applicable for the protection of threatened and endangered riparian species. Furthermore, our surveys document that neither of these inapplicable conservation strategies are even adhered to in practice.

Consequently, both the 2007 and 2010 CLF Incidental Take Statement are arbitrary and capricious and violate the Administrative Procedure Act.[236]

YELLOW-BILLED CUCKOO BACKGROUND AND HABITAT NEEDS

The U.S. Fish and Wildlife Service listed YBC as a Threatened Species in 2014.[237] This listing compiled by USFWS included comprehensive coverage of Yellow-billed Cuckoo dramatic

[235] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[236] 5 USC §706(2)(A).

[237] Rules and Regulations. Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192. October 3, 2014.

habitat loss, fragmentation and degradation, severe widespread population declines, climate change and the number and importance of associated cumulative impacts.[238]

Yellow-billed Cuckoo are facing steep population declines in its western breeding grounds owing primarily to loss of native habitat.[239] Once a fairly common summer resident from throughout Arizona, USFWS concluded that Arizona Yellow-billed Cuckoo populations declined significantly starting in the 1970's and that this was directly paralleled by the decline of its preferred breeding habitat, cottonwood-willow riparian communities.[240] Despite the extraordinary ecological and biodiversity values of riparian ecosystems, these places have been the most disturbed and degraded land type in the western United States.[241]

California historically possessed the greatest number of nesting Yellow-billed Cuckoos north of Mexico. California's Yellow-billed Cuckoo populations have been decimated, predictably following the loss, fragmentation, and degradation of Yellow-billed Cuckoo breeding habitat consisting of mature and contiguous cottonwood-willow riparian gallery forests. Arizona now maintains the largest Yellow-billed Cuckoo populations in the United States even though it is currently experiencing dramatic population declines.[242]

Optimal reproductive habitat and its micro-environments for Yellow-billed Cuckoo have been established, are well known, and are thoroughly documented. Optimal Yellow-billed Cuckoo reproductive habitat consists of very large non-fragmented landscapes of old growth mature cottonwood-willow gallery forest, with dense multistory layers of vegetation in both the subcanopy and ground layers, and the presence of perennial surface water.[243] Range-wide breeding habitat is composed of riparian woodlands within floodplains or in upland areas or terraces often greater than 325 ft (100 m) in width and 200 ac (81 ha) or more in extent ***with an overstory and understory vegetation component in contiguous or nearly contiguous patches*** adjacent to intermittent or perennial watercourses.[244]

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[238] Rules and Regulations. Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192. October 3, 2014.

[239] Wallace, C.S., Villarreal, M.L. and van Riper III, C., 2013. Influence of monsoon-related riparian phenology on yellow-billed cuckoo habitat selection in Arizona. *Journal of Biogeography*, *40*(11), pp.2094-2107.

[240] USFWS. 2013. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (Coccyzus americanus); Proposed Rule. 50 CFR Part 17. Federal Register, Vol. 78, No. 192, Part V. 3 October 2013. Pages 61621-61666.

[241] Bock, C.E., Saab, V.A., Rich, T.D. and Dobkin, D.S., 1993. Effects of livestock grazing on neotropical migratory landbirds in western North America. *Status and management of Neotropical migratory birds. USDA Forest Service, General Technical Report RM-229*, pp.296-309.

[242] Krzysik 2014. Western Yellow-billed Cuckoo Critical Habitat in Arizona. Technical Report. Prescott, AZ 12 October 2014.

[243] Rosenberg, K.V., R.D. Ohmart, W.C. Hunter, and B.W. Anderson. 1991. Birds of the Lower Colorado River Valley. Univ. Arizona Press, Tucson, AZ. 416pp.; Johnson, M.J., S.L. Durst, C.M. Calvo, L. Stewart, M.K. Sogge, G. Bland, and T. Arundel. 2008. Yellow-billed Cuckoo Distribution, Abundance, and Habitat Use Along the Lower Colorado River and its Tributaries, 2007 Annual Report. USGS, Open File Report 2008-1177. 274pp.

[244] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20939.

According to USFWS in their 2021 final determination of critical habitat:

> "As described in the Critical Habitat section, features such as **understory and overstory components with high humidity** are considered important for habitat selection for breeding western yellow-billed cuckoos. This is especially true in ephemeral, tree-lined xeroriparian drainages."[245]

Food availability for Yellow-billed Cuckoo is largely influenced by the health, density, and species composition of understory and overstory vegetation.[246] USFWS has determined the presence of abundant, large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, and dragonflies) and tree frogs during nesting season to be an essential physical or biological feature for this species.[247] In terms of providing foraging opportunities that will ensure Yellow-billed Cuckoo nesting success, understory vegetation or ground cover may be as important as overstory vegetation to suitable western yellow-billed cuckoo habitat. For example:

> "At the ground level, increased forb cover was positively associated with cuckoo site occupancy… low vegetation may also provide an indirect source of food (i.e., an insect breeding and/or feeding ground)… in the South Fork Kern River, cuckoos nested at sites with significantly greater forb cover than was found in the forest at random. Yellow-billed cuckoos feed on a variety of prey, including large macroinvertebrates such as caterpillars, katydids, grasshoppers, crickets, and mantids (Laymon 1980; Halterman 2009), which can be found in this type of habitat (Borror et al. 1989).[248]

Despite the importance of understory vegetation and ground cover to Yellow-billed Cuckoo, especially in their breeding grounds in AZ that are protected with critical habitat designations, cattle grazing degrades these important features in riparian and aquatic habitats throughout the arid Southwest.[249] Overgrazing in riparian (including xeroriparian) habitat has been identified by USFWS as an ongoing threat to Yellow-billed Cuckoo habitat that may require special management,

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[245] Ibid., page 20815.

[246] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48551.

[247] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48552.

[248] Johnson, M.J., S.L. Durst, C.M. Calvo, L. Stewart, M.K. Sogge, G. Bland, and T. Arundel. 2008. Yellow-billed Cuckoo Distribution, Abundance, and Habitat Use Along the Lower Colorado River and its Tributaries, 2007 Annual Report. USGS, Open File Report 2008-1177. 274pp.

[249] Bock, C.E., J.H. Bock, L. Kennedy, and Z.F. Jones. 2007. Spread of non-native grasses into grazed versus ungrazed desert grasslands. Journal of Arid Environments 71:229-235; Bock, C.E., V.A. Saab, T.D. Rich, and D.S. Dobkin. 1993. Effects of livestock grazing on Neotropical migratory land birds in Western North America. Pages 296-309 in Status and Management of Neotropical Migratory Birds. D.M. Finch and P.W. Stangel, editors. USDA, Forest Service, GTR RM-229. 422pp.; Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. Conservation Biology 8:629-644.; Krueper, D.J. 1993. Effects of land use practices on Western riparian ecosystems. Pages 321-330 in Status and Management of Neotropical Migratory Birds. D.M. Finch and P.W. Stangel, editors. USDA, Forest Service, GTR RM-229. 422pp.

especially where water is limited (i.e. the Coronado National Forest critical habitat units). Grazing at any level can impact riparian habitat according to USFWS.[250]

USFWS discusses the full suite of threats to Yellow-billed Cuckoo caused by cow grazing below:

> "(4) Actions that would result in alteration of western yellow-billed cuckoo habitat from overgrazing of livestock or ungulate (for example, horses, burros) management. Such activities could include, but are not limited to, unrestricted ungulate access and use of riparian vegetation; excessive ungulate use of riparian vegetation during the non-growing season (for example, leaf drop to bud break); overuse of riparian habitat and upland vegetation due to insufficient herbaceous vegetation available to ungulates; and improper herding, water development, or other livestock management actions. These activities could reduce the volume and composition of riparian vegetation, prevent regeneration of riparian plant species, physically disturb nests, alter floodplain dynamics, alter watershed and soil characteristics, alter stream morphology, and facilitate the growth of flammable nonnative plant species."[251]

Furthermore, USFWS defines overgrazing as "grazing activity (that) degrades riparian habitat attributes and prevents long-term health and persistence of these systems.[252] In another example, USFWS defines overgrazing as grazing activities that reduce quality and quantity of breeding habitat.[253]

Cattle grazing in Yellow-billed Cuckoo critical habitat, as we document in this Notice, has significantly impacted riparian systems, fouled remaining water, and left little to no herbaceous food and cover for invertebrate communities. We demonstrate that abundant and healthy riparian vegetation is missing from the majority of grazing allotments that contain designated riparian Yellow-billed Cuckoo critical habitat in the Tonto National Forest. Indeed, according to USFWS, habitat degradation associated with poorly managed livestock grazing (generally identified as ''overgrazing'') is a recognized threat in 70 out of 72 (97%) of critical habitat units.[254]

Besides directly affecting Yellow-billed Cuckoo behavior and foraging opportunities, cattle grazing causes loss of riparian regeneration. Loss of riparian habitat regeneration caused by poorly managed grazing is an acknowledged and prominent threat to Yellow-billed Cuckoo by USFWS,[255]

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[250] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20813.

[251] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48571.

[252] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20808.

[253] Ibid., page 20853.

[254] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48558.

[255] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48555.

and the 2014 Yellow-billed Cuckoo ESA listing clearly states that "managing grazing so that native riparian trees and shrubs will regenerate on a regular basis is especially beneficial."[256]

Unfortunately, managing grazing for regeneration is not the case in the Tonto National Forest. As documented in this Notice, cattle are consistently concentrated in riparian zones during the growing season and are removing riparian vegetation down to the roots, leaving bare ground and dust-bowl conditions. These impacts, as demonstrated in this Notice, reasonably fit the definition of overgrazing or poorly-managed grazing and are causing direct and indirect harm to Yellow-billed Cuckoo populations by removing habitat structure and associated prey base.

Diminished riparian vegetation, as observed throughout the Tonto National Forest, negatively affect streamflow processes and impact abundance and distribution of fine sediment deposited on floodplains which is critical for the development, abundance, distribution, maintenance, and germination of trees in the riparian zone that become future Yellow-billed Cuckoo habitat.[257] Riparian vegetation and intact grasses are required to capture sediment during rainy seasons that becomes seedbeds for germination and growth of the riparian vegetation upon which Yellow-billed Cuckoo depend. Significantly grazed riparian zones fail to capture sediment and instead begin to erode. This disruption of stream flow processes ultimately leads riparian forests to senesce, unable to sustain recruitment of the new trees and unable to provide for the varied vegetative structure required for western yellow-billed cuckoo nesting and foraging. [258] Therefore, grazing of the severity that we have observed on the Tonto National Forest has immediate short-term impacts on Yellow-billed Cuckoo fitness as well as long-term impacts that gradually cause the loss of riparian gallery forest.

Functional fencing is direly needed to exclude and better manage authorized livestock than what we are observing in the field. Riparian vegetation should be fully allowed to propagate for the full course of the growing season. Yellow-billed Cuckoo critical habitat should be completely protected from livestock grazing, especially in exceptional drought years. Monitored and maintained cow exclosures of designated Yellow-billed Cuckoo riparian Critical Habitat are essential to ensure survival much less recovery.

USFWS states that "because the western yellow-billed cuckoo is listed as threatened, all the units are occupied during the breeding season and habitat would need to be protected during the nonbreeding season, the majority of actions necessary to conserve the species would be required based on the listing of the western yellow-billed cuckoo."[259] Unfortunately, USFWS admits in its Critical Habitat Designation Notice that they failed to designate all areas with the geographical area occupied by the Yellow-billed Cuckoo:

> "We are not currently designating any areas outside the geographical area occupied by the species because the western yellow-billed cuckoo is found throughout its historical

[256] *Ibid.*

[257] *Id.*, page 48552.

[258] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48552.

[259] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20831.

> range, nor are we designating all areas with the geographical area occupied by the species."[260]

To make matters worse, Yellow-billed Cuckoo habitat protection exists only on paper, not in practice. Based on the impacts of current authorized actions, as illustrated in this Notice, Yellow-billed Cuckoo are reasonably expected to continue declining until an uplisting to "Endangered" ESA status will be required.

SOUTHWESTERN WILLOW FLYCATCHER BACKGROUND AND HABITAT NEEDS

The southwestern willow flycatcher (*Empidonax traillii extimus)* ("WFC") was listed as federally endangered in 1995 and received a Recovery Plan in 2002.[261] This small bird breeds in dense riparian habitats in the southwestern United States, requiring relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes and reservoirs.[262]

The southwestern willow flycatcher has experienced extensive loss and modification of breeding habitat which has resulted in a similarly extensive loss of individuals within the population. Destruction and modification of riparian habitats have been caused by a variety of human actions and one known threat that is ongoing is grazing livestock in riparian systems[263], especially when this practice occurs in the riparian growing season or in the nesting season for WFC.

The first and foremost recovery action listed in the 2002 WFC Recovery Plan is to increase and improve occupied, suitable, and potential breeding habitat.[264] Immediately, the Tonto National Forest has failed to perform basic recovery action inside of designated WFC critical habitat, and has instead aided in the destruction of occupied, suitable, and potential breeding habitat by allowing cattle to degrade WFC critical habitat areas, including the Tonto Creek Riparian Unit (an area set aside for mitigating loss of WFC nesting sites following modification of Roosevelt Reservoir).

In the 2002 WFC Recovery Plan, 'Appendix G' focuses specifically on "*Management of Livestock Grazing in the Recovery of the Southwestern Willow Flycatcher*". This important analysis and discussion

> "the primary responsibility of the Technical Subgroup is to chart the recovery of the southwestern willow flycatcher. The goal of a recovery plan is to recommend actions that will bring about recovery of a species. The evidence and field examples indicate that with respect to livestock grazing, southwestern willow flycatcher recovery would be most assured, and in the shortest time, with total exclusion of livestock grazing

[260] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20846.

[261] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico.

[262] *Id.,* page. iv.

[263] *Ibid.*

[264] *Id.,* page. v.

from those riparian areas that are deemed necessary to recover the flycatcher and where grazing has been identified as a principal stressor."

According to the Recovery Plan, "If livestock grazing is a major stressor, implement general livestock grazing guidelines from Appendix G in currently suitable or potentially suitable habitat." [265] According to Appendix G and the recommendations of the WFC Technical Subgroup of experts on the species, there should be no grazing in any 'restorable or regenerating habitat', whether occupied or unoccupied, during the growing season for vegetation. Even during the non-growing season, there should be no grazing in nesting habitat characterized by low stature (3-4m willows) and only provisional grazing in all other habitat types (assuming that grazing is not a significant stressor). [266]

Therefore, despite the recommendations stated in the Recovery Plan for WFC, the Tonto National Forest is negating its responsibilities to assist in the recovery of this imperiled bird by continually greenlighting destructive land use activities.

NORTHERN MEXICAN AND NARROW-HEADED GARTER SNAKE GARTER SNAKE BACKGROUND AND HABITAT NEEDS

Both NMGS and NHGS are native Arizona reptiles that have declined dramatically throughout their range, reflected by widespread reductions of extant populations as well as local extirpations.[267] The northern Mexican gartersnake and the narrow-headed gartersnake are each highly imperiled as a consequence of habitat destruction, modification and fragmentation; introduction and proliferation of non-native species; small and poorly-connected populations vulnerable to inbreeding depression; and climate change and associated drought.[268]

Although northern Mexican gartersnakes have been found in a variety of vegetation types within the riparian zone (i.e., grasses, shrubs, and wetland plants), the underlying characteristic of this habitat needed by the gartersnake appears to be dense vegetation or other natural structural components that provide cover for the species[269]. Northern Mexican gartersnakes use habitats with perennial stream flow in northern Arizona, but outside of water are observed concealed under dense vegetative most of the time.[270]

According to the April 28, 2020, proposed rule for Northern Mexican gartersnake critical habitat designation[271], the Primary Biological Features required by the snakes include:

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[265] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico page. 114.

[266] *Id*., Table 2 at page G-27.

[267] Brennan, Thomas C., and Andrew T. Holycross. Field guide to amphibians and reptiles in Arizona. Arizona Game and Fish Dept., 2006.

[268] Wood, D.A., Emmons, I.D., Nowak, E.M., Christman, B.L., Holycross, A.T. and Vandergast, A.G., 2018. Conservation genomics of the Mogollon Narrow-headed gartersnake (Thamnophis rufipunctatus) and Northern Mexican gartersnake (Thamnophis eques megalops) (No. 2018-1141). US Geological Survey.

[269] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23615.

[270] *Ibid*., page 23617.

[271] *Ibid.,* page 23623-4.

1. “Perennial or spatially intermittent streams that provide both aquatic and terrestrial habitat that allows for immigration, emigration, and maintenance of population connectivity of northern Mexican gartersnakes and contain:

> (A) Slow-moving water (walking speed) with in-stream pools, off-channel pools, and backwater habitat;
>
> (B) Organic and natural inorganic structural features (e.g., boulders, dense aquatic and wetland vegetation, leaf litter, logs, and debris jams) within the stream channel for thermoregulation, shelter, foraging opportunities, and protection from predators;
>
> (C) Terrestrial habitat adjacent to the stream channel that includes riparian vegetation, small mammal burrows, boulder fields, rock crevices, and downed woody debris for thermoregulation, shelter, foraging opportunities, brumation, and protection from predators; and
>
> (D) Water quality that is absent of pollutants or, if pollutants are present, at levels low enough such that recruitment of northern Mexican gartersnakes is not inhibited.”[272]

“6. Lentic wetlands including offchannel springs, cienegas, and natural and constructed ponds (small earthen impoundment) with:

> (A) Organic and natural inorganic structural features (e.g., boulders, dense aquatic and wetland vegetation, leaf litter, logs, and debris jams) within the ordinary high water mark for thermoregulation, shelter, foraging opportunities, brumation, and protection from predators;
>
> (B) Riparian habitat adjacent to ordinary high water mark that includes riparian vegetation, small mammal burrows, boulder fields, rock crevices, and downed woody debris for thermoregulation, shelter, foraging opportunities, and protection from predators; and
>
> (C) Water quality that is absent of pollutants or, if pollutants are present, at levels low enough such that recruitment of northern Mexican gartersnakes is not inhibited.

7. Ephemeral channels that connect perennial or spatially intermittent perennial streams to lentic wetlands in southern Arizona where water resources are limited.” [273]

For these specified habitat features, cow grazing can directly result in negative impacts to riparian ecosystems, cienegas and other wetlands. Cow grazing affects small stream channels and

[272] *Id.*
[273] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23623-4.

backwater pools by chiseling and trampling banks and shorelines, results in removal of dense vegetation that decreases shelter, cover, foraging opportunities and protection from predators, and also leads to trampled and vegetatively diminished uplands and water quality fouled by feces.

According to USFWS, "Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may violate 7(a)(2) of the Act by destroying or adversely modifying such habitat, or that may be affected by such designation. Activities that the Services may, during a consultation under section 7(a)(2) of the Act, find are likely to destroy or adversely modify critical habitat include, but are not limited to:"[274]

> 1) "Actions that would significantly increase sediment deposition or scouring within the stream channel or pond that is habitat for the northern Mexican or narrow-headed gartersnake, or one or more of their prey species within the range of either gartersnake species. Such activities could include, but are not limited to: Poorly managed livestock grazing…"[275]
>
> 2) "Actions that would alter water chemistry beyond the tolerance limits of a gartersnake prey base. Such activities could include…biological pollutants… livestock grazing that results in waters heavily polluted by feces;"[276]
>
> 3) "Actions that would remove, diminish, or significantly alter the structural complexity of key natural structural habitat features in and adjacent to aquatic habitat." [277]

This NOI presents new information that cattle grazing on the Tonto National Forest has resulted in adverse modification of riparian garter snake habitat that has been designated as critical to recovering these species.

USFWS states that maintaining fencing and managing trespass cattle limits grazing of riparian pastures to the non-growing season and lessens impacts to proposed critical habitat;[278] however, this is not adequate as we document in this Notice that such simple cattle management either isn't happening and/or isn't monitored or enforced on the Tonto. Because of the absence of management plans or conservation agreements that meaningfully conserve the physical and biological features upon which these garter snakes depend,[279] cow grazing must be excluded in all riparian areas designated as critical habitat. Imperiled garter snakes will ultimately depend on riparian restoration, not degradation, as we will illustrate in this Notice. Grazing activities result in a reduction of the amount or distribution of these key habitat features that are important for garter snake thermoregulation, shelter, protection from predators, and foraging opportunities. Based on our

[274] *Ibid.*, page 23633.

[275] *Id.*

[276] *Id.*

[277] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23633.

[278] *Ibid.*, page 23641.

[279] Nowak, E.M. and Santana-Bendix, M.A., 2002. Status, distribution and management recommendations for the narrow-headed gartersnake (Thamnophis rufipunctatus) in Oak Creek, Arizona. Arizona Game and Fish Department.

recent habitat surveys, cow grazing activities are continually diminishing riparian ecosystems on which these imperiled native reptiles depend and should no longer be allowed to continue in riparian areas designated as critical habitat.

SPIKEDACE BACKGROUND AND HABITAT NEEDS

The spikedace (*Meda fulgida*) is a small cyprinid that historically ranged throughout most of the Gila River's major tributaries in Arizona, New Mexico, and Sonora[280]. Spikedace were listed as threatened in 1986 with critical habitat designated on April 25, 2000[281]. Spikedace have declined markedly in distribution and abundance throughout its range. By 1996, spikedace were extirpated from over 85 percent of its historic range,[282] and declines continue. Currently, remnant subpopulations in the upper Verde River, Eagle Creek, and Aravaipa Creek in Arizona, and the Gila River in New Mexico occupy a mere six percent of the species' former range.[283]

Spikedace occupy stream habitats usually less than a meter deep, with slow to moderate water velocities over sand, gravel, or cobble substrates.[284] Adults often aggregate in shear zones along gravel-sand bars where rapid water borders slower flow, quiet eddies on the downstream edges of riffles, and broad shallow areas above gravel-sand bars. A dynamic diversity of instream zones (eddies, riffles, broad shallow gravel bars adjacent to fast flowing water) and periodic, recurrent flooding are essential to the feeding and reproduction of the spikedace by scouring the sands and keeping gravels clean.[285] Spikedace larvae and juveniles tend to occupy shallow, peripheral portions of streams that have slow currents and sand or fine gravel substrates but will also occupy backwater habitats.

Distribution and abundance of spikedace has declined due to riparian degradation, water diversion, groundwater pumping, and introduction and spread of non-native predatory and competitive fishes.[286] According to USFWS, any activity that affects sedimentation, water quality, and removal of riparian vegetation (i.e. cattle grazing), can affect spikedace habitat quality and should be avoided or corrected.[287] Unfortunately, all remaining potential spikedace habitat (including critical habitat) on the Tonto National Forest is suboptimal for spikedace because of

[280] Propst, D.L., Bestgen, K.R. and Painter, C.W., 1986. *Distribution, status, biology, and conservation of the spikedace (Meda fulgida) in New Mexico*. US Fish and Wildlife Service.
[281] Federal Register / Vol. 72, No. 54 / Wednesday, March 21, 2007 / Rules and Regulations. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Spikedace (Meda fulgida) and the Loach Minnow (Tiaroga cobitis).
[282] The October 24, 2002, Biological Opinion for Continuation of Livestock Grazing on the Coronado National Forest (2-21-98-F-399-R1) pg. 23.
[283] Anderson, Allison A., and A. Hendrickson. "Geographic Variation in Morphology of Spikedace, Meda Fulgida, in Arizona and New Mexico." *The Southwestern Naturalist*, vol. 39, no. 2, 1994, pp. 148–155. *JSTOR*, www.jstor.org/stable/3672239. Accessed 4 Aug. 2021.
[284] Propst, D.L., Bestgen, K.R. and Painter, C.W., 1986. *Distribution, status, biology, and conservation of the spikedace (Meda fulgida) in New Mexico*. US Fish and Wildlife Service.
[285] Propst, D.L., Bestgen, K.R. and Painter, C.W., 1986. *Distribution, status, biology, and conservation of the spikedace (Meda fulgida) in New Mexico*. US Fish and Wildlife Service.
[286] Propst, D.L., Bestgen, K.R. and Painter, C.W., 1986. *Distribution, status, biology, and conservation of the spikedace (Meda fulgida) in New Mexico*. US Fish and Wildlife Service.
[287] The October 24, 2002, Biological Opinion for Continuation of Livestock Grazing on the Coronado National Forest (2-21-98-F-399-R1) pg. 23.

physical habitat degradation and the presence of non-native fish.[288] Degraded aquatic habitat is a major factor in the establishment and domination by non-native fish.

Furthermore, "…allotments, **especially those in the Tonto Creek and Salt River watersheds**, have contributed to the current habitat degradation."[289]

RAZORBACK SUCKER BACKGROUND AND HABITAT NEEDS

Endangered Razorback Sucker (*Xyrauchen texanus*, "RBS") were listed on October 23, 1991[290], with critical habitat designated on March 21, 1994.[291] RBS received a Recovery Plan in 1998.[292]

A relatively large, endemic fish of the Colorado River basin, RBS was once abundant and widespread but has been extirpated from most of its geographic range. Populations declined due to alteration, fragmentation and degradation of freshwater streams and rivers. Predation of RBS fry by nonnative fishes also played an important role in the demise of RBS, and between predation and habitat loss very few RBS are able to reach adulthood.

An integral part of preventing additional RBS extirpation and extinction is ensuring that habitat exists for RBS to complete its life history needs, including quiet backwater tributaries that serve as nurseries for fry. An example of a potential nursery creek is Cherry Creek on the Dagger allotment, and this stream is designated RBS critical habitat. Cherry Creek is a tributary to the Salt River, where RBS have been reintroduced since 1981.[293] Delisting of RBS will not be possible until populations are secure and connected, and RBS can persist in the wild reproducing and recruiting into the breeding population without human intervention.

Augmenting RBS populations with captive-reared individuals is an imperative strategy to save RBS, but so is protection and restoration of potential RBS habitat so that expansion of existing and reestablished populations can occur. This restoration logically includes habitat that has been legally designated as vital to RBS survival and recovery. There is no room for significant cow grazing impacts to occur in potential RBS nursery tributaries.

GILA CHUB BACKGROUND AND HABITAT NEEDS

Gila Chub were granted Endangered species status in 2005 and received critical habitat designation concurrently with their listing.[294] Historically, Gila Chub (*Gila intermedia*, "GC") were

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[288] The February 28, 2002, Biological Opinion for On-Going And Long-Term Grazing On The Tonto National Forest (2-21-99-F-300) pg. 25.

[289] I*d.*

[290] 56 FR 54957

[291] 59 FR 13374

[292] USFWS. Razorback Sucker (*Xyrauchen texanus*) Recovery Plan. Denver, Colorado, 81pp.

[293] Correspondence to Tonto Regional Forester Charles W. Cartwright Jr. from Arizona Field Supervisor Sam F. Spiller; RE: December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl and Bald Eagle from the Proposed Region # Management Activities. AESO/SE #2-21-92-F-693, page 10.

[294] USFWS. Rules and Regulations. Listing Gila Chub as Endangered With Critical Habitat; Final Rule. Federal Register Vol. 70, No. 211. Wednesday, November 2, 2005.

found in approximately 43 rivers, streams, and spring-fed tributaries throughout the Gila River basin in southwestern New Mexico, central and southeastern Arizona, and northern Sonora, Mexico[295] but now occur in only 10-15% of their former range. GC require perennial pools, uncontaminated water or an appropriate temperature, healthy instream and riparian vegetation and a natural hydrologic regime[296] all of which are impacted and altered by grazing cattle[297]

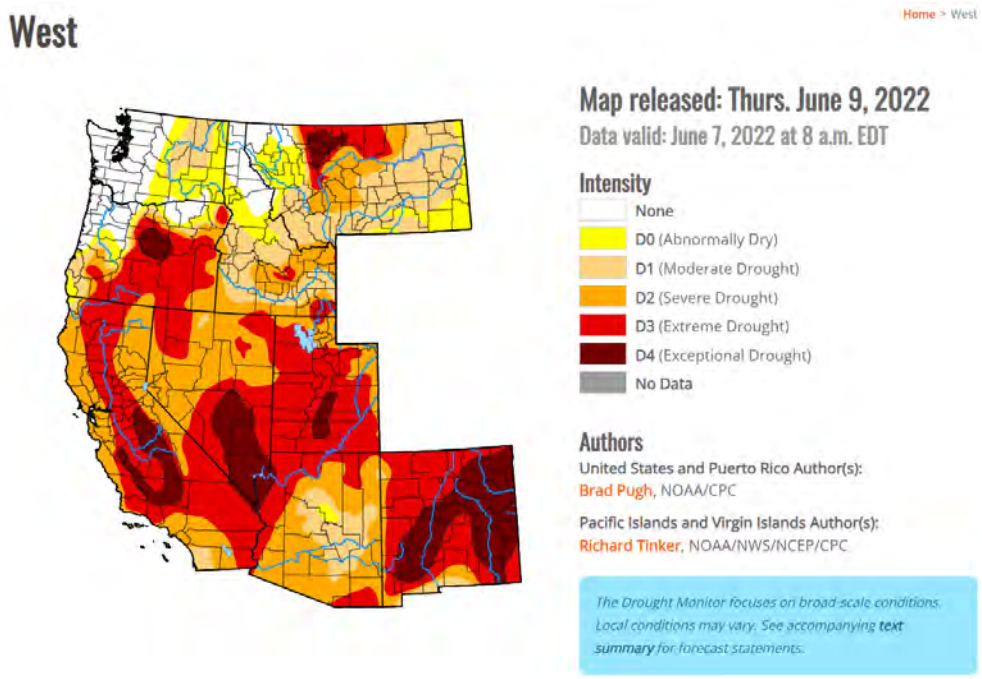
Riparian and aquatic communities across the southwest have been lost, degraded and destroyed by human activities. By the late 1800s, many southern Arizona watersheds were in poor condition due in part to livestock grazing.[298] Watershed degradation, caused by colonial management practices, ultimately led to widespread erosion and channel entrenchment, which then led to long-term stream, cienega, and riparian habitat degradation that continues today due to the very same causes.

Small, isolated populations cause GC to be highly susceptible to threats, including habitat degradation from livestock.[299] In an extensive 2004 survey of impaired riparian zones in southeastern Arizona, Stefferud and Stefferud (2004)[300] provide several examples of how small, arid-land streams can heal following cattle exclusion, including improvement in vegetative cover, stream function and extent of perennial water. GC and other native, imperiled fish will ultimately require this management action to persist in a hotter and drier climate.

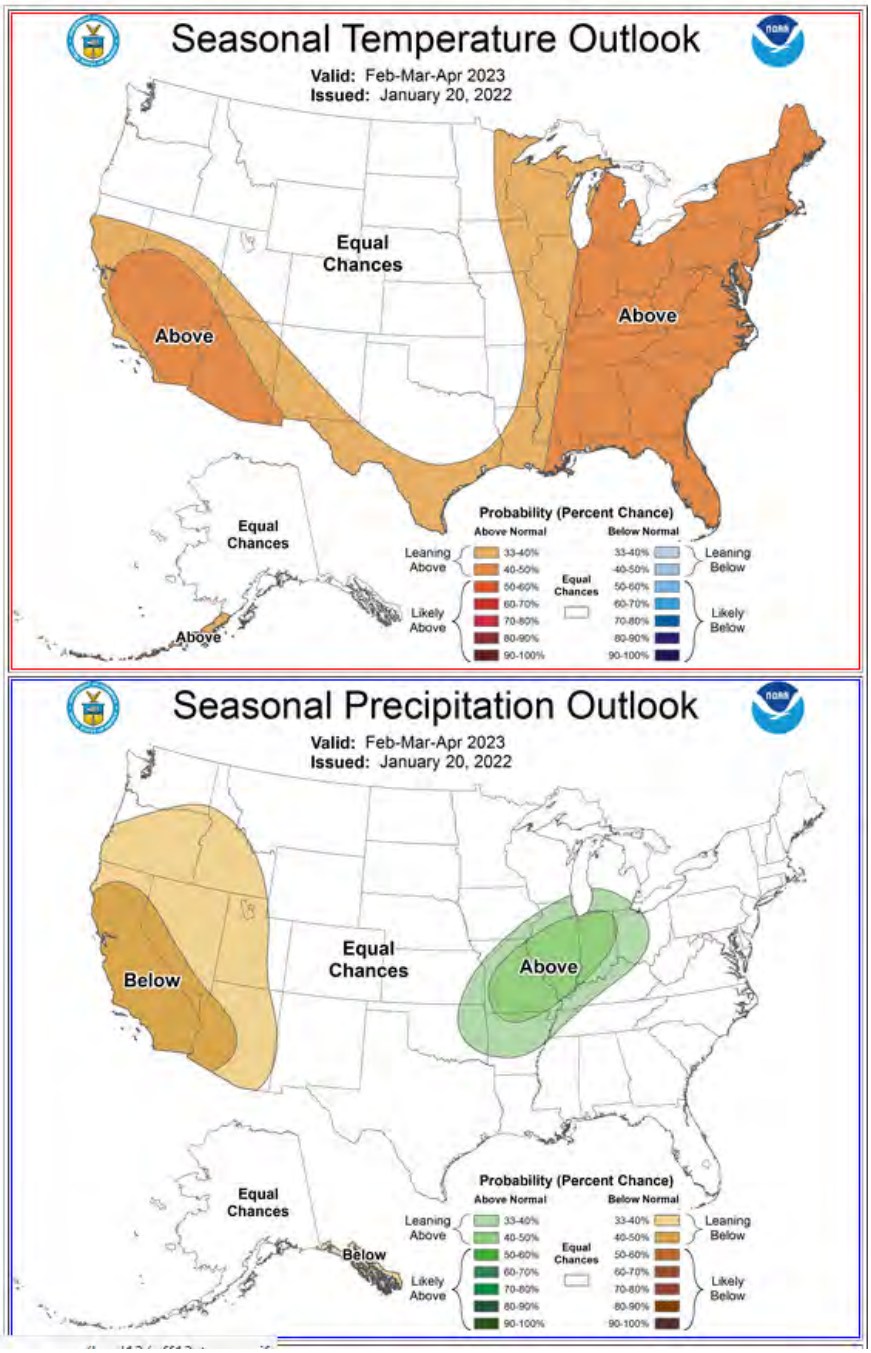
[295] *Ibid.*
[296] *Ibid.*
[297] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.
[298] USFWS. Rules and Regulations. Listing Gila Chub as Endangered With Critical Habitat; Final Rule. Federal Register Vol. 70, No. 211. Wednesday, November 2, 2005.
[299] *Ibid.*
[300] Jerome A. Stefferud Sally E. Stefferud 2004. Aquatic and Riparian Surveys of Selected Stream Courses on Sierra Vista and Nogales Ranger Districts, Coronado National Forest, Cochise and Santa Cruz Counties, Arizona.

RIPARIAN DEPENDENT ENDANGERED SPECIES HABITAT NEEDS WITH CLIMATE CHANGE AND DROUGHT

Worsening climate change and the Southwest's resulting persistent and increasing temperatures and drought are particularly concerning where the Tonto National Forest manages designated riparian Critical Habitat by a scheme based on the use of cow grazing utilization metrics to govern habitat conditions; metrics that do not protect riparian dependent endangered species.



This is a problem short term (https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?West above).



This is also a problem in the longer term (https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=13:, above). There is no evidence to suggest climate trends will improve.[301]

As Beschta *et al*. note:

> "The combined effects of ungulates (domestic, wild, and feral) and a changing climate present a pervasive set of stressors on public lands, which are significantly

[301] Large contribution from anthropogenic warming to an emerging North American megadrought, A. Park Williams, et al.; Science 368, 314-318; April 17, 2020.

different from those encountered during the evolutionary history of the region's native species. The intersection of these stressors is setting the stage for fundamental and unprecedented changes to forest, arid, and semi-arid landscapes in the western US (Table 1) and increasing the likelihood of alternative states. Thus, public-land management needs to focus on restoring and maintaining structure, function, and integrity of ecosystems to improve their resilience to climate change (Rieman and Isaak 2010)."[302]

And as Donahue summarized,

"Livestock grazing exacerbates the effects of climate change on the public lands, hinders the ability of ecosystems to adapt to climate change, and contributes to climate change as a result of methane emissions and reduced potential of soils to sequester carbon.[303]

And as USFWS' lead Yellow-billed Cuckoo species expert reported in "Grazing Impacts Input"[304]:

"**As drought and climate change progress and livestock grazing continues, the riparian and xero-riparian shrub and tree recruitment and survival will diminish. Riparian and xero-riparian tree and shrub cover in drainage bottoms will diminish unless offsetting actions are taken**."[305]

"**A single summer of above average monsoon rain does not compensate for years of drought and livestock impacts. Reducing/eliminating livestock access to ephemeral, intermittent, and perennial drainages following these rare periods of good rainfall will allow tree and shrub seedlings to grow and survive**."[306]

"**Livestock grazing and climate change both contribute toward reduced overstory and subcanopy cover** and/or conversion to more arid adapted tree species in ephemeral, intermittent, and perennial drainages. **We cannot control climate change, but we can control livestock impacts from grazing, trampling, erosion, and soil compaction**."[307]

Currently, the Biological Opinions in use on Tonto National Forest cow grazing allotments continue to fail to utilize and acknowledge the "best scientific data available"[308] as required by law to analyze and to incorporate the deleterious combined effects of cows and climate change on designed riparian Critical Habitat. The Tonto is also failing to monitor exclusion and boundary

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[302] Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild and Feral Ungulates; Robert L. Beschta, Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, and Cindy Deacon Williams, Environmental Management (2013) 51:474-491.

[303] Livestock Production, Climate Change, and Human Health: Closing the Awareness Gap, Debra L. Donahue, Environmental Law Reporter, 45 ELR 11112, 12-2015, http://ssrn.com/abstract=2696741; citing: *See, e.g.*, Beschta et al., *supra* note 59, at 476-81; Ripple et al., *supra* note 2, at 2, 3. Almost nothing is known, however, about the ability of shrublands to sequester carbon. *See* Jack A. Morgan et al., *Carbon Sequestration in Agricultural Lands of the United States*, 65 J. Soil & Water Conservation 6A, 7A (2010), doi:10.2489/jswc.65.1.6A. This is a "critical research need," *see id.*, particularly since shrubs dominate large areas of the public lands.

[304] Grazing Impacts Input, Susan Sferra, November 11, 2021.

[305] *Id.*, page 1.

[306] *Id*., page 2.

[307] *Id*., page 3.

[308] 16 U.S.C. § 1533(b)(2).

fences and failing to monitor and enforce grazing rules and restrictions for permittees. In doing so, the Forest Service palpably neglects their lawful duty to conserve.

GENERAL ENDANGERED SPECIES ACT VIOLATIONS

Section 7 of the ESA requires federal agencies, in consultation with USFWS, to ensure that any action authorized, funded, or carried out by the agency is not likely to (1) jeopardize the continued existence of any threatened or endangered species, or (2) result in the destruction or adverse modification of the critical habitat of such species. 16 U.S.C. § 1536(a)(2). "Action" is broadly defined to include all activities or programs of any kind authorized, funded, or carried out by federal agencies, including actions directly or indirectly causing modifications to the land, water, or air; and actions intended to conserve listed species or their habitat. 50 C.F.R. § 402.02.

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with the USFWS, to "carry[] out programs for the conservation" of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." Sierra Club v. Glickman, 156 F.3d 606,616 (5th Cir. 1998); accord Pyramid Lake Paiute Tribe, 898 F.2d at 1416-17 (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the ESA to mean recovery, i.e., the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary." 16 U.S.C § l 536(a)(1).

For each proposed federal action, the action agency must request from USFWS whether any listed or proposed species may be present in the area of the agency action. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12. If listed or proposed species may be present in such area, the action agency must prepare a "biological assessment" to determine whether the listed species may be affected by the proposed action. Id. If the action agency determines that its proposed action may affect any listed species or critical habitat, the agency must engage in formal consultation with USFWS. 50 C.F.R. § 402.14. To complete formal consultation, USFWS must provide the action agency with a "biological opinion" explaining how the proposed action will affect the listed species or habitat. 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14.

If USFWS concludes that the proposed action will jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat, the biological opinion must outline "reasonable and prudent alternatives." 16 U.S.C. § 1536(b)(3)(A). If USFWS concludes in the biological opinion that the action is not likely to jeopardize the continued existence of a listed species, and will not result in the destruction or adverse modification of critical habitat, USFWS must provide an "incidental take statement" ("ITS"), specifying the amount or extent of such incidental taking on the listed species, any "reasonable and prudent measures" that USFWS considers necessary or appropriate to minimize such impact, and setting forth the "terms and conditions" that must be complied with by the BLM to implement those measures. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i).

The reinitiation of consultation is required and must be requested by the action agency or USFWS if discretionary federal involvement or control over the action has been retained or is

authorized by law and (1) the amount or extent of taking specified in the ITS has been exceeded; (2) new information reveals effects of the action that may affected listed species or critical habitat in a manner or to an extent not previously considered; (3) the action is modified in a manner that causes an effect to a listed species or critical habitat that was not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the identified action. 50 C.F.R. § 402.16(a).

To monitor the impacts of incidental take, the action agency must monitor and report the impact of its action on the listed species to USFWS as specified in the ITS. 16 U.S.C. § 1536(b)(4); 50 C.F.R. §§ 402.14(i)(1)(iv), 402.14(i)(3). If during the course of the action, the amount or extent of incidental taking is exceeded, the action agency must reinitiate consultation with USFWS immediately. 50 C.F.R. § 401.14(i)(4).

Section 9 of the ESA and its implementing regulations prohibit the unauthorized "take" of listed species. 16 U.S.C. § 1538(a)(1); 16 U.S.C. § 1533(d); 50 C.F.R. § 17.31. "Take" is defined broadly to include harming, harassing, trapping, capturing, wounding or killing a protected species either directly or by degrading its habitat. 16 U.S.C. § 1532(19). Taking that is in compliance with the terms and conditions specified in a biological opinion is not considered a prohibited taking under Section 9. 16 U.S.C. § 1536(o)(2).

In addition, action agencies, such as USFS must ensure their own compliance with the ESA; an action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species" merely by relying upon a BiOp, concurrence, or other consultation document issued by the USFWS. Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy, 898 F.2d 1410, 1415 (9th Cir. 1990).

FAILURE TO ADEQUATELY PROTECT CHIRICAHUA LEOPARD FROG AND ITS CRITICAL HABITAT

Permitted cattle grazing has significantly damaged designated riparian CLF Critical Habitat in the Tonto National Forest, with cows removing vegetation and defecating in riparian areas and ponds that the frogs depend on for dispersal, survival, and reproduction.

Many riparian areas specifically set aside to recover an imperiled frog were so significantly trampled and polluted by cattle that their function as breeding habitat is diminished. Designated riparian Critical Habitat is not being adequately protected as the Tonto National Forest. With USFWS concurrence, the Tonto National Forest manages designated riparian CLF Critical Habitat by a scheme based on the use of cow grazing utilization metrics that do not protect riparian dependent endangered species to govern habitat conditions. In addition, the Tonto has avoided providing protective Critical Habitat riparian exclosures for CLF.

The few isolated exceptions show that it is possible to maintain, improve and recover wetland ecosystems that support CLF, but only if cattle are kept out of these areas.

USFWS, in its 2007, CLF Recovery Plan, acknowledges that degradation of CLF habitat is a known threat, along with invasive species and the fungus, *Batrachochytrium dendrobatidis* or "Bd":

> "Documented threats to the Chiricahua leopard frog were described in the final listing rule as they pertain to the five listing factors of the ESA (67 FR 40790) and are expanded upon herein. The five listing factors discussed in that rule include: A) the present or threatened destruction, modification, or curtailment of its habitat or range; B) overutilization for commercial, recreational, scientific, or educational purposes; C) disease or predation; D) the inadequacy of existing regulatory mechanisms; and E) other natural or manmade factors affecting its continued existence. Of these, threats associated with factor C are the most important to the Chiricahua leopard frog, including predation by non-native organisms, especially American bullfrogs, fish, and crayfish, and an often lethal, apparently introduced fungal disease (chytridiomycosis). Also of importance are degradation and loss of habitat as a result of water diversions and groundwater pumping, livestock management that degrades frog habitat…"[309]

USFWS defined "'poor' livestock management"' in its March 20, 2012, designation of Critical Habitat:

> "We consider poor livestock management to mean grazing conducted in a manner not in accordance with approved allotment management plans **or otherwise considered adverse to maintaining natural habitat characteristics**."[310]

In its March 20, 2012, Final Rule to Designate Critical Habitat, USFWS says:

> "Chiricahua leopard frogs are fairly tolerant of variations in water quality, but likely do not persist in waters severely polluted with cattle feces."[311] …

But, ignoring this threat to leopard frog persistence, USFWS also says:

> "We understand that in most circumstances where frogs occur in tanks actively used by livestock, livestock feces are likely present in the water, and frogs are not appreciably affected by their presence. We also acknowledge the potential that in tanks that have limited water and are subjected to intense livestock activity, adverse affects to the Chiricahua leopard frog are likely from concentrated amounts of livestock feces, which could limit a population's persistence … we are not requiring ranchers to manage their livestock tanks specifically with this factor in mind…"[312]

[309] Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007, page 19.

[310] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16328.

[311] *Ibid*.

[312] *Ibid.*

Our surveys documented numerous instances of feces-polluted water. As an example, Trail Tank on the Red Lake Allotment, Pleasant Valley Ranger District on the Tonto National Forest:

Grazed CLF Critical Habitat in the Red Lake allotment, Tonto National Forest Pleasant Valley Ranger District. Location: 34.17625, -110.81234, September 3, 2020.

Primary Constituent Elements ("PCEs") are the elements of physical or biological features that together provide for a species' life history processes and are essential to the conservation and recovery of CLF.[313] According to the USFWS,

> "The purpose of the designation of Critical Habitat is to conserve the PCEs essential to the conservation of the species through the identification of the appropriate quantity and spatial arrangement of the PCEs sufficient to support the life-history functions of the species….Each of the areas designated as Critical Habitat have been determined to

[313] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, pages 16340 and 16343.

contain sufficient PCEs, or with reasonable effort, PCEs can be restored to provide for one or more of the life-history functions of the Chiricahua leopard frog."[314]

As an example of the loss of these PCEs, please note the following images of designated critical habitat on the Red Lake allotment, Tonto National Forest Pleasant Valley Ranger District. Even though designated as Critical Habitat, except for the presence of water, the PCEs have been destroyed by cows:

Grazed CLF Critical Habitat in the Red Lake allotment, Tonto National Forest Pleasant Valley Ranger District. The pond has a non-functioning exclosure fence. Location: 34.14858, -110.83114, September 3, 2020.

[314] Correspondence to Coronado National Forest Supervisor Kerwin Dewberry, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: impacts that may result from the proposed Coronado National Forest (CNF) Revised Land and Resource Management Plan (LRMP) located in Cochise, Graham, Pima, Pinal, and Santa Cruz Counties, Arizona, and Hidalgo County, New Mexico; AESO/SE 02EAAZ00-2015-F-0347, R2/TE 2012-F-0005, R2/TE 2-22-03-F-366, Region 2/ES/SE-000087RO, April 13, 2017, page 73.

The April 1, 2010 Biological Opinion[315] do not support CLF long-term persistence and stability. These Biological Opinions rely primarily on unmonitored and unenforced exclosure and pasture fences, as well as utilization and rest-rotation schemes to protect frog populations. We document in this Notice numerous examples of supposedly off-limit riparian zones significantly impacted by cattle and cattle feces and show that vaguely described utilization and rest-rotation schemes are not monitored or enforced. And to make matters worse, the ITS fails not only to provide for a dependency on the action itself, the ITS fails to provide for protection of non-stock pond designated riparian Critical Habitat which is directly dependent on the action.

Threats and causes of decline are not being reduced or eliminated. CLF metapopulations are not persisting without human intervention in their reproductive cycle. There has been no meaningful measure to protect and restore habitat, instead conservation focuses solely on captive reproduction and release of doomed individuals. Indeed, according to the April 1, 2010, Biological Opinion,[316] an entire CLF population and its breeding habitat could be affected or even wiped out for a year without even triggering take, as long as captive-reared CLF are released back into the area. Consequently, both the 2007 and 2010 CLF Incidental Take Statement are arbitrary and capricious and violate the Administrative Procedure Act.[317]

[315] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[316] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[317] 5 USC §706(2)(A).

FAILURE TO ADEQUATELY PROTECT YELLOW-BILLED CUCKOO AND ITS CRITICAL HABITAT

Grazing has long been recognized as a detriment to the reproduction of riparian trees.[318,319,320,321,322,323,324,325,326,327] For example, cattle interfere directly with the cottonwood tree's life cycle, and thus cattle presence can directly preclude cottonwood recruitment and forest regeneration.[328,329,330,331] Such impacts of cattle grazing on riparian vegetation are magnified in arid and semi-arid regions[332,333] and are one of the main causes of Yellow-billed Cuckoo declines.[334]

Cattle impacts are often most severe in riparian areas because available water, shade and forage causes cattle to congregate in riparian areas 5-30 times longer than in adjacent uplands.[335]

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[318] Crouch, G.L., 1979. Long-term changes in cottonwoods on a grazed and an ungrazed plains bottomland in northeastern Colorado (Vol. 370). US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

[319] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[320] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[321] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[322] Carothers, S.W., 1977. Importance, preservation, and management of riparian habitats: an overview. In *Importance, preservation, and management of riparian habitats: a symposium. USDA Forest Service General Technical Report RM-43* (pp. 2-4).

[323] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In *California Riparian Systems* (pp. 97-108). University of California Press.

[324] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.

[325] Kauffman, J.B., Krueger, W.C. and Vavra, M., 1983. Effects of late season cattle grazing on riparian plant communities. *Rangeland Ecology & Management/Journal of Range Management Archives*, *36*(6), pp.685-691.

[326] Carothers, S.W., 1977, July. Importance, preservation, and management of riparian habitats: an overview. In *Importance, preservation, and management of riparian habitats: a symposium. USDA Forest Service General Technical Report RM-43* (pp. 2-4).

[327] Ames, C.R., 1977. in Riparian Management: Grazing'. In *Importance, Preservation and Management of Riparian Habitat: A Symposium, Tucson, Arizona, July 9, 1977* (Vol. 43, p. 49). Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

[328] Ames, C.R., 1977. in Riparian Management: Grazing'. In *Importance, Preservation and Management of Riparian Habitat: A Symposium, Tucson, Arizona, July 9, 1977* (Vol. 43, p. 49). Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

[329] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[330] Kalischuk, A.R., Rood, S.B. and Mahoney, J.M., 2001. Environmental influences on seedling growth of cottonwood species following a major flood. *Forest Ecology and Management*, *144*(1-3), pp.75-89.

[331] Stromberg, J.C., 1997. Growth and survivorship of Fremont cottonwood, Goodding willow, and salt cedar seedlings after large floods in central Arizona. *The Great Basin Naturalist*, pp.198-208.

[332] Raleigh, R.F., 1979. Grazing and the riparian zone: Impact and management perspectives. In Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems: Proceedings of the Symposium, December 11-13, 1978, Callaway Gardens, Georgia (No. 12, p. 263). Department of Agriculture, Forest Service.

[333] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation biology, 8(3), pp.629-644.

[334] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021.

[335] Skovlin, J.M. 1984. Impacts of grazing on wetlands and riparian habitat: a review of our knowledge. p. 1001-1103. In: Developing strategies for range management. Westview Press, Boulder,CO.

Without mechanisms of riparian exclusion, cattle degrade riparian conditions by removing vegetation, preventing tree establishment, compacting soil, increasing surface runoff, and reducing water infiltration and bank stability.[336,337,338,339,340] In combination, such landscape alterations can eliminate and prevent the regeneration of riparian plant communities.[341,342,343,344] Riparian zones suffering from long-term grazing effects are more susceptible to extreme flooding events resulting in accelerated rates of channel incision and a lack of sedimentation required to support sprouting trees.[345]

Many bird species associated with mature cottonwood trees are rare or endangered in the Southwest.[346,347] Yellow-billed Cuckoo have disappeared throughout most of its former range due to habitat loss.[348,349] Arizona now represents one of the strongholds for this declining species. For example,

> "The cuckoo is now very rare in scattered drainages in western Colorado, Idaho, Nevada, and Utah, with single, nonbreeding birds most likely to occur (79 FR 48548, 79 FR 59992). The largest remaining breeding areas are in southern and central California, Arizona, along the Rio Grande in New Mexico, and in northwestern Mexico (79 FR 59992). In Arizona, the species was a common resident in the (chiefly lower) Sonoran zones of southern, central, and western Arizona; scarce in the north-central part of the state; and

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[336] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation biology, 8(3), pp.629-644.

[337] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[338] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. Desert Plants.

[339] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[340] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[341] Dreesen, D., Harrington, J., Subirge, T., Stewart, P. and Fenchel, G., 2002. Riparian restoration in the Southwest: species selection, propagation, planting methods, and case studies. In: Dumroese, RK; Riley, LE; Landis, TD, technical coordinators. National proceedings: forest and conservation nursery associations-1999, 2000, and 2001. Proceedings RMRS-P-24. Ogden, UT: US Department of Agriculture Forest Service, Rocky Mountain Research Station. p. 253-272, 24.

[342] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[343] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation biology, 8(3), pp.629-644.

[344] Bock, Carl E., Victoria A. Saab, Terrell D. Rich, and David S. Dobkin. "Effects of livestock grazing on neotropical migratory landbirds in western North America." In: Finch, Deborah M.; Stangel, Peter W.(eds.). Status and management of neotropical migratory birds: September 21-25, 1992, Estes Park, Colorado. Gen. Tech. Rep. RM-229. Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, US Dept. of Agriculture, Forest Service: 296-309 229 (1993): 296-309.

[345] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[346] Carriony, N.B. and Turner, R.M., 1977. Inventory of Riparian Habitats'. In Importance, Preservation, and Management of Riparian Habitat: A Symposium, Tucson, Arizona, July 9, 1977 (Vol. 43). Rocky Mountain Forest and Range Experiment Station, Forest Service, US Department of Agriculture.

[347] Engel-Wilson, R.W. and Ohmart, R.D., 1978. Floral and Attendant Faunal Changes on the Lower Rio Grande Between Fort Quitman and Presidio, Texas.

[348] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021.

[349] Biological Opinion on Ongoing Grazing on the Coronado National Forest, Graham, Cochise, Pima, Pinal, and Santa Cruz Counties, Arizona and Hidalgo County, New Mexico. AESO/SE, 2-21-98-F-399, 2-21-98-F-399R1, 02EAAZ00-2019-F-0867, September 30, 2021, p. 174.

> very rare in the northeast (Phillips et al. 1964). In Arizona, the cuckoo now nests primarily in the central and southern parts of the state."[350]

According to USFWS,

> "the primary threat to the cuckoo is loss or fragmentation of high-quality riparian habitat suitable for nesting (USFWS 2014a, b). Habitat loss and degradation results from several interrelated factors, including alteration of flows in rivers and streams, mining, encroachment into suitable habitat from agricultural and other development activities on breeding and wintering grounds, stream channelization and stabilization, diversion of surface and ground water for agricultural and municipal purposes, livestock grazing, wildfire, establishment of nonnative vegetation, drought, and prey scarcity due to pesticides."[351]

Also, according to USFWS,

> "reduction in riparian habitat (including mesquite bosques) in Arizona has been well documented and western yellow-billed cuckoos are no longer found in areas where riparian habitat no longer exists. Yet, remaining habitat within Arizona remains an important stronghold for breeding western yellow-billed cuckoos. As part of the core of the DPS, habitat in Arizona needs to be conserved to enable western yellow-billed cuckoos to produce young that may eventually disperse to other parts of the DPS's range."[352]

We've established that Yellow-billed Cuckoo are in decline due to "well documented" habitat loss, that cattle preclude regeneration of cuckoo habitat (which is well documented in the scientific literature), and that cuckoo habitat in AZ "needs to be conserved".[353]

Yellow-billed Cuckoo require multi-aged and multi-height forests for breeding and foraging, or alternatively patches of overstory trees and/or young riparian trees adjacent to mesquite terraces.[354] Vegetative structure and cover must be diverse and varied.[355] Yellow-billed Cuckoo often nest where young trees interface with more mature trees, such as along the scour zone of rivers or newly planted revegetation sites.[356] Humid and cooler conditions created by surface and subsurface moisture and trapped by the multilayered canopy appear to be important habitat

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[350] Diebolt, S., Chief, A.B. and Diebolt, D.M., 2018. Fish and Wildlife Service Arizona Ecological Services Office.

[351] Biological Opinion on Ongoing Grazing on the Coronado National Forest, Graham, Cochise, Pima, Pinal, and Santa Cruz Counties, Arizona and Hidalgo County, New Mexico. AESO/SE, 2-21-98-F-399, 2-21-98-F-399R1, 02EAAZ00-2019-F-0867, September 30, 2021, p. 174.

[352] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20813.

[353] Id.

[354] Ibid., page 20839.

[355] Ibid., page 20842.

[356] The December 4, 2017, Biological Opinion for Catalina-Rincon FireScape Project, AESO/SE 02EAAZ00-2016-F-0773, p. 49.

parameters for the Yellow-billed Cuckoo.[357] In southeastern AZ, Yellow-billed Cuckoo are known to breed in ephemeral and intermittent drainages as well, as they do in Sonora.[358] These breeding habitats are composed of more xeroriparian trees like oak, sycamore, hackberry, juniper, ash, walnut, and desert willow. Elevated humidity is especially important in southeastern Arizona, where Yellow-billed Cuckoo breed in intermittent and ephemeral drainages.[359] According to USFWS in their 2021 final determination of critical habitat "As described in the Critical Habitat section, features such as understory and overstory components with high humidity are considered important for habitat selection for breeding Yellow-billed Cuckoo. This is especially true in ephemeral, tree-lined xeroriparian drainages."[360]

Ephemeral drainages are hot spots of productivity with proportionally higher moisture content, higher vegetation volume and diversity, and higher associated wildlife abundance than surrounding uplands.[361, 362, 363] Ephemeral and intermittent drainages have high conservation value and provide the same ecological and hydrological functions as perennial streams.[364] Special management of ephemeral drainages is needed to prevent degradation from increasing aridity.[365, 366, 367] Much like perennial streams, xeroriparian can experience reduced vigor, regeneration, and survival of young trees with chronic grazing pressure.[368] Chronic grazing will remove riparian seedlings and saplings, largely eliminating the youngest age class from developing into future riparian gallery forest. Cattle consumption of grass and other herbaceous plants in riparian drainages also quickly reduces herbaceous cover important for temperature amelioration, humidity, insect

[357] Id.

[358] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20836.

[359] Ibid., page 20940.

[360] Ibid., page 20815.

[361] Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

[362] Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., 2017. Riparian vegetation of ephemeral streams. *Journal of Arid Environments*, *138*, pp.27-37.

[363] Búrquez, A., Martínez-Yrízar, A., Núñez, S., Quintero, T. and Aparicio, A., 2010. Aboveground biomass in three Sonoran Desert communities: Variability within and among sites using replicated plot harvesting. *Journal of Arid Environments*, *74*(10), pp.1240-1247.

[364] Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

[365] Beschta, R.L., Donahue, D.L., DellaSala, D.A., Rhodes, J.J., Karr, J.R., O'Brien, M.H., Fleischner, T.L. and Williams, C.D., 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, 51(2), pp.474-491.

[366] Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., 2017. Riparian vegetation of ephemeral streams. *Journal of Arid Environments*, *138*, pp.27-37.

[367] Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

[368] *Ibid.*

production.[369, 370] Grazing exacerbates climate change and aridification and converts mesic riparian vegetation to a more xeric condition, thereby having a disproportionally negative effect on grass abundance.[371] Over time, sustained grazing pressure concurrent with unprecedented drought will result in a decline in Yellow-billed Cuckoo habitat.

Putting this into context, it has been estimated that within the past one hundred years, 95 percent of riparian habitat in the West has been destroyed.[372] And this destruction is ongoing.

According to USFWS, "where tree regeneration and survival are lacking, suitable cuckoo habitat may cease to exist or may support fewer cuckoos when mature trees die."[373] In addition, "humidity, important for prey production and cuckoo nesting in southeastern Arizona, will decline and temperature and evapotranspiration will increase as habitat declines and fragmentation increases. These factors may reach a threshold in which cuckoos may no longer breed or may breed in reduced densities in some reaches."[374]

According to USFWS, "if an area with grazing activity degrades riparian habitat attributes and prevents long-term health and persistence of these systems, it is considered overgrazing."[375] In another example, USFWS defines overgrazing as grazing activities that reduce quality and quantity of breeding habitat.[376] USFWS identified "overgrazing in riparian (including xeroriparian) habitat as an ongoing threat to western yellow-billed cuckoo habitat that may require special management" and "where water is limited and recruitment events are infrequent, grazing at any level can impact riparian habitat."[377] Yellow-billed Cuckoo usually occupy wider, shallower portions of drainages with gradually sloped walls than the steeper narrower portions of the canyons.[378] These are also areas that are more accessible and attractive to cattle, necessitating the need for functional cattle exclosures.

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[369] Skovlin, J.M. 1984. Impacts of grazing on wetlands and riparian habitat: a review of our knowledge. p. 1001-1103. In: Developing strategies for range management. Westview Press, Boulder,CO.

[370] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, pp.281-301.

[371] Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., 2017. Riparian vegetation of ephemeral streams. *Journal of Arid Environments*, *138*, pp.27-37.

[372] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. *Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station*, pp.281-301.

[373] April 28, 2016, Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, p. 244.

[374] *Ibid.*

[375] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20808.

[376] *Id.*, page 20853.

[377] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021.

[378] The December 4, 2017, Biological Opinion for Catalina-Rincon FireScape Project, AESO/SE 02EAAZ00-2016-F-0773, p. 57.

Seedlings of cottonwood, willow, and other riparian trees tend to recover rapidly after exclusion of livestock grazing.[379,380,381] Removal of cattle grazing has been correlated with dramatic increases in dense willow thickets, necessary for Yellow-billed Cuckoo and other riparian species.[382,383,384] For example, in a comparison of perennial streams in Arizona including the Gila River, the San Francisco River, Bonita Creek, Mescal Creek and Aravaipa Creek, only Aravaipa Creek had been excluded from cattle (since 1973) and was the only area with a dominant broadleaf riparian community and the only site that showed a trend towards maintenance of the riparian vegetative community.[385]

In another study in central California,

> "prior to removal of cattle in 1983, plots contained mature sycamores, one young sycamore, and five willows. By 1985, over 320 willows 16 sycamores and 1 cottonwood *Populus fremontii* had appeared and basal sprouts had developed on the mature sycamores. Young willows and sycamores grew slowly and establishment and growth generally ceased as surface flows disappeared. Because of slow growth at the sites a significant willow corridor is probably only possible in the absence of cattle browsing."[386]

Elimination of grazing in Little Ash Creek in Arizona quickly resulted in changes in tree size distribution, with many more younger cottonwoods on the ungrazed site as well as some stand reproduction.[387] In another local example in Pima County's Cienega Creek, USFWS explains what happens when grazing threats are removed:

> "Response to Removal of Cattle Grazing on Empire Cienega and Cienega Creek.
>
> Prior to the establishment of the Pima County CCNP there was extensive cattle grazing on the site, but once cattle were removed from the system, vegetation height and volume increased significantly and likely plateaued in the early 2000s (unpublished data). Vegetation often responds positively to removal of cattle

[379] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[380] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[381] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

[382] Cannon, R.W. and Knopf, F.L., 1984. Species composition of a willow community relative to seasonal grazing histories in Colorado. *The Southwestern Naturalist*, *29*(2), pp.234-237.

[383] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[384] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[385] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

[386] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[387] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona *Populus fremontii*, velvet ash, *Fraxinus velutina*, Goodding willow, *Salix gooddingii*. Rangeland Ecology & Management/Journal of Range Management Archives, 36(3), pp.382-384.

> (Krueper et al. 2003), but since 2005 there has only been a slight increase in the extent of cottonwood canopies in the Pima County CCNP, though this analysis does not address the density of vegetation within the canopy. The extent and vigor of mesquite trees has declined since 2005. Removal of cattle grazing has resulted in increased vegetation in Empire Cienega and Upper Cienega Creek (M. Radke, pers. comm. January 27, 2016). Although effects of the drought are evident throughout Upper Cienega Creek, pockets of hydroriparian habitat continue to improve in suitability for both cuckoos and willow flycatchers."[388]

Furthermore, below is an accurate description of grazing impacts to Arizona riparian zones given by Milchunas (2006):

> "Only one other study assessed both understory and overstory vegetation responses to protection from grazing, and this study included three replicates along Trout Creek in Arizona (Reichenbacher 1984). The ungrazed treatments were geologic refuges formed by granite rubble, making this unique for riparian grazing studies. Reichenbacher describes the pristine ungrazed sites as "remarkable riparian luxuriance" unlike anywhere along the grazed stretches of the river. Understory species composition was drastically different between grazing treatments (Table 18). Ungrazed sites had dense stands of American bulrush, cattail, sweet clover, and tree saplings, while grazed sites were dominated by the shrubby, opportunistic seepwillow. Total vegetative cover was nearly three-times greater, and density nearly seven times greater, on ungrazed compared to grazed areas. Diversity (calculated as H', which incorporates both richness and evenness components of diversity) was nearly three-times greater in ungrazed compared to grazed sites (2.83 vs. 1.0, respectively). The high density of trees in ungrazed refuges was due to large numbers of seedlings and saplings."[389]

Considering the above case studies, any designated or occupied habitat for YBC should logically be protected from cattle in order to protect, conserve and restore. According to a recent Conference Opinion on the Tonto,

> "Although we have not compiled cuckoo breeding territory numbers for the Tonto Basin area, breeding cuckoos occur on a variety of creeks and rivers other than Pinto Creek. Breeding
> cuckoos have occurred on Tonto Creek from Gisela downstream to Roosevelt Lake, including
> tributaries like Rye and Cucamunga Creek. Additionally, breeding cuckoos occur within the
> Roosevelt Lake conservation space where Tonto Creek and the Salt River converge. Cuckoos

[388] April 28, 2016, Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, p. 235.

[389] Milchunas, D.G. 2006. Responses of plant communities to grazing in the southwestern United States. Gen. Tech. Rep. RMRS-GTR-169. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 126 p.

> also breed on the Salt River Arm of Roosevelt Lake at the off channel Rockhouse Demonstration Restoration Site, Pinal Creek, and Cherry Creek. We anticipate that future surveys are likely to detect cuckoos in other Tonto Creek and Salt River tributaries. These streams retain the natural hydrologic regime, and in the case of Roosevelt Lake, is where water is stored, generating the dynamic conditions and elevated groundwater to support cuckoo breeding habitat." [390]

Unlike what we document in this Notice, **full exclusion** is required to sustain and promote Yellow-billed Cuckoo habitat everywhere that they occur on Tonto Creek and its tributaries. This is also the best way to mitigate for climate change and aridification. But full exclusion is not synonymous with chronic unauthorized impacts, even if they are light or transient, as has been consistently documented in the Tonto Creek Riparian Unit ("TCRU") and explained in detail below.

FAILURE TO ADEQUATELY PROTECT SOUTHWESTERN WILLOW FLYCATCHER AND ITS CRITICAL HABITAT

The primary recovery action listed in the 2002 WFC Recovery Plan is to increase and improve occupied, suitable, and potential breeding habitat.[391] The following is a snapshot of WFC critical habitat along Tonto Creek, within a no-grazing area (TCRU) in the Tonto Basin allotment, Tonto Basin Ranger District.

Grazed southwestern willow flycatcher critical habitat in Tonto creek within the TCRU on the Tonto Basin allotment. 33.896018, -111.306614, June 7, 2021.

[390] The August 4, 2020 Biological and Conference Opinion for Pinto Valley Mine Operation and Expansion on the Tonto NF, AESO/SE 02EAAZ00-2020-F-0490, page 18.

[391] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico pg. v.

The TCRU was established as a special subunit of the Tonto Basin grazing allotment in 1989 by the Bureau of Reclamation as an amendment to the Roosevelt Lake Fish and Wildlife Coordination Act, as mitigation for the Modified Roosevelt Dam, which addressed concerns for wildlife habitat lost when Roosevelt Dam was raised. Limited grazing was initially authorized within the unit; however grazing has not been authorized in recent years due to potential effects to threatened, endangered, and sensitive species within the unit.

The 15-mile long TCRU[392] is supposed to exclude livestock grazing year-round.[393] Fencing associated with the TCRU is supposed to prevent cattle from grazing directly within designated critical habitat. However, this Notice documents degraded Critical Habitat within the TCRU. FWS has previously documented numerous unauthorized actions and livestock trespass on National Forest lands in the Tonto Creek Riparian Unit have contributed to past disturbances of flycatcher habitat.[394] For example,

> "Trespass Cattle- Ensuring that only the permitted cattle are present on an allotment and during the appropriate time are important to not exceeding use limits. Following the Forest's request for permittees to remove cattle from allotments by March 31, 2000 due to drought, cattle continued to be found during the summer of 2000 on Tonto Creek (Tonto Basin allotment), Salt River (Poison Spring/Sierra Ancha allotments) (J. Rourke, AGFD, pers. comm., 2000) and Sycamore Creek (Sunflower allotment)(C. Klug, AGFD, pers. comm., 2000). Ganda (1999) recorded trespass cattle in the Tonto Creek Riparian Unit that had nearly exceeded use limits before the time cattle were supposed to be in the pasture. Maintaining fences and monitoring conditions and use of allotments before, during, and after cattle are present is needed to ensure that trespass cattle are not contributing to or causing use limits to be surpassed."[395]

This Notice makes evident that trespass cattle in TCRU is a chronic problem.

A major threat to WFC, concurrent with habitat loss, has been increases in brood parasitism by the brown-headed cowbird (*Molothrus ater*), which inhibit reproductive success and further reduce population levels.[396] Tonto NF formerly trapped cowbirds in order to boost nest success of WFC. However, since cattle were 'excluded' from the TCRU, the Tonto NF used this as justification to cease trapping cowbirds.

> "Currently, livestock grazing is excluded in areas within 5 miles of occupied flycatcher habitat; therefore, the Tonto National Forest is no longer trapping

[392] https://www.usbr.gov/lc/phoenix/biology/gorip.html Accessed July 21, 2021
[393] The July 24, 2014 Biological Opinion on the Tonto Basin, Walnut, and 7/k allotments on the Tonto National Forest pg. 6.
[394] 2002 USFWS Draft Environmental Impact Statement for the Roosevelt Habitat Conservation Plan Gila and Maricopa Counties, Arizona pg. 192.
[395] The February 28, 2002, Biological Opinion For On-Going And Long-Term Grazing On The Tonto National Forest (2-21-99-F-300) pg. 114.
[396] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico pg. iv.

cowbirds. The elimination of cowbird trapping, if livestock are excluded, conforms to the conditions of the BOs."[397]

Unfortunately, this management strategy operates on the assumption that there is no grazing pressure in the TCRU. This Notice illustrates the opposite, and WFC are now left to deal with the pressure of cattle impacts in addition to cowbird parasitism.

The same assumption of 'no grazing in the TCRU' forms the basis of the Conservation Measures and Incidental Take Statement for WFC on the Tonto Basin allotment. According to the July 24, 2014 Biological Opinion:

> "AMOUNT OR EXTENT OF TAKE
>
> The FWS does not anticipate the proposed action will incidentally take southwestern willow flycatcher for the following reasons:
>
> • The TCRU is fenced from cattle grazing year-round, preventing cattle from directly disturbing adult flycatchers, eggs, and nestlings at nesting sites.
>
> • Non-Federal attractants including houses, agricultural fields, and private corrals occur in the area and are a source of cowbirds in the action area. We cannot reasonably distinguish the natural variation and sources of cowbird parasitism to attribute any cause of parasitism to the proposed action.
>
> • The beneficial effects associated with the conservation measures will sufficiently protect suitable habitat conditions and avoid any likelihood of incidental take." [398]

The Incidental Take Statement is flawed because it fails to account for cattle impacts on the ground. As illustrated in this Notice, 'no-grazing' in the TCRU exists only on paper, not in reality. Cattle are directly degrading WFC nesting habitat, and they are disturbing nesting activities by concentrating themselves near water in the TCRU during WFC nesting season.

Tonto National Forest is failing to perform basic recovery actions inside of designated WFC critical habitat. According to the Recovery Plan, "If livestock grazing is a major stressor, implement general livestock grazing guidelines from Appendix G in currently suitable or potentially suitable habitat." [399] According to Appendix G of the WFC Recovery Plan and the recommendations of the WFC Technical Subgroup of experts on the species, there should be **no grazing in any 'restorable or regenerating habitat', whether occupied or unoccupied, during the growing season for vegetation.** The Recovery Plan also states that even during the non-growing season, there should be

[397] 2002 USFWS Draft Environmental Impact Statement for the Roosevelt Habitat Conservation Plan Gila and Maricopa Counties, Arizona pg. 31
[398] The July 24, 2014, Biological Opinion on the Tonto Basin, Walnut, and 7/k allotments on the Tonto National Forest pg. 21.
[399] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico pg. 114.

no grazing in nesting habitat characterized by low stature and only provisional grazing in all other habitat types (assuming that grazing is not a significant stressor).[400]

FAILURE TO ADEQUATELY PROTECT NORTHERN MEXICAN GARTERSNAKE AND NARROW-HEADED GARTERSNAKE AND THEIR CRITICAL HABITAT

Authorized and unauthorized cattle grazing is resulting in negative impacts to riparian ecosystems, cienegas and other wetlands designated as critical to recovery for two threatened Arizona snakes, northern Mexican garters snakes (NMGS) and narrow-headed garter snakes (NHGS). Again, there is no protection for designated riparian Critical Habitat essential for Recovery in the Tonto, in spite of the fact that USFWS states in the April 28, 2021, Critical Habitat rule:

> "In the revised proposed critical habitat rule (85 FR 23608; April 28, 2020), we explained that although northern Mexican gartersnakes have been found in a variety of vegetation types within the riparian zone (*i.e.,* grasses, shrubs, and wetland plants), the underlying characteristic of this habitat needed by the gartersnake appears to be dense vegetation or other natural structural components that provide cover for the species."[401]
>
> "As explained in the revised proposed critical habitat rule (85 FR 23608; April 28, 2020), terrestrial habitat adjacent to the stream channel that includes riparian vegetation, small mammal burrows, boulder fields, rock crevices, and downed woody debris provides areas for thermoregulation, shelter, foraging opportunities, brumation, and protection from predators."[402]
>
> "In the revised proposed critical habitat rule (85 FR 23608; April 28, 2020) and this final rule, critical habitat includes occupied streams or stream reaches within the historical range with survey records of the northern Mexican gartersnake dated from 1998 to 2019 that have retained the necessary PBFs [physical or biological features] that will allow for the maintenance and expansion of existing populations. We placed outer boundaries on the portion of a stream that is considered occupied. We identified the most upstream and downstream records of the northern Mexican gartersnake along each continuous stream reach determined by presence of PBFs, and we extended the stream reach to include a dispersal distance of 2.2 mi (3.6 km). After identifying the stream reaches that meet the above parameters, we then connected those reaches with areas between that have the PBFs. We consider these areas between survey records occupied because the species occurs upstream and downstream and multiple PBFs are present that allow the species to move through these stream reaches.[403]
>
> "*Summary of Essential Physical or Biological Features* … We have determined that the following physical or biological features are essential to the conservation of the northern Mexican gartersnake:

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[400] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Appendix G, Table 2 at page G-27.

[401] Designation of Critical Habitat for the Northern Mexican Gartersnake, Final Rule, 86 FR 22518, USFWS, April 28, 2021, page 22528.

[402] *Id*., page 22529.

[403] *Ibid.*

> 1. Perennial or spatially intermittent streams that provide both aquatic and terrestrial habitat that allows for immigration, emigration, and maintenance of population connectivity of northern Mexican gartersnakes and contain:
>
> > (A) Slow-moving water (walking speed) with in-stream pools, off-channel pools, and backwater habitat;
> >
> > (B) Organic and natural inorganic structural features (*e.g.*, boulders, dense aquatic and wetland vegetation, leaf litter, logs, and debris jams) within the stream channel for thermoregulation, shelter, foraging opportunities, and protection from predators;
> >
> > (C) Terrestrial habitat adjacent to the stream channel that includes riparian vegetation, small mammal burrows, boulder fields, rock crevices, and downed woody debris for thermoregulation, shelter, foraging opportunities, brumation, and protection from predators"[404] …
>
> In summary, for areas within the geographic area occupied by the species at the time of listing, we delineated critical habitat unit boundaries using the following criteria: … We identified and included the wetland and riparian area adjacent to streams, springs, cienegas, and ponds to capture the wetland and riparian habitat needed by the species for thermoregulation, foraging, and protection from predators."[405]

Poorly managed livestock grazing, a known threat to NMGS and NHGS according to USFWS,[406] is currently resulting in removal, diminishment, and/or significantly alteration of natural habitat features and vegetation structure in and adjacent to critical aquatic habitat.

USFWS has defined "'poor' livestock management'" as:

> "We consider poor livestock management to mean grazing conducted in a manner not in accordance with approved allotment management plans or otherwise considered adverse to maintaining natural habitat characteristics."[407]

Detriment to these iconic native reptiles, and their riparian and upland habitat requirements, we have documented unauthorized cattle, nonfunctional exclusion fences, and impacts to riparian vegetation and water on the Tonto. Furthermore, designated upland critical habitat- a vital habitat component for both species' life history requirements- has been significantly impacted by cattle through vegetation removal and extensive soil disturbances.

In the context of conserving and recovering our rapidly declining native garter snakes, there is no room for removal of riparian vegetation needed for thermoregulation, foraging opportunities and protection from predators as documented in this notice, as well as removal of upland vegetation which will drastically reduce density of small mammal burrows used for shelter and brumation.[408] Without urgent and significant changes in management of riparian and adjacent upland habitat in

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[404] *Id*., page 22536.

[405] *Id*., pages 22538-9.

[406] Federal Register /Vol. 85, No. 82 /Tuesday, April 28, 2020 / Proposed Rules 23633.

[407] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16328.

[408] *Id.*, page 22529.

designated garter snake critical habitat, these snakes will continue their decline and must be up-listed to endangered status.

Biological Opinions in this notice contain no consultation for either snake species. Even the July 24, 2014, Biological Opinion for Tonto Basin Ranger District allotments includes no Incidental Take Statement for northern Mexican garter snake and/or narrow-headed garter snake, both of which have final designated critical habitat within the Tonto Basin allotment, and which had an even greater acreage of proposed critical habitat in 2013, a year prior to the issuance of this biological opinion.

This NOI presents new information that unauthorized cattle grazing on the Tonto National Forest has resulted in degradation of NMGS and NHGS designated critical habitat. The Tonto cannot protect, conserve, and recover NMGS and NHGS without eliminating the impacts of cattle from riparian zones and adjacent designated uplands, and this must include adequate monitoring and rule enforcement. Grazing activities result in a reduction of the quality, amount and distribution of key habitat features vital for garter snake life history requirements and must be immediately discontinued in critical habitat designations in order to remain in legal compliance.

As provided in 50 CFR '402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with the FWS, to “carry[] out programs for the conservation” of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an “affirmative duty on each federal agency to conserve each of the species listed.” Sierra Club v. Glickman, 156 F.3d 606,616 (5th Cir. 1998); accord Pyramid Lake Paiute Tribe, 898 F.2d at 1416-17 (noting that federal agencies have “affirmative obligations to conserve under [S]ection 7(a)(1)”). “Conserve” is defined by the ESA to mean recovery, i.e., the “use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary.” 16 U.S.C § l 536(a)(1).

Cattle in narrow-headed garter snake critical upland habitat, Seventy-Six allotment, Tonto National Forest. 34.015572, -111.293897, June 6, 2021 (1) and grazed Mexican garter snake riparian critical habitat in Tonto creek within the excluded TCRU. 33.896113, -111.306635, April 1, 2021 (2).

FAILURE TO ADEQUATELY PROTECT SPIKEDACE, RAZORBACK SUCKER, GILA CHUB AND THEIR CRITICAL HABITAT

According to the February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing On The Tonto National Forest (2-21-99-F-300), the ITS for spikedace is a single line, as follows:

> "The Service does not anticipate any incidental take of spikedace resulting from this proposed action."[409]

In the June 21, 2005 Biological Opinion, there is no ITS for spikedace, even though there is designated critical habitat in the Soldier Camp and Buzzard Roost allotments. According to USFWS,

> "We concur with the finding of "may affect, not likely to adversely affect," for the loach minnow and spikedace from the proposed action and conclude that this project meets the 2004 grazing guidance criteria for the following reason:
>
> Loach minnow and spikedace currently do not occupy the analysis area."[410]

With this concurrence, designated critical habitat set aside for the recovery of these native fish, is left unprotected.

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[409] *Id.*. page 30.

[410] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273., pg. 34.

The January 15, 2008, Biological Opinion concerning the Lyons Fork allotment contains no ITS for Gila Chub, despite the designation of critical habitat there. Even though GC were documented downstream and can disperse into designated habitat seasonally and/or in wet years, it appears that USFWS has simply given up on recovering this habitat for chub, and USFS authorizes cattle here with no restrictions other than utilization limits.

The July 24, 2014, Biological Opinion for the Tonto Basin allotment includes no Incidental Take Statement for spikedace, even though 2.1 of 8.2 miles of critical habitat are knowingly accessible to cattle and authorized for cattle usage on the Tonto Basin allotment.

Grazed spikedace critical habitat in Greenback creek within Tonto Basin allotment, Tonto National Forest. 33.809039, -111.184549, June 5, 2021.

According to the July 24, 2014, Biological Opinion for the Tonto Basin allotment,

> "Within the action area there are 8.2 miles of stream designated as critical habitat along Greenback Creek, Tonto Creek, and Rock Creek. Within the Tonto Basin Allotment there are 8.2 miles of critical habitat along Greenback Creek with 6.1 miles fenced from cattle grazing year-round. The remaining 2.1 unfenced miles are located on the lower section where perennial water flow is not present.
>
> The following conservation measures will be implemented along Greenback Creek in the Tonto Basin Allotment and Tonto Creek within the Walnut, Tonto Basin, and 7/K allotments.

> 1. The TCRU, which runs through portions of the Walnut and Tonto Basin allotments, is fenced from cattle grazing year-round.
>
> 2. Upland ranges and riparian areas on Walnut, Tonto Basin, and 7/K allotments will continue to be grazed at conservative levels (defined as 30-40 percent use for sustainable use of rangelands).
>
> 3. Within the Tonto Basin Allotment there are 8.2 miles of critical habitat along Greenback Creek, of which 6.1 miles are fenced from cattle grazing year-round.

> We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" designated critical habitat for spikedace for the following reasons:
>
> • The exclusion of cattle from Tonto Creek due to management related to the TCRU minimizes potential adverse effects to PCEs along Tonto Creek.
>
> • Conservative grazing use (30-40 percent) in adjacent uplands is anticipated to minimize effects to PCEs associated with stream flow and sediment.
>
> • The exclusion of cattle from the perennial sections of Greenback Creek and the implementation of conservative grazing are expected to minimize potential adverse effects to the PCEs on Greenback Creek.
>
> • Substantial portions of Greenback, Tonto, and Rock creeks are located within canyons where livestock access is difficult and mostly inaccessible."[411]

For spikedace, protective measures are either completely lacking, are inadequate, exist only on paper, depend on cow-centered utilization estimates, or operate on the assumption that grazing rules and restrictions are being adhered to on the Tonto. The same is true for RBS. Along the Salt River and designated tributaries such as Cherry Creek in the Dagger allotment, RBS are protected only with the assumption that important waterways are not subjected to the ecological damage caused by grazing cattle. We demonstrate in this notice that exclusion is not happening on the ground.

Again, USFWS has defined "'poor' livestock management"' as:

> "We consider poor livestock management to mean grazing conducted in a manner not in accordance with approved allotment management plans **or otherwise considered adverse to maintaining natural habitat characteristics**."[412]

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[411] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from USFWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014 Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221, page 29.

[412] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16328.

This NOI illustrates that grazing is being conducted in a manner not in accordance with allotment management plans, and also compromises or eliminates natural habitat features especially during drought. Grazing activities result in a reduction of the quality, amount and distribution of key habitat features vital for native fish life history requirements and must be immediately discontinued in critical habitat designations to remain in legal compliance.

As provided in 50 CFR '402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

In addition to the obligation to avoid jeopardizing species or destroying or adversely modifying their critical habitat under Section 7(a)(2) of the ESA, Section 7(a)(1) imposes an obligation on all federal agencies, in consultation with the FWS, to "carry[] out programs for the conservation" of listed species. 16 U.S.C. § 1536(a)(l). This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." Sierra Club v. Glickman, 156 F.3d 606,616 (5th Cir. 1998); accord Pyramid Lake Paiute Tribe, 898 F.2d at 1416-17 (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the ESA to mean recovery, i.e., the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [in the ESA] are no longer necessary." 16 U.S.C § l 536(a)(1).

SPECIFIC ESA VIOLATIONS

The following descriptions and photos, from cattle impact surveys completed throughout the Tonto National Forest represent new information that indicate authorized cattle cow grazing is diminishing and degrading designated riparian Critical Habitat. Reinitiation of consultation must take place based on new information presented in this Notice,[413] in order to fulfil the action agency's **duty to protect and conserve** listed species.

Also added to the descriptions and photo for each allotment are Cattle Impact Survey (CIS) maps. The purpose of these surveys was to determine and quantify cattle impacts in designated critical habitat throughout the Tonto National Forest. Trained surveyors carefully investigated critical habitat areas for evidence of livestock presence including feces, trails, wallows, as well as extent and severity of grazing pressure on vegetation. Data were recorded and multiple georeferenced photo points were taken along each survey segment to document evidence of livestock impacts. These data represent

[413] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

comprehensive and quantifiable inspections of riparian and xeroriparian conditions on Tonto National Forest allotments.

Following field surveys, each segment's "overall impact level" (defined as absent, light, moderate or significant) was calculated. To determine overall impact level, condition severity scores for each segment endpoint were collated and weighted. Generally, if specific category impacts were light or limited in four categories, the overall impact was considered light. If impact severity in five or more categories were light, then the overall impact was evaluated as moderate. Overall impact scores of moderate also included combinations of limited, light and moderate scores in all six categories. If three or more category conditions were moderate, then the overall impact level rose to significant. If at least one impact category was severe or pervasive, then the overall impact level was evaluated as significant. Color-coded survey segments follow river centerline on all maps. Colors correspond to grazing impact level.

THE DECEMBER 1, 1995, BIOLOGICAL OPINION ON THE EFFECTS TO THE RAZORBACK SUCKER, MEXICAN SPOTTED OWL AND BALD EAGLE FROM THE PROPOSED REGION # MANAGEMENT ACTIVITIES (2-21-92-F-693)

The Incidental Take Statement in the December 1, 1995, Biological Opinion states:

> "The extent of incidental take of razorback suckers and southwestern willow flycatchers is not definable at this time.
>
> **Reasonable and Prudent Measures (RPMs**): For razorback sucker, three RPMs were proposed as follows: 1) Take measures to ensure that the monitoring program for this action is sufficient to evaluate real improvement to wildlife habitats and vegetation communities; 2) Take measures to provide for additional revision of the grazing plans if significant progress toward meeting objectives has not occurred by the end of the 10-year grazing permit period; and 3) Take measures to ensure that those improvements affecting endangered or threatened species or in their habitat are constructed."

First, this ITS is obviously antiquated. Secondly, this ITS is inadequate and, moving forward, should contain a habitat component to assess whether authorized grazing is having a significant impact on designated RBS streams. Thirdly, monitoring programs are not working on the Tonto, as notices such as this are what bring urgent matters of environmental degradation to the attention of Forest supervisors. Fourth, we illustrate in the following section that there are not improvements but numerous examples of critical habitat degradation occurring on unauthorized areas on the Dagger allotment.

DAGGER ALLOTMENT

The Dagger allotment, Globe Ranger District, contains designated critical habitat for RBS in Cherry Creek. The December 1, 1995, Biological Opinion was the most recent consultation specific to

the Dagger allotment[414], even though the boundaries of the Dagger allotment have been altered over the past 27 years. Grazing on the Dagger allotment was disallowed for a ten-year permit cycle in 2000 due to permittees not following Allotment Management Plans. In 2009, grazing privileges were reinstated but no consultation for endangered species has been conducted specific for the Dagger allotment since.

We first noted cattle impacts within the boundaries of the Dagger allotment on March 30, 2021, while conducting surveys in designated WFC critical habitat along the Salt River, northern boundary of the Hick-Pikes Peak allotment. With the understanding that these Dagger allotment pastures are not authorized for grazing, we conducted cattle impact surveys along Cherry Creek on March 11, 2022. We documented significant cattle impacts and riparian degradation here from these illegal grazing activities.

The following photos were taken near and along the Salt River and Cherry Creek in the Dagger allotment. These observations serve as "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."

Unauthorized and illegal grazing in designated critical habitat within closed pastures of the Dagger allotment must cease immediately.

[414] Correspondence to Tonto Regional Forester Charles W. Cartwright Jr. from Arizona Field Supervisor Sam F. Spiller; RE: December 1, 1995, Biological Opinion on the Effects to the Razorback Sucker, Mexican Spotted Owl and Bald Eagle from the Proposed Region #3 Management Activities. AESO/SE #2-21-92-F-693.

Grazed Salt River WFC critical habitat, trampled and defecated upon, in the Dagger allotment, Tonto National Forest. This pasture is not authorized for grazing. 33.643434, -110.791267, March 30, 2021.

Grazed West Devore pasture of the Dagger allotment, Globe Ranger District, adjacent to RBS designated critical habitat in Cherry Creek. This pasture is not authorized for grazing. 33.702373, -110.820245. March 11, 2022.

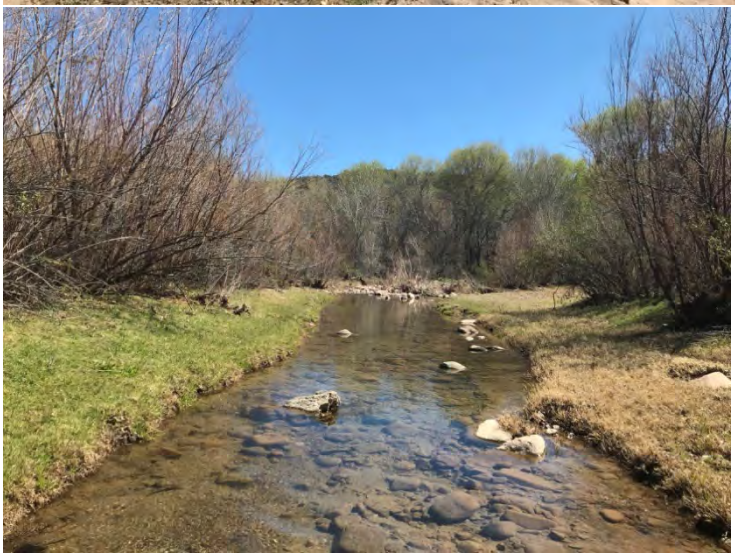
Grazed RBS designated critical habitat in Cherry Creek, West Devore pasture of the Dagger allotment, Globe Ranger District. This pasture is not authorized for grazing. 33.694167, -110.811104. March 11, 2022.

Grazed West Devore pasture of the Dagger allotment, Globe Ranger District, adjacent to RBS designated critical habitat in Cherry Creek. This pasture is not authorized for grazing. 33.702373, -110.820245. March 11, 2022.

Grazed West Devore pasture of the Dagger allotment, Globe Ranger District, adjacent to RBS designated critical habitat in Cherry Creek. This pasture is not authorized for grazing. 33.708251, -110.819815 (1), 33.682538, -110.810188 (2). March 11, 2022.

Grazed RBS designated critical habitat in Cherry Creek, West Devore pasture of the Dagger allotment, Globe Ranger District. This pasture is not authorized for grazing. 33.691405, -110.811747. March 11, 2022.

Grazed uplands adjacent to Cherry Creek, designated RBS critical habitat in the West Devore pasture of the Dagger allotment, Globe Ranger District, Tonto National Forest. This pasture is not authorized for grazing. 33.687537, -110.813021 (1), 33.688394, -110.811218 (2). March 11, 2022.



Grazed streambanks in designated RBS critical habitat, Cherry Creek, West Devore pasture of the Dagger allotment, Globe Ranger District. This pasture is not authorized for grazing. 33.681407, -110.808414. March 11, 2022.

Grazed WFC critical habitat along the Salt River within the Dagger allotment, Tonto National Forest. 33.646527, -110.794862, March 30, 2021.

Grazed WFC critical habitat along the Salt River within the Dagger allotment, Tonto National Forest. 33.645379, -110.792033, March 30, 2021.

THE FEBRUARY 28, 2002, BIOLOGICAL OPINION FOR ON-GOING AND LONG-TERM GRAZING ON THE TONTO NATIONAL FOREST (2-21-99-F-300)

According to the February 28, 2002, Biological Opinion for On-Going And Long-Term Grazing On The Tonto National Forest (2-21-99-F-300), the brief ITS for WFC is as follows:

> "Recent, comprehensive survey data documenting presence or absence of the southwestern willow flycatcher is lacking for some areas in the allotments addressed in this consultation. As a result, the Service cannot reasonably conclude that incidental take is likely to occur as a result of the proposed action. Thus we anticipate no take of southwestern willow flycatchers. If a southwestern willow flycatcher is located in an allotment or nearby, and it may be adversely affected by the proposed

> action, then reinitiation of consultation is warranted [50 CFR 402.16(b)]. The Service would reevaluate the need for an incidental take statement then."[415]

According to the February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing On The Tonto National Forest (2-21-99-F-300), the ITS for spikedace is a single line, as follows:

> "The Service does not anticipate any incidental take of spikedace resulting from this proposed action."[416]

There is no ITS or Concurrence for either federally listed garter snake in the February 28, 2002, Biological Opinion. There is no ITS or Concurrence for YBC or RBS. Reinitiation of consultation must take place.[417]

Contrast this inadequate protection and illegal scheme with the other grazing Biological Opinions that actually afford meaningful protection. For example, USFWS provides for a habitat surrogate for determining when authorized take has been exceeded for New Mexico Meadow Jumping Mouse "using suitable habitat within exclosures… as well as riparian and upland habitat outside of exclosures as a surrogate for determining when the authorized take has been exceeded." Or as another example, USFWS provides for Loach Minnow and Spikedace protection by defining "incidental take in terms of habitat conditions, and uses surrogate measures to identify when take has been exceeded. The failure to adopt similar habitat conditions as a proxy for measuring incidental take – to provide a clear trigger for reinitiation of consultation when take has been exceeded – not only violates the explicit provisions of the ESA, but also arbitrarily and capriciously fails to comport with USFWS' own well-established practice in connection with similar grazing authorizations in other national forests.

SEVENTY-SIX/ HARDT CREEK ALLOTMENTS

The Seventy-Six and Hardt Creek allotments share a boundary on Tonto creek in the Tonto National Forest. This shared riparian boundary is designated critical habitat for four species; WFC, NMGS, NHGS, and spikedace. Cattle impacts were prevalent and in some areas were significant. Numerous cows were observed during the survey, which was completed June 6, 2021, inside the riparian growing season and nesting season for WFC (as well as YBC). A near complete removal of groundcover, clear signs of woody vegetation browsing, and frequent fecal deposits common in this section. Feces was deposited along the creekside, adjacent banks and benches, and within the water itself. Erosion and sloughing of banks were prevalent wherever cattle approached shorelines.

Less significant cattle damage was seen in northwestern and southeastern section of the allotment, both of which were close to rocky narrows that naturally excluded cattle from grazing those areas. Although cattle were not extremely active in these areas, cattle sign, old and new, was still found.

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[415] February 28, 2002, Biological Opinion For On-Going And Long-Term Grazing On The Tonto National Forest (2-21-99-F-300) pg. 119.
[416] *Id.*. page 30.
[417] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).

Grazed WFC and NHGS riparian critical habitat in Tonto creek on the Seventy-Six allotment, Tonto National Forest. 34.025653, -111.283131, June 6, 2021.

Grazed WFC, NHGS, NMGS and spikedace critical habitat in Tonto creek on Seventy-Six allotment in Tonto National Forest. 34.005228, -111.295190, June 6, 2021.

Fence line bordering critical habitat for WFC, NHGS, and NMGS in Tonto creek on Seventy-Six allotment in Tonto National Forest. Cattle impacts are equal on either side. 34.017295, -111.293718, June 6, 2021.

A herd of cattle in WFC, NMGS, NHGS and spikedace riparian critical habitat, during WFC nesting season, in Tonto creek on Seventy-Six allotment. 34.020513, -111.291042, June 6, 2021.

Grazed WFC, NMGS, NHGS riparian critical habitat in Tonto creek on Seventy-Six allotment during nesting season. 34.015572 N, 111.293897, June 6, 2021.

Cattle in WFC critical habitat during nesting season on the Seventy-Six allotment in Tonto National Forest. 34.044714, 111.287282, June 6, 2021.

GISELA ALLOTMENT

The Gisela allotment, along Tonto creek in Tonto National Forest, Payson Ranger District, contains critical habitat for four species, WFC, NMGS, NHGS, and spikedace. The portion of the Gisela allotment surveyed was along the riparian of Tonto creek. Cattle sign, both old and new, was present throughout the entirety of the area surveyed. Numerous 4-wheel trails and frequent cattle use has created a patchwork of barren soil, erosion, and plant community degradation within critical habitat designations. Uplands are characterized with large areas of exposed soil and understory removal.

Evidence of streamside grazing and erosion was frequent throughout the survey where water was present. Though cattle impacts were omnipresent throughout the entire length of allotment, damage seemed to taper off on both the north and south sides of the survey due to natural topographical barriers.

This allotment has no consultation coverage for WFC as the Payson Ranger District largely ignores the site/species. Consultation coverage is also lacking for NMGS and NHGS. Continued failure by the Forest Service and USFWS to reinitiate consultation on the Gisela allotment on the Tonto National Forest violates the law.

Grazed WFC, NMGS, NHGS and spikedace critical habitat in Tonto creek on the Gisela allotment, Tonto National Forest, Payson Ranger District. 34.083829, -111.285371, June 5, 2021.

Grazed NMGS and NHGS critical habitat in Tonto creek on Gisela allotment, Payson Ranger District. 34.088050, -111.282539, June 5, 2021.

Fouled creek water in WFC, NHGS and NMGS critical habitat in Tonto creek on Gisela allotment, Tonto National Forest, Payson Ranger District. 34.090606, -111.280384, June 5, 2021.

Grazed WFC, NHGS and NMGS critical habitat along Tonto creek, Gisela allotment, Tonto National Forest, Payson Ranger District. 34.079601, -111.284873, June 5, 2021.

Grazed WFC, NHGS, NMGS and spikedace riparian critical habitat in Tonto creek, Gisela allotment, Payson Ranger District. 34.097318, -111.277693, June 5, 2021.

Grazed NHGS and NMGS critical habitat in Tonto Creek on the Gisela allotment, Tonto National Forest, Payson Ranger District. 34.105612, -111.270525, June 5, 2021.

Grazed NHGS critical habitat in Tonto creek on Gisela allotment, Tonto National Forest, Payson Ranger District. 34.120738, -111.268914, June 5, 2021.

Grazed NHGS critical habitat in Tonto creek on Gisela allotment, Tonto National Forest. 34.122811, -111.265110, June 5, 2021.

Grazed uplands bordering critical habitat for NHGS in Tonto creek on Gisela allotment, Tonto National Forest, Payson Ranger District. 34.125450, -111.253749, June 5, 2021.

Grazed NHGS critical habitat along Tonto creek on Gisela allotment, Tonto National Forest, Payson Ranger District. 34.122018, -111.263896. March 20, 2022.

HICK-PIKES PEAK ALLOTMENT

The Hick-Pikes Peak allotment (Globe Ranger District) and Dagger allotment (Tonto Basin Ranger District) in the Tonto National Forest share a boundary at the Salt River. This segment of the Salt River is designated critical habitat for WFC. Our survey here took place on March 30, 2021, within this critical habitat designation along the Salt River. Cattle sign were seen throughout most of the allotment, though canyon narrows acted as natural cattle exclusion barriers.

Significant grazing impacts were observed within the riparian zone. Numerous cattle trails weaved through riparian and trampling of ground cover was prevalent. Cows left little grass ungrazed and most streamside woody recruitment (aside from tamarisk) was browsed to some extent. Because fence lines were inadequate and river was low enough to easily cross at the time of the survey, it is hard to say which allotment the cattle came from.

These observations indicate that allotment boundary fencing is nonfunctional, and is thus “new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the Hick-Pikes Peak allotment on the Tonto National Forest violates the law.

A riparian fence within WFC critical habitat on the Hick-Pikes Peak allotment in Tonto National Forest. Cattle impacts are equal on either side of the fence. 33.635743, -110.796703 (1), 33.635693, -110.79673 (2), March 30, 2021.

Grazed riparian vegetation in WFC critical habitat along the Salt River within Hicks/Pikes Peak allotment, Tonto National Forest. 33.659790, -110.798300, March 30, 2021.

Grazed WFC critical habitat with a nonfunctional fence on the Hick-Pikes Peak allotment, Tonto National Forest. 33.637476, -110.794686, March 30, 2021.

Abundant cattle feces in WFC critical habitat along Salt River within Hicks/Pikes Peak allotment, Tonto National Forest. 33.640256, -110.792258, March 30, 2021.

NO CONSULTATION FOR COPPER CREEK ALLOTMENT, CAVE CREEK RANGER DISTRICT ON THE TONTO NATIONAL FOREST (TNF)

The Copper Creek allotment, Cave Creek Ranger District, contains designated Gila Chub critical habitat in and along Silver Creek in the Bobcat Pasture. This allotment shares its western boundary with the Bureau of Land Management's Horseshoe allotment located within Agua Fria National Monument.

In 1998, a Coordinated Resource Management Plan (CRMP) was developed for the Copper Creek Allotment and the Horseshoe Allotment.[418] In 2011, after the AZGFD Commission purchased the base property of the Horseshoe allotment in Agua Fria National Monument, USFS, BLM, and AZGFD entered into a renewed agreement to manage the Copper Creek allotment in concert with BLM's Horseshoe allotment to the west, in part for the purpose of conserving and restoring Gila chub and its habitat.[419]

As part of this agreement, Copper Creek allotment was declared vacant (i.e., no permanent grazing permit would be issued). However, temporary grazing permits were still issued annually upon request from the Horseshoe allotment permittee. Since 2011, USFS has issued temporary grazing permits and AOIs for grazing the Copper Creek allotment.

From 2011-2017, USFS did not authorize grazing in the Bobcat pasture of Copper Creek allotment, where designated critical habitat for Gila Chub is located in Silver Creek. Despite no authorized grazing on the Bobcat pasture, construction of a fence around Silver Creek was first mentioned in the 2013 Copper Creek allotment AOI "due to Gila chub concerns".[420] In the 2015 AOI for Copper Creek, USFS discussed unauthorized cattle in Silver Creek, which the permittee suggested may be trespass cattle from Prescott NF.[421]

In the 2014 Copper Creek AOI, USFS states that the AOI "complies with the Endangered Species Act on-going grazing consultation for the Copper Creek Allotment".[422] The same language is found in the 2015, 2016 & 2018 AOI's for Copper Creek, even though no consultation has been completed to date for the authorized action here.

In 2017, a preliminary EA was drafted for term grazing authorization on Copper Creek allotment. In 2018, for the first time since the 2011 Agreement, the Bobcat pasture was authorized for 200 head of cattle from September 15-November 15. This authorization occurred even though no consultation had been completed for Copper Creek allotment and no exclusion fence had been constructed around Silver Creek. Annual AOI's are still being issued.

The Center conducted CIS surveys in Silver Creek on January 4, 2022. Riparian zones and surrounding terraces within designated Gila chub critical habitat were significantly impacted by cattle in

[418] The November 2, 2006, Biological Opinion for the Existing Phoenix Field Office Planning Decisions and Associated Activities on Gila Chub in the Agua Fria National Monument, AESO #02-21-03-F-0409-R1. pg. 3.
[419] The August 9, 2011, Horseshoe and Copper Creek Agreement among U.S. Forest Service Tonto National Forest, Bureau of Land Management and Arizona Game and Fish Commission. HAB-10-1009AML; BLM AZ-2011-04-06. Page 3.
[420] Copper Creek Allotment Operating Instructions, Tonto National Forest Cave Creek Ranger District, 2013.
[421] Copper Creek Allotment Operating Instructions, Tonto National Forest Cave Creek Ranger District, 2015, page 3.
[422] Copper Creek Allotment Operating Instructions, Tonto National Forest Cave Creek Ranger District, 2014, page 4.

the Bobcat pasture of the Copper Creek allotment. Bank erosion and significant soil impacts, including large areas of bare soil, were documented by surveyors. This stream is recovering in that water is still present; however, as long as cow grazing is not terminated, recovery cannot occur. Due to the riparian degradation shown in photos below, and due to the fact that this area has potential for recovery, we intend to force consultation for the Copper Creek allotment.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.255845, -111.984951 (1); 34.256057, -111.983921 (2). January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.257051, -111.978514. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.256838, -111.975853. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.257103, -111.972535. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.25663, -111.969073. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.25663, -111.969073. January 4, 2022.

Grazed Gila chub critical habitat in Silver Creek, Bobcat pasture, Copper Creek allotment, Tonto National Forest. 34.258404, -111.961863. January 4, 2022.

THE JUNE 21, 2005, BIOLOGICAL OPINION ON GRAZING PERMIT RENEWAL AND IMPLEMENTATION OF ALLOTMENT MANAGEMENT PLANS FOR THE BUZZARD ROOST AND SOLDIER CAMP ALLOTMENTS, GILA COUNTY, ARIZONA.

In the June 21, 2005 Biological Opinion, there is no ITS for spikedace, even though there is designated critical habitat in the Soldier Camp and Buzzard Roost allotments.

According to USFWS,

> "We concur with the finding of "may affect, not likely to adversely affect," for the loach minnow and spikedace from the proposed action and conclude that this project meets the 2004 grazing guidance criteria for the following reason: Loach minnow and spikedace currently do not occupy the analysis area."[423]

[423] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273., pg. 34.

SOLDIER CAMP ALLOTMENT

Prior to the June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, no previous consultation existed for the Soldier Camp Allotment.[424] According to the June 21, 2005, Biological Opinion, "A new fence will be constructed to exclude Spring Creek from the currently designated Spring Creek Pasture. The new pasture will be renamed Juniper Pasture."[425]

Designated Spikedace critical habitat on the Buzzard Roost and Soldier Camp allotments was surveyed on November 1, 2021, and again on March 19, 2022. The following photos were taken near and along Spring Creek in the Spring Creek pasture of the Soldier Camp allotment. These segments of Spring Creek are designated spikedace critical habitat and should be excluded from grazing, according to the June 21, 2005, Biological Opinion.

These observations serve as "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." Reinitiation of consultation must take place.

[424] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273., pg.2.
[425] *Id*., pg. 6.

A grazed segment of designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.119099, -111.095373 (1), 34.116118, -111.093134 (2). March 19, 2022.

A grazed segment along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.118451, -111.094572 (1), 34.118522, -111.093971 (2). March 19, 2022.

A grazed segment along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.113932, -111.090252. March 19, 2022.

Grazed designated spikedace riparian critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. 34.113559, -111.089694. March 19, 2022.

Grazing impacts along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.112671, -111.089436 (1), 34.112369, -111.089243 (2) March 19, 2022.

Grazing along designated spikedace critical habitat in Spring Creek, within the Spring Creek Pasture, Soldier Basin allotment. This creek segment is not authorized to be grazed. 34.111836, -111.088664. March 19, 2022.

Grazed designated spikedace riparian critical habitat in Spring Creek, within the Bryant Mountain pasture, Soldier Basin allotment. This creek segment is authorized for winter grazing, beginning November 1.[426] Unauthorized cattle were either in the pasture before the authorized start date, or these photos represent 48 hours of grazing impacts which are authorized by the Biological Opinion to start on November 1. 34.052641, -111.056921. November 3, 2021.

[426] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273, pg. 6.

Grazed designated spikedace riparian critical habitat in Spring Creek, within the Bryant Mountain pasture, Soldier Basin allotment. This creek segment is authorized for winter grazing, beginning November 1. Unauthorized cattle were either in the pasture before the authorized start date, or these photos represent 48 hours of grazing impacts which are authorized by the Biological Opinion to start on November 1. 34.056481, -111.062672 (1), 34.052676, -111.05712 (2). November 3, 2021.

Grazed designated spikedace riparian critical habitat in Spring Creek, within the Bryant Mountain pasture, Soldier Basin allotment. This creek segment is authorized for winter grazing, beginning November 1. Unauthorized cattle were either in the pasture before the authorized start date, or these photos represent 48 hours of grazing impacts which are authorized by the Biological Opinion to start on November 1. 34.053779, -111.059496. November 3, 2021.

BUZZARD ROOST ALLOTMENT

Grazed spikedace riparian critical habitat in the Buzzard Roost allotment. This pasture, the Buzzard Roost Mesa pasture, is authorized for summer use only (April-September).[427] 34.05558 -111.074486. March 19, 2022.

NON-ALLOTTED SEGMENTS OF SPRING CREEK

Cattle sign was continuous along Spring Creek and continued into sections of the creek that were not part of any grazing allotment. Cattle impact severity varied from light/transient to moderate or significant depending on terrain and accessibility to cows. These observations indicate that allotment boundary fencing is nonfunctional and is thus “new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on adjacent allotments on the Tonto National Forest violates the law. Continued failure to protect Spring Creek represents a failure of the Tonto National Forest's ESA 7(a)(1) "duty to conserve."

[427] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The June 21, 2005, Biological Opinion on Grazing Permit Renewal and Implementation of Allotment Management Plans for the Buzzard Roost and Soldier Camp Allotments, Gila County, Arizona. AESO/SE #02-21-04-F-0273. page 17.

Cattle impacts outside of grazing allotment boundaries, along a spikedace-designated section of Spring Creek. 34.064871, -111.070724 (1), 34.060853, -111.074228 (2). November 3, 2021 (1), March 19, 2022 (2).

THE JANUARY 15, 2008, BIOLOGICAL OPINION FOR PROPOSED GRAZING ON 33 ALLOTMENTS IN THE TONTO BASIN, GLOBE, PAYSON, PLEASANT VALLEY, AND MESA RANGER DISTRICTS ON THE TONTO NATIONAL FOREST

LYONS FORK ALLOTMENT

The Lyons Fork allotment, Globe Ranger District, contains designated critical habitat for endangered Gila Chub in Mineral Creek.

The Lyons Fork allotment within Tonto NF boundaries was surveyed on March 9, 2022. No functional fencing was observed along the Lyons Fork/Government Spring allotment boundary on Mill Creek. Significant

cattle impacts along Mill Creek were correlated surface waters. Downstream of this severe section were dry, and here impact severity and frequency decline. Post-fire floods (presumably following the Telegraph Fire in 2021) have scoured this watershed. Riparian vegetation was sparse to non-existent, yet cattle ae still present and degrading an impaired critical habitat stream, hindering any chances of recovery. Several cattle were seen along Mill Creek during the survey.

The January 15, 2008, Biological Opinion states "because of the lack of perennial water on the allotment and rarity or absence of Gila Chub in the stream, we anticipate the proposed action will not directly or indirectly affect Gila Chub"[428], even though Gila Chub were documented downstream in 2000[429] and can disperse into designated habitat seasonally and in wet years.

It appears USFWS and the action agency have simply given up on recovering this habitat for an endangered fish, and based on the rarity of an endangered species, cattle are permitted to destroy riparian vegetation and consume whatever water remains.

USFS is content on managing impaired critical habitat riparian zone using livestock forage standards with no ecological context.[430] For example, "conservative use standards of upland ranges and herbaceous and woody riparian plants will prevent the proposed action from adversely affecting critical habitat"[431] USFWS also state in their concurrence that "the lack of water and streamside habitat may result in dispersal of livestock". In other words, when there is nothing left, then perhaps cattle will move on, and the critical designation will be protected from cattle. This conclusion is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[432]

Surface water was present during our survey in March 2022, but what remained was significantly impacted by cattle. USFWS species experts' opinion is inconsistent with the "best scientific data available," which recognizes that perennial stream reaches can be recovered and restored through full cattle exclusion in arid lands.[433] Cattle impacts hamper this steams ability to stabilize following post-fire floods. Exclusion would be a warranted course of action in this scenario and would fulfill agency duty to conserve. Thus, the legal requirement to use the "best scientific data available,"[434] is violated as this critical designation is chronically degraded by authorized action.

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[428] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-I-0221, page 14.

[429] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-I-0221.

[430] According to the Interagency Technical Reference (1999), utilization measures the proportion or degree of current year's forage production that is consumed or destroyed. Utilization may refer either to a single plant species, a group of species, or the vegetation as a whole.

[431] *Ibid.*

[432] 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 709 (9th Cir. 2005).

[433] Jerome A. Stefferud Sally E. Stefferud 2004. Aquatic and Riparian Surveys of Selected Stream Courses on Sierra Vista and Nogales Ranger Districts, Coronado National Forest, Cochise and Santa Cruz Counties, Arizona.

[434] 16 U.S.C. § 1533(b)(2).

Summer 2021 was one of the wettest monsoon seasons on record in Arizona.[435] Such conditions would have made endangered Gila Chub **'likely'** to disperse.[436] In this Notice, we document a degraded state of designated Gila Chub critical habitat into which the endangered fish could disperse into the Tonto National Forest.

The law prohibits any action that reduces "appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[437] The law also prohibits any action causing "direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."[438]

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.247571, -110.945754. March 9, 2022.

[435] https://www.weather.gov/psr/2021MonsoonReview accessed April 2, 2022.

[436] The November 2, 2006 Biological Opinion for the Existing Phoenix Field Office Planning Decisions and Associated Activities on Gila Chub in the Agua Fria National Monument, 02-21-03-F-0409-R1, pg. 12.

[437] 50 CFR § 402.02; 16 U.S.C. 1531 *et seq*.

[438] *Ibid.*

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.257414, -110.907193. March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.25308, -110.918233. March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.253619, -110.916881. March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.250648, -110.927672. March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.253448, -110.918138 (1), 33.253484, -110.916142 (2). March 9, 2022.

Grazed Gila Chub riparian critical habitat in the Lyons Fork Allotment, Tonto National Forest. 33.253888, -110.915057 (1), 33.254381, -110.913675 (2). March 9, 2022.

OW ALLOTMENT

Canyon Creek in the OW allotment, Pleasant Valley Ranger District, is designated critical habitat for NHGS. It is also desert sucker (*Catostomus clarki*) and speckled dace (*Catostomus clarki*)

occupied.[439] According to the February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. Canyon Creek is supposed to be excluded from cattle. This Biological Opinion states:

"Canyon Creek riparian habitat (which constitutes 1 percent of the allotment) is largely fenced. As a result, effects to winter-time foraging habitat and breeding/foraging/roosting habitat downstream are not expected to occur from cattle. Ecological conditions are rated as good to excellent."[440]

Also, according to the Tonto, **an additional** elk exclusion fence was completed in Canyon Creek in 2006…[441]

Canyon Creek Elk Exclosure, Phase 2 DM	- Watershed management - Vegetation management (other than forest products)	Completed		07/2005	Chris Thiel 928-462-4320 cathiel@fs.fed.us
	Description: Construct an 8 foot tall fence of field wire and metal t-posts along approximately 1/2 mile of Canyon Creek within the OW allotment to protect riparian vegetation from grazing by elk and livestock.				
	Location: UNIT - Pleasant Valley Ranger District. STATE - Arizona. COUNTY - Gila. LEGAL - T. 10-1/2 N., R. 15 E., Sections 27 and 34, G&SRM. Canyon Creek.				

We surveyed NHGS designated critical habitat in Canyon Creek, OW allotment, on November 5, 2021. Cattle impacts to designated riparian critical habitat were significant. Impacts were most significant nearest the base property, and multiple examples of nonfunctioning fences were recorded. Cattle sign was apparent in Canyon Creek throughout the OW allotment.

A herd of cattle within designated NHGS critical habitat on the OW allotment, in close proximity to an open fence, with a well-worn cattle trail leading to Canyon Creek. 34.277375, -110.801932 (1), 34.277353, -110.801899 (2). November 5, 2021.

[439] Tonto National Forest - Canyon Creek (usda.gov) accessed 1/4/22.

[440] Correspondence to Tonto National Forest Supervisor Karl Siderits, from USFWS Arizona Field Supervisor David Harlow; RE: February 28, 2002, Biological Opinion for On-Going and Long-Term Grazing on the Tonto National Forest. AESO/SE #2-21-99-F-300, page 204.

[441] 2006 SOPA Schedule of proposed action (SOPA). Tonto National Forest. - Arizona National Parks, Forests, and Other Public Lands - Federal Materials - Arizona Memory Project (azlibrary.gov) accessed 1/4/2022.

Cattle trails lead from an open fence line to grazed designated NHGS riparian critical habitat in Canyon Creek on the OW allotment. 34.277503, -110.801744. November 5, 2021.

Grazed designated NHGS riparian critical habitat in Canyon Creek on the OW allotment. 34.277333, -110.801409. November 5, 2021.

Cattle loafing in grazed designated NHGS riparian critical habitat in Canyon Creek on the OW allotment. 34.277592, -110.801577. November 5, 2021.

Grazing impacts along a nonfunctional riparian fence along Canyon Creek, within designated NHGS critical habitat, on the OW allotment. 34.275459, -110.800673. November 5, 2021.

Nonfunctional riparian fence along Canyon Creek, within designated NHGS critical habitat, on the OW allotment. 34.247569, -110.79131. November 5, 2021.

Manipulated fence line with cattle trail leading to Canyon Creek, designated NHGS critical habitat, on the OW allotment. 34.247421, -110.790959. November 5, 2021.

Trampled designated NHGS critical habitat on the OW allotment. 34.272829, -110.799972 (1), 34.276021, -110.800789 (2). November 5, 2021.

An ungrazed segment of designated NHGS critical habitat on Canyon Creek, OW allotment, for comparison. 34.270913, -110.799376. November 5, 2021.

Significant cattle impacts along Canyon Creek on the OW allotment represent new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a

manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[442] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the OW allotment violates the law.[443]

POISON SPRINGS ALLOTMENT

The Salt River east of Roosevelt Reservoir, in the vicinity of Meddler Point, **is not part of any active grazing allotment** but is almost entirely nested within the Poison Springs allotment of the Tonto Basin Ranger District. This area is designated critical habitat for two federally threatened birds, YBC and WFC. On March 31, 2021, we documented extensive grazing and cattle impacts in this unauthorized area. We again documented impacts on March 12, 2022.

Cattle sign of various ages was documented throughout the entire area, indicating prolonged and non-transient grazing activity. A near-complete removal of grasses and forbs was a common sight during the survey. Streamside grazing impacts were significant here and feces was found on shorelines and in water. Numerous cattle trails and 4x4 trails weaved throughout what remained of the protected riparian area. This is a good example of uncontrolled resource management that defines the Tonto. It violates ESA 7(a)(1) "duty to conserve."

WFC and YBC critical habitat along Salt River adjacent to Poison Springs allotment, Tonto National Forest. This is not part of an active allotment. 33.627761, -110.950398, March 31, 2021.

[442] 50 C.F.R. 402.16.

[443] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

Grazed WFC and YBC critical habitat along Salt River adjacent to Poison Springs allotment, Tonto National Forest. This is not part of a grazing allotment. 33.624948, -110.949479 (1), 33.622362, -110.951926 (2), March 31, 2021.

Grazed WFC and YBC riparian critical habitat along Salt River adjacent to Poison Springs allotment. This is not part of an active grazing allotment. 33.621724, -110.963479. March 31, 2021

Grazed WFC critical habitat along the Salt River adjacent to Poison Springs allotment. These impacts are form unauthorized cattle. 33.621724, -110.963479 (1), 33.630140, -110.967947 (2), March 31, 2021.

Grazed WFC and YBC critical habitat along the Salt River adjacent to Poison Springs allotment. These impacts are from unauthorized cattle. 33.624956, -110.949454. March 12, 2022.

Grazed WFC and YBC critical habitat along the Salt River adjacent to Poison Springs allotment. These impacts are from unauthorized cattle. 33.625849, -110.948853. March 12, 2022.

THE AUGUST 17, 2009, BIOLOGICAL OPINION FOR ONGOING GRAZING FOR THREE ALLOTMENTS ON THE TONTO NATIONAL FOREST

CHRYSOTILE ALLOTMENT

The Salt River along the western boundary of the Chrysotile allotment is designated RBS Critical Habitat. We surveyed the southern and eastern shore of the Salt River for cattle impacts on March 30-31, 2022. Impacts were most significant in the vicinity of Gleason Flat, northward until the canyon pinch point prohibits cattle access, just north of Mud Springs Draw.

According to the August 17, 2009 biological opinion for ongoing grazing on the Chrysotile allotment, FWS states:

> "We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" the razorback sucker and its designated critical habitat. We base our concurrence on the following: Chrysotile allotment- There is no proposed grazing within the Salt River or surrounding riparian area, as a result we do not anticipate any direct effects from the proposed action."[444]

[444] Correspondence to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steve Spangle; RE: The January 15, 2008, Biological Opinion for Proposed Grazing on 33 Allotments in the Tonto Basin, Globe, Payson, Pleasant Valley, And Mesa Ranger Districts on the Tonto National Forest. AESO/SE #22410-2007-F-0218. Appendix A, pg. 44.

Our CIS surveys not only confirmed cattle presence in this unauthorized zone, but an analysis of survey data indicated that impacts were significant throughout most of the survey segment within the boundaries of the Chrysotile allotment. Cows were detected audibly during the survey on both sides of the Salt River. Cattle trails weave around thick tamarisk and lead to the chutes to the river wherever possible. Wallows, browsed and stunted willows and a cow carcass were documented. Impacts were both recent and old.

Significant cattle impacts along the Salt River on the Chrysotile allotment represent new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[445] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Chrysotile allotment violates the law.[446]

The following images were captured on the Chrysotile allotment between March 30-31, 2022:

Cow carcass along the shore of the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.76609, -110.689159. March 31, 2022.

[445] 50 C.F.R. 402.16.

[446] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

Grazed riparian and floodplain along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.766904, -110.689381 (1), 33.766904, -110.688416 (2). March 31, 2022.

Grazed riparian and floodplain along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.768439, -110.689206 (1), 33.767895, -110.688133 (2). March 31, 2022.

Grazed floodplain along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.770488, -110.684034 (1), 33.769525, -110.68487 (2). March 31, 2022.

Cattle wallows and trails leading to the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.77276, -110.67711 (1), 33.775923, -110.67520 (2). March 31, 2022.

Bank disturbances and browsed young willows along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.775923, -110.67520 (1), 33.779704, -110.674235 (2). March 31, 2022.

Grazed riparian and browsed young willows along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.781458, -110.673348 (1), 33.781921, -110.673004 (2). March 31, 2022.

Grazed floodplain along the Salt River, Chrysotile allotment, Tonto National Forest. There is no authorized grazing in this area. 33.834025, -110.580886 (1), 33.833757, -110.579942 (2). March 30, 2022.

THE APRIL 1, 2010, BIOLOGICAL OPINION ON THE CROUCH MESA ALLOTMENT ON THE TONTO NATIONAL FOREST PLEASANT VALLEY RANGER DISTRICT

The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District[447] states,"

"DESCRIPTION OF THE PROPOSED ACTION

Control features such as fences and cattle guards are designed to hold permitted livestock within the appropriate pastures.[448] …

After reviewing the current status of the CLF, the environmental baseline for the action area, the effects of the proposed livestock grazing and the cumulative effects, it is the FWS's biological opinion that on-going livestock grazing on the Crouch Mesa Allotment, as proposed, is not likely to jeopardize the continued existence of the CLF. No critical habitat has been designated for this species, therefore none will be affected. We present this conclusion for the CLF for the following reasons:

The proposed action will employ livestock grazing management strategies that will maintain or improve the existing range and watershed conditions during the life of the AMP to support suitable habitat for the species in the allotment;

Implementation of the proposed conservation measures are expected to reduce direct effects on CLF by the proposed action by identifying and protecting newly established populations;

[447] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[448] *Id.*, page 3.

The continued success of the Gentry Creek MA and the expected progress towards achieving resource management objectives on the ground, should allow for the establishment and persistence of the species on the Crouch Mesa Allotment.[449] …

In the LRMP BO and as of June 10, 2005, the Pleasant Valley Ranger District was identified as possessing four extant populations of CLF. As of 2008, there were seven occupied sites. A new population in the Crouch Mesa Allotment would be considered an eighth or additional occupied site. As provided for in the LRMP BO, the authorized level of incidental take of CLF from the proposed action will be exceeded if, after a period of two consecutive years, the total number of occupied CLF sites totals less than four in the Pleasant Valley Ranger District as a result of livestock management. [450] …

In this biological opinion, the FWS determines that this level of anticipated take is not likely to result in jeopardy to the species for the reasons stated in the Conclusions section.

REASONABLE AND PRUDENT MEASURES and TERMS AND CONDITIONS

The following reasonable and prudent measure(s) are necessary and appropriate to minimize take of CLF:

1. Ensure the continued integrity of all current or future pasture boundary or livestock exclosure fence lines.

a. The TNF shall ensure that any pasture boundary and any appropriate livestock exclosure fence lines in the Crouch Mesa Allotment are inspected once at the beginning of pasture use.

b. If breaches are found, the TNF shall ensure the fence line is immediately repaired or repaired as soon as feasibly possible. In addition, the TNF shall ensure that any unauthorized livestock that are observed in the allotment are removed."[451]

CROUCH MESA ALLOTMENT

CLF Critical Habitat on the Crouch Mesa allotment consists of segments of two ephemeral/perennial waterways, Crouch Creek and the Pine Spring drainage. These areas are located east of Young, AZ just west of the boundary of Apache Sitgreaves/Tonto national forests. Ponderosa pine/madrean oak woodlands and riparian vegetation characterize the flora of the area. This allotment was surveyed on Sept. 3, 2020.

We observed that cattle impacts were significant throughout CLF Critical Habitat in the Crouch Mesa allotment. Evidence of cows passing seamlessly through the Crouch Mesa/Gentry Mountain and Crouch Mesa/Catholic Peak allotment interfaces was documented. Fence lines are downed and/or non-existent, and cattle impacts exist on both sides of these boundaries from the same herds that impact different allotments discussed in different Biological Opinions.[452]

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[449] *Id*., page 12.

[450] *Id.,* page 14.

[451] *Ibid.*

[452] Correspondence, to Tonto National Forest Payson Ranger District District Ranger Matthew Paciorek, from USFWS Arizona Field Supervisor Heather Whitlaw; RE: effects of continued livestock grazing on the Red Lake, Catholic Peak, and Gentry Mountain grazing allotments in the Pleasant Valley Ranger District of the Tonto National Forest for 10 years; AESO/SE 2022-0004460-S7 02EAAZ00-2022-f-0407, June 22, 2022.; and, Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona

Both cow and elk impacts are significant throughout this stretch of Crouch Creek. The lower 300 feet of the Pine Creek drainage holds water and is impacted by cattle, however impacts are infrequent and old heading upstream until the allotment boundary. Evidence of cows passing seamlessly through the Crouch Mesa/Gentry Mountain and Crouch Mesa/Catholic Peak allotment interfaces was documented. Fence lines are downed and/or non-existent, and cattle impacts exist on both sides of these boundaries. No CLF were observed.

Grazed CLF Critical Habitat stream in Crouch Creek in the Crouch Mesa allotment, Tonto National Forest Pleasant Valley Ranger District. 34.10259, -110.86244. September 3, 2020.

Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

Grazed CLF Critical Habitat stream and adjacent riparian benches in Crouch Creek in the Crouch Mesa allotment, Tonto National Forest Pleasant Valley Ranger District. 34.10039, -110.85799 (1); 34.10109, -110.86031 (2); 34.10141, -110.86228 (3); 34.09750, -110.85588 (4). September 3, 2020.

According to Arizona Game and Fish Department records of augmentation and observation obtained by Public Records Law request, Crouch Creek has been augmented in 2006, 2007, 2008, 2011, 2012, and 2014, with CLF observed during surveys from 2002-2019, but not in 2020. [453]

The April 1, 2010, Biological Opinion on the Crouch Mesa Allotment on the Tonto National Forest Pleasant Valley Ranger District[454] states that,

> "on-going livestock grazing on the Crouch Mesa Allotment, as proposed, is not likely to jeopardize the continued existence of the CLF … for the CLF for the following reasons: The proposed action will employ livestock grazing management strategies that will maintain or improve the existing range and watershed conditions during the life of the AMP to support suitable habitat for the species in the allotment."[455]

The Incidental Take Statement for the April 1, 2010, Biological Opinion says,

> The following reasonable and prudent measure(s) are necessary and appropriate to minimize take of CLF: … Ensure the continued integrity of all current or future pasture boundary or livestock exclosure fence lines."[456] …

As we document in this Notice and in Center (2020), the Tonto National Forest Pleasant Valley Ranger District as failed to "[e]nsure the continued integrity" of the fencing. **This is a take,** and neglectful management of a CLF augmentation site.

The "livestock grazing management strategies" mentioned above refer to utilization estimates and rest-rotation schemes. These inapplicable schemes, together with non-functional fences, documented take and frequent and significant cattle impacts represent new information regarding the Crouch Mesa allotment that is "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[457] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Crouch Mesa allotment violates the law.[458]

In addition, since the April 1, 2010, Biological Opinion,[459] CLF Critical Habitat has been designated.[460] Because Critical Habitat was not designated at the time of consultation and is being destroyed by the action reinitiation of consultation is necessary.

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[453] Public Records response, from Arizona Game and Fish Department to Center for Biological Diversity, November 19, 2020, Public Records request, responsive to request for (1) releases and translocations, and (2) survey results; January 6, 2021.

[454] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[455] *Id*., page 12.

[456] *Id*., page 14.

[457] 50 C.F.R. 402.16.

[458] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[459] Correspondence, to Tonto National Forest Supervisor Gene Blankenbaker, from USFWS Arizona Field Supervisor Steven L. Spangle; RE: On-going Livestock Grazing on the Crouch Mesa Allotment, Pleasant Valley Ranger District, Tonto National Forest; AESO/SE 22410-F-2009-0217, April 1, 2010.

[460] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012.

Continued failure by the Forest Service and USFWS to reinitiate consultation on the Crouch Mesa allotment on the Tonto National Forest Pleasant Valley Ranger District violates the law.[461]

THE JULY 24, 2014, BIOLOGICAL OPINION ON THE TONTO BASIN, WALNUT, AND 7/K ALLOTMENTS ON THE TONTO NATIONAL FOREST (TNF)

According to the July 24th, 2014, Biological Opinion:

> "The FWS does not anticipate the proposed action will incidentally take southwestern willow flycatcher for the following reasons:
>
> • The TCRU is fenced from cattle grazing year-round, preventing cattle from directly disturbing adult flycatchers, eggs, and nestlings at nesting sites.
>
> • Non-Federal attractants including houses, agricultural fields, and private corrals occur in the area and are a source of cowbirds in the action area. We cannot reasonably distinguish the natural variation and sources of cowbird parasitism to attribute any cause of parasitism to the proposed action.
>
> • The beneficial effects associated with the conservation measures will sufficiently protect suitable habitat conditions and avoid any likelihood of incidental take." [462]

Regarding YBC, there is no ITS. The July 24, 2014, Biological Opinion states in Appendix A (Concurrences):

> "We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" the proposed yellow-billed cuckoo for the following reasons:
>
> • Grazing is excluded from areas where cuckoos have been detected, including the TCRU, Reno Creek (no detections), and Kayler Spring (small offshoot from Tonto Creek), effectively minimizing potential adverse effects to the species.
>
> • Conservative utilization of 30-40 percent annually is expected to minimize potential adverse effects of upland grazing on riparian vegetation.
>
> • Riparian use guidelines are: obligate riparian tree species – limit use to < 50 percent of terminal leaders (top one third of plant) on palatable riparian tree species accessible to livestock (usually < 6 feet tall); deergrass – limit use to < 40 percent of plant species biomass; emergent species (rushes, sedges, cat-tails, horse-tails) – maintain six to eight inches of stubble height during the grazing period; stream banks - limit use to < 20 percent of alterable banks where stream banks are present or forming.

[461] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[462] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from USFWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014, Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221, page 20-21.

> • Once riparian utilization guidelines are met, cattle would be moved from the area, or to the next scheduled pasture regardless of available forage in the uplands.[463]

And regarding NMGS and NHGS, there is no ITS. The July 24, 2014, Biological Opinion uses the same verbiage for both species in Appendix A (Concurrences):

> "We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" the (northern Mexican gartersnake and northern narrow-headed gartersnake) and its proposed critical habitat for the following reasons:
>
> • Grazing is excluded from riparian corridors along Tonto Creek where individuals have been documented and critical habitat is proposed, effectively minimizing the potential for adverse effects from direct grazing.
>
> • Conservative use of adjacent uplands and riparian guidelines are anticipated to minimize potential adverse effects where gartersnakes have the potential to occur and where critical habitat is proposed." [464]

There is no Incidental Take Statement for spikedace. Regarding spikedace designated critical habitat in Appendix A (Concurrences), the July 24, 2014, Biological Opinion states:

> "Within the action area there are 8.2 miles of stream designated as critical habitat along Greenback Creek, Tonto Creek, and Rock Creek. Within the Tonto Basin Allotment there are 8.2 miles of critical habitat along Greenback Creek with 6.1 miles fenced from cattle grazing year-round. The remaining 2.1 unfenced miles are located on the lower section where perennial water flow is not present.
>
> The following conservation measures will be implemented along Greenback Creek in the Tonto Basin Allotment and Tonto Creek within the Walnut, Tonto Basin, and 7/K allotments.
>
> 1. The TCRU, which runs through portions of the Walnut and Tonto Basin allotments, is fenced from cattle grazing year-round.
>
> 2. Upland ranges and riparian areas on Walnut, Tonto Basin, and 7/K allotments will continue to be grazed at conservative levels (defined as 30-40 percent use for sustainable use of rangelands).
>
> 3. Within the Tonto Basin Allotment there are 8.2 miles of critical habitat along Greenback Creek, of which 6.1 miles are fenced from cattle grazing year-round.

[463] *Ibid*, page 30.
[464] The July 24, 2014 Biological Opinion On The Tonto Basin, Walnut, and 7/K Allotments On The Tonto National Forest pg. 30.

We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" designated critical habitat for spikedace for the following reasons:

> • The exclusion of cattle from Tonto Creek due to management related to the TCRU minimizes potential adverse effects to PCEs along Tonto Creek.
>
> • Conservative grazing use (30-40 percent) in adjacent uplands is anticipated to minimize effects to PCEs associated with stream flow and sediment.
>
> • The exclusion of cattle from the perennial sections of Greenback Creek and the implementation of conservative grazing are expected to minimize potential adverse effects to the PCEs on Greenback Creek.
>
> • Substantial portions of Greenback, Tonto, and Rock creeks are located within canyons where livestock access is difficult and mostly inaccessible."

TONTO BASIN (& 7/K ALLOTMENT)

The Tonto Basin allotment contains critical habitat for YBC, WFC, NMGS, NHGS, and spikedace.

Critical habitat on the Tonto Basin allotment was surveyed on April 1, 2021 and again on June 7th, 2021. Most of this critical habitat was located within the Tonto Creek Riparian Unit (TCRU). The TCRU is a riparian exclosure within the Tonto Basin allotment, and livestock are excluded from grazing here year-round.[465] Cattle damage south of Punkin center was scored as either light or absent. However, cattle sign both old and new was present and significant throughout stretches of the TCRU north of Punkin Center. These cows likely came from Tonto Basin or the adjacent 7/K allotment. In the area with the most damage from cattle use, large areas of barren soil were present due to grazing of grasses and forbs. Feces were present throughout the area including in the water and on the shoreline. Streamside grazing was widespread, causing erosion and reduction of semi-aquatic vegetation. A dead cow was observed along the water's edge during the survey.

Cattle impacts were seen throughout the entire stretch of Greenback creek up until the last quarter mile surveyed. Nearly all mesquite-grassland benches adjacent to creek bed were lacking in groundcover, leaving barren loose soil amongst mesquite trees. At the base of the Sierra Anchas, water appears in the creek and cattle sign increased. Shorelines were significantly grazed with feces present in and around the water. The water here had an oily film on the surface and aquatic vegetation and stream structure was lacking. Natural rock formations excluded the cattle from upper reaches of the canyon, resulting in an incredibly lush, diverse and untrammeled riparian ecosystem. The differences were striking.

The following images were taken during our surveys from areas that are supposedly excluded from cattle on the Tonto Basin allotment.

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[465] Correspondence to Tonto National Forest Supervisor Neil Bosworth, from USFWS Arizona Field Supervisor Steve Spangle; RE: The July 24, 2014 Biological Opinion for Reauthorization of Permitted Livestock Grazing on the Tonto Basin, Walnut, and 7/K Allotments on the Tonto National Forest. AESO/SE #02EAAZ00-2012-F-0423; 02EAAZ00-2007-I-0221. Page 6.

Grazed southwestern willow flycatcher, yellow-billed cuckoo, spikedace, and northern Mexican garter snake critical habitat in Tonto creek within the TCRU on Tonto Basin allotment. 33.896018, -111.306614, June 7, 2021.

Grazed southwestern willow flycatcher, yellow-billed cuckoo, spikedace, and northern Mexican garter snake riparian critical habitat in Tonto creek within TCRU on the Tonto Basin allotment. 33.897240, -111.306400, June 7, 2021.

Southwestern willow flycatcher, yellow-billed cuckoo and northern Mexican garter snake critical habitat in Tonto creek within Tonto Basin allotment. 33.909294, -111.307081, June 7, 2021.

Southwestern willow flycatcher and northern Mexican garter snake critical habitat in Tonto creek within Tonto Basin allotment. 33.976199, -111.310035, June 7, 2021.

Grazed spikedace critical habitat in Greenback creek within Tonto Basin allotment, Tonto National Forest. 33.809039, -111.184549, June 5, 2021.

Spikedace critical habitat in Greenback creek within Tonto Basin allotment, Tonto National Forest. 33.810384, -111.181577, June 5, 2021.

Ungrazed Spikedace critical habitat in Greenback creek where cattle are topographically excluded (for comparison). Tonto Basin allotment, Tonto National Forest. 33.820362, -111.169891, June 5, 2021.

CONCLUSION

Prior to our initiating our recent successful legal challenges against the Apache-Sitgreaves,[466] Coconino,[467] Gila,[468] Prescott[469] and Tonto[470] National Forests, we were appalled and disgusted by our observations and documentation of widespread adverse modification of designated riparian Critical Habitat on these Forests.

Now, ***again*** on the Tonto National Forest, we find that again the Region 3 Forest Service culture and practice of servicing their chosen rancher patrons has also resulted in adverse modification of designated riparian Critical Habitat.

Allotment conditions on the Tonto National Forest are among the worst of all Region 3 Forests. Few imposed and enforced constraints are provided on livestock grazing, which has degraded significant areas of the Tonto. The Tonto, evident in their recent Forest Plan, not only ignores a trove of science supporting the need for drastic reductions in grazing in the arid and drought-stricken southwest but proposes significantly higher intensity of allowable grazing intensity compared to the previous Plan. This is unacceptable. We have the same ongoing unresolved concerns about grazing, especially in riparian areas; concerns over Forest Service unwillingness to enforce grazing permits and hold permittees accountable; concerns over the lack of monitoring of riparian areas; and concerns that Tonto permittees are monitoring their own allotments per the Reading the Range program, a proverbial 'fox in the henhouse' scenario.

More publications discuss cow grazing as a threat to western riparian ecosystems than any other single threat.[471] At least 95 percent of riparian habitat in the West has already been altered or destroyed.[472] Riparian cottonwood/willow forest is now the rarest forest type in North America.[473]

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[466] Sixty-Day Notice of Endangered Species Act Violations, Apache-Sitgreaves National Forest, CBD, June 27, 2019, http://forestpolicypub.com/wp-content/uploads/2019/07/000007_Center-for-Bio-Div-re-ESA-re-Jumping-Mouse_Region-3.pdf.; Sixty-day Notice of Endangered Species Act Violations, Upper Gila River Watershed, CBD, July 17, 2019, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.

[467] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[468] Sixty-day Notice of Endangered Species Act Violations, Upper Gila River Watershed, CBD, July 17, 2019, https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/Upper-Gila-USFS-grazing-allotments-NOI-2019_07_17.pdf.

[469] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[470] Sixty-Day Notice of Endangered Species Act Violations, Verde River Drainage, CBD, March 16, 2020, https://www.biologicaldiversity.org/programs/public_lands/rivers/pdfs/NOI-20200316-Verde-River.pdf.;

[471] Poff, B., Koestner, K.A., Neary, D.G. and Henderson, V., 2011. Threats to riparian ecosystems in Western North America: an analysis of existing literature 1. *JAWRA Journal of the American Water Resources Association*, *47*(6), pp.1241-1254.

[472] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. *Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station*, pp.281-301.

[473] Streams of Life, The Nature Conservancy, 1987.

Seemingly in response, the Regional Forest Service's August 24, 2018, Southwestern Region Riparian and Aquatic Ecosystem Strategy says,

> "Rivers and streambeds are conduits for life. In no other ecosystem can we as an agency have a greater impact in "*Caring for the land and serving people*."[474] Protection and enhancement of riparian and enhancement of riparian and aquatic areas is paramount in providing habitat and sustainable water for dependent fish, wildlife, plant species, and human communities alike. …"[475]
>
> "The overarching goal of this strategy is to ensure that the ecological integrity of riparian and aquatic habitats is maintained and/or restored."[476]

And now with climate change and drought, the Forest Service' adds,

> "A first principal of for increasing resilience and adaptation is to avoid management actions that exacerbate the effects of current or future drought."[477]

The Regional Forest Service homage to riparian areas is consistent with what Seavy et al., say in their publication, "Why Climate Change Makes Riparian Restoration More Important than Ever," which states,

> "Riparian ecosystems are naturally resilient, provide linear habitat connectivity, link aquatic and terrestrial ecosystems, and create thermal refugia for wildlife: all characteristics that can contribute to ecological adaptation to climate change."[478]

But as we document in this Notice, the Regional Forest Service's policies to protect riparian areas mean nothing on the Tonto National Forest.

Completely germane to the underlying problem here are the excerpts from a new publication the must be considered in the evaluation of the abuse of Public Lands documented in this Notice.

In "Livestock Use on Public Lands in the Western USA Exacerbates Climate Change: Implications for Climate Change Mitigation and Adaptation," J. Boone Kauffman, Robert L. Beschta, Peter M. Lacy, and Marc Liverman state,

> "… About 85% of public lands in the western USA are grazed by domestic livestock, and they influence climate change in three profound ways: (1) they are significant sources of greenhouse gases through enteric fermentation and manure deposition; (2) they defoliate native plants, trample vegetation and soils, and accelerate the spread of exotic species resulting in a shift in landscape function from carbon sinks to sources of greenhouse gases; and (3) they exacerbate the effects of climate change on ecosystems by creating warmer and drier conditions. …

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[474] "What We Believe … The phrase, "Caring for the Land and Serving People," captures the Forest Service mission."; https://www.fs.usda.gov/about-agency/what-we-believe ; web accessed, January 28, 2020.

[475] USDA Forest Service Southwestern Region Riparian and Aquatic Ecosystem Strategy, August 24, 2018, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd602126.pdf.; page 1.

[476] *Id*., page 2.

[477] Vose, James M., Clark, James S., Luce, Charles H., and Patel-Weynand, Toral, Effects of Drought on Forests and Rangelands in the U.S.: A Comprehensive Science Synthesis, USDA Forest Service, Gen. Tech. Report WO-93b, January 2016.

[478] Seavy, Nathaniel E., Thomas Gardali, Golet,Gregory H., Griggs, F. Thomas, Howell, Christine A., Kelsey, Rodd, Small, Stacy L., Viers, Joshua H., and Weigand, James F., Why Climate Change Makes Riparian Restoration More Important than Ever: Recommendations for Practice and Research, Ecological Restoration, Vol. 27, No. 3, 2009, September 2009.

The social costs of carbon are > $500 million year^{-1} or approximately 26 times greater than annual grazing fees collected by managing federal agencies. These emissions and social costs do not include the likely greater ecosystems costs from grazing impacts and associated livestock management activities that reduce biodiversity, carbon stocks and rates of carbon sequestration. Cessation of grazing would decrease greenhouse gas emissions, improve soil and water resources, and would enhance/sustain native species biodiversity thus representing an important and cost-effective adaptive approach to climate change." …

Rimbey et al. (2015) estimated that only 3.8% of annual livestock forage comes from western US public lands, but this is an overestimate as they only included cows and no other animal type (e.g., bulls, steers). Nor did they account for the increases in beef cattle weights over the past few decades.

Livestock use on public lands is measured in animal unit months (AUMs); a term developed more than a century ago (Smith 2017). An AUM is defined as the amount of forage required to feed one 1000 lb. (454 kg) cow and calf for one month (Heady 1975; Smith 2017). But the average cattle weight today is significantly greater than 454 kg. The US Environmental Protection Agency (USEPA 2018) reported the mean weight of a cow was 554 kg (1221 lbs) in 1990 and 611 kg (1348 lbs) in 2015. Thus, the same number of domestic animals (cows) on public lands over time represents a de facto increase in overall forage use and physical influences (Heady 1975; Smith 2017). Based upon the metabolic weight of modern cattle, a single cow and calf in 2021 would account for ≈1.25 AUMs. Yet, this increase in cattle weight and associated influences (greater feed intake, greater physical damage) are not currently considered in forage allocations, carrying capacities, or stocking rates. If the increase in the average size of cattle were included, the AUMs counted on public lands may have actually increased by 25% over the past two decades. In 2015, there were about 29 million head of beef cattle in the US (US Department of Agriculture National Agricultural Statistics Service 2021; USEPA 2018) and the mean weight of a cow was 611 kg for that year. Thus, there were 441 million AUMs of forage required for USA beef cows alone. The 14.1 million AUMs arising from western public lands provide about 3.2% of the forage used by all cows in the USA, which is similar to the estimate of 3.8% reported by Rimbey et al. (2015) (Supplementary Table S5). However, this estimate does not account for other types of beef cattle such as bulls, steers, and replacement heifers. Including all beef cattle (except calves) suggests that the total AUMs of forage used by the USA cattle population was ≈860 million AUMs. Therefore, public lands actually provide <1.6% of all forage consumed by beef cattle in the USA.

Land degradation, including loss of native vegetation, annual grass invasion, devastating fires, and losses of major carbon sinks is a heavy price to pay for the minimal economic gains from use of these intrinsically unproductive lands for livestock production (Meyer 2011). Grazing exclusion is an effective ecosystem restoration approach to sequester and store carbon in the living biomass and soil profiles, and hence, an important tool for climate change mitigation (Reda 2018). Removing livestock can increase soil carbon sequestration on lands that have been depleted in the past by poor management. Removing livestock is not only a viable, cost-effective natural climate solution; it also offers enhanced

water quality, flood buffering, soil health, habitat diversity, and climate resilience (Beschta et al. 2012)."[479]

The observations and documentation presented here in this Notice and in Center (2020) deserve and demand emergent attention and remedy.

To summarize our concerns:

1. The February 28, 2002, Biological Opinion contain inadequate and insufficient consultation coverage for WFC or spikedace. The facts presented in this Notice "the amount or extent of taking specified in the incidental take statement [has been] exceeded," "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." Reinitiation of consultation must take place.[480]

2. There is no ITS or Concurrence for either federally listed garter snake. Reinitiation of consultation must take place.[481] Continued failure by the Forest Service and USFWS to reinitiate consultation on the Seventy-six, Hardt Creek, Gisela, and Hick-Pikes Peak allotments on the Tonto National Forest violates the law.

3. Supposedly vacant pastures of the Dagger allotment are being heavily grazed and exhibit significant cattle impacts in and near designated critical habitat. These illegal activities must cease immediately.

4. According to the June 21, 2005, Biological Opinion, Spring Creek on the Soldier Camp allotment should be excluded from grazing. The facts presented in this Notice "the amount or extent of taking specified in the incidental take statement [has been] exceeded," "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the Soldier Camp and Buzzard Roost allotments on the Tonto National Forest violates the law. Cattle are also grazing in non-allotted areas in the vicinity.

5. Gila Chub critical habitat is degraded and unprotected on the Lyons Fork allotment. The law prohibits any action that reduces "appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[482] The law also prohibits any action causing "direct or indirect

[479] Livestock Use on Public Lands in the Western USA Exacerbates Climate Change: Implications for Climate Change Mitigation and Adaptation, J. Boone Kauffman, Robert L. Beschta, Peter M. Lacy, and Marc Liverman, Environmental Management 69:1137-1152, April 2, 2022, https://doi.org/10.1007/s00267-022-01633-8.
[480] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).
[481] 16 U.S.C. § 1532, 50 CFR § 17.21, 16 U.S.C. § 1536(b)(4).
[482] **50 CFR § 402.02; 16 U.S.C. 1531 *et seq*.**

alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."[483]

6. Downed fences and significant cattle impacts along Canyon Creek in the OW allotment, designated critical habitat for narrow-headed garter snakes and desert sucker and speckled dace occupied[484], represent new "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[485] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the OW allotment violates the law.[486]

7. Trespass cattle are grazing and damaging resources and designated critical habitat adjacent to the Poison Springs allotment boundaries. This illegal activity must cease immediately.

8. Significant cattle impacts along the Salt River on the Chrysotile allotment represent "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[487] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Chrysotile allotment violates the law.[488]

9. Documented Take and the frequent and severe cattle impacts represent new information regarding the Crouch Mesa allotment that is "new information reveal[ing] effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered" and, that the "action [has been] subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion."[489] This requires reinitiation of consultation. Continued failure by the Forest Service and USFWS to reinitiate consultation on the on the Crouch Mesa allotment violates the law.[490]

10. July 24, 2014, Biological Opinion is inadequate and illegal because:

a. The 2014 Biological Opinion's Incidental Take Statement for Yellow-billed cuckoo, Southwestern Willow Flycatcher, Northern Mexican Garter snake, Narrow-headed Garter snake, Spikedace and Loach minnow are nonexistent, exempted from the Biological Opinion based on the assumption that the TCRU is fenced off from cattle grazing. We have demonstrated in this Notice that this is **not** the case and that cattle are in fact damaging the TCRU. Without an adequate and

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[483] *Ibid.*

[484] Tonto National Forest - Canyon Creek (usda.gov) accessed 1/4/22.

[485] 50 C.F.R. 402.16.

[486] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[487] 50 C.F.R. 402.16.

[488] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

[489] 50 C.F.R. 402.16.

[490] 16 U.S.C. § 1536(a)(2) and 50 C.F.R. § 402.14(g).

lawful Incidental Take Statement in place, any activities likely to result in incidental take of members of listed species are unlawful.[491] Multiple other legal authorities speak to the inadequacy[492] of the 2014 Biological Opinion's Incidental Take Statement in addition to the Administrative Procedures Act, which requires federal courts to set aside agency action found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[493]; and,

b. The 2014 Biological Opinion allows designated riparian Critical Habitat on the Tonto National Forest to be managed by a disingenuous scheme that provides few riparian exclosures and instead uses cow grazing utilization metrics that do not protect riparian dependent endangered species. This violates the legal requirement to utilize "the best scientific . . . data available." ;

c. The 2014 Biological Opinion failed to include and consider the additive and cumulative of riparian cow grazing and climate change in spite of the extensive body of scientific literature that exists to the contrary.[494]

11. Reinitiation of consultation must take place expeditiously based on the facts above as well as that:

a. new species have been granted protection and have had riparian Critical Habitat designated for their Recovery under the Endangered Species Act since the issuance of the Biological Opinions that are addressed in this Notice and that apply to Tonto National Forest grazing allotments; and,

b. the new information presented prior to and in this Notice documents effects of the Tonto National Forest's cow grazing that are affecting listed species and designated riparian Critical Habitat in a manner and to an extent not considered in the Biological Opinions addressed in this Notice; and,

c. the new information presented prior to and in this Notice documents that cow grazing on the Tonto National Forest has been and continues to be modified in a

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[491] 16 U.S.C § 1538(a)(1)(B).

[492] *Or. Nat. Res. Council v. Allen*, 476 F.3d 1031 (9th Cir. 2007).; *Wild Fish Conservancy v. Salazar*, 628 F.3d 513 (9th Cir. 2010).; *Ctr. for Biological Diversity v. Provencio*, No. 10-cv-330, 2012 WL 966031 (D. Ariz. Jan. 23, 2012).; *Ctr. for Biological Diversity v. NMFS*, 977 F. Supp. 2d 55 (D.P.R. 2013).; *Native Fish Soc'y v. NMFS*, 992 F. Supp. 2d 1095 (D. Or. 2014).; *Sierra Club v. U.S. Dep't of the Interior*, 899 F.3d 260 (4th Cir. 2018).

[493] 5 U.S.C. § 706(2)(A); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 709 (9th Cir. 2005).

[494] For example: Chiricahua Leopard Frog (*Rana chiricahuensis*) Final Recovery Plan, U.S. Fish and Wildlife Service, April 2007.; Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild and Feral Ungulates; Robert L. Beschta, Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, and Cindy Deacon Williams, Environmental Management (2013) 51:474-491.; Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192, Page 59992, October 3, 2014.; Livestock Production, Climate Change, and Human Health: Closing the Awareness Gap, Debra L. Donahue, Environmental Law Reporter, 45 ELR 11112, 12-2015, http://ssrn.com/abstract=2696741; citing: *See, e.g.*, Beschta et al., *supra* note 59, at 476-81; Ripple et al., *supra* note 2, at 2, 3. Almost nothing is known, however, about the ability of shrublands to sequester carbon. *See* Jack A. Morgan et al., *Carbon Sequestration in Agricultural Lands of the United States*, 65 J. Soil & Water Conservation 6A, 7A (2010), doi:10.2489/jswc.65.1.6A. This is a "critical research need," *see id.*, particularly since shrubs dominate large areas of the public lands.; Climate change scenarios of herbaceous production along an aridity gradient: vulnerability increases with aridity, Carly Golodets, Marcelo Sternberg, Jaime Kiegel, Bertrand Boeken, Azlmen Henkin, No'am G. Silgmean and Eugene D. Ungar, DOI 10.1007/s00442-015-3234-5, February 7, 2015.; Riparian vegetation of ephemeral streams, Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., *Journal of Arid Environments*, *138*, 2017, pages 27-37.

manner that is causing an effect to listed species and their Critical Habitat that was not considered in the Biological Opinions addressed in this Notice.[495]

12. Destructive cow grazing in designated riparian Critical Habitat on the Tonto National Forest continues currently. This destructive cow grazing must cease during the new consultation to prevent the Tonto National Forest from further jeopardizing Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter snake, Narrow-Headed Garter snake, Spikedace, Loach Minnow, Razorback Sucker, and Gila Chub and further destruction of their designated riparian Critical Habitat.

13. Termination of the destructive cow grazing during consultation is required by Section 7(d) of the Endangered Species Act to prevent the Tonto National Forest from further jeopardizing the continued existence of an endangered species and from causing further destruction and adverse modification of designated riparian Critical Habitat. Specifically, Section 7(d) states that the Tonto National Forest must stop "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection 7(a)(2)."[496]; and,

14. The Forest Service's reliance on the Biological Opinions specified in this Notice is not legal. The Forest Service must ensure its own compliance with the Endangered Species Act as action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species" merely by relying upon a Biological Opinion issued by USFWS.[497]; and,

15. The ESA commands federal agencies to "insure" listed species' survival *and* recovery. In addition to requiring consulting agencies to incorporate recovery concerns into project-specific consultations, Section 4 reinforces the Act's emphasis on ensuring recovery. There, Congress required that FWS "*shall* develop and *implement* [recovery] plans for the conservation and survival of endangered species . . ."[498] "Conservation," as explained, is defined under the ESA as the "use of all methods and procedures which are necessary to bring [listed] species to the point at which the measures provided pursuant to this chapter are no longer necessary."[499]
Failure to 'Implement' Recovery Plan(s) Violates Section 4(f) of the ESA.

In using the word "shall," Congress could not have been clearer about its intent to require FWS to actually "implement" recovery plans. The Supreme Court has repeatedly provided that "when a statute uses the word 'shall,' Congress has imposed a mandatory duty upon the subject of the command."[500] Courts have found that where recovery plans go beyond "general guidance" by "specif[ying] species-level and habitat-level recovery actions," Section 4(f) imposes a legal duty on FWS to implement those measures.[501]

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[495] 50 C.F.R. § 402.16(a).

[496] 16 U.S.C. § 1536(d).

[497] *Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990).

[498] 16 U.S.C. § 1533(f)(1) (emphases added).

[499] *Id.* § 1532(3).

[500] *Forest Guardians v. Babbitt*, 174 F.3d 1178, 1187 (10th Cir. 1999).

[501] *See Biodiversity L. Found. v. Norton*, 285 F. Supp. 2d 1, 13 (D.D.C. 2003); *see also Friends of the Blackwater v. Salazar*, 691 F.3d 428, 436-37 (D.C. Cir. 2012) (noting that "§ 4(f)(1) of the Act imposes mandatory obligations upon" FWS "to work toward the goals set in its recovery plan" by actually implementing the plan before delisting a species); *Sw. Center for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1136 (S.D. Cal. 2006) (rejecting BiOp that was "inconsistent with the strategies and objectives in the [species'] recovery plan," and holding that FWS must, at minimum, "explain why it" departed from the plan in site-specific actions).

The WFC recovery plan is clear about the importance of restoring degraded habitats as a major priority for recovery. Habitat designated as critical must have management objectives that follow recommendations in Recovery Plans.[502] Because population numbers and habitat are currently much reduced, projects to restore and/or create WFC habitat must be developed and implemented. According to the 2002 WFC Recovery Plan,

> "…recommended recovery actions that would minimize these threats are: 1. Increase and improve currently suitable and potentially suitable habitat; 1.1. Secure and enhance currently suitable and potentially suitable habitat on Federal lands, lands affected by Federal actions, and cooperating non-Federal and Tribal lands; 1.1.1. Develop management plans to reduce threats and promote processes that secure, restore, and enhance currently suitable and potentially suitable habitat; 1.1.2. Manage physical elements and processes to reduce threats and promote processes that secure, restore, and enhance currently suitable and potentially suitable habitat; 1.1.2.1." [503]

In addition,

> "Convincing evidence from within and outside of the flycatcher's range comes from exclosure studies such as the San Pedro River (Krueper 1992), where after major stressors – principally livestock grazing – were removed, the riparian habitat, channel morphology, and riparian bird fauna improved substantially within five years (Figures 1-4). Although these studies lack experimental rigor, they provide evidence that in riparian habitats where livestock grazing is the major stressor, exclosure may be the quickest method of accomplishing recovery."[504]

Federal lands comprise nearly half the area of the eleven western states.[505] Grazing has been the most widespread management practice on federal lands.[506] It is time for agencies to respond appropriately with improved grazing guidance and updated resource management philosophies to curb species loss during this global biodiversity crisis and extreme regional drought. 'Multiple use' no matter the consequence is proving to be a failed policy and is precluding environmental protection, let alone restoration. A paradigm shift in the way livestock is managed is required moving forward into a dryer, hotter, and climatically unstable future.

The Tonto National Forest's non-imposed protection of designated riparian Critical Habitat must end to assure Yellow-billed Cuckoo, Southwestern Willow Flycatcher, Chiricahua Leopard Frog, Northern Mexican Garter Snake, Narrow-Headed Garter Snake, Spikedace, Razorback Sucker, and Gila

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[502] *See Biodiversity L. Found. v. Norton*, 285 F. Supp. 2d 1, 13 (D.D.C. 2003); *see also Friends of the Blackwater v. Salazar*, 691 F.3d 428, 436-37 (D.C. Cir. 2012) (noting that "§ 4(f)(1) of the Act imposes mandatory obligations upon" FWS "to work toward the goals set in its recovery plan" by actually implementing the plan before delisting a species); *Sw. Center for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1136 (S.D. Cal. 2006) (rejecting BiOp that was "inconsistent with the strategies and objectives in the [species'] recovery plan," and holding that FWS must, at minimum, "explain why it" departed from the plan in site-specific actions).

[503] U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico pg. 137.

[504] Ibid., page G-1.

[505] Vincent, C.H., L.A. Hanson, L.F. Bermejo. 2021. Federal Land Ownership: Overview and Data. Congressional Research Service. R42346. https://crsreports.congress.gov.

[506] Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. Conservation Biology. 8: 629-644.

Chub survival, much less their recovery. Only complete exclusion of cows from the Tonto National Forest's designated riparian Critical Habitat can rehabilitate and truly protect these fragile areas.[507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521]

In sixty days, if you have still not taken corrective action and have not reinitiated formal consultation to correct the legal deficiencies of applicable Biological Opinions, in accordance with the Endangered Species Act citizen suit provision, 16 U.S.C. § 1540(g), the Center for Biological Diversity and Maricopa Audubon Society will seek judicial relief.

[507] Meehan, W.R. and Platts, W.S., 1978. Livestock grazing and the aquatic environment. *Journal of Soil and Water Conservation*, *33*(6), pp.274-278.

[508] Platts, W.S. and Wagstaff, F.J., 1984. Fencing to control livestock grazing on riparian habitats along streams: is it a viable alternative? *North American Journal of Fisheries Management*, *4*(3), pp.266-272.

[509] Platts, W.S., 1981. *Influence of forest and rangeland management on anadromous fish habitat in Western North America: effects of livestock grazing* (Vol. 7). US Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station.

[510] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona Populus fremontii, velvet ash, Fraxinus velutina, Goodding willow, Salix gooddingii. *Rangeland Ecology & Management/Journal of Range Management Archives*, *36*(3), pp.382-384.

[511] Szaro, R.C., Belfit, S.C., Aitkin, J.K. and Rinne, J.N., 1985. Impact of grazing on a riparian gartersnake. *Johnson, RR technical coordinator. Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. United States Forest Service, General Technical Report RM-120*, pp.359-363.

[512] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, April 28, 2016, p. 235.

[513] Response of breeding birds to the removal of cattle on the San Pedro River, Arizona, Krueper, D. J., J. L. Bart, and T. D. Rich. 2003. Conservation Biology 17(2): 607-615.

[514] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[515] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

[516] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[517] Cannon, R.W. and Knopf, F.L., 1984. Species composition of a willow community relative to seasonal grazing histories in Colorado. *The Southwestern Naturalist*, *29*(2), pp.234-237.

[518] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[519] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[520] Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, USFWS, April 28, 2016, pages 235 and 248.

[521] Poessel, S.A., J. C. Hagar, P. K. Haggerty, and T. E. Katzner. 2020. Removal of cattle grazing correlates with increases in vegetation productivity and in abundance of imperiled breeding birds. Biological Conservation 241 (2020) 108378: 1-9. www.elsevier.com/locate/biocon.

CONTACT INFORMATION

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,

Chris Bugbee
Southwest Conservation Advocate

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

CC: AGFD Director Ty Gray

United States Department of Agriculture **Forest Service** **Tonto National Forest**

2324 East McDowell Road
Phoenix, AZ 85006
602-225-5200
TDD: 602-225-5395
Fax: 602-225-5295

File Code: 2670; 2230
Date: February 9, 2023

Heather Whitlaw
Field Supervisor
U.S. Fish and Wildlife Service
Arizona Ecological Services Office
9828 N. 31st Avenue, Suite C3
Phoenix, Arizona 85051

Dear Ms. Whitlaw:

In accordance with Section 7(a)(2) of the Endangered Species Act of 1973, as amended, the Tonto National Forest (Tonto NF) requests initiation/re-initiation of consultation for the effects of ongoing grazing on all active allotments to all listed species and their critical habitats on the Tonto NF. On September 30, 2021, your office issued a Biological Opinion for ongoing grazing on all active allotments on the Coronado National Forest. We wish to follow the consultation approach that was recently used by your office and the Coronado National Forest for their grazing activities. Below are the listed species and associated critical habitat that occur on the Tonto NF and we are requesting verification of this list.

- Mexican spotted owl (*Strix occidentalis lucida*) and its critical habitat
- Southwestern willow flycatcher (*Empidonax traillii extimus*) and its critical habitat
- Yellow-billed cuckoo (*Coccyzus americanus occidentalis*) and its critical habitat
- Yuma Ridgway's rail (*Rallus obsoletus yumanensis*)
- Chiricahua leopard frog (*Lithobates chiricahuensis*) and its critical habitat
- Narrow-headed gartersnake (*Thamnophis rufipunctatus*) and its proposed critical habitat
- Northern Mexican gartersnake (*Thamnophis eques megalops*) and its critical habitat
- Gila topminnow (*Poeciliopsis occidentalis occidentalis*)
- Gila trout (*Oncorhynchus gilae*)
- Gila chub (*Gila intermedia*) and its critical habitat
- Loach minnow (*Tiaroga cobitis*)
- Desert pupfish (*Cyprindon macularius*)
- Colorado pikeminnow (*Ptychocheilus lucius*)
- Razorback sucker (*Xyrauchen texanus*) and its critical habitat
- Spikedace (*Meda fulgida*) and its critical habitat
- Arizona cliffrose (*Purshia subintegra*)
- Arizona hedgehog cactus (*Echinocereus triglochidiatus* var. *arizonicus*)
- Ocelot (*Leopardus pardalis*)
- Mexican wolf (*Canus lupus baileyi*)

We are organizing our staff around the task of preparation of a Biological Assessment (BA) to provide the information your office will need to prepare a Biological Opinion and/or concurrence letter. At this point in time, we estimate that a BA will be compiled and submitted to your office

within 18-24 months. We have enclosed a preliminary list of all active grazing allotments on the Tonto NF. Please note this is a preliminary list and is subject to change.

We would like to request early coordination with your staff to ensure an efficient consultation. If you have any questions regarding this request, please reach out to Chandler Mundy, Range Program Manager, at chandler.mundy@usda.gov or Drew Ullberg, Forest Biologist, at drew.ullberg@usda.gov.

Sincerely,

NEIL BOSWORTH
Forest Supervisor

Enclosure

cc: District Rangers

ATTACHMENT 3- 2023 settlement agreement.

Robin Silver

From: Robin Silver
Sent: Monday, February 27, 2023 3:58 PM
To: Martinez, Michael - FS, AZ
Cc: Amy Lueders (RDLueders@fws.gov); Whitlaw, Heather; Fugate, Mary; Martin, Michiko -FS, ALBUQUERQUE, NM; Kohrman, Elaine B -FS; Trujillo, Robert - FS; Madrid, Anthony -FS; Bosworth, Neil -FS
Subject: TONTO NF FEBRUARY 15, 2023 COW GRAZING SETTLEMENT AGREEMENT / RE: [External Email] CORRECTED VERSION: IS A SETTLEMENT POSSIBLE TO PRECLUDE LITIGATION ON TONTO NF GRAZING? TWO WEEK DEADLINE FOR AN ANSWER

Mr. Martinez.

In response to our request, thank you for sending us your correspondence to USFWS Arizona Field Supervisor Whitlaw reinitiating consultation on Tonto NF cow grazing.

As per our February 15, 2023, meeting and agreement, we will not file our lawsuit for ESA violations on the 16 allotments (Seventy-Six, Hardt Creek, Dagger, Poison Springs and Tonto Basin allotments on the Tonto Basin Ranger District; the Gisela allotment on the Payson Ranger District; Hick-Pikes Peak, Chrysotile and Lyons Fork allotments on the Globe Ranger District; Crouch Mesa, Soldier Camp, Buzzard Roost, and OW allotments on the Pleasant Valley Ranger District) listed in our November 9, 2022, NOI (https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/tonto-NOI-20221109.pdf).

On February 15, 2023, we agreed not to file our lawsuit, as you agreed to provide us with quarterly reports, starting in April 2023, documenting your efforts to keep cows out the designated riparian Critical Habitat on these allotments, and to monitor and to maintain their exclosure fencing.

We also will continue to monitor the designated riparian Critical Habitat on these allotments, and needless to say, if we find continuing cow grazing in the designated riparian Critical Habitat in these allotments, we will consider our agreement null and void, and will file suit to force the necessary and required protection via an ESA 7(d) ruling.

In your February 9, 2023, correspondence to USFWS requesting reinitiation, you state that you "wish to follow the consultation approach that was recently used by your office and the Coronado National Forest for their grazing activities."

This is potentially, extremely problematic.

Consequently, in this correspondence, we "cc" USFWS Regional Director Lueders, USFWS Arizona State Director Whitlaw, and USFWS Central Arizona Manager Fugate to remind

USFWS leadership, once again, that their own experts have expressed their opinions in writing that the cow grazing monitoring scheme used by the Coronado NF to facilitate, promote and perpetuate cow grazing fail to protect designated riparian Critical Habitat for T&E species.

In some cases, the Tonto NF also uses these same ineffective and non-protective cow grazing monitoring scheme.

Only riparian exclosures which can be monitored, maintained and enforced are sufficient to protect designated riparian Critical Habitat. Only riparian exclosures can allow for the recovery from cow grazing damage that will now take decades at best to recover.

The September 30, 2021, Coronado NF BO, for which you "wish to follow the consultation approach…for their grazing activities," is already an established failure. In fact, on February 24, 2023, we have already needed filed a NOI (https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/coronado-NOI-20230224.pdf) to challenge the fact that the Coronado NF is already violating the law on 12 allotments.

The primary reason that Coronado NF and USFWS are already being challenged for violations of the September 30, 2021, Coronado NF cow grazing BO, is because USFWS administrators failed to listen to their own experts, and instead merely rubberstamped the disingenuous and unprofessional findings of the Biological Assessment submitted to USFWS by the Coronado NF for the BO.

We look forward to continuing working with you to protect the designated riparian Critical Habitat on the Tonto NF. Please let us know if you have any questions.

Thank you. Sincerely, Robin Silver

From: Martinez, Michael - FS, AZ <michael.a.martinez@usda.gov>
Sent: Monday, February 27, 2023 1:10 PM
To: Robin Silver <rsilver@biologicaldiversity.org>
Subject: RE: [External Email]CORRECTED VERSION: IS A SETTLEMENT POSSIBLE TO PRECLUDE LITIGATION ON TONTO NF GRAZING? TWO WEEK DEADLINE FOR AN ANSWER CORRECTED VERSION

Did we provide you this letter yet?

Michael Martinez (he/him)
Ecosystem Staff Officer
Forest Service
Tonto National Forest
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c: 602-499-5818
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Caring for the land and serving people

From: Robin Silver <rsilver@biologicaldiversity.org>
Sent: Tuesday, February 7, 2023 9:59 AM
To: Bosworth, Neil - FS, AZ <neil.bosworth@usda.gov>
Cc: Trujillo, Robert - FS, NM <robert.trujillo@usda.gov>; Madrid, Anthony - FS, NM <anthony.madrid@usda.gov>; Kohrman, Elaine - FS, NM <elaine.kohrman@usda.gov>; Martin, Michiko - FS, NM <michiko.martin@usda.gov>; Lueders, Amy L <amy_lueders@fws.gov>; Whitlaw, Heather <heather_whitlaw@fws.gov>; Mary_Richardson@fws.gov; Martha Williams <martha_williams@fws.gov>; Shannon Estenoz (Shannon_Estenoz@ios.doi.gov) <Shannon_Estenoz@ios.doi.gov>; Martinez, Michael - FS, AZ <michael.a.martinez@usda.gov>
Subject: [External Email]CORRECTED VERSION: IS A SETTLEMENT POSSIBLE TO PRECLUDE LITIGATION ON TONTO NF GRAZING? TWO WEEK DEADLINE FOR AN ANSWER CORRECTED VERSION

[External Email]
If this message comes from an **unexpected sender** or references a **vague/unexpected topic;**
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Supervisor Bosworth.

Thank you for your January 9, 2023, response to our November 9, 2022, NOI (https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/tonto-NOI-20221109.pdf).

In this correspondence, we "cc" FWS AZ State Supervisor Whitlaw who co-signed your response, as well as FWS Regional Director Lueders, Central Arizona Manager Mary Richardson and their Supervisors in the hopes that they will begin to participate in discussions regarding the failing protection of the T&E species and Critical Habitat that they are tasked by law to protect. To date, FWS's role has been to merely rubberstamp misleading and disingenuous consultation Biological Assessments, and then to have no role whatsoever in settlement discussions when the resulting Biological Opinions must be redone.

In general:

Your response completely ignores the most basic underlying requirement necessary to protect riparian T&E species. Namely, you are ignoring the avoidance of adverse modification of designated Critical Habitat and the provision of Recovery for these T&E species. Maintenance of a deteriorating status quo is not acceptable morally or legally. Nor is repeating your mantra of "discussed with permittee" whenever confronted with public discovery of another permittee transgression.

Your promises of future discussions with and reliance upon proven dishonest and unreliable permittees does not remove the fact that the areas that are the subject of this NOI have been, continue and will continue to suffer damage and will not ever recover without more assertively concrete vigilance and actions by the Tonto National Forest. Your response to our NOI fails to offer any enforceable assurance that this will ever happen.

Specifically, by allotment:

Dagger Allotment: the new information is not remedied merely by your statement "staff…have worked with the livestock permittee…" We have presented extensive evidence of considerable acute and chronic damage along Cherry Creek and Salt River CH. This represents "new information." This damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation.

Poison Springs Allotment: Allowing destructive cow grazing outside of WFC breeding season is not acceptable when we have documented extensive acute and chronic cow grazing damage to designated WFC and YBC CH on the allotment along the Salt River. Your promised protective efforts have obviously failed. This damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation.

Tonto Basin Tonto Creek Riparian Unit: Your statement that Tonto staff "continues to monitor and ensure cattle are not accessing this portion of Tonto Creek" is obviously inaccurate. Your regime of seasonal grazing is not sufficient to protect designated CH.

Tonto Basin Allotment Tonto Creek Riparian Unit (TCRU): Your statement "The Forest … continues to monitor and ensure cattle are not accessing this portion of Tonto Creek [the TCRU]" is obviously inaccurate and ineffective. We have documented extensive acute and chronic cow grazing damage to the area's designated CH. Your promised protective efforts have obviously failed biologically and legally. This damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation. Protection of the Tonto Creek Riparian Unit was promised mitigation resulting from our 1996, Roosevelt Dam WFC litigation, the July 17, 1996, Biological Opinion, and subsequent codification in the Roosevelt Dam HCP. The BO promises: "Grazing or holding of livestock (cattle, burros, horses, llamas, etc.) shall not be permitted on replacement habitat nor in adjacent areas within the 100-year floodplain." Your failure to protect the Tonto Basin Allotment Tonto Creek Riparian Unit also violates the Roosevelt Dam BO which will now also need to be revisited.

Tonto Basin Allotment Greenback Creek: We have documented extensive acute and chronic cow grazing damage to the area's designated CH. Your promised protective efforts have obviously failed. This serious, chronic damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation.

Seventy Six Allotment Tonto Creek: We have documented extensive acute and chronic cow grazing damage to and cows present in the area's designated CH. Although you state that that you "worked with the permittee," the fact remains that there is significant damage and thus this damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation.

OW Allotment Canyon Creek: The fact that you have a new permittee does nothing to change the fact that we have documented extensive acute and chronic cow grazing damage to the area's designated CH. Your promised protective efforts have obviously failed. This damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation.

Soldier Camp Spring Creek: It is nice someone besides CBD inspected the fence "earlier this fall." But we have documented extensive acute and chronic cow grazing damage to the area's designated CH. This has obviously not resulted from a single transgression. Your promised protective efforts have obviously failed. This damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation.

Non-allotted Spring Creek: This is Spikedace designated CH. We have documented extensive acute and chronic cow grazing damage to the area's designated CH. In the past the Forest Service has tried to claim it does not have to protect CH if the CH is not being damaged by non-permitted livestock. This is untrue, and remains a violation of federal law. We expect that you offer enforceable remedy and long-term protection either via enforceable settlement or via immediate reinitiation of consultation.

Gisela Allotment Tonto Creek: We have documented extensive acute and chronic cow grazing damage to the area's designated CH. Your promised protective efforts have obviously failed. This damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation. If this is an example where you think it is good and protective that "[t]he permittee has only used pastures that access Tonto Creek during winter use," then this is even more reason for a reinitiation of consultation because this demonstrates inadequate protection of CH by seasonal grazing when a full exclosure is necessary.

Crouch Mesa. You are right CBD identified damaged fences. The rancher did not. And as the rancher did not in the past, he will not in the future. How nice he "has been reminded to stay on top of these fences." We have documented extensive acute and chronic cow grazing damage to the area's designated riparian CH. Your promised protective efforts have obviously failed as the damage that we have identified is not the result of a single transgression. This damage remains a concern to us with you offering no enforceable remedy nor no long-term protection either via enforceable settlement or via immediate reinitiation of consultation.

CONCLUSION:

Accordingly, ***within two weeks***, please provide us with (1) a concrete date when the Tonto will request reinitiation consultation of FWS for these allotments; (2) with a commitment to provide the public with the Biological Assessment, immediately upon its completion, that triggers the reinitiation of consultation (in order to avoid delays caused on your current policy of delaying and obstructing BA release by unnecessarily requiring a FOIA); (3) with a commitment to provide the public with the new Biological Opinion immediately upon its completion, rather than relying on FWS' chronically non-functional website; (4) with an enforceable agreement that includes a reporting timetable, every three months, assuring the public that FS employees, rather than unreliable permittees, will be inspecting exclosure fences, supervising and guaranteeing fencing repair, and removing trespass cows from exclosures; (5) with an enforceable plan in the case of non-allotted Spring Creek providing exactly how you will protect this area of designated CH; and (6) with actions the Forest Service deems necessary during the reinitiated consultation to bring the agency's actions into compliance with Section 7(d) of the ESA, which "prohibits federal agencies and permit applicants from making any "irreversible or irretrievable commitment of resources" ....which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate section 7(a)(2) of the ESA, during consultation under section 7(a)(2)."

We remain available to continue discussions for the next two weeks; however, the Tonto's consistent chronic deference to, promotion of and protection of dishonest and unreliable cow grazing permittees merits no more patience.

If we do not receive a response fulfilling our six demands above by **February 21, 2023**, we will file suit in federal court to ensure that FS and FWS promptly reinitiate consultation.

Sincerely, Robin Silver

Robin Silver, M.D.
Co-founder and Board Member
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Attachment 4

2024 Survey Results of Critical Habitat in Grazing Allotments of the Tonto National Forest (1 of 2)

Center for Biological Diversity
December 2024

Between April 24 and September 12, 2024, the Center for Biological Diversity conducted Cattle Impact Surveys on ten Tonto National Forest grazing allotments, including the Red Lake, Gentry Mountain, Crouch Mesa, Catholic Peak, Dagger, Gisela, Tonto Basin, Seventy-Six, Hick-Pikes Peak, and Chrysotile allotments. The purpose of the Cattle Impact Surveys was to assess and quantify cattle damage to designated critical habitat, document instances of damaged, nonfunctional or missing exclusion fencing, and document unauthorized cattle presence and their associated impacts to critical habitat designation for threatened and endangered wildlife.

Ongoing Endangered Species Act violations on Tonto National Forest grazing allotments remain unresolved despite our previous efforts to ensure that the Forest Service complies with the law, including a previous Notice of Intent to sue (served in 2022) and a subsequent, informal settlement with the Tonto National Forest that included monitoring problem allotments for the purposes of protecting critical habitat set aside for species recovery. But after two more years of cattle grazing transgressions, the Center in 2024 has again observed and documented moderate to severe environmental damage caused by cattle throughout many of the same allotments at issue in the 2022 NOI.

Herein, the Center documents continued, significant cattle damage and inadequate protection of designated Critical Habitat for Yellow-billed Cuckoo, Southwestern Willow Flycatcher, northern Mexican and narrow-headed garter snakes, Chiricahua Leopard Frog, Spikedace, and Razorback Sucker.

Examples of the extensive degradation of critical habitat caused by livestock that are documented herein through photographs and maps include: heavily browsed woody streamside recruitment; trails meandering through riparian zones; streamside impacts resulting in shearing of banks into vertical surfaces; heavily diminished grass and herbaceous growth; myriad instances of wallows and bare soils; significant removal of riparian vegetation and adjacent understory; extensive areas of exposed, compacted soils around natural springs, seeps, and surface water; and pervasive trampling and soil disturbances.

Red Lake allotment

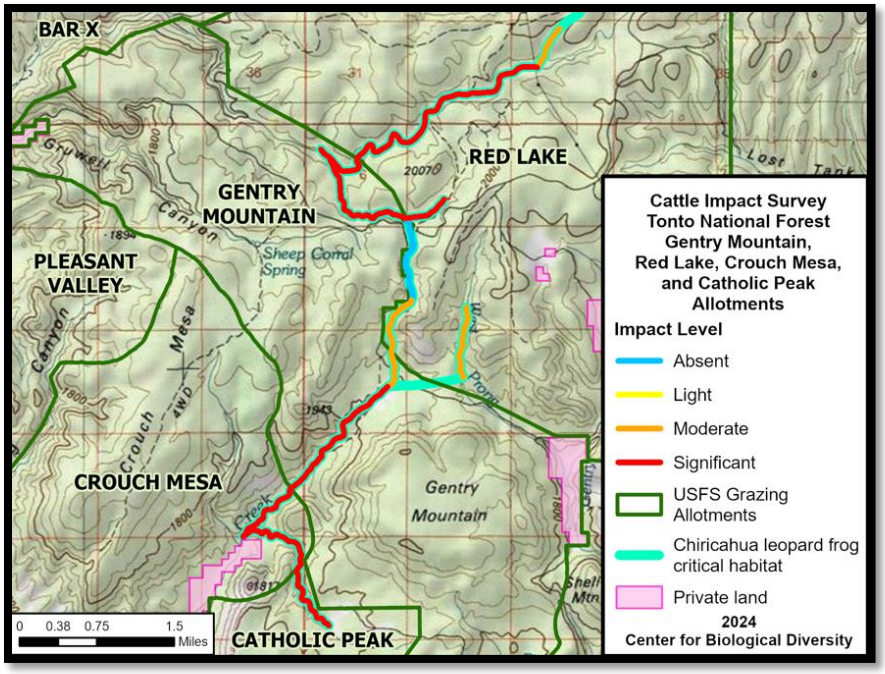


Figure 1. Cattle impacts on the Red Lake allotment, Pleasant Valley Ranger District, Tonto National Forest, 2024.

Significant grazing impacts in and around Cherry Creek, Chiricahua leopard frog critical habitat, on Red Lake allotment. 34.167111, -110.816266, June 4, 2024.

Significant grazing impacts in and around Cherry Creek, Chiricahua leopard frog critical habitat, on the Red Lake allotment. 34.158371, -110.835276. June 4, 2024.

Significant grazing impacts in a Chiricahua leopard frog critical habitat stream in Cherry Creek, Red Lake allotment. 34.156959, -110.83652. June 4, 2024.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat in Cherry Creek, Red Lake allotment. 34.156428, -110.837215. June 4, 2024.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat in Cherry Creek, Red Lake allotment. 34.156969, -110.840369. June 4, 2024.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat in Cherry Creek, Red Lake allotment. 34.155119, -110.842729. June 4, 2024.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat in Cherry Creek, Red Lake allotment. 34.154921, -110.845266. June 4, 2024.

Significant grazing impacts, with cattle present, in and around Chiricahua leopard frog critical habitat at Bottle Spring, a captive-bred leopard frog release site in Red Lake allotment. 34.145866, -110.837302. June 3, 2024.

An open fenceline with significant grazing impacts near Bottle Spring, a captive-bred leopard frog release site in Red Lake allotment. 34.146178, -110.834691. June 3, 2024.

Significant grazing impacts, with cattle present, in and around Chiricahua leopard frog critical habitat upstream of Bottle Spring, Red Lake allotment. 34.148442, -110.831287. June 3, 2024.

Chiricahua leopard frog critical habitat in Crouch Creek, Red Lake allotment. Heavy machinery was present and active logging.[1] Cattle were also present in this pasture. 34.140394, -110.838148. June 3, 2024.

[1] FOIA records reveal that this logging project, which occurred on an Arizona Game and Fish Department state parcel, was authorized for hand tools only due to its ecologically sensitive location as a designated critical habitat creek bottom and potential presence of imperiled species. However, use of heavy machinery was authorized at the last minute when project managers wanted to opportunistically utilize a logging crew that was already in the general area. Heavy machinery was operating directly in the frog-designated creek bottom, removing trees and destroying exclusion fencing, allowing cattle access.

Chiricahua leopard frog critical habitat in Crouch Creek, Red Lake allotment. Heavy machinery logged the drainage bottom and compromised the exclusion fence, allowing cattle access. 34.132333, -110.840007. June 3, 2024.

Chiricahua leopard frog critical habitat in Crouch Creek, Red Lake allotment. Heavy machinery logged the drainage bottom and compromised the exclusion fence, allowing cattle access. 34.132333, -110.840007. June 3, 2024.

Gentry Mountain allotment

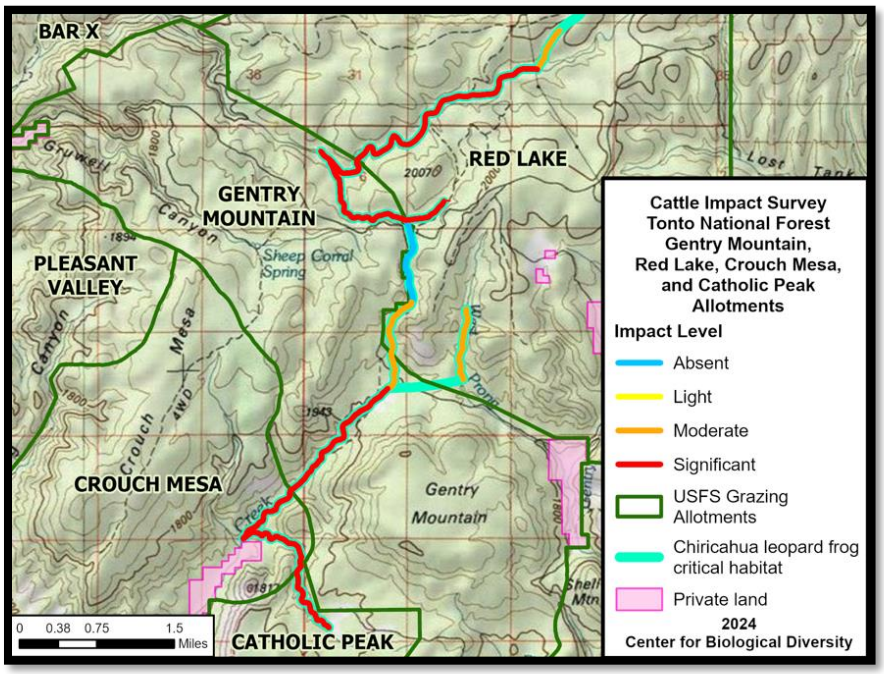


Figure 2. Cattle impacts on the Gentry Mountain allotment, Pleasant Valley Ranger District, Tonto National Forest, 2024.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat on Gentry Mountain allotment. 34.154212, -110.85142. June 3, 2024.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat on Gentry Mountain allotment. 34.154212, -110.85142 (2). June 3, 2024.

Another downed fence with significant grazing impacts near Bottle Spring, a captive-bred leopard frog release site. 34.146201, -110.83935. June 3, 2024.

A downed boundary fence between Gentry Mountain and Red Lake allotments. Fencing was not intact, and cattle were observed nearby. The area was heavily damaged by logging activities occurring directly in frog critical habitat in the canyon bottom. 34.141748, -110.837062. June 3, 2024.

Chiricahua leopard frog upland critical habitat on Gentry Mountain allotment, near Cunningham Spring. Heavy machinery was present and actively logging.[2] Cattle were also present in this pasture. 34.12219, -110.839524. June 3, 2024.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat in Crouch Creek, Gentry Mountain allotment. 34.10907, -110.855774. June 3, 2024.

[2] FOIA records reveal that this logging project, which occurred on an Arizona Game and Fish Department state parcel, was authorized for hand tools only due to its ecologically sensitive location and imperiled species present. However, use of heavy machinery was authorized at the last minute when project managers wanted to opportunistically utilize a logging crew that was already in the general area.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat on Gentry Mountain allotment. A small exclusion cage shows the vegetation that would otherwise be present if not for cattle. 34.12110, -110.842907 (2). June 3, 2024.

Significant grazing impacts in and around Chiricahua leopard frog critical habitat in Crouch Creek, Gentry Mountain allotment. 34.11041, -110.854595 (2). June 3, 2024.

Crouch Mesa allotment

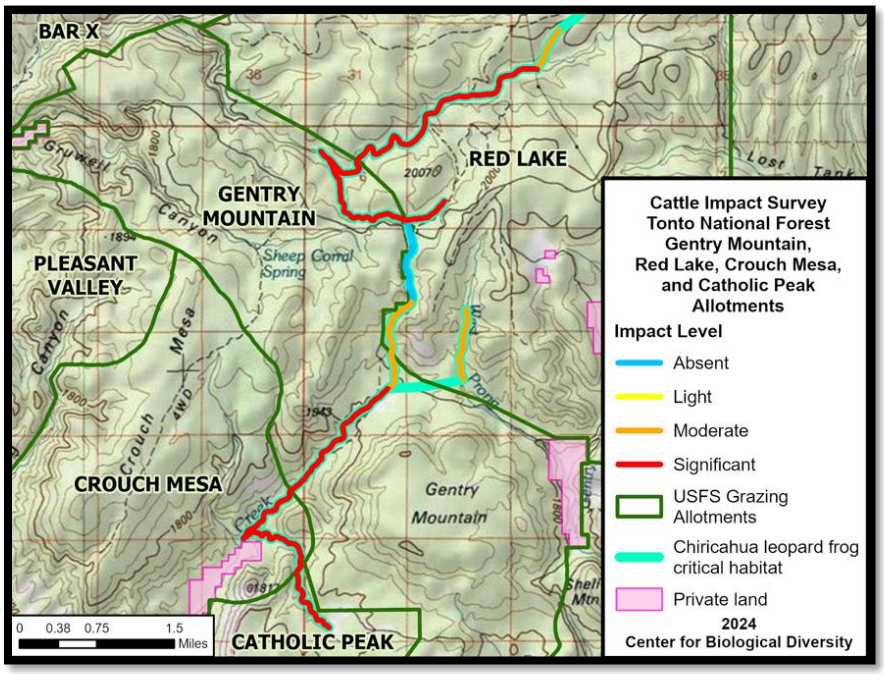


Figure 3. Cattle impacts on the Crouch Mesa allotment, Pleasant Valley Ranger District, Tonto National Forest, 2024.

Significant grazing impacts in and around Crouch Creek, Chiricahua leopard frog critical habitat, on Crouch Mesa allotment. 34.107241, -110.857951. June 3, 2024.

Significant grazing impacts in and around Crouch Creek, Chiricahua leopard frog critical habitat, on Crouch Mesa allotment. 34.105144, -110.860469. June 3, 2024.

Significant grazing impacts in and around Crouch Creek, Chiricahua leopard frog critical habitat, on Crouch Mesa allotment. 34.104254, -110.861875. June 3, 2024.

Catholic Peak allotment

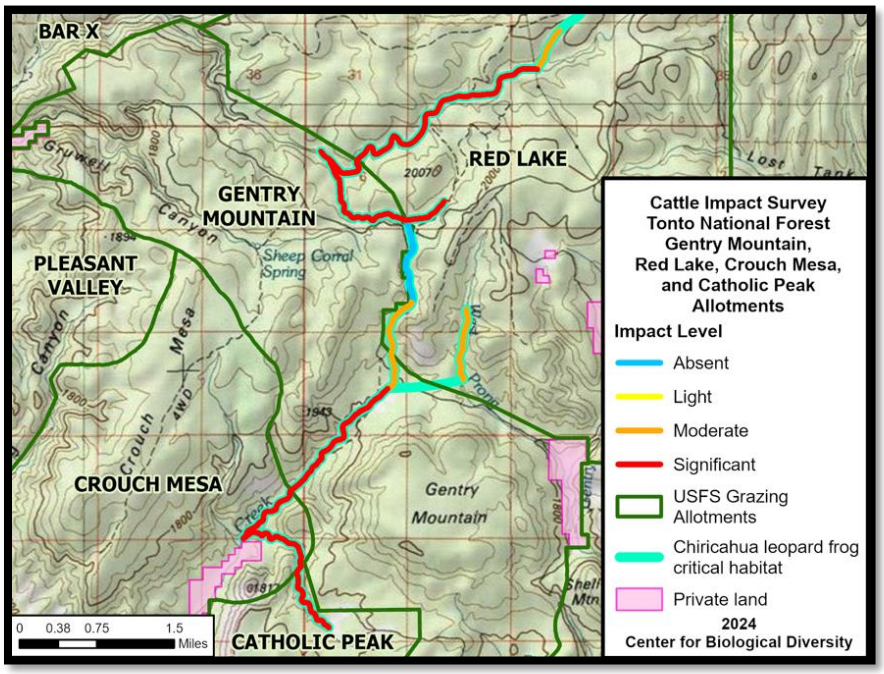


Figure 4. Cattle impacts on the Catholic Peak allotment, Pleasant Valley Ranger District, Tonto National Forest, 2024.

A decaying cow carcass at Pine Spring, Catholic Peak allotment. This is Chiricahua leopard frog critical habitat, a captive-bred leopard frog release site, and is not an authorized grazing pasture. 34.088863, -110.851612. June 3, 2024.

Significant grazing impacts in designated Chiricahua leopard frog critical habitat in the Pine Spring drainage, Catholic Peak allotment. Pine Spring is a captive-bred leopard frog release site and is not part of any authorized grazing pasture. 34.089521, -110.85223. June 3, 2024.

Significant grazing impacts in designated Chiricahua leopard frog critical habitat in the Pine Spring drainage, Catholic Peak allotment. Pine Spring is a captive-bred leopard frog release site and is not part of any authorized grazing pasture. 34.088863, -110.851612 (2). June 3, 2024.

Significant grazing impacts in designated Chiricahua leopard frog critical habitat in the Pine Spring drainage, Catholic Peak allotment. Pine Spring is a captive-bred leopard frog release site and is not part of any authorized grazing pasture. 34.088604, -110.851207. June 3, 2024.

Significant grazing impacts in designated Chiricahua leopard frog critical habitat at Pine Spring, Catholic Peak allotment. Pine Spring is a captive-bred leopard frog release site and is not part of any authorized grazing pasture. 34.088604, -110.851207. June 3, 2024.

Dagger allotment

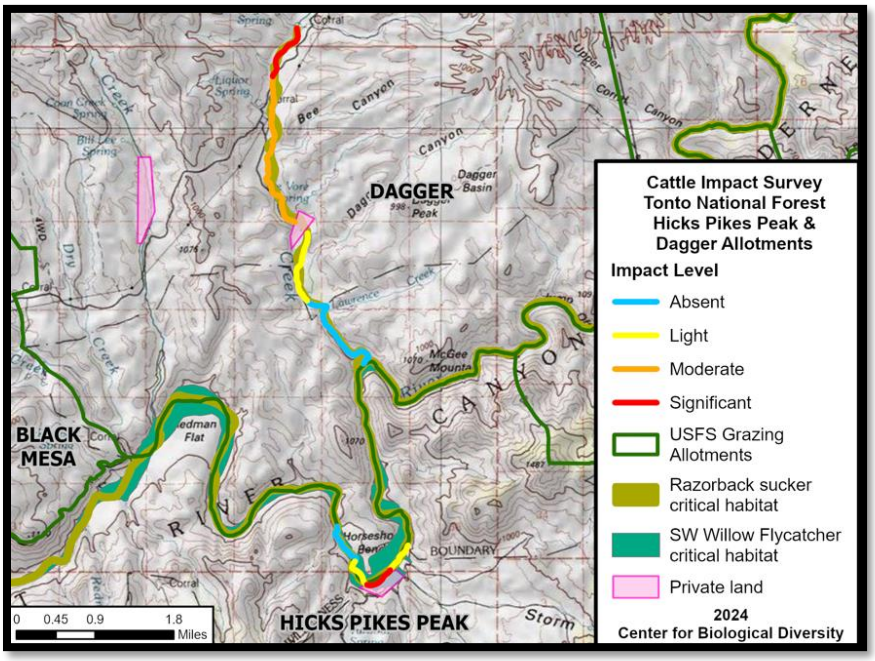


Figure 5. Cattle impacts on the Dagger allotment, Tonto Basin Ranger District, Tonto National Forest, 2024.

Significant cattle impacts in razorback sucker critical habitat in the Rock pasture of Dagger allotment. 33.726162, -110.813555 (2). April 24, 2024.

Significant cattle impacts in razorback sucker critical habitat in the Rock pasture of Dagger allotment. 33.725589, -110.813638. April 24, 2024.

Significant bank shearing caused by cattle in razorback sucker critical habitat in the Rock pasture of Dagger allotment. 33.72469, -110.815289. April 24, 2024.

Significant cattle impacts in razorback sucker critical habitat in the Rock pasture of Dagger allotment. 33.725099, -110.814549. April 24, 2024.

Cattle tracks and feces in West Devore pasture near designated razorback sucker critical habitat in the West Devore pasture of Dagger allotment. This pasture is off-limits to grazing. 33.723155, -110.817129. April 24, 2024.

More evidence of cattle in the off-limits West Devore pasture of Dagger allotment. 33.723862, -110.81696. April 24, 2024.

Unauthorized cattle in designated razorback sucker critical habitat in the West Devore pasture of Dagger allotment. This pasture is off-limits to grazing. 33.721281, -110.816775 (2). April 24, 2024.

Pink flags mark cow-browsed willow trees in the off-limits West Devore pasture of the Dagger allotment. 33.718631, -110.817734. April 24, 2024.

Browsed willows in the off-limits West Devore pasture of the Dagger allotment. 33.717025, -110.817591. April 24, 2024.

More evidence of cattle in the off-limits West Devore pasture of Dagger allotment. 33.716395, -110.817742. April 24, 2024.

More evidence of cattle in the off-limits West Devore pasture of Dagger allotment. 33.716253, -110.81781. April 24, 2024.

Pink flags mark cow-browsed willow trees in the off-limits West Devore pasture of the Dagger allotment. 33.715047, -110.818112. April 24, 2024.

Continued evidence of cattle in the off-limits West Devore pasture of Dagger allotment. 33.713439, -110.818361. April 24, 2024.

Continued evidence of cattle in the off-limits West Devore pasture of Dagger allotment. 33.710418, -110.818207. April 24, 2024.

Cow feces in the off-limits West Devore pasture of Dagger allotment. 33.708989, -110.818212. April 24, 2024.

Older cow feces indicates a sustained/chronic presence of unauthorized cattle in the off-limits West Devore pasture of the Dagger allotment. 33.696227, -110.813639. April 24, 2024.

An unauthorized herd of feral alpaca in the off-limits West Devore pasture of the Dagger allotment. 33.692306, -110.811164. April 24, 2024.

Gisela allotment

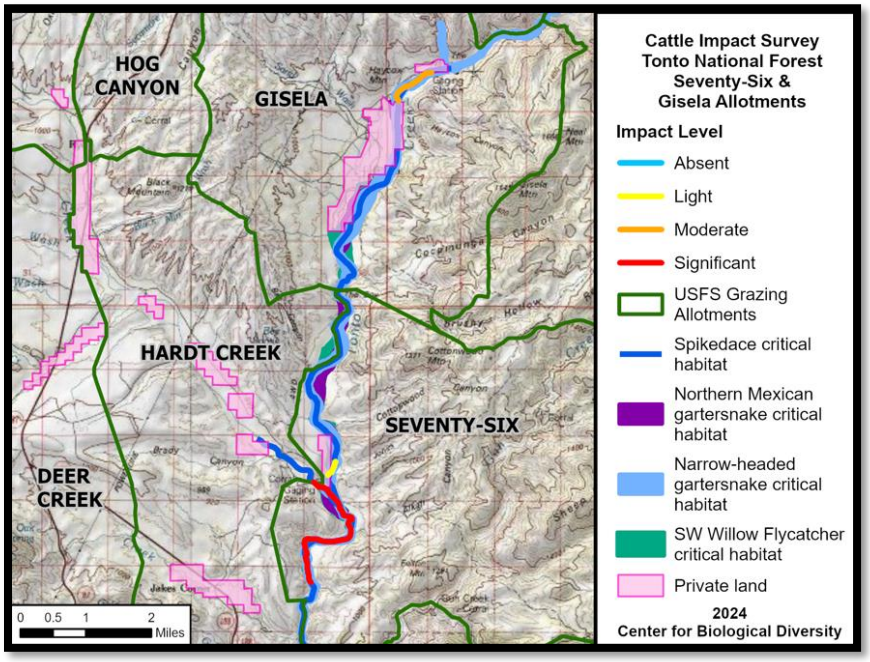


Figure 6. Cattle impacts on the Gisela allotment, Payson Ranger District, Tonto National Forest, 2024.

Significant cattle impacts on Gisela allotment in Tonto Creek. This is designated critical habitat narrow-headed garter snakes and spikedace. 34.125323, -111.256536. June 18, 2024.

Significant cattle impacts on Gisela allotment in Tonto Creek. This is designated critical habitat narrow-headed garter snakes and spikedace. 34.120409, -111.269226 (2). June 18, 2024.

Cow and ATV tracks on Gisela allotment in Tonto Creek. This is designated critical habitat narrow-headed garter snakes and spikedace. 34.124014, -111.262082. June 18, 2024.

Tonto Basin allotment

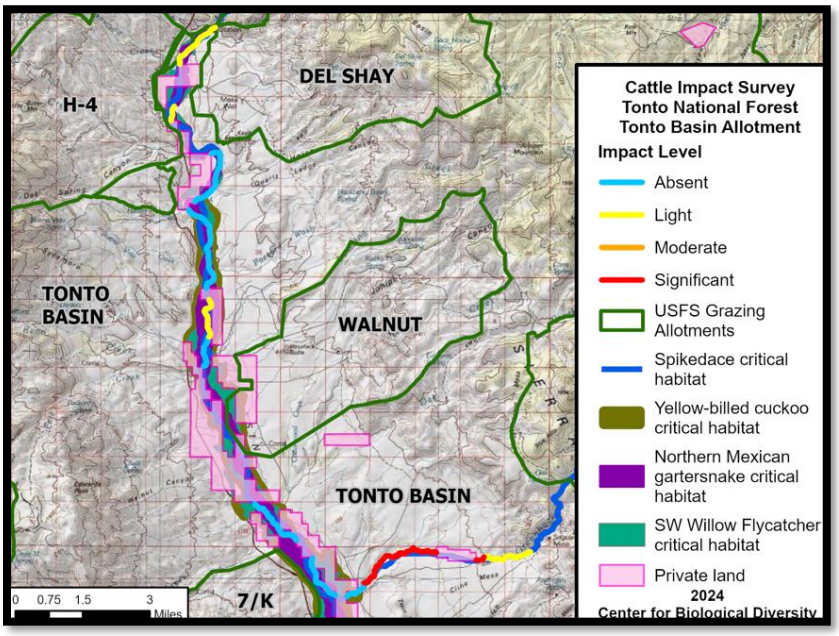


Figure 7. Cattle impacts on the Tonto Basin allotment, Tonto Basin Ranger District, Tonto National Forest, 2024.

Unauthorized cattle in Greenback Creek, designated critical habitat for spikedace, on Tonto Basin allotment. Greenback Creek is off-limits to grazing. 33.808256, -111.199118. April 25, 2024.

Significant cattle impacts in Greenback Creek, designated critical habitat for spikedace, on Tonto Basin allotment. Greenback Creek is off-limits to grazing. 33.807956, -111.199074. April 25, 2024.

Significant cattle impacts in Greenback Creek, designated critical habitat for spikedace, on Tonto Basin allotment. Greenback Creek is off-limits to grazing. 33.807811, -111.200294 (2). April 25, 2024.

Fresh cattle tracks in Greenback Creek, designated critical habitat for spikedace, on Tonto Basin allotment. Greenback Creek is off-limits to grazing. 33.807679, -111.201038. April 25, 2024.

Cattle wallow in Greenback Creek, designated critical habitat for spikedace, on Tonto Basin allotment. Greenback Creek is off-limits to grazing. 33.810112, -111.219148. April 25, 2024.

A well-worn cattle trail heading to off-limits Greenback Creek on Tonto Basin allotment. 33.809827, -111.219879. April 25, 2024.

More unauthorized cattle observed in Greenback Creek, designated critical habitat for spikedace, on Tonto Basin allotment. Greenback Creek is off-limits to grazing. 33.81091,-111.224953. April 25, 2024.

Another well-worn cattle trail in off-limits Greenback Creek on Tonto Basin allotment. Old feces indicate a sustained presence in Greenback Creek. 33.809101, -111.232372. April 25, 2024.

Attachment 5

2024 Survey Results of Critical Habitat in Grazing Allotments of the Tonto National Forest (2 of 2) with Examples of Significant Discrepancies between the Center's and the Tonto's Grazing Allotment Inspections

Center for Biological Diversity
December 2024

Between April 24—September 12, 2024, the Center for Biological Diversity conducted Cattle Impact Surveys on ten Tonto National Forest grazing allotments, including the Red Lake, Gentry Mountain, Crouch Mesa, Catholic Peak, Dagger, Gisela, Tonto Basin, Seventy-Six, Hick-Pikes Peak, and Chrysotile allotments. The purpose of the Cattle Impact Surveys was to assess and quantify cattle damage to designated critical habitat, document instances of damaged, nonfunctional or missing exclusion fencing, and document unauthorized cattle presence and their associated impacts to critical habitat designation for threatened and endangered wildlife.

In this attachment, the Center presents the remainder of our 2024 critical habitat survey results, specifically those pertaining to the Seventy-Six, Hick-Pikes Peak, and Chrysotile allotments, together with the associated Tonto National Forest monitoring reports that occurred in close temporal proximity. We show a pattern of reporting from the Tonto National Forest that underreports damage, is inadequate, incomplete and above all untrustworthy.

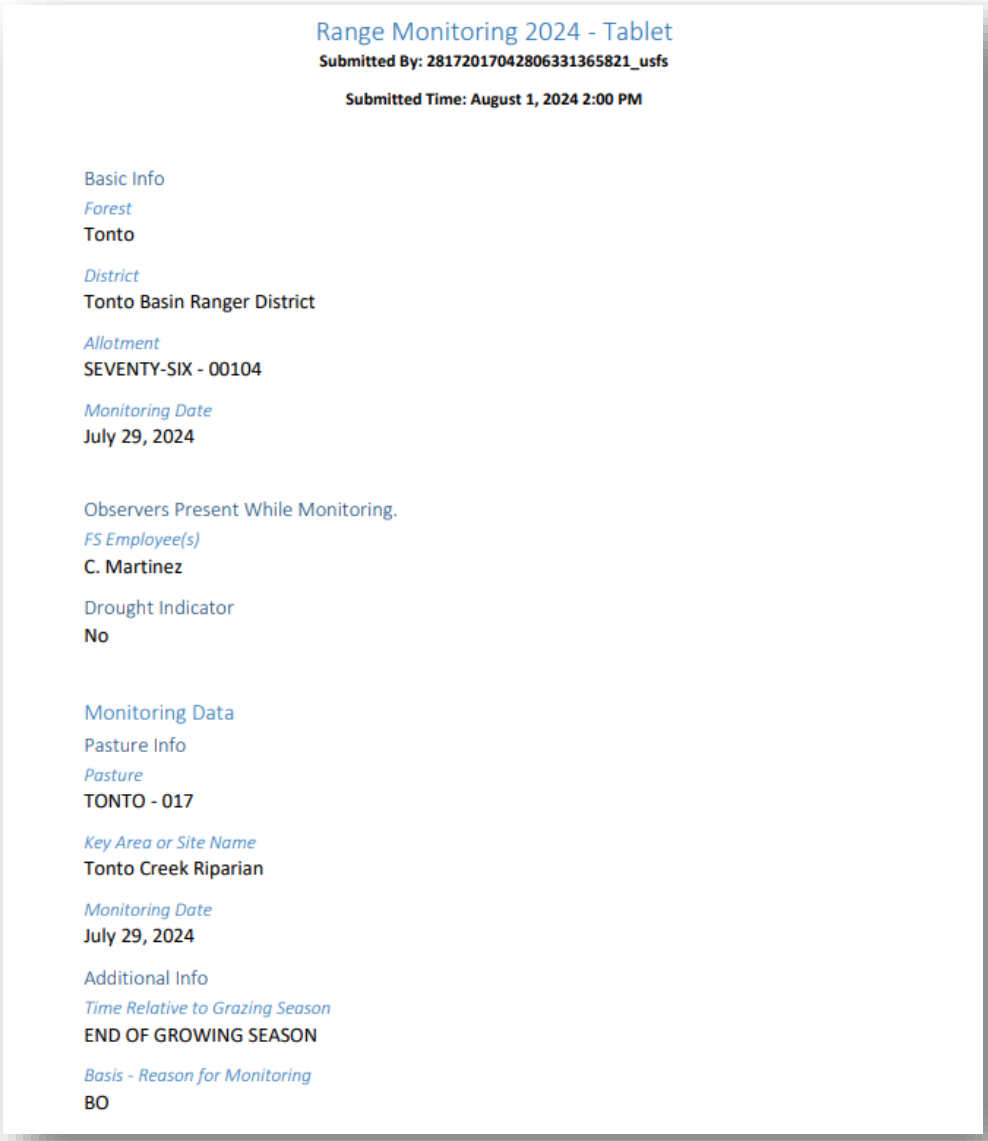
Example #1 - Seventy-Six allotment

In this first example, from the Seventy-Six allotment, we demonstrate that the Tonto National Forest's monitoring methods are inadequate to survey for cattle and their associated impacts to designated critical habitat. On June 18, 2024, the Center conducted on-the-ground surveys for cattle impacts in designated critical habitat in Tonto Creek on the Seventy-Six allotment. We documented and quantified significant cattle impacts throughout the southern portion of Tonto Creek on this allotment.

Approximately 5 weeks later, the Tonto National Forest conducted their monitoring of critical habitat on the Seventy-Six allotment. Instead of conducting their survey in the riparian zone, the Tonto recorded observations from convenient vista points looking down into the canyon bottom from a distance. They reported no cattle, no sign of cattle in the riparian zone and that vegetation was intact.

Conducting surveys for cattle and their associated impacts from convenient vista points fails to capture on-the-ground cattle impacts, resulting in underreported damage and markedly different results compared to the Center's surveys. Surveying from vistas is an unsuitable method for surveying presence or absence of cattle— or any other species of mammal—let alone their impacts to vegetation and soils on the ground. Survey results from both entities are shown below.

Tonto National Forest's Monitoring Report of the Seventy-Six allotment, July 29, 2024



Range Monitoring 2024 - Tablet

Submitted By: 2817201704280633136582 1_usfs

Submitted Time: August 1, 2024 2:00 PM

Basic Info

Forest

Tonto

District

Tonto Basin Ranger District

Allotment

SEVENTY-SIX - 00104

Monitoring Date

July 29, 2024

Observers Present While Monitoring.

FS Employee(s)

C. Martinez

Drought Indicator

No

Monitoring Data

Pasture Info

Pasture

TONTO - 017

Key Area or Site Name

Tonto Creek Riparian

Monitoring Date

July 29, 2024

Additional Info

Time Relative to Grazing Season

END OF GROWING SEASON

Basis - Reason for Monitoring

BO

Select Form Type

Presence Absence of Livestock

Livestock Presence/Absence

Livestock present?

No

Photos and Location

Monitoring Photos

Photo

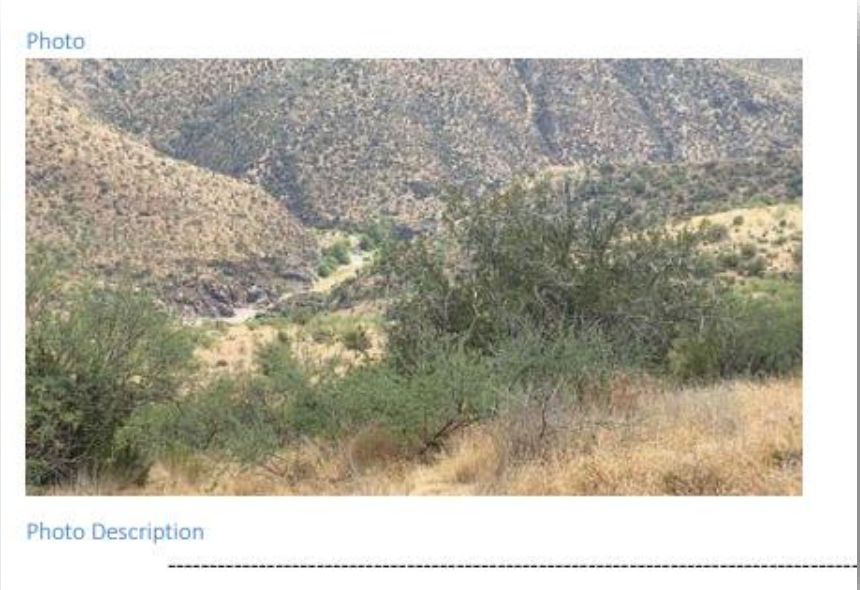
Photo Description

No sign of cattle within riparian. Vegetation intact and appears to be growing well.

Photo

Photo Description

No cattle located anywhere near the riparian.



The Center for Biological Diversity's Monitoring Results of the Seventy-Six allotment, June 18, 2024.

Significant cattle impacts on Seventy-Six allotment in Tonto Creek, designated critical habitat for four species including southwestern willow flycatchers, northern Mexican and narrow-headed garter snakes, and spikedace. Photo was taken during flycatcher nesting season. 34.025356, -111.282342. June 18, 2024.

Significant cattle impacts on Seventy-Six allotment in Tonto Creek, designated critical habitat for southwestern willow flycatchers and spikedace. Photo was taken during flycatcher nesting season. 34.032908, -111.291244 (2). June 18, 2024.

Significant cattle impacts on Seventy-Six allotment in Tonto Creek, immediately adjacent to Hardt allotment in southwestern willow flycatcher and spikedace critical habitat on Rye Creek. Photo was taken during flycatcher nesting season. 34.0324, -111.291448 (2). June 18, 2024.

Significant cattle impacts on Seventy-Six allotment in Tonto Creek in southwestern willow flycatcher critical habitat on Rye Creek. Photo was taken during flycatcher nesting season. 34.032152, -111.29096 (2). June 18, 2024.

Significant cattle impacts, including browsed willow seedlings, on Seventy-Six allotment in Tonto Creek. This is designated critical habitat for four species including southwestern willow flycatchers, northern Mexican and narrow-headed garter snakes, and spikedace. Photo was taken during flycatcher nesting season., 34.022326, -111.282515 (2). June 18, 2024.

Significant cattle impacts on Seventy-Six allotment in Tonto Creek, designated critical habitat for four species including southwestern willow flycatchers, northern Mexican and narrow-headed garter snakes, and spikedace. Photo was taken during flycatcher nesting season. 34.020579, -111.285479. June 18, 2024.

Significant cattle impacts, including trampled bars of willow regeneration, on Seventy-Six allotment in Tonto Creek. This is designated critical habitat for four species including southwestern willow flycatchers, northern Mexican and narrow-headed garter snakes, and spikedace. Photo was taken during flycatcher nesting season. 34.020668, -111.290671. June 18, 2024.

Significant cattle impacts on Seventy-Six allotment in Tonto Creek, designated critical habitat narrow-headed garter snakes. Old and recent feces indicate sustained cattle presence here. 34.019297, -111.293214. June 18, 2024.

Significant cattle impacts on Seventy-Six allotment in Tonto Creek, designated critical habitat for southwestern willow flycatchers, northern Mexican and narrow-headed garter snakes. Photo was taken during flycatcher nesting season. 34.017482, -111.293894. June 18, 2024.

More evidence of recent cattle presence in designated critical habitat for four species including southwestern willow flycatchers, northern Mexican and narrow-headed garter snakes, and spikedace on Seventy-Six allotment. Photo was taken during flycatcher nesting season. 34.013451, -111.293768. June 18, 2024.

Significant cattle impacts on Seventy-Six allotment in Tonto Creek. This is designated critical habitat for four species including southwestern willow flycatchers, northern Mexican and narrow-headed garter snakes, and spikedace. Photo was taken during flycatcher nesting season. 34.025611, -111.283004. June 18, 2024.

Example #2 - Hick-Pikes Peak allotment

In this second example, from the Hick-Pikes Peak allotment, we demonstrate that the Tonto National Forest's monitoring methods failed to serve their intended purpose of protecting critical habitat from cattle damage. Here, the Tonto National Forest conducted on-the-ground surveys for cattle impacts in designated critical habitat on the Hick-Pikes Peak allotment on May 22, 2024. However, it appears their efforts were largely limited to conducting surveys for cattle and their associated impacts from convenient vista points. Although Forest Service staff reported that no cattle were observed, they did document cattle sign in the form of tracks in the off-limits area of Horseshoe Bend. Notably, it appears that the Tonto did not follow up by contacting the permittee to report this observation.

Less than a month later, the Center surveyed cattle impacts to critical habitat on the Hick-Pikes Peak allotment. The Center documented multiple head of cattle and quantified significant cattle impacts in Horseshoe Bend, an area off-limits to cattle, in southwestern flycatcher critical habitat and during flycatcher nesting season.

If the Tonto had properly reported the observed cattle sign, allowing managers and permittees to respond accordingly with follow-up action, then perhaps the habitat damage and legal violations that the Center documented in the weeks that followed could have been avoided and prevented.

Survey results from both entities are shown below.

Tonto National Forest's Monitoring Report of the Hick-Pikes Peak allotment, May 22, 2024

Forest Service | **Globe Ranger District** | **7680 S. Sixshooter Canyon Rd. Globe, Arizona**

File Code: 2210: Range Allotment **Date:** 05/22/2024

Subject: Monitoring

Inspected By: Gerardo Ortiz
Permittee Present, check if yes: ☐

Permittee contact need and/ or follow up:

Allotment Name: Hicks Pike Peak
Pasture Name: Ortega Pasture, Salt River Boundary

Livestock Present, check if yes: ☐

Salting Locations identified, check if yes ☐ and describe below: N/A

Utilization % and Method: N/A

Purpose:
Cattle Monitoring Near Salt River

Access to Pasture/Unit/Allotment: FR-219

General allotment/pasture ecological conditions:
Access to the Salt River was through FR-219. Cattle were not seen in the Horseshoe bend area of the Salt River. Not a lot of activity was seen in the Horseshoe bend area of the Salt River. The only activity that was seen was a little bit of cattle tracks near a wash area close to the salt. The grasses that were observed had no major disturbances. There was also no new cattle feces seen in this area.

Photos:

Figure 1: This is an overview of the Salt River in the Horseshoe bend area looking East no cattle could be seen.

Figure 2: This is an overview of the Salt River in the Horseshoe bend area looking West no cattle could be seen.

Figure 3: Cattle tracks seen along a wash where no grass was present. This was not that common this was the only tracks that were observed. It seems to only be one head of cattle.

The Center for Biological Diversity's Monitoring Results of the Hick-Pikes Peak allotment, June 19, 2024.

Cattle under cover of vegetation in the West Ortega pasture, in southwestern willow flycatcher critical habitat during nesting season. 33.634692, -110.800275. June 19, 2024.

Significant cattle impacts in southwestern willow flycatcher critical habitat, during nesting season, in the West Ortega pasture of Hick-Pikes Peak allotment. 33.635444, -110.800579. June 19, 2024.

Significant cattle impacts in southwestern willow flycatcher critical habitat, during nesting season, in the West Ortega pasture of Hick-Pikes Peak allotment. 33.637143, -110.802346. June 19, 2024.

Significant cattle impacts in southwestern willow flycatcher critical habitat, during nesting season, in the West Ortega pasture of Hick-Pikes Peak allotment. 33.635444, -110.800579 (2). June 19, 2024.

Significant cattle impacts in razorback sucker and southwestern willow flycatcher critical habitat, during flycatcher nesting season, in the West Ortega pasture of Hick-Pikes Peak allotment. 33.638661,-110.8024. June 19, 2024.

Significant cattle impacts in razorback sucker and southwestern willow flycatcher critical habitat, during flycatcher nesting season, in the West Ortega pasture of Hick-Pikes Peak allotment. 33.638661,-110.8024. Juen 19, 2024.

Example #3 - Chrysotile allotment

The third example, from the Chrysotile allotment, is the most problematic. Here we demonstrate the untrustworthiness of the Tonto National Forest's monitoring efforts and show that they fall far short in serving their intended purpose of protecting critical habitat from cattle damage.

Here, the Center surveyed for cattle and associated cattle impacts to critical habitat on the Chrysotile allotment on September 12, 2024. The Center documented multiple head of cattle and quantified significant cattle impacts for miles around the Gleason Flat area along the Salt River, an area off-limits to cattle.

Tonto National Forest conducted their monitoring in this area only four days later, on September 16, 2024, reporting just one bull and that "no other signs of cattle were seen such as tracks and feces. The area outside of the river appeared not grazed or used for any bedding areas". However, cattle tracks can be seen in some of the photos submitted.

The markedly contrasting survey results from both entities are shown below.

Tonto National Forest's Monitoring Report of the Chrysotile allotment, September 16, 2024

Forest Service | **Globe Ranger District** | **7680 S. Sixshooter Canyon Rd. Globe, Arizona**

File Code: 2210: Range Allotment **Date:** 9/16/2024

Subject: Monitoring

Inspected By: Kelsey Graves
Permittee Present, check if yes: ☐

Permittee contact need and/ or follow up:

Allotment Name: Chrysotile
Pasture Name: Gleason Riparian Pasture

Livestock Present, check if yes: ☒

Salting Locations identified, check if yes ☐ **and describe below:** N/A

Utilization % and Method: N/A

Purpose:
Cattle Monitoring Near the Salt River

General Information by Pasture Visited

Access to Pasture/Unit/Allotment: FR-303 and FR-303B

General allotment/pasture ecological conditions:
Access to this pasture was through the FR-303 and FR-303B. The area that was inspected was the Gleason Riparian Pasture that boarders the Chrysotile: Boundary Pasture along the Salt river to the corrals. There was only one Hereford bull spotted in the pasture, no other signs of cattle were seen such as tracks and feces. The area outside of the river appeared not grazed or used for any bedding areas. There was further inspection around the pasture but no other cattle were seen.

Forest Service
Globe Ranger District
7680 S. Six Shooter Canyon Rd.
Globe, Arizona 85501
(928) 402-6200

Photos:

Figure 1: Showing no apparent movement or grazing in the near riparian area.

Figure 2: Along the riparian area there is no sign of cattle along the riverbed.

Figure 3: Showing a bare ground area near the riparian area with no cattle sign.

Figure 4: Another perspective showing no disturbance or sign of cattle.

Forest Service

Globe Ranger District

7680 S. Six Shooter Canyon Rd.
Globe, Arizona 85501
(928) 402-6200

Figure 5: Showing the single bull that was observed in this area.

The Center for Biological Diversity's Monitoring Results of the Chrysotile allotment, September 12, 2024.

Significant cattle impacts in Gleason Flat, along designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.766548, -110.688914. September 12, 2024.

Significant cattle impacts in Gleason Flat, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.769227, -110.687541. September 12, 2024.

Significant cattle impacts in Gleason Flat, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.767135, -110.688442. September 12, 2024.

Significant cattle impacts in Gleason Flat, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.767242, -110.68934. September 12, 2024.

Significant cattle impacts in Gleason Flat, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.769998, -110.684509. September 12, 2024.

Significant cattle impacts in Gleason Flat, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.770105, -110.684695. September 12, 2024.

Significant cattle impacts in Gleason Flat, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.771359, -110.681626. September 12, 2024.

Significant cattle impacts in Gleason Flat, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. Cattle impacts and bank degradation give advantage to invasive Tamarisk. There is no authorized grazing in this area. 33.771477, -110.682439. September 12, 2024.

Unauthorized cattle in Gleason Flat, near designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.782318, -110.672721. September 12, 2024.

Unauthorized cattle in Gleason Flat, near designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.782318, -110.672721. September 12, 2024.

Significant cattle impacts in Gleason Riparian pasture, along designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.781832, -110.672882. September 12, 2024.

Significant cattle impacts in Gleason Riparian pasture, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.781293, -110.673757. September 12, 2024.

Significant cattle impacts in Gleason Riparian pasture, along designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.781007, -110.673464. September 24, 2024.

Significant cattle impacts in Gleason Riparian pasture, along designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.780084, -110.673545. September 24, 2024.

Decaying cow carcass in Gleason Riparian pasture, in designated razorback sucker critical habitat along the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.779274, -110.67402. September 12, 2024.

Significant cattle impacts in Gleason Riparian pasture, along designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.779142, -110.673885. September 12, 2024.

Significant cattle impacts in Gleason Riparian pasture, in designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area, yet willow regeneration is vulnerable and impacted by cattle. 33.775478, -110.675291. September 12, 2024.

Significant cattle impacts in Gleason Riparian pasture, along designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.774993, -110.675262. September 12, 2024.

Significant cattle impacts in Gleason Riparian pasture, along designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.774023, -110.676081. September 12, 2024.

Significant cattle impacts in Gleason Riparian pasture, along designated razorback sucker critical habitat in the Salt River, Chrysotile allotment. There is no authorized grazing in this area. 33.773795, -110.676454. September 12, 2024.

ATTACHMENT 6- June 2024 Cuckoo Report

Grazed to Death:

Livestock Production Adversely Modifying Majority of Drought-Stricken Western Yellow-Billed Cuckoo Critical Habitat on Public Lands in Arizona and New Mexico

Center for Biological Diversity

June 2024

Summary - *Livestock grazing has adversely modified at least 57% of designated critical habitat of western yellow-billed cuckoo ("cuckoo") within public lands grazing allotments in Arizona and New Mexico. In those states the U.S. Fish and Wildlife Service ("FWS") has designated 55,550 acres of critical habitat for cuckoo within grazing allotments managed by the U.S. Forest Service ("FS") and Bureau of Land Management ("BLM"). From 2021-2023, Center for Biological Diversity field biologists surveyed 39,170 (70%) of those acres for adverse modification from livestock grazing immediately prior to, or during, the cuckoo nesting and breeding season. Surveys found moderate to significant impacts and adverse modification across 31,509 acres, which is 80% of critical habitat surveyed, and 57% of the critical habitat within public lands grazing allotments in Arizona and New Mexico.*

Many bird species associated with cottonwood trees (*Populus fremontii*) are rare or endangered in the Southwest.[1,2] Among them is the western yellow-billed cuckoo ("cuckoo"), a tropical bird that migrates from South America to the western United States ahead of summer monsoons to build nests and raise chicks. Cuckoo have disappeared throughout most of their former breeding range due to habitat loss.[3,4] Following dramatic population declines in California, southeastern Arizona now supports the largest remaining breeding population of cuckoo in the United States, although steady decline continues throughout their range.[5]

In 2014 the U.S. Fish and Wildlife Service ("FWS") listed the cuckoo as a threatened species under the Endangered Species Act[6] due to precipitous population declines that directly paralleled decline of its preferred breeding and nesting habitat, cottonwood-willow riparian forest.[7,8] Despite the extraordinary ecological and biodiversity values of riparian ecosystems, upon which most desert species directly depend for survival, these places are among the most disturbed and degraded land type in the western United States.[9]

Optimal cuckoo breeding habitat consists of riparian woodlands with an overstory, a subcanopy, and contiguous patches of vegetative understory adjacent to intermittent or perennial watercourses.[10,11] In arid Arizona, even ephemeral (xeroriparian) drainages can serve as cuckoo nesting habitat if they support higher vegetation volume and diversity, proportionally higher moisture content, and higher potential for prey abundance than surrounding uplands.[12] These specific habitat components help maintain high prey densities and higher relative humidity, which are important criteria for cuckoos as they arrive in May and June to select nest locations. Nesting site selection is based on the foraging potential of the immediate vicinity,[13] where food

[1] Johnson, R.R., Haight, J.T., Simpson, J.M. 1977. Endangered Species vs. Endangered Habitats: A Concept. *In* Importance, Preservation, and Management of Riparian Habitat: A Symposium, Tucson, Arizona, July 9, 1977 (Vol. 43). Rocky Mountain Forest and Range Experiment Station, Forest Service, US Department of Agriculture.

[2] Engel-Wilson, R.W. and Ohmart, R.D., 1978. Floral and Attendant Faunal Changes on the Lower Rio Grande Between Fort Quitman and Presidio, Texas.

[3] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021.

[4] Biological Opinion on Ongoing Grazing on the Coronado National Forest, Graham, Cochise, Pima, Pinal, and Santa Cruz Counties, Arizona and Hidalgo County, New Mexico. AESO/SE, 2-21-98-F-399, 2-21-98-F-399R1, 02EAAZ00-2019-F-0867, September 30, 2021, p. 174.

[5] Krzysik 2014. Western Yellow-billed Cuckoo Critical Habitat in Arizona. Technical Report. Prescott, AZ 12 October 2014.

[6] Rules and Regulations. Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), Federal Register, Vol. 79, No. 192. October 3, 2014.

[7] Wallace, C.S., Villarreal, M.L. and van Riper III, C., 2013. Influence of monsoon-related riparian phenology on yellow-billed cuckoo habitat selection in Arizona. *Journal of Biogeography*, *40*(11), pp.2094-2107.

[8] USFWS. 2013. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (Coccyzus americanus); Proposed Rule. 50 CFR Part 17. Federal Register, Vol. 78, No. 192, Part V. 3 October 2013. Pages 61621-61666.

[9] Bock, C.E., Saab, V.A., Rich, T.D. and Dobkin, D.S., 1993. Effects of livestock grazing on neotropical migratory landbirds in western North America. *Status and management of Neotropical migratory birds. USDA Forest Service, General Technical Report RM-229*, pp.296-309.

[10] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20939.

[11] Rosenberg, K.V., R.D. Ohmart, W.C. Hunter, and B.W. Anderson. 1991. Birds of the Lower Colorado River Valley. Univ. Arizona Press, Tucson, AZ. 416pp.; Johnson, M.J., S.L. Durst, C.M. Calvo, L. Stewart, M.K. Sogge, G. Bland, and T. Arundel. 2008. Yellow-billed Cuckoo Distribution, Abundance, and Habitat Use Along the Lower Colorado River and its Tributaries, 2007 Annual Report. USGS, Open File Report 2008-1177. 274pp.

[12] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20815.

[13] Wallace, C.S., Villarreal, M.L. and van Riper III, C., 2013. Influence of monsoon-related riparian phenology on yellow-billed cuckoo habitat selection in Arizona. *Journal of Biogeography*, *40*(11), pp.2094-2107.

availability such as macroinvertebrates and amphibians[14] is ensured and provided by monsoonal rains and an intact vegetative community.[15,16]

Despite the known importance of understory vegetation and ground cover in cuckoo breeding grounds, especially as cuckoo chicks are hatched and raised at the hottest time of year, beef cattle production on national forests, national conservation lands, and other public lands removes and degrades these vital habitat components in riparian ecosystems throughout the arid Southwest.[17]

Cattle consumption of herbaceous plants in riparian drainages rapidly reduces vegetative cover important for temperature amelioration, humidity, and insect production.[18,19] Cattle remove riparian seedlings and saplings, precluding young cohorts of trees from developing into future riparian gallery forest. Chronic plant removal and trampling ultimately leads to increased erosion, channel incision, and ecological type changes. These damages occur at a broad spatial scale, and riparian drainages specifically and legally set aside for protection and recovery of cuckoos (i.e., designated "critical habitat") are no exception.

Grazing at any intensity can impact riparian habitat, according to FWS,[20] which defines overgrazing as "grazing activity [that] degrades riparian habitat attributes and prevents long-term health and persistence of these systems."[21] Or, specifically in the context of cuckoos, grazing that "reduces quality and quantity of breeding habitat."[22] Overgrazing in riparian (and xeroriparian) habitat has been identified by the agency as an ongoing threat to 97% of cuckoo critical habitat units.[23]

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[14] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48552.

[15] *Id*., page 48551.

[16] Johnson, M.J., S.L. Durst, C.M. Calvo, L. Stewart, M.K. Sogge, G. Bland, and T. Arundel. 2008. Yellow-billed Cuckoo Distribution, Abundance, and Habitat Use Along the Lower Colorado River and its Tributaries, 2007 Annual Report. USGS, Open File Report 2008-1177. 274pp.

[17] Bock, C.E., J.H. Bock, L. Kennedy, and Z.F. Jones. 2007. Spread of non-native grasses into grazed versus ungrazed desert grasslands. Journal of Arid Environments 71:229-235; Bock, C.E., V.A. Saab, T.D. Rich, and D.S. Dobkin. 1993. Effects of livestock grazing on Neotropical migratory land birds in Western North America. Pages 296-309 in Status and Management of Neotropical Migratory Birds. D.M. Finch and P.W. Stangel, editors. USDA, Forest Service, GTR RM-229. 422pp.; Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. Conservation Biology 8:629-644.; Krueper, D.J. 1993. Effects of land use practices on Western riparian ecosystems. Pages 321-330 in Status and Management of Neotropical Migratory Birds. D.M. Finch and P.W. Stangel, editors. USDA, Forest Service, GTR RM-229. 422pp.

[18] Skovlin, J.M. 1984. Impacts of grazing on wetlands and riparian habitat: a review of our knowledge. p. 1001-1103. In: Developing strategies for range management. Westview Press, Boulder, CO.

[19] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, pp.281-301.

[20] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20813.

[21] *Id.*

[22] *Id.*, page 20853.

[23] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48558.

Surveys for Adverse Modification of Critical Habitat by Livestock Grazing

In Arizona and New Mexico, approximately 55,550 acres of designated critical cuckoo breeding habitat overlaps with public lands cattle grazing allotments, managed by the U.S. Forest Service ("FS") and Bureau of Land Management ("BLM"). Following designation of cuckoo critical habitat in 2021,[24] the Center for Biological Diversity began systematically surveying and quantifying cattle impacts to designated cuckoo critical habitat on public lands in Arizona and New Mexico. The rationale for this effort was 1) the well-known negative effects of livestock grazing on cuckoo habitat, and 2) the fact that neither BLM nor FS systematically surveys and assesses the public lands they manage for the health of riparian ecosystems in the context of the habitat needs of threatened and endangered species.

On an annual basis, professional field biologists document livestock impacts to standing waters, riparian vegetation, soils, and streambanks within designated critical habitat and examine protective fencing where applicable. Using a standardized protocol, surveyors record 1) severity of grazing impacts on herbaceous vegetation and grasses, 2) severity of browsing impacts on streamside woody regeneration, 3) severity and 4) extent of ground disturbances from trailing, trampling, and wallowing, and 5) severity and 6) extent of streambank degradation. Multiple georeferenced photo points are taken along each segment to document evidence of livestock impacts.

Each survey is broken down into ¼- ½ mile field-delineated segments of cuckoo critical habitat based on topography, access, and trends in severity of adverse modification. At each segment endpoint, a condition score is recorded for each of the six impact categories along a range of 0 to 4 based on the severity and extent of the impact. A segment is rated 0 for a particular category if no evidence of impact is observed, 1 if impacts are limited, 2 if impacts are light and scattered, 3 if impacts are moderate and widespread, and 4 if impacts are severe and pervasive. Following field surveys of cuckoo-designated stream reaches, each segment's "overall impact level" (defined as absent, light, moderate or significant) is calculated. To determine overall impact level, the condition severity scores for each segment endpoint are collated and weighted.

Linear critical habitat survey segments were used to clip yellow-billed cuckoo critical habitat polygons using a buffer (avg=600m). Buffer-clipped critical habitat polygons were then joined with survey impact attributes to generate polygons of impact class. Impact class polygons were used to characterize acres of critical habitat surveyed and acres for each impact class. Surveys were prioritized by most recent year where survey years overlapped.

From 2021-2023, the Center surveyed approximately 70% of cuckoo designated acreage for cattle impacts (39,170 acres). Of the total acres surveyed, 80% (31,509 acres) were found to have moderate to significant adverse modification immediately prior to, or during, cuckoo nesting and breeding season.

The Center's assessments of cuckoo critical habitat on public lands in Arizona and New Mexico consistently reveal that sufficient riparian vegetation is lacking from most grazing allotments, and at a critical time when cuckoo arrive to select nesting sites. Cattle consistently

[24] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20808.

concentrate in riparian zones, often leaving bare, denuded ground and polluted, fecal-laden water. Survey results reasonably fit FWS's own definition of overgrazing or poorly managed grazing, where cattle have created conditions that compromise or eliminate habitat structure required for successful cuckoo reproduction.

Surveys conducted on Coronado and Tonto national forests, Gila Box Riparian National Conservation Area, San Pedro Riparian National Conservation Areas, Agua Fria National Monument, and several other important public land riparian areas managed by the BLM have all led to subsequent litigation over the state and quality of cuckoo breeding habitat as affected by cattle grazing. Even on lands specifically designated by Congress to protect riparian values, the majority of streamside habitat showed significant damage from livestock.

The following figures, with photographic examples, demonstrate the vast extent of cattle damage to designated cuckoo critical habitat across Arizona. Publicly available interactive maps are also available at the following website: https://center.maps.arcgis.com/apps/instant/basic/index.html?appid=52860d7317bb4148ad2a9ac5a90ab118.

Figure 1. Cattle impacts on cuckoo critical habitat on public land in eastern Arizona and southwestern New Mexico

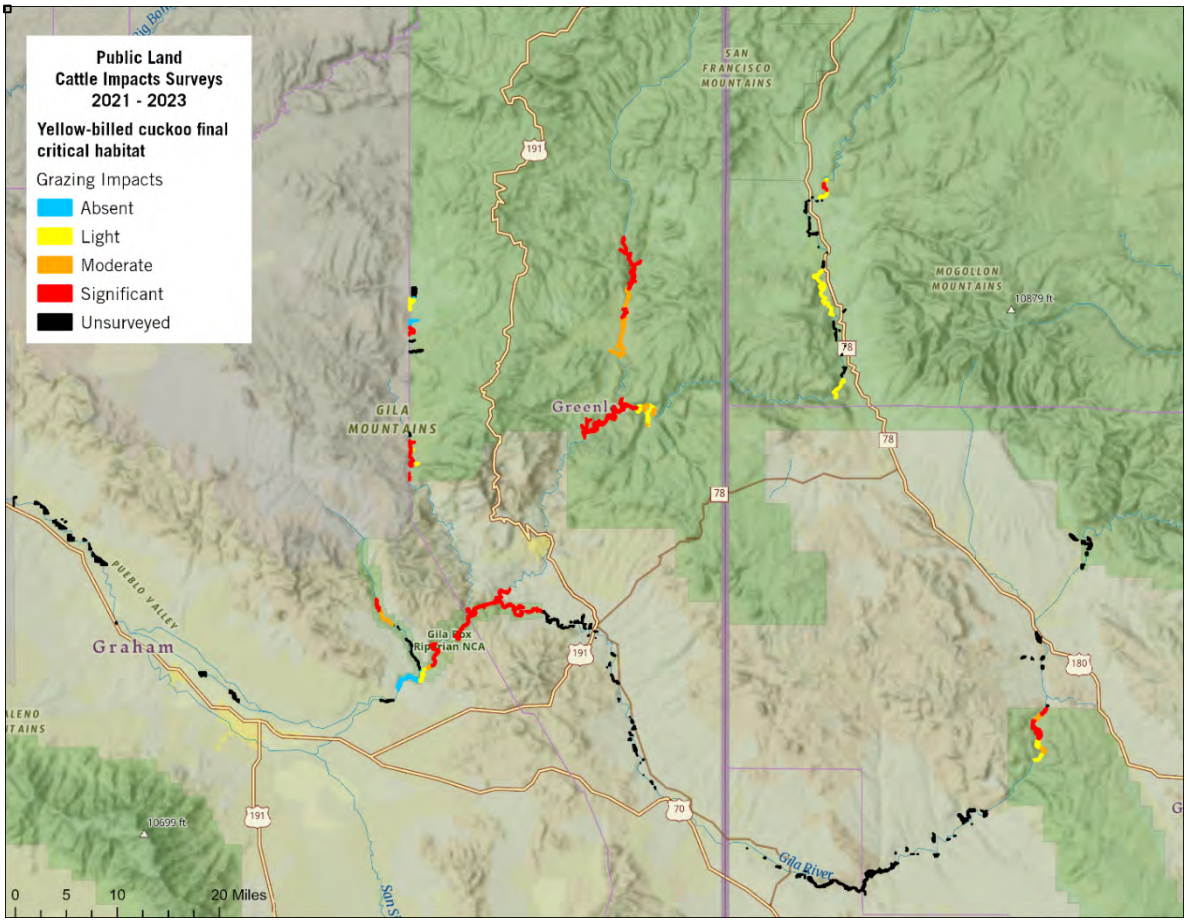

Figure 2. Designated yellow-billed cuckoo critical habitat in the Gila Box Riparian National Conservation Area, where no cattle grazing is allowed. 33.010634, -109.555424, June 1, 2021 (1); 32.972224,-109.350014, March 4, 2024 (2)

Figure 3. Cattle impacts on cuckoo critical habitat on public land in southern Arizona

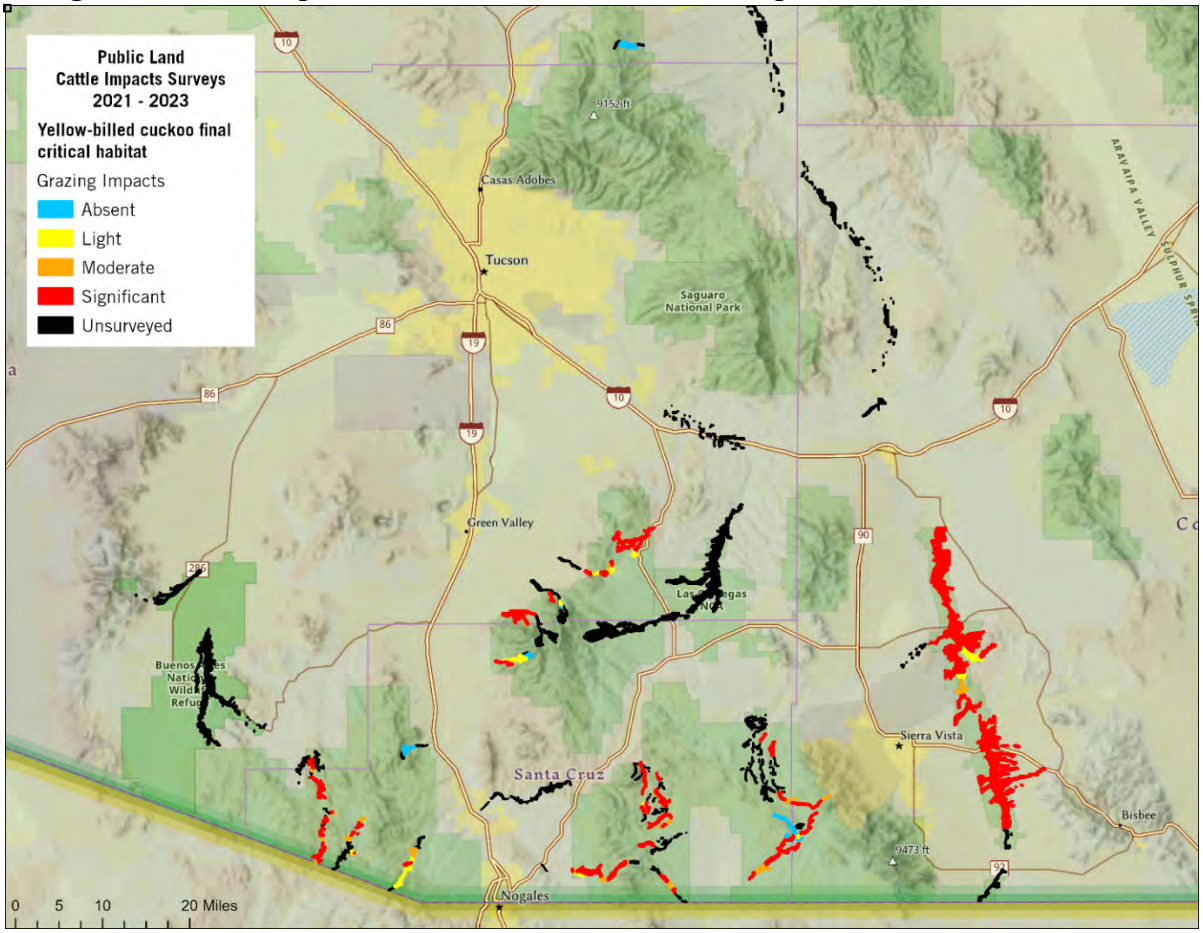

Figure 4. Grazed cuckoo critical habitat in the Coronado National Forest as it appeared prior to the arrival of nesting cuckoos in May 2022, and where pink flags mark heavily stunted ash saplings (*Fraxinus* sp.) 31.413335, -110.705831 (1), 31.409226, -111.237916 (2)

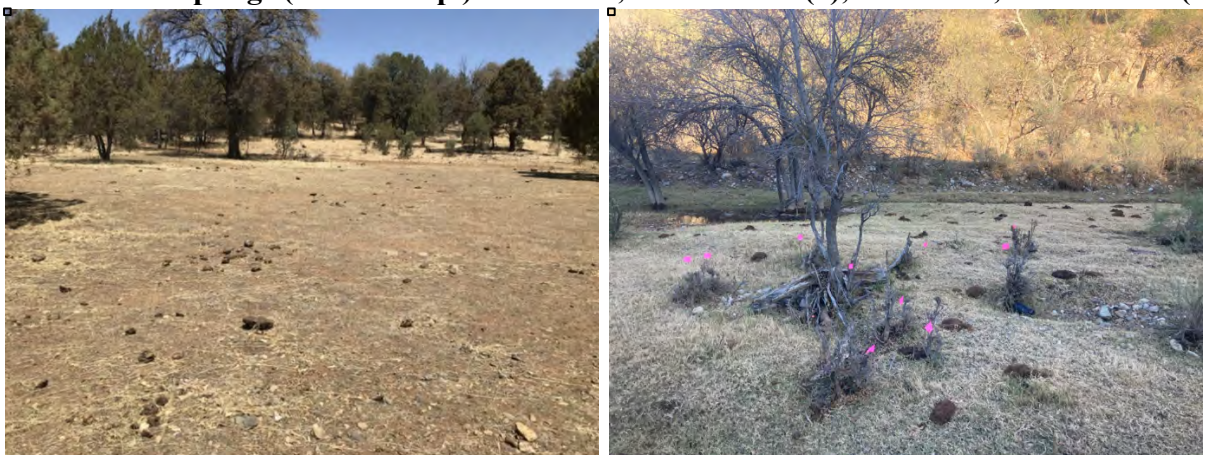

Figure 5. Cattle impacts on cuckoo critical habitat on public land in central Arizona

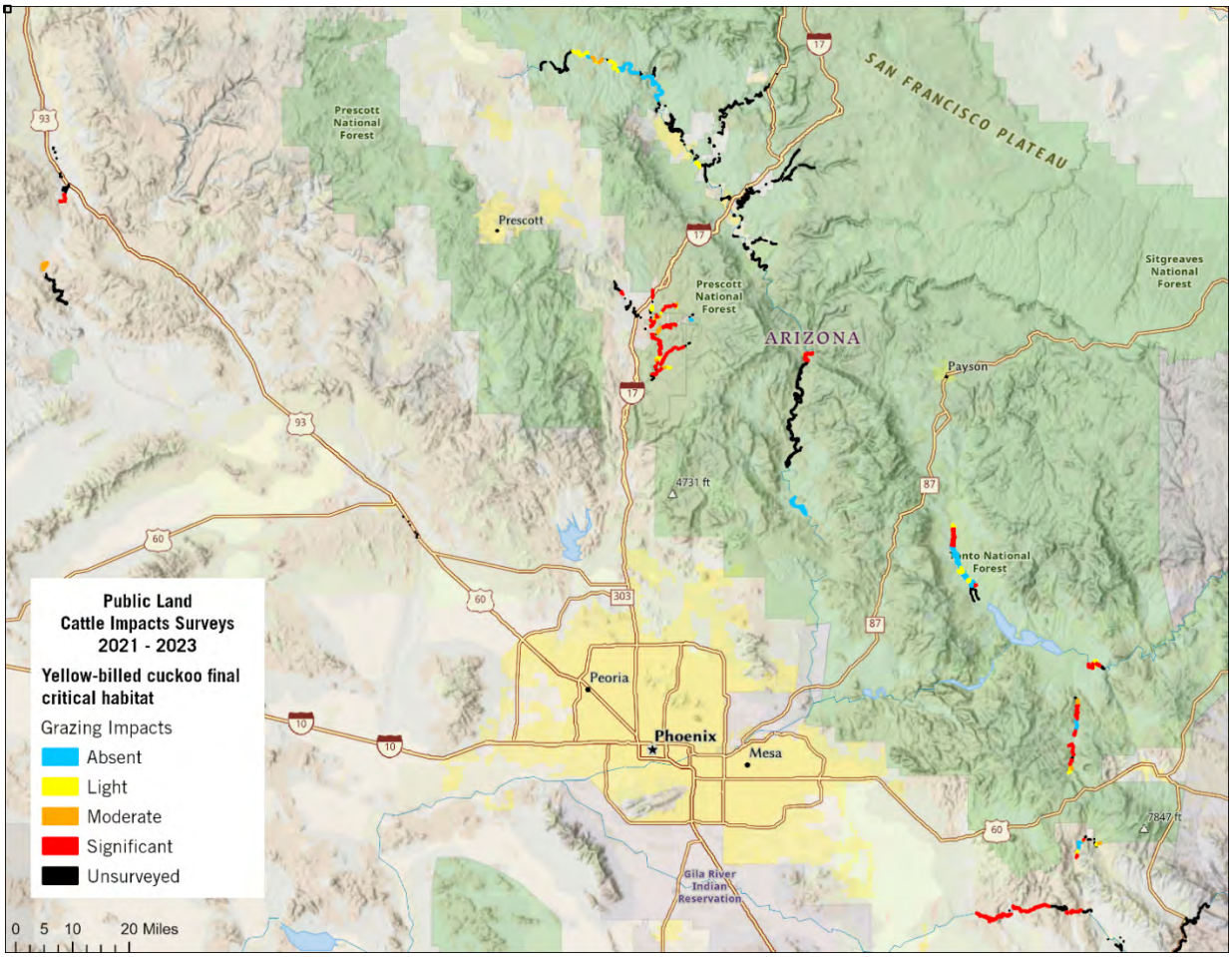

Fig. 6. Grazed yellow-billed cuckoo critical breeding habitat along Little Ash Creek, 34.361028, -112.061924, March 29, 2023 (1); and along the Agua Fria River, 34.240435, -112.06380, April 6, 2023 (2) in Agua Fria National Monument

Discussion

FWS designates critical habitat pursuant to the Endangered Species Act ("ESA") so that such habitat can be managed with the primary goal of recovering threatened and endangered species. The law requires that each federal agency "shall … insure that any action authorized, funded, or carried out by such agency … is not likely to … result in the destruction or adverse modification" of critical habitat.[25] For cuckoo, according to FWS, "managing grazing so that native riparian trees and shrubs will regenerate on a regular basis is especially beneficial."[26] In designating their critical habitat, the agency stated that "[b]ecause the western yellow-billed cuckoo is listed as threatened, all the units [that] are occupied during the breeding season and habitat would need to be protected during the nonbreeding season, the majority of actions necessary to conserve the species would be required based on the listing of the western yellow-billed cuckoo."[27] Finally the agency stated that "habitat in Arizona needs to be conserved to enable western yellow-billed cuckoos to produce young that may eventually disperse to other parts of the DPS's range."[28]

Despite these conclusions Center survey data show adverse modification and destruction of critical habitat from BLM and Forest Service-managed livestock grazing in most designated cuckoo habitat within livestock grazing allotments. In violation of the ESA and other laws, federal agencies continue to authorize cattle grazing in cuckoo critical habitat, often without any enforceable measures of protection and with no numeric limits on the amount of "take" (harm or death) to cuckoos. Despite the quoted statements above, FWS supervisors routinely conclude that cattle grazing does not meaningfully conflict with cuckoos' resource needs. The agency reasons that since cuckoo have not been completely extirpated from livestock-degraded areas, there is no real harm. In a recent Biological Opinion from 2021, it stated that "the cuckoo is currently widespread throughout its range and in the action area, where ongoing livestock grazing has occurred for many decades and continues."[29] A more accurate statement is that livestock grazing has occurred for many decades and continues,[30] resulting in cuckoo now being listed under the ESA, due primarily to habitat loss,[31] and rare throughout their range.[32]

The majority of grazed western riparian areas are already grossly deficient of willow understory and nearly devoid of overstory cottonwood.[33,34] Foraging cattle continue to reduce the density of willow and other shrubs, eliminate cottonwood and willow reproduction by feeding on

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[25] 16 U.S.C. § 1536(a)(2).

[26] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Proposed Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 158, August 15, 2014, page 48555.

[27] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021, page 20831.

[28] *Id.,* page 20813.

[29] Biological Opinion on Ongoing Grazing on the Coronado National Forest, Graham, Cochise, Pima, Pinal, and Santa Cruz Counties, Arizona and Hidalgo County, New Mexico. AESO/SE, 2-21-98-F-399, 2-21-98-F-399R1, 02EAAZ00-2019-F-0867, September 30, 2021, p. 188.

[30] *Ibid.*

[31] Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register Vol. 86, No. 75, Wednesday, April 21, 2021.

[32] Diebolt, S., Chief, A.B. and Diebolt, D.M., 2018. Fish and Wildlife Service Arizona Ecological Services Office.

[33] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp.629-644.

[34] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

and trampling seedlings, and modify habitat through soil compaction and other means.[35,36,37,38,39] This ecological impact has resulted in doomed stands of riparian forest where old cottonwood trees in the overstory are dying with no new recruitment to replace themselves.[40,41,42,43]

Ecological conditions on western public lands have worsened recently[44] mainly due to reduced productivity caused by livestock production in conjunction with a changing climate and an historically unprecedented "megadrought."[45,46] Using public lands for livestock production is known to exacerbate the effects of climate change and has a disproportionately negative effect on rare riparian ecosystems.[47] Within the past 100 years, an estimated 95% of riparian habitat in the West has been destroyed;[48] as we demonstrate, this destruction is ongoing. There is no evidence to suggest that climate trends will suddenly change.[49]

FWS recognizes this predictable and escalating climate problem but has failed to take meaningful action to mitigate it. FWS has confirmed that "[w]here tree regeneration and survival are lacking, suitable cuckoo habitat may cease to exist or may support fewer cuckoos when mature trees die."[50] In addition FWS has concluded that the cuckoo's habitat may be reaching a tipping point: "humidity, important for prey production and cuckoo nesting in southeastern Arizona, will decline and temperature and evapotranspiration will increase as habitat declines and fragmentation increases. These factors may reach a threshold in which cuckoos may no longer breed or may breed in reduced densities in some reaches."[51] The agency has even stated, regarding the Coronado National Forest in Arizona, that "we also anticipate that climate change

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[35] Glinski, R.L., 1977, July. Regeneration and distribution of sycamore and cottonwood trees along Sonoita Creek, Santa Cruz County, Arizona. In Johnson, RR, and Jones, DA, tech. coords. Importance, preservation and management of riparian habitat: a symposium. Gen. Tech. Rep. RM-43. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station (pp. 116-123).

[36] Belsky, A.J., Matzke, A. and Uselman, S., 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and water Conservation*, *54*(1), pp.419-431.

[37] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. *Desert Plants*.

[38] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation Biology, *8*(3), pp.629-644.

[39] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[40] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[41] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. *Desert Plants*.

[42] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[43] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[44] Donahue, D.L., 2006. Federal rangeland policy: perverting law and jeopardizing ecosystem services. J. Land Use & Envtl. L., 22, p. 299.

[45] Beschta, R.L., Donahue, D.L., DellaSala, D.A., Rhodes, J.J., Karr, J.R., O'Brien, M.H., Fleischner, T.L. and Williams, C.D., 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, 51(2), pp.474-491.

[46] Williams, A. P., Cook, B. I., & Smerdon, J. E. (2022). Rapid intensification of the emerging southwestern North American megadrought in 2020–2021. Nature Climate Change, 12, 232–234. https://doi.org/10.1038/s41558-022-01290-z

[47] Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., 2017. Riparian vegetation of ephemeral streams. *Journal of Arid Environments*, *138*, pp.27-37.

[48] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. *Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station*, pp.281-301.

[49] Large contribution from anthropogenic warming to an emerging North American megadrought, A. Park Williams, et al.; Science 368, 314-318; April 17, 2020.

[50] April 28, 2016, Amended Final Reinitiated Biological and Conference Opinion for the Rosemont Copper Mine, Pima County, Arizona, p. 244.

[51] *Id.*

will degrade habitat to the point of being incapable of supporting the occurrence of yellow-billed cuckoos."[52]

If climate change alone could eliminate cuckoo from their current strongholds, as FWS suggests, federal agencies that continually authorize known negative stressors such as cattle grazing in critical breeding habitat will hasten extinction, particularly when grazing is well known to exacerbate and amplify the effects of drought and climate change. A good rain year cannot compensate for decades of drought and livestock impacts.

Recommendations

Despite dire climate projections forecasted for the southwestern United States, the U.S. Forest Service, Bureau of Land Management, and Fish and Wildlife Service continue to authorize status quo livestock grazing on federal public lands with no practical or meaningful revisions to protect riparian habitat or the imperiled cuckoo. Instead, management strategies are implemented that provide short-term benefits for livestock permit-holders at the cost of continual ecosystem degradation and removal of what little cover is available for wildlife, including birds that require vegetative structure for nesting success such as yellow-billed cuckoo.

According to the U.S. Department of Justice, "[i]t's well settled that cattle and riparian areas do not mix."[53] To ensure recovery of cuckoo populations, as the law mandates and as FWS appears to grudgingly admit, critical habitat requires protection from livestock grazing year-round.

Based on federal land managers' and livestock permit-holders' inability to prevent continued degradation of riparian habitat on the vast majority of habitat surveyed, the Center recommends that agencies exclude livestock from cuckoo habitat inArizona and New Mexico. Livestock exclusion is also the best way to mitigate climate change and aridification. Seedlings of riparian trees tend to recover rapidly after exclusion of livestock grazing;[54,55,56] removal of

[52] *Id.,* page 242.

[53] Environment and Natural Resources Division Senior Trial Attorney Andrew A. Smith. New Mexico Cattle Growers' Association, et al. v. United States Forest Service, et al., Case 1:23-cv-00150-JB-GBW, Albuquerque, NM, February 1, 2024, page 126; Hearing Transcript.

[54] Stromberg, J.C., 1993. Fremont cottonwood-Goodding willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110.

[55] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[56] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

cattle grazing has been correlated with dramatic increases in dense willow thickets, necessary for cuckoo and other riparian species to survive an uncertain future.[57,58,59,60, 61,62]

Only eliminating livestock access to ephemeral, intermittent, and perennial drainages will allow tree and shrub seedlings to grow and survive. While the effects of climate change are difficult to control, we can greatly improve riparian habitat on public lands in the Southwest by excluding livestock from these areas, thus reducing the habitat destruction, trampling, erosion, and soil compaction that accompany grazing and thereby actively promoting recovery of native ecosystems.

[57] Cannon, R.W. and Knopf, F.L., 1984. Species composition of a willow community relative to seasonal grazing histories in Colorado. *The Southwestern Naturalist*, *29*(2), pp.234-237.

[58] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. Desert Plants.

[59] Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River.

[60] Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

[61] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona *Populus fremontii*, velvet ash, *Fraxinus velutina*, Goodding willow, *Salix gooddingii*. Rangeland Ecology & Management/Journal of Range Management Archives, 36(3), pp.382-384.

[62] Response of breeding birds to the removal of cattle on the San Pedro River, Arizona, Krueper, D. J., J. L. Bart, and T. D. Rich. 2003. Conservation Biology 17(2): 607-615.

Grazed to Death:

Livestock Production Adversely Modifying Most Critical Habitat for Northern Mexican Garter Snakes on Public Lands in Arizona

Center for Biological Diversity

September 2024

Summary

Livestock grazing has adversely modified at least 58% of the threatened northern Mexican garter snake's designated critical habitat on public lands in Arizona and New Mexico. In 2021 the U.S. Fish and Wildlife Service designated 20,326 acres of critical habitat for garter snakes, 11,860 acres of which occur on public lands managed by the U.S. Forest Service and the Bureau of Land Management. From 2021 to 2023, Center for Biological Diversity field biologists surveyed 8,127 acres (69%) of the garter snake's critical habitat on public land for adverse modification from livestock grazing. Surveys found moderate to significant impacts and adverse modification across 6,835 acres (84%) of the critical habitat on public lands surveyed and on 58% of all garter snake critical habitat on public lands managed by federal agencies.

Many native southwestern species found in riparian ecosystems, cienegas and other wetlands are threatened, endangered or otherwise imperiled due to habitat loss, degradation and ecosystem alteration.[1] The northern Mexican garter snake (*Thamnophis eques megalops*) is a uniquely adapted reptile native to Arizona and New Mexico that in recent decades has declined dramatically due to a combination of factors including habitat loss, destruction, modification and fragmentation, loss of native prey populations and establishment of nonnative predators.[2] This decline is reflected by widespread reductions of existing populations and local extirpations.[3] Garter snakes now exist in small, disconnected populations vulnerable to inbreeding depression, random events, and climate change with associated drought.[4]

Despite conceding that garter snakes were declining, severely threatened and extirpated from 85% to 90% of their range throughout the Southwest, the Fish and Wildlife Service declined for more than a decade to list garter snakes under the Endangered Species Act. Finally, in 2014, garter snakes were legally protected as a threatened species under the Act. In 2021 the agency designated 20,326 acres of protected critical habitat for northern Mexican garter snakes in Arizona and New Mexico,[5] a 90% reduction from the original acreage the agency had proposed in 2014 and 2020.[6] This drastic, scientifically unsupported reduction of the proposed critical habitat — that the Fish and Wildlife Service itself had previously recognized as necessary for recovery and meeting the statutory definition of critical habitat for garter snakes — is not nearly enough for these iconic native reptiles to survive and recover.

Unless the Fish and Wildlife Service designates the originally proposed critical habitat, garter snakes will remain in highly fragmented and isolated populations prone to extirpation through low genetic diversity, high inbreeding and random events. Worse still, this report shows that what remains of their designated critical habitat is being moderately to significantly degraded by authorized and unauthorized livestock grazing, and nonfunctional exclusion fences. Cattle grazing is causing significant damage to vegetation, water and soils in both riparian and upland habitat throughout public lands in Arizona. This is further contributing to the probability of garter snake extinction.

Garter Snake Habitat Needs and Damage Cause by Livestock Grazing

Although northern Mexican garter snakes have been found in a variety of vegetation types within the riparian zone (i.e., grasses, shrubs and wetland plants), the underlying habitat characteristic required by garter snakes appears to be dense vegetation or other natural structural

[1] Johnson, A.S., 1989. The thin green line: riparian corridors and endangered species in Arizona and New Mexico. *In defense of wildlife: preserving communities and corridors. Defenders of Wildlife, Washington, DC*, pp.35-46.

[2] Threatened Status for the Northern Mexican Gartersnake and the Narrow-headed Gartersnake, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 79, No. 130, July 8, 2014.

[3] Brennan, Thomas C., and Andrew T. Holycross. Field guide to amphibians and reptiles in Arizona. Arizona Game and Fish Dept., 2006.

[4] Wood, D.A., Emmons, I.D., Nowak, E.M., Christman, B.L., Holycross, A.T. and Vandergast, A.G., 2018. Conservation genomics of the Mogollon Narrow-headed gartersnake (*Thamnophis rufipunctatus*) and Northern Mexican gartersnake (*Thamnophis eques megalops*) (No. 2018-1141). US Geological Survey.

[5] Designation of Critical Habitat for the Northern Mexican Gartersnake, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 86, No. 80, April 28, 2021.

[6] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020.

components that provide cover for the species.[7] When not in the water, they usually conceal themselves under dense vegetation.[8]

According to the Fish and Wildlife Service,[9] the primary biological features required by garter snakes include perennial or intermittent streams that provide 1) slow-moving water with in-stream pools, off-channel pools and backwater habitat, and 2) aquatic and terrestrial garter snake habitat for population connectivity. Garter snakes also require streams, off-channel springs, cienegas and natural and constructed wetlands that contain 1) organic and natural inorganic structural features, including dense aquatic and wetland vegetation within the stream channel for thermoregulation, shelter, foraging opportunities and protection from predators, 2) terrestrial habitat adjacent to the stream channel that includes riparian vegetation and small mammal burrows, and 3) water quality that is absent of pollutants or, if pollutants are present, at levels low enough that recruitment of northern Mexican garter snakes is not inhibited.[10]

But despite the known importance of clean water and ground cover found in riparian, understory and upland vegetation, cattle production on national forests, national conservation lands, and other public lands has removed, degraded and/or eliminated these vitally important garter snake habitat components in riparian and upland ecosystems throughout the arid Southwest.[11] Arid lands livestock production, with its unavoidable harm to riparian ecosystems, cienegas and other wetlands, reduces the quantity, quality and distribution of key habitat features that are important for garter snake thermoregulation, shelter, foraging opportunities, protection from predators and recovery.

Livestock grazing causes wholescale and long-term changes to watershed function.[12] Cattle degrade riparian zones by removing bank-line and herbaceous ground-cover vegetation, preventing tree establishment, fouling water with animal waste, compacting soil, increasing runoff and erosion, and reducing water infiltration.[13] Intact vegetation functions as a barrier that

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[7] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23615.

[8] *Id.*, page 23617.

[9] *Id*., page 23623-4.

[10] *Ibid.*

[11] Bock, C.E., J.H. Bock, L. Kennedy, and Z.F. Jones. 2007. Spread of non-native grasses into grazed versus ungrazed desert grasslands. Journal of Arid Environments 71:229-235; Bock, C.E., V.A. Saab, T.D. Rich, and D.S. Dobkin. 1993. Effects of livestock grazing on Neotropical migratory land birds in Western North America. Pages 296-309 in Status and Management of Neotropical Migratory Birds. D.M. Finch and P.W. Stangel, editors. USDA, Forest Service, GTR RM-229. 422pp.; Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. Conservation Biology 8:629-644.; Krueper, D.J. 1993. Effects of land use practices on Western riparian ecosystems. Pages 321-330 in Status and Management of Neotropical Migratory Birds. D.M. Finch and P.W. Stangel, editors. USDA, Forest Service, GTR RM-229. 422pp.

[12] Armour, C., Duff, D. and Elmore, W., 1994. The effects of livestock grazing on western riparian and stream ecosystem. *Fisheries*, *19*(9), pp. 9-12.; Belsky, A.J., Matzke, A. and Uselman, S., 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and water Conservation*, *54*(1), pp. 419-431.; Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. *Conservation biology*, *8*(3), pp. 629-644.; Poff, B., Koestner, K.A., Neary, D.G. and Henderson, V., 2011. Threats to riparian ecosystems in Western North America: an analysis of existing literature 1. *JAWRA Journal of the American Water Resources Association*, *47*(6), pp. 1241-1254.

[13] Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation biology, 8(3), pp.629-644; Klebenow, D.A. and Oakleaf, R.J., 1984. Historical avifaunal changes in the riparian zone of the Truckee River; Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. Desert Plants; Stromberg, J.C., 1993. Fremont cottonwood-Goodding

slows and traps rainfall, sediments and nutrients.[14] As livestock alter and reduce native plant communities,[15] soil exposure leads to interrill erosion (soil detached by raindrops, then transported by shallow sheet flow) and gullying following downpours.[16] Grazing harm to ecohydrological systems at any intensity reduce soil permeability and water infiltration.[17] For water-limited vegetation, growth and survival are improved if rainfall is allowed to permeate the soil, but not if it runs off-site.[18] These effects compound, exacerbating desertification and ultimately leading to loss of soil fertility, failure of rainfall to moisten soil layers and recharge groundwater, and higher ground temperatures during the hottest months of the year. This is a disastrous feedback cycle that prevents native plant recovery and reestablishment.[19]

According to the Fish and Wildlife Service,[20] activities likely to destroy or adversely modify garter snake critical habitat include, but are not limited to 1) actions that would significantly increase sediment deposition or scouring within the stream channel, including poorly managed livestock grazing,[21] 2) actions that would alter water chemistry beyond the tolerance limits of garter snake prey, including biological pollutants and/or livestock grazing that results in waters heavily polluted by feces,[22] and 3) actions that would remove, diminish or significantly alter the structural complexity of key natural habitat features in and adjacent to aquatic habitat.[23]

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willow riparian forests: a review of their ecology, threats, and recovery potential. Journal of the Arizona-Nevada Academy of Science, pp.97-110; Taylor, D. M., and C. D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173; Schulz, T. T., & Leininger, W. C. (1990). Differences in riparian vegetation structure between grazed areas and exclosures. Journal of Range Management, 43(4), 295-299.

[14] Ludwig, J.A., Wilcox, B.P., Breshears, D.D., Tongway, D.J. and Imeson, A.C., 2005. Vegetation patches and runoff–erosion as interacting ecohydrological processes in semiarid landscapes. Ecology, 86(2), pp.288-297.

[15] Vallentine, J. F. 1990. Grazing management. San Diego, CA, USA: Academic Press. 533 pp.; Popolizio, C.A., Goetz, H. and Chapman, P.L., 1994. Short-term response of riparian vegetation to 4 grazing treatments. *Rangeland Ecology & Management/Journal of Range Management Archives*, *47*(1), pp. 48-53. Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. Desert Plants

[16] Erman et al. 1977, Osborne, L.L. and Kovacic, D.A., 1993. Riparian vegetated buffer strips in water-quality restoration and stream management. Freshwater biology, 29(2), pp. 243-258; Schulz, T. T., & Leininger, W. C. (1990). Differences in riparian vegetation structure between grazed areas and exclosures. Journal of Range Management, 43(4), 295-299.; Fleischner, T.L., 1994. Ecological costs of livestock grazing in western North America. Conservation biology, 8(3), pp. 629-644.; Ohmart, R.D., 1996. Ecological condition of the East Fork of the Gila River and selected tributaries: Gila National Forest, New Mexico. General Technical Report RM., 272, p. 312; Abrahams, A.D., Parsons, A.J. and Wainwright, J., 1995. Effects of vegetation change on interrill runoff and erosion, Walnut Gulch, southern Arizona. Geomorphology, 13(1-4), pp.37-48.

[17] Gifford, G.F. and Hawkins, R.H., 1978. Hydrologic impact of grazing on infiltration: a critical review. *Water Resources Research*, *14*(2), pp.305-313. Ludwig, J.A., Wilcox, B.P., Breshears, D.D., Tongway, D.J. and Imeson, A.C., 2005. Vegetation patches and runoff–erosion as interacting ecohydrological processes in semiarid landscapes. Ecology, 86(2), pp.288-297.

[18] Colloff, M.J., Pullen, K.R. and Cunningham, S.A., 2010. Restoration of an ecosystem function to revegetation communities: the role of invertebrate macropores in enhancing soil water infiltration. Restoration Ecology, 18, pp.65-72. Ludwig, J.A., Wilcox, B.P., Breshears, D.D., Tongway, D.J. and Imeson, A.C., 2005. Vegetation patches and runoff–erosion as interacting ecohydrological processes in semiarid landscapes. Ecology, 86(2), pp.288-297.

[19] Schlesinger, W.H., Reynolds, J.F., Cunningham, G.L., Huenneke, L.F., Jarrell, W.M., Virginia, R.A. and Whitford, W.G., 1990. Biological feedbacks in global desertification. *Science*, *247*(4946), pp. 1043-1048.

[20] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23615page 23633.

[21] *Ibid.*

[22] *Ibid.*

[23] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23633.

The Fish and Wildlife Service has defined poor livestock management as "grazing conducted in a manner not in accordance with approved allotment management plans or otherwise considered adverse to maintaining natural habitat characteristics."[24] Poorly managed livestock grazing, a known and acknowledged threat to garter snakes, according to the agency,[25] is causing removal, diminishment, and/or significant changes to natural habitat features necessary for garter snakes to survive. Worse, it occurs wholescale within designated critical habitat that the Fish and Wildlife Service should be prioritizing to support garter snake recovery.

Surveying Adverse Modification of Critical Habitat from Livestock Grazing

In Arizona and New Mexico, approximately 11,860 acres of garter snake designated critical habitat overlaps with public lands managed by the U.S. Forest Service and the Bureau of Land Management. Following designation of garter snake critical habitat in 2021,[26] the Center began systematically surveying and quantifying cattle impacts to critical habitat on public lands in Arizona. The rationale for this effort is 1) the well-known harm to garter snake habitat from livestock grazing, and 2) the fact that neither the Bureau of Land Management nor the Forest Service systematically survey and assess the public lands they manage for the health of riparian ecosystems in the context of habitat needs of threatened and endangered species.

Each year professional field biologists document livestock impacts on standing waters, riparian vegetation, soils and streambanks within designated critical habitat and examine protective fencing where applicable. Using a standardized protocol, surveyors record 1) severity of grazing impacts on herbaceous vegetation, 2) severity of browsing impacts on streamside woody regeneration, 3) severity and extent of ground disturbances from trailing, trampling and wallowing, and 4) severity and extent of streambank degradation. Multiple georeferenced photo points are taken along each segment to document evidence of harm from livestock.

Each survey is broken down into ¼- ½ mile field-delineated segments of garter snake critical habitat based on topography, access and trends in severity of adverse modification. At each segment endpoint, a condition score is recorded for each of the six impact categories along a range of 0 to 4 based on the severity and extent of the impact. A segment is rated 0 for a particular category if no evidence of impact is observed, 1 if impacts are limited, 2 if impacts are light and scattered, 3 if impacts are moderate and widespread, and 4 if impacts are severe and pervasive. Following field surveys of snake-designated streams, each segment's "overall impact level" (defined as absent, light, moderate or significant) is calculated. To determine overall impact level, condition severity scores for each segment are collated and weighted. Survey results are prioritized by most recent year where survey years overlapped.

From 2021 to 2023 the Center surveyed approximately 69% of designated garter snake critical habitat on public lands for cattle impacts (8,127 of 11,860 acres). Of the total acres

[24] Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 77, No. 54, March 20, 2012, page 16328.

[25] Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake, Proposed Rules, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 85, No. 82, April 28, 2020, page 23633.

[26] Designation of Critical Habitat for the Northern Mexican Gartersnake, Final Rule, DEPARTMENT OF THE INTERIOR Fish and Wildlife Service, Federal Register, Vol. 86, No. 80, April 28, 2021.

surveyed, 84% (6,835 acres) were found to have moderate to significant adverse modification, which is 58% of the total 11,860 acres of garter snake critical habitat found on public land in Arizona.

The Center's assessments of garter snake critical habitat on public lands in Arizona consistently show that grazing activities are continually diminishing riparian ecosystems on which these imperiled native reptiles depend. Appropriate and adequate vegetation to meet garter snake life- history requirements is often lacking because cattle consistently concentrate in riparian zones, leaving bare, denuded ground and polluted, feces-laden water. Survey results reasonably fit the Fish and Wildlife Service's own definition of overgrazing or poorly managed grazing, where cattle have created conditions that compromise or eliminate habitat required by garter snake populations.

Surveys conducted on the Coronado and Tonto national forests, the San Pedro Riparian National Conservation Area, and several other important public land riparian areas managed by the Bureau of Land Management have all led to litigation over the state and quality of critical habitat because of cattle grazing. Even on lands specifically designated by Congress to protect riparian values, the majority of streamside habitat showed significant damage from livestock.

The following figures and photos demonstrate the vast extent of cattle damage to designated garter snake critical habitat across Arizona. Interactive maps are also available.

Figure 1. Cattle impacts on northern Mexican garter snake critical habitat on public land in Arizona.

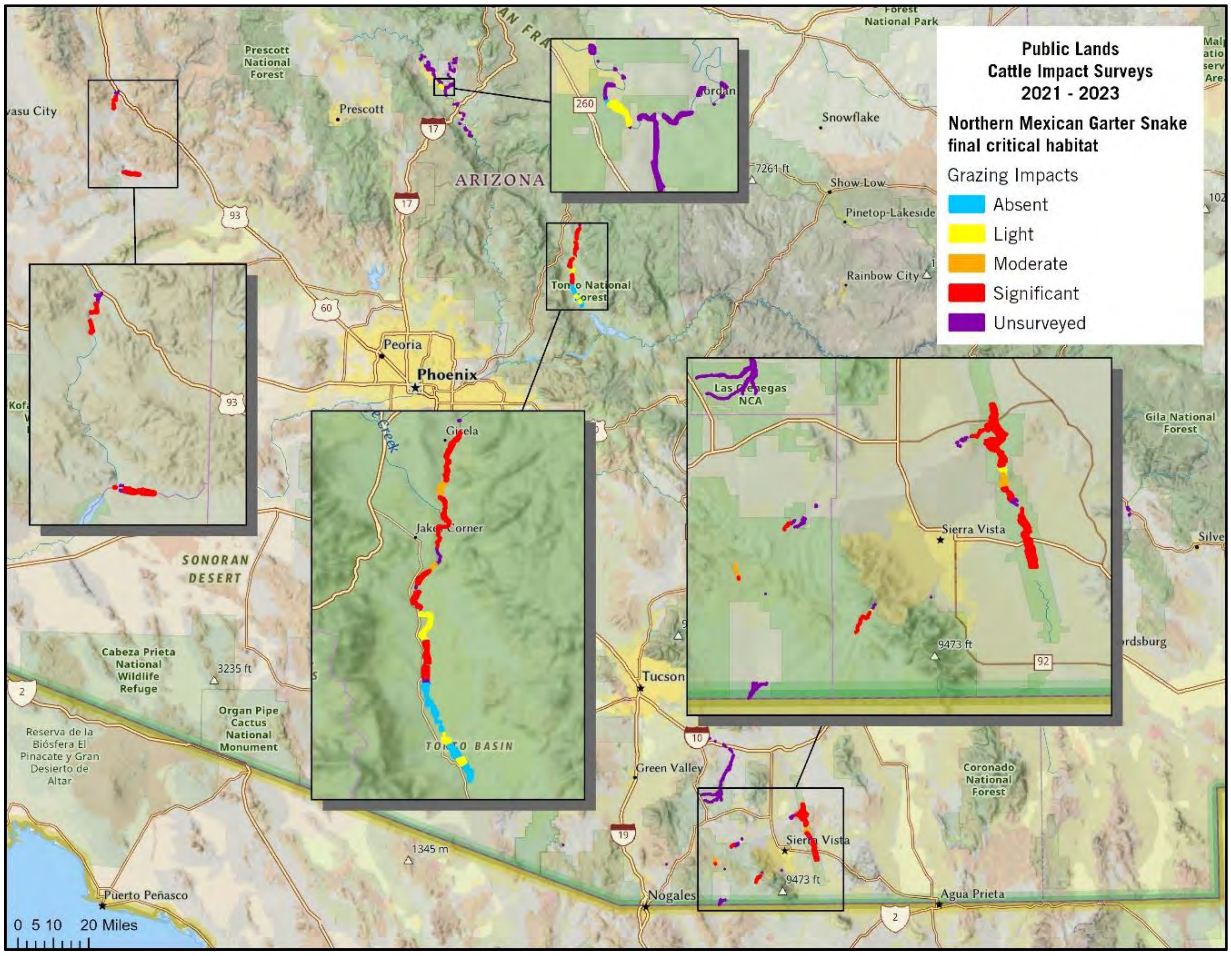

Figure 2. Northern Mexican garter snake designated critical habitat in the Coronado National Forest. 31.479971, -110.569226 (1), 31.510437, -110.617239 (2). June 2, 2021.

Figure 3. Northern Mexican garter snake designated critical habitat on the Tonto Basin allotment, Tonto National Forest, within the Tonto Creek Riparian Unit where no grazing is authorized. 33.897240, -111.306400 (1); 33.896018, -111.306614 (2). June 7, 2021.

Figure 4. Northern Mexican garter snake designated critical habitat on the Babocomari allotment, within the San Pedro Riparian National Conservation Area, Bureau of Land Management. 31.705706, -110.215737 (1), March 19, 2021; 31.709048, -110.206966 (2), March 31, 2023.

Discussion

The Fish and Wildlife Service designates critical habitat under the Endangered Species Act to ensure that this habitat is managed with the primary goal of recovering threatened and endangered plants and animals. The law requires that each federal agency must "insure that any action authorized, funded, or carried out by such agency … is not likely to … result in the destruction or adverse modification" of critical habitat.[27]

Center survey data show adverse modification and destruction of critical habitat from Bureau of Land Management and Forest Service-managed livestock grazing on most the garter snakes' designated habitat on public lands. In violation of the Endangered Species Act and other laws, federal agencies continue to authorize cattle grazing in garter snake critical habitat often without any enforceable measures of protection and with no limits on the number of garter snakes that can be harmed or killed. In many locations, including the Tonto National Forest, there is no consultation in place for grazing allotments that support critical habitat for garter snakes. These threatened snakes and their designated riparian critical habitat therefore depend on business-as-usual livestock management, nonfunctional exclosures and non-applicable cow utilization metrics for their conservation and recovery, with no specific guidance or terms and conditions to avoid harming or killing the snakes.

Ecological conditions on western public lands have worsened recently,[28] mainly because of livestock production in conjunction with a changing climate and a historically unprecedented "megadrought."[29,30] Using public lands for livestock production is known to exacerbate the harms from climate change.[31] Within the past 100 years, an estimated 95% of riparian habitat in the West has been destroyed[32] and, as we demonstrate, this destruction is ongoing. There is no evidence to suggest that climate trends will suddenly change for the better.[33]

Federal agencies recognize this predictable and escalating climate problem but have failed to take meaningful action to mitigate it. Arid lands livestock production is well known to exacerbate and amplify harms from drought and climate change[34] and has a

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[27] 16 U.S.C. § 1536(a)(2).

[28] Donahue, D.L., 2006. Federal rangeland policy: perverting law and jeopardizing ecosystem services. J. Land Use & Envtl. L., 22, p. 299.

[29] Beschta, R.L., Donahue, D.L., DellaSala, D.A., Rhodes, J.J., Karr, J.R., O'Brien, M.H., Fleischner, T.L. and Williams, C.D., 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, 51(2), pp.474-491.

[30] Williams, A. P., Cook, B. I., & Smerdon, J. E. (2022). Rapid intensification of the emerging southwestern North American megadrought in 2020–2021. Nature Climate Change, 12, 232–234. https://doi.org/10.1038/s41558-022-01290-z

[31] Kauffman, J.B., Beschta, R.L., Lacy, P.M. *et al.* Livestock Use on Public Lands in the Western USA Exacerbates Climate Change: Implications for Climate Change Mitigation and Adaptation. *Environmental Management* **69**, 1137–1152 (2022). https://doi.org/10.1007/s00267-022-01633-8

[32] Krueper, D.J., 1996. Effects of livestock management on Southwestern riparian ecosystems. *Shaw, DW, and Finch, DM, tech. coords. Desired future conditions for southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RM-GTR-272. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station*, pp.281-301.

[33] Large contribution from anthropogenic warming to an emerging North American megadrought, A. Park Williams, et al.; Science 368, 314-318; April 17, 2020.

[34] Kauffman, J.B., Beschta, R.L., Lacy, P.M. *et al.* Livestock Use on Public Lands in the Western USA Exacerbates Climate Change: Implications for Climate Change Mitigation and Adaptation. *Environmental Management* **69**, 1137–1152 (2022). https://doi.org/10.1007/s00267-022-01633-8

disproportionally negative effect on rare riparian ecosystems.[35] Therefore, federal agencies that continually authorize known negative stressors such as cattle grazing in riparian critical habitat are responsible for hastening the extinction of threatened and endangered animals and plants.

Recommendations

Despite dire climate projections forecasted for the Southwest, the Forest Service, the Bureau of Land Management, and the Fish and Wildlife Service continue to authorize status quo livestock grazing on federal public lands with no practical or meaningful policies or actions to protect riparian ecosystems or the imperiled native species, such as northern Mexican garter snakes, whose future survival depends on them. Instead, the agencies implement management strategies that provide short-term benefits for livestock permit-holders at the cost of continual ecosystem degradation and removal of what little habitat and cover is available for wildlife.

The Center recommends that agencies exclude livestock from garter snake habitat in Arizona and New Mexico. This is based on our critical habitat survey results and the inability of federal land managers and livestock permit-holders to prevent continued degradation of riparian habitat on the majority of habitat surveyed. This recommendation is also based on the absence of management plans or conservation agreements that meaningfully conserve the physical and biological features that garter snakes depend on,

To ensure recovery of northern Mexican garter snakes, the small, disconnected parcels of designated critical habitat granted by the Fish and Wildlife Service must be protected year-round from livestock. Degradation should no longer be allowed to continue in areas designated as critical to recovering threatened and endangered species. The survival of these imperiled garter snakes will ultimately depend on riparian restoration, not degradation. Such an approach would have significant benefits to the garter snake, and all other wildlife that depend on riparian areas, with minimal harm to the livestock industry.

Keeping livestock out of these areas is the best way to mitigate climate change and aridification, as removal of cattle grazing has been correlated with dramatic increases in native riparian vegetation.[36,37,38,39] Only by eliminating the harm from livestock will native riparian ecosystems survive and recover in this historic Anthropocene era defined by record heat and drought. While the effects of climate change are difficult to control, riparian habitat

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[35] Stromberg, J.C., Setaro, D.L., Gallo, E.L., Lohse, K.A. and Meixner, T., 2017. Riparian vegetation of ephemeral streams. *Journal of Arid Environments*, *138*, pp.27-37.

[36] Rucks, M.G., 1984. Composition and trend of riparian vegetation on five perennial streams in southeastern Arizona. In California Riparian Systems (pp. 97-108). University of California Press.

[37] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[38] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. Desert Plants.

[39] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona *Populus fremontii*, velvet ash, *Fraxinus velutina*, Goodding willow, *Salix gooddingii*. Rangeland Ecology & Management/Journal of Range Management Archives, 36(3), pp.382-384.

on public lands in the Southwest can be dramatically improved simply by excluding livestock from these areas. By eliminating chronic vegetation removal, trampling, and soil compaction and by reducing ongoing sedimentation and erosion, we can finally begin to promote recovery of native ecosystems before it's too late.

According to the U.S. Department of Justice, "it's well settled that cattle and riparian areas do not mix."[40] The Center's survey data reinforce this conclusion. It's time the federal agencies tasked with protecting our natural heritage do something about it.

[40] Environment and Natural Resources Division Senior Trial Attorney Andrew A. Smith. New Mexico Cattle Growers' Association, et al. v. United States Forest Service, et al., Case 1:23-cv-00150-JB-GBW, Albuquerque, NM, February 1, 2024, page 126; Hearing Transcript.

ATTACHMENT 3

ATTACHMENT 3

2025 Survey Results of Critical Habitat in Grazing Allotments of the Tonto National Forest

Center for Biological Diversity
August 2025

On February 1, 2025, and between June 10- August 13, 2025, the Center for Biological Diversity conducted Cattle Impact Surveys on fifteen Tonto National Forest grazing allotments to assess and quantify cattle damage to designated critical habitat, to document instances of damaged, nonfunctional or missing exclusion fencing, and to document unauthorized cattle presence and their associated damage to critical habitat designation for threatened and endangered wildlife. See Appendix A for detailed survey methodology.

Ongoing Endangered Species Act violations on Tonto National Forest grazing allotments remain unresolved despite our previous efforts to curb them, including two previous Notices of Intent to sue (filed in 2022 and 2025) and a subsequent, informal settlement with the Tonto National Forest that included monitoring problem allotments for the purposes of protecting critical habitat set aside for species recovery. But after two and a half more years of cattle grazing transgressions, the Center in 2025 has again observed and documented moderate to severe environmental damage caused by cattle throughout many of the same allotments at issue in the 2022 and 2025 NOIs.

Herein, the Center documents continued, significant cattle damage and inadequate protection of designated Critical Habitat for Yellow-billed Cuckoo, Southwestern Willow Flycatcher, northern Mexican and narrow-headed garter snakes, Chiricahua Leopard Frog, Spikedace, and Razorback Sucker.

Examples of the extensive degradation of critical habitat caused by livestock that are documented herein through photographs and maps include: heavily browsed woody streamside recruitment; trails meandering through riparian zones; streamside damage resulting in shearing of banks into vertical surfaces; heavily diminished grass and herbaceous growth; myriad instances of wallows and bare soils; significant removal of riparian vegetation and adjacent understory; extensive areas of exposed, compacted soils around natural springs, seeps, and surface water; and pervasive trampling and soil disturbances.

Dagger allotment

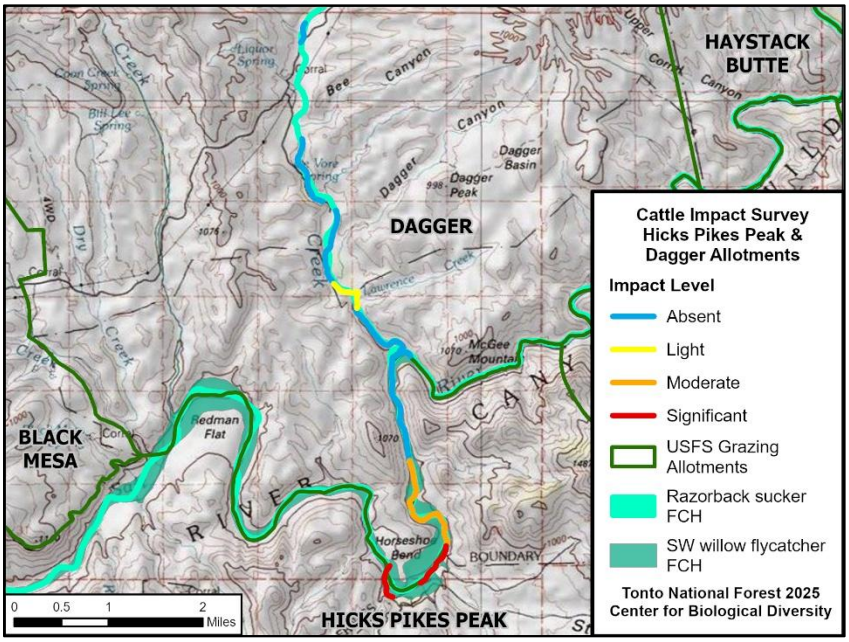


Figure 1. Map of 2025 cattle impacts on the Dagger allotment, Tonto National Forest.

Significant unauthorized/trespass grazing damage in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and adjacent to Razorback sucker critical habitat. 33.645628, -110.792258. June 12, 2025.

Significant unauthorized/trespass grazing damage in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and adjacent to Razorback sucker critical habitat. 33.64699; -110.79432. June 12, 2025.

Significant unauthorized/trespass grazing damage in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and adjacent to Razorback sucker critical habitat. 33.645056, -110.791979. June 12, 2025.

Significant unauthorized/trespass grazing damage in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and adjacent to Razorback sucker critical habitat. 33.638541, -110.795837. June 12, 2025.

Fresh tracks and old feces from unauthorized/trespass cattle in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and adjacent to Razorback sucker critical habitat. 33.639535, -110.793562. June 12, 2025.

Significant unauthorized/trespass grazing impacts, old and fresh, in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season). 33.638788, -110.794996. June 12, 2025.

Unauthorized/trespass cattle chute in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.638568, -110.801913. June 12, 2025.

Significant unauthorized/trespass grazing damage in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.636483, -110.800840. June 12, 2025.

Significant unauthorized/trespass grazing damage in the off-limits 'West devore' pasture of Dagger allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.637216, -110.801341. June 12, 2025.

Hicks-Pikes Peak allotment

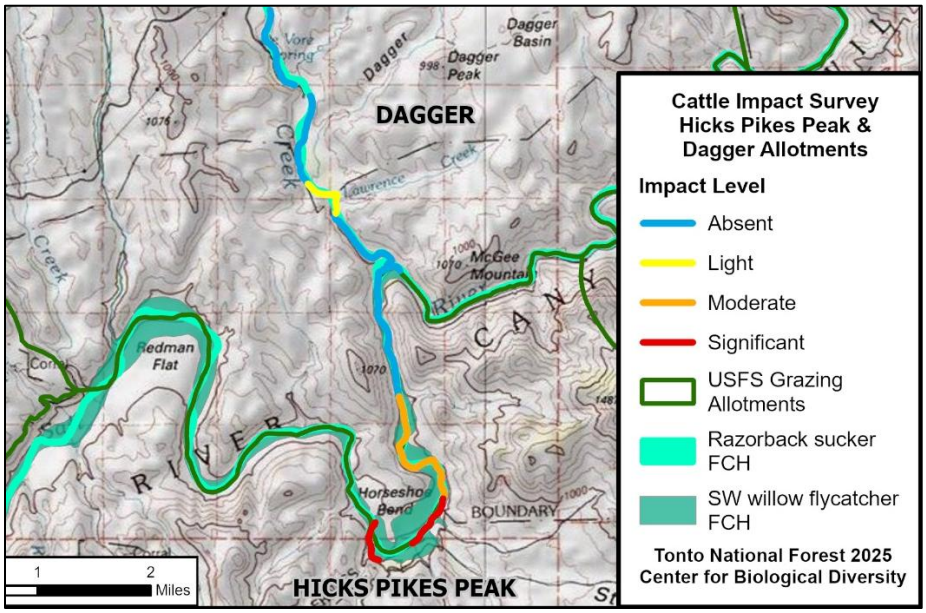


Figure 2. Map of 2025 cattle impacts on the Hicks Pikes Peak allotment, Tonto National Forest.

Significant unauthorized/trespass grazing damage along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.647313, -110.795548. June 12, 2025.

Significant unauthorized/trespass grazing damage along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.641805, -110.791431. June 12, 2025.

Significant unauthorized/trespass cattle damage along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.640557, -110.792046. June 12, 2025.

Unauthorized/trespass cattle impacts along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.638085, -110.802263. June 12, 2025.

Fresh sign of unauthorized/trespass cattle along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.642531, -110.791188. June 12, 2025.

Significant unauthorized/trespass cattle damage along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.640985, -110.791592 (2). June 12, 2025.

Significant unauthorized/trespass cattle damage along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.637335, -110.801891 (2). June 12, 2025.

Significant unauthorized/trespass cattle damage along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and adjacent to Razorback sucker critical habitat. 33.637662, -110.802220 (2). June 12, 2025.

Significant unauthorized/trespass cattle damage along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.638151, -110.802464 (2). June 12, 2025.

Significant unauthorized/trespass cattle impacts along the Salt River in the Hicks-Pikes Peak allotment, within southwestern willow flycatcher critical habitat (during nesting season) and Razorback sucker critical habitat. 33.638550, -110.802485 (3). June 12, 2025.

Chrysotile allotment

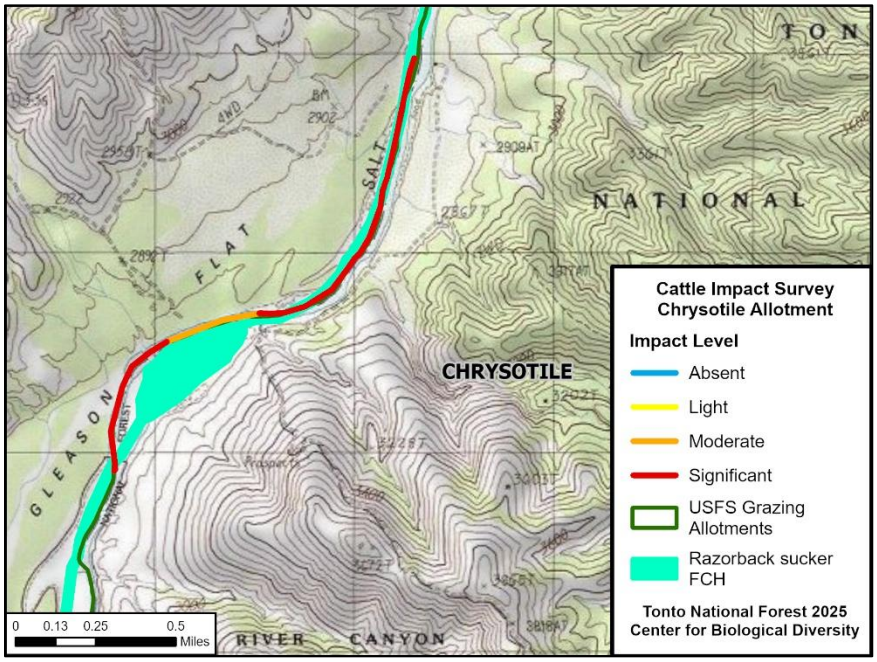


Figure 3. Map of 2025 cattle impacts on the Chrysotile allotment, Tonto National Forest.

Significant unauthorized/trespass cattle damage in the Gleason Riparian pasture, Chrysotile allotment, adjacent Razorback sucker critical habitat. 33.780111, -110.673507. June 13, 2025.

Fresh unauthorized/trespass cattle sign in the Gleason Riparian pasture, Chrysotile allotment, within Razorback sucker critical habitat. 33.781455, -110.673456 (2). June 13, 2025.

Significant and sustained unauthorized/trespass cattle damage in the Gleason Riparian pasture, Chrysotile allotment, adjacent Razorback sucker critical habitat. 33.781223, -110.673385 (1); 33.780902, -110.673399(2). June 13, 2025.

Significant unauthorized/trespass cattle damage (loafing area) in the Gleason Riparian pasture, Chrysotile allotment, impacting Razorback sucker critical habitat. 33.776688, -110.674699. June 13, 2025.

Significant unauthorized/trespass cattle damage in the Gleason Riparian pasture, Chrysotile allotment, adjacent Razorback sucker critical habitat. 33.776525, -110.674656. June 13, 2025.

Significant unauthorized/trespass cattle damage (including fresh tracks, feces, and browsed regeneration) in the Gleason Riparian pasture, Chrysotile allotment, within Razorback sucker critical habitat. 33.775674, -110.675200. June 13, 2025.

Significant unauthorized/trespass cattle damage in the Gleason Riparian pasture, Chrysotile allotment, adjacent Razorback sucker critical habitat. 33.774893, -110.675500. June 13, 2025.

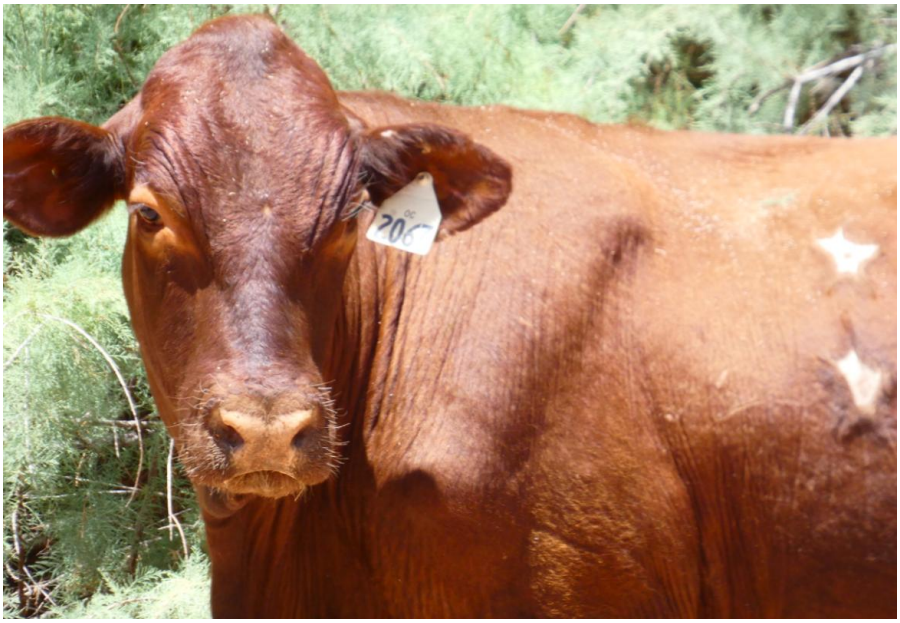
Significant unauthorized/trespass cattle damage in the Gleason Riparian pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.774072, -110.676047. June 13, 2025.

Significant unauthorized/trespass cattle damage in the Gleason Riparian pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.772098, -110.678368. June 13, 2025.

Significant unauthorized/trespass cattle damage in the Gleason Riparian pasture, Chrysotile allotment, adjacent Razorback sucker critical habitat. 33.773023, -110.676834 (2). June 13, 2025.

Significant unauthorized/trespass cattle damage in the Gleason Riparian pasture, Chrysotile allotment, adjacent Razorback sucker critical habitat. 33.771441, -110.679956. June 13, 2025.

Significant unauthorized/trespass cattle damage in the Boundary pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.771444, -110.682453. June 13, 2025.



Unauthorized/trespass cattle in the Boundary pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.771310, -110.681898. June 13, 2025.

Significant unauthorized/trespass cattle damage in the Boundary pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.770041, -110.685038. June 13, 2025.

Significant unauthorized/trespass cattle damage in the Boundary pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.769574, -110.687173. June 13, 2025.

Unauthorized/trespass cattle sign in the Boundary pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.769182, -110.688468. June 13, 2025.

Significant unauthorized/trespass cattle damage in the Boundary pasture, Chrysotile allotment, in Razorback sucker critical habitat. 33.767163, -110.689351. June 13, 2025.

Pinto Creek allotment

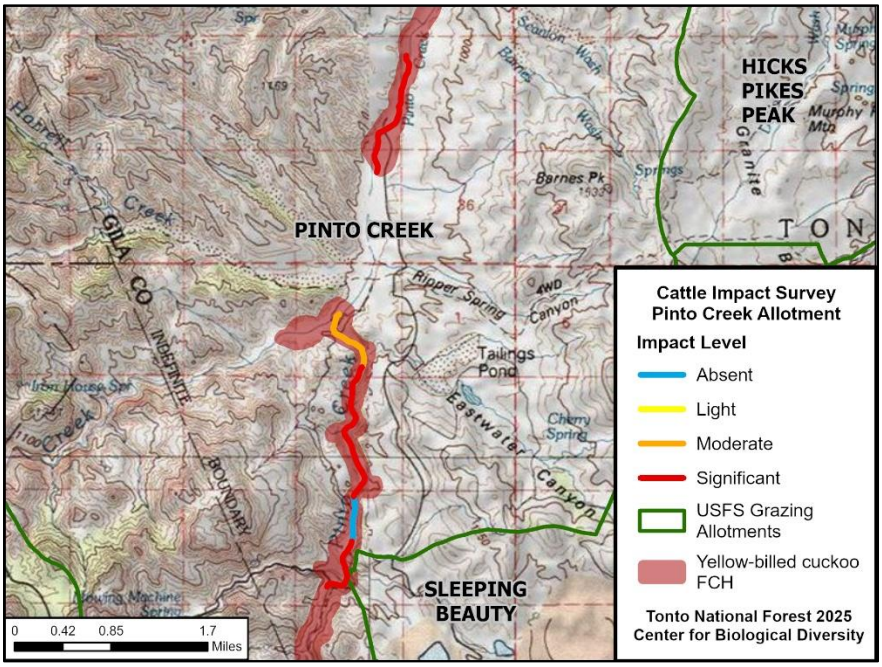


Figure 4. Map of 2025 cattle impacts on the Pinto Creek allotment, Tonto National Forest.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.424969, -111.006204. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.424879, -111.006034. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.424864, -111.005988. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.424455, -111.004606. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.424574, -111.004033. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.425183, -111.003704. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.426604, -111.003890. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.429421, -111.004134. June 13, 2025.

Significantly browsed riparian tree regeneration from unauthorized/trespass cattle in yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.439091, -111.001754. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.439849, -111.002430. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.441622, -111.003449. June 13, 2025.

More browsed riparian tree regeneration from unauthorized/trespass cattle in yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.441234, -111.002977 (2). June 13, 2025.

Downed fencing with significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.441911, -111.003756. June 13, 2025.

Branded, unauthorized/trespass bull in yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.443233, -111.004060. June 13, 2025.

Significant unauthorized/trespass cattle impacts and browsed regeneration in yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.444313, -111.004439. June 13, 2025.

Browsed riparian tree regeneration from unauthorized/trespass cattle in yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.444579, -111.004143. June 13, 2025.

Browsed riparian tree regeneration from unauthorized/trespass cattle in yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.444979, -111.003392. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.445725, -111.002923. June 13, 2025.

Fresh, unauthorized/trespass cattle sign in yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.448649, -111.003352. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.482135, -110.997151. June 13, 2025.

Significant unauthorized/trespass cattle damage to yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.483089, -110.996979. June 13, 2025.

More browsed tree regeneration from unauthorized/trespass cattle in yellow-billed cuckoo critical riparian breeding habitat in the Pinto Creek allotment. 33.448900, -111.003195. June 13, 2025.

Red Lake allotment

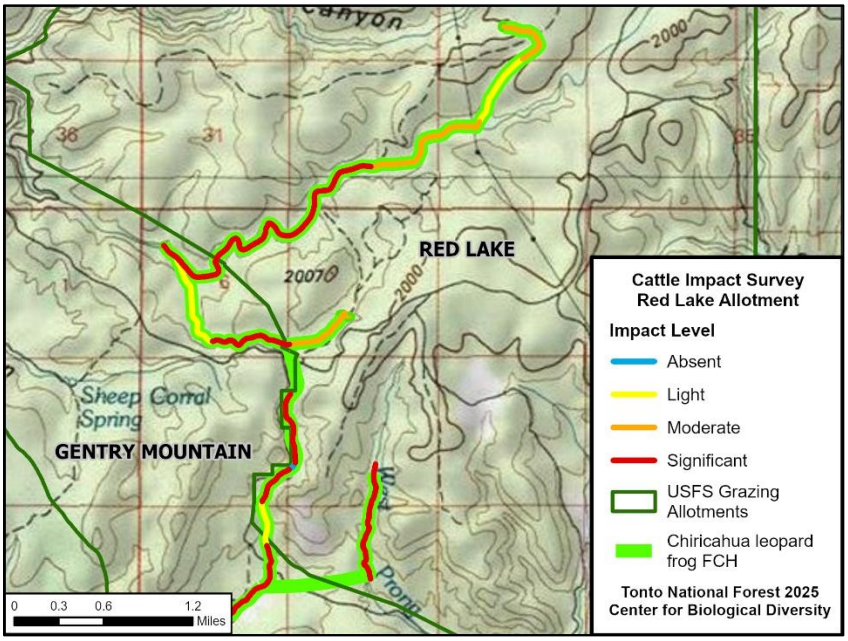


Figure 5. Map of 2025 cattle impacts on the Red Lake allotment, Tonto National Forest.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.146262, -110.836470. June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.157719, -110.835951 (2). June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.157719, -110.835951. June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.160024, -110.834756 (2). June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.160600, -110.834450 (2). June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.160646, -110.834418 (2). June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.163537, -110.824743. June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.163305, -110.829007 (1); 34.163305, -110.829007 (2). June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Red Lake allotment. 34.167163, -110.816298. June 11, 2025.

Gentry Mountain allotment

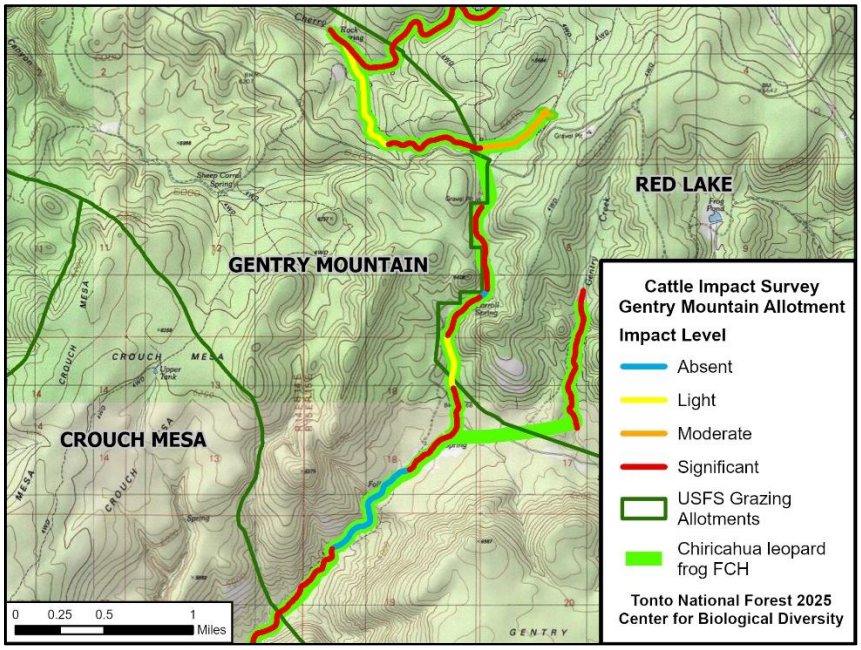


Figure 6. Map of 2025 cattle impacts on Gentry Mountain allotment, Tonto National Forest.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Gentry Mountain allotment. 34.109338, -110.855196. June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Gentry Mountain allotment. 34.108719, -110.856423 (3). June 11, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Gentry Mountain allotment. 34.121752, -110.841778 (2). June 11, 2025.

Crouch Mesa allotment

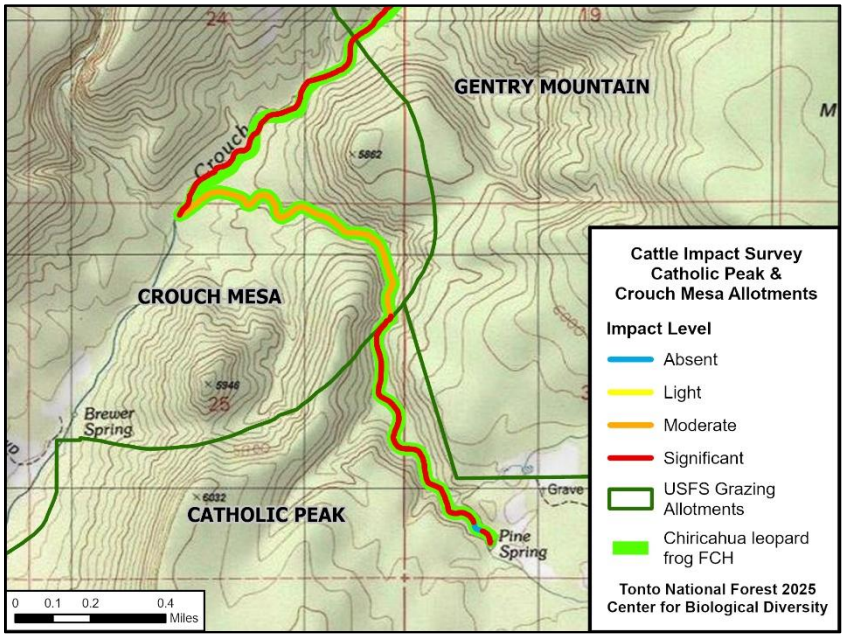


Figure 7. Map of 2025 cattle impacts on the Crouch Mesa allotment, Tonto National Forest.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.107445, -110.857819. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.102617, -110.863955. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.099709, -110.856313. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.104004, -110.862033 (2). June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.104004, -110.862033 (2). June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.103461, -110.862508 (2). June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.096608, -110.856423. June 10, 2025.

Cattle actively grazing in damaged Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.103464, -110.862565. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Crouch Mesa allotment. 34.103154, -110.862964. June 10, 2025.

Catholic Peak allotment

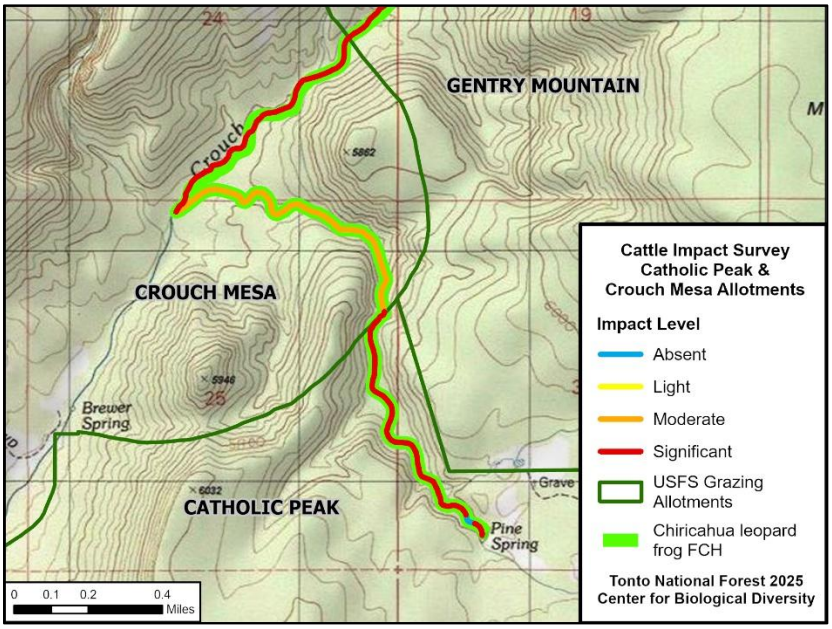


Figure 8. Map of 2025 cattle impacts on the Crouch Mesa allotment, Tonto National Forest.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.088659, -110.851294 (2). June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.088954, -110.851843. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.089512, -110.852198. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.089512, -110.852198 (2). June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.090305, -110.853351. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.090777, -110.853875. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.091328, -110.854181. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.094586, -110.856113. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.095295, -110.856248. June 10, 2025.

Significant cattle damage to Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.096584, -110.856378. June 10, 2025.

Stunted woody regeneration in Chiricahua leopard frog critical stream habitat in the Catholic Peak allotment. 34.092840, -110.855504 (2). June 10, 2025.

Seventy-Six allotment

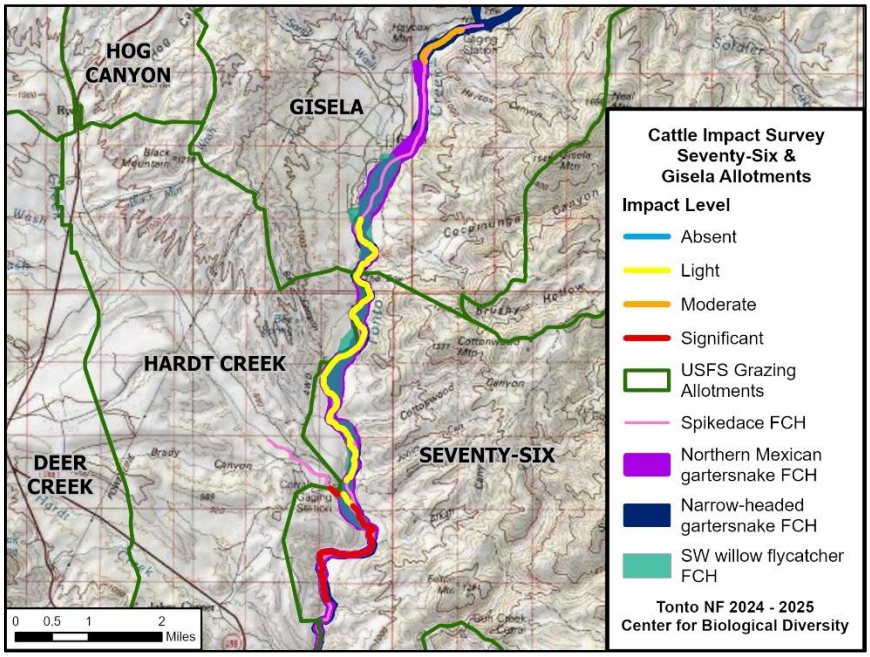


Figure 9. Map of 2025 cattle impacts on the Seventy-Six allotment, Tonto National Forest.

Significant cattle damage to northern Mexican garter snake, narrow-headed garter snake and southwestern willow flycatcher critical habitat in the Seventy-Six allotment 34.027263, -111.284375. July 7, 2025.

Cattle-damaged spikedace, narrow-headed garter snake, northern Mexican garter snake, and southwestern willow flycatcher critical habitat in the Seventy-Six allotment. 34.060838, -111.287570. July 4, 2025.

Significant cattle damage to northern Mexican garter snake, narrow-headed garter snake and southwestern willow flycatcher critical habitat along a riparian fence line in the Seventy-Six allotment. 34.052324, -111.290595. July 7, 2025.

Significant cattle damage to northern Mexican garter snake, narrow-headed garter snake and southwestern willow flycatcher critical habitat along a riparian fence line in the Seventy-Six allotment. 34.050130, -111.290647 (2). July 7, 2025.

Significant cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Seventy-Six allotment. 34.040870, -111.287227 (1); 34.037283, -111.287252 (2). July 7, 2025.

Significant cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Seventy-Six allotment. 34.036608, -111.287602 (1); 34.026095, -111.283898 (2). July 7, 2025.

Significant cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Seventy-Six allotment. 34.028445, -111.285323. July 7, 2025.

Significant cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Seventy-Six allotment. 34.060819, -111.287658 (2). July 7, 2025.

Hardt Creek allotment

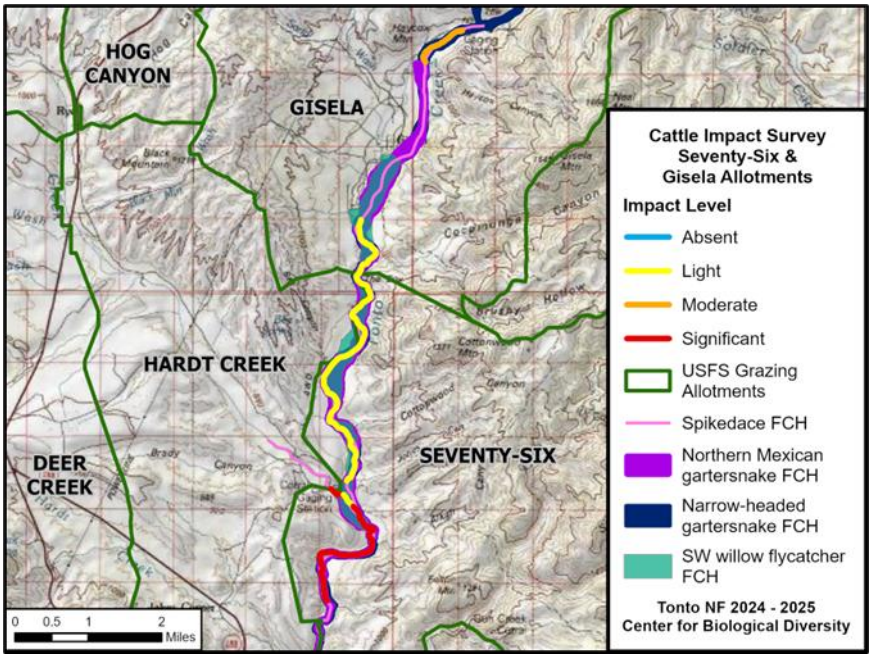


Figure 10. Map of 2025 cattle impacts on the Hardt Creek allotment, Tonto National Forest.

Cattle damage to northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Hardt Creek allotment. 34.059937, -111.289830 (2). July 7, 2025.

Continued cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Hardt Creek allotment. 34.059968, -111.289114. July 7, 2025

Gisela allotment

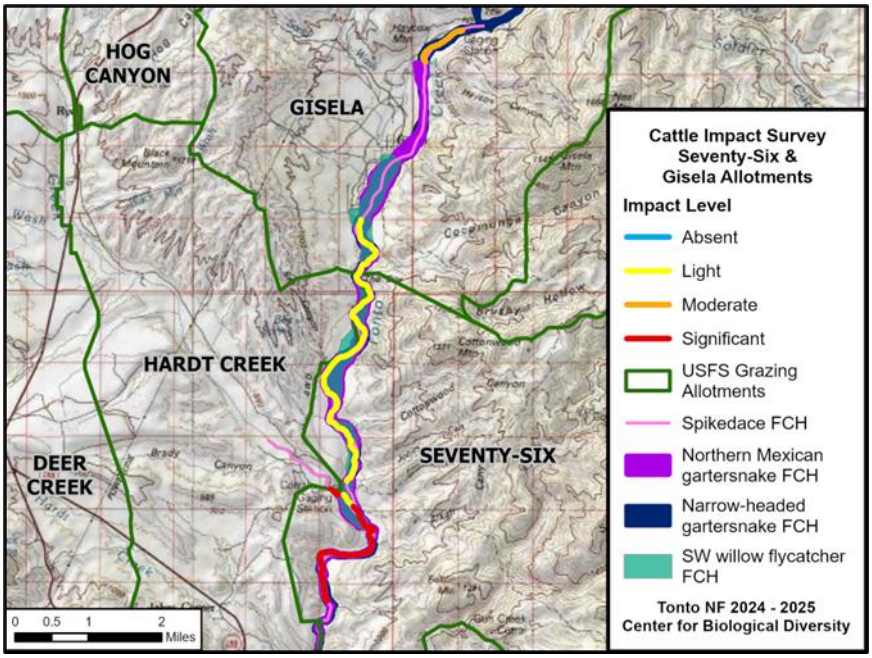


Figure 11. Map of 2025 cattle impacts on the Gisela allotment, Tonto National Forest.

Cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Gisela allotment. 34.082406, -111.284207. July 4, 2025.

Cattle damage to spikedace, northern Mexican and narrow-headed garter snake, and southwestern willow flycatcher critical habitat in the Gisela allotment. 34.085716, -111.287011. July 4, 2025.

Tonto Basin allotment

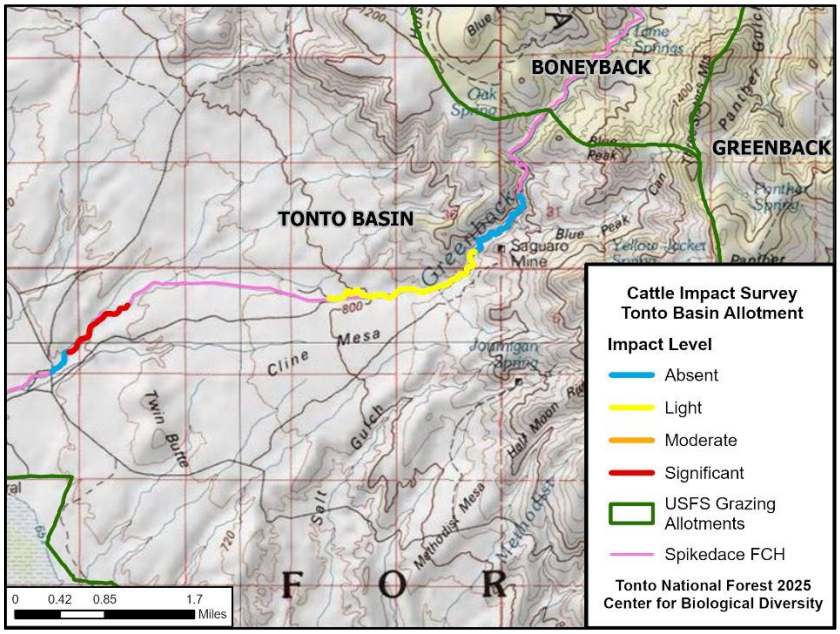


Figure 12. Map of 2025 cattle impacts on the Tonto Basin allotment, Tonto National Forest.

Significant cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. 33.801821, -111.242969. June 24, 2025.

Significant cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. Cattle were observed during the survey. 33.800524, -111.243965. June 24, 2025.

Significant unauthorized, trespass cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. 33.808387, -111.197145. June 24, 2025.

Significant cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. 33.806025, -111.238893. June 24, 2025.

Significant cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. Cattle were observed during the survey. 33.806484, -111.236905. June 24, 2025.

Significant unauthorized, trespass cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. 33.807871, -111.196040. June 24, 2025.

Significant unauthorized, trespass cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. 33.809309, -111.184049. June 24, 2025.

Significant unauthorized, trespass cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. 33.810320, -111.181729. June 24, 2025.

Significant unauthorized, trespass cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. 33.810697, -111.180424. June 24, 2025.

Significant unauthorized, trespass cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. Cows were observed and present during the survey. 33.802977, -111.242271 (1); 33.803296, -111.240753 (2). June 24, 2025.

Significant unauthorized, trespass cattle damage to designated spikedace critical habitat in Greenback Creek, Tonto Basin allotment. 33.805237, -111.240536. June 24, 2025.

Bull Springs allotment

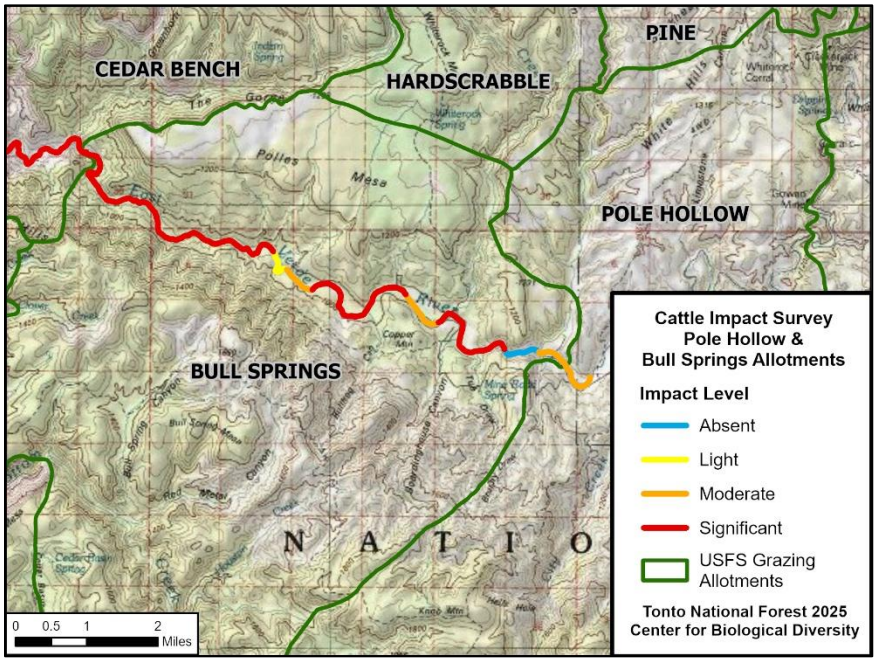


Figure 13. Map of 2025 cattle impacts on the Bull Springs allotment, Tonto National Forest.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.223306, -111.500689. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.222446, -111.504546. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.221800, -111.509259. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.225284, -111.511322. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. Cattle can be seen in the far background. 34.228584, -111.512009. August 12, 2025.

Tagged, branded bull in occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.229364, -111.512603. August 12, 2025.

Cattle and significant damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.229355, -111.513063. August 12, 2025.

Significant cattle damage to riparian tree regeneration zone in occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.234189, -111.530155. August 12, 2025.

Browsed cottonwood recruitment in occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.229578, -111.513030. August 12, 2025.

Significant cattle damage, including browsed cottonwood recruitment, in occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.233893, -111.530581. August 12, 2025.

Browsed cottonwood recruitment in occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.232710, -111.540444. August 12, 2025.

Significant cattle damage in occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.234853, -111.542273. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.235181, -111.545974. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.242385, -111.557613. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.242682, -111.557821. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.244849, -111.574638. August 12, 2025.

Significant cattle damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Bull Springs allotment. 34.245319, -111.578012. August 13, 2025.

Cedar Bench allotment

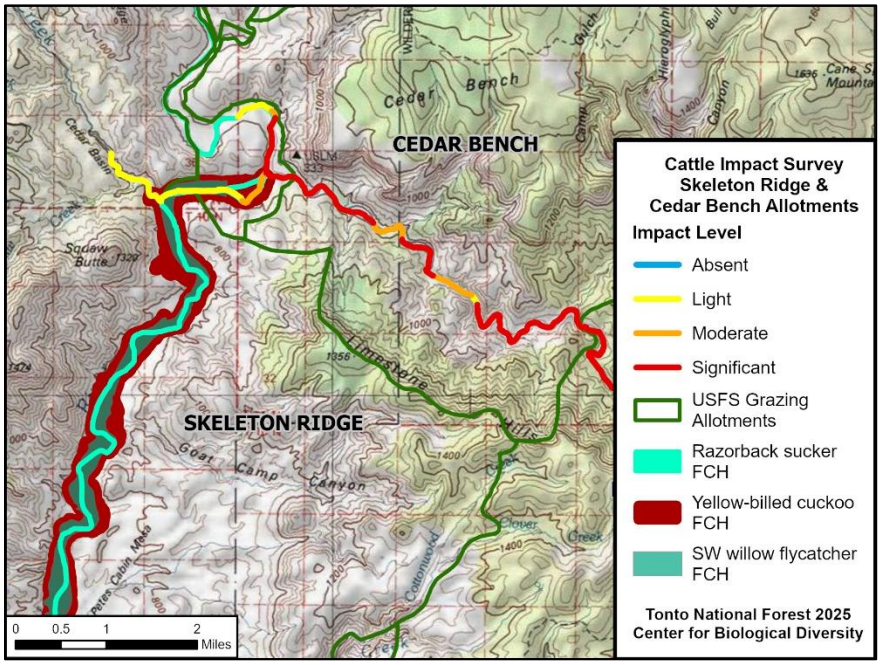


Figure 14. Map of 2025 cattle impacts on the Cedar Bench allotment, Tonto National Forest.

Trespass cattle and significant damage to occupied yellow-billed cuckoo breeding habitat along the East Verde River on the Cedar Bench allotment. 34.262062, -111.610526. August 13, 2025.

Significant trespass cattle damage along the Verde River, in the off-limits River Pasture on Cedar Bench allotment, adjacent to razorback sucker critical habitat. 34.296231, -111.665589. February 1, 2025.

Significant trespass cattle damage along the Verde River, in the off-limits River Pasture on Cedar Bench allotment, adjacent to yellow-billed cuckoo and razorback sucker critical habitat. 34.290067, -111.662602. February 1, 2025.

Significant trespass cattle damage along the Verde River, in the off-limits River Pasture on Cedar Bench allotment, adjacent to yellow-billed cuckoo and razorback sucker critical habitat. 34.293515, -111.662213. February 1, 2025.

Significant trespass cattle damage along the Verde River, in the off-limits River Pasture on Cedar Bench allotment, adjacent to yellow-billed cuckoo and razorback sucker critical habitat. 34.288213, -111.663402. February 1, 2025.

Significant trespass cattle damage along the Verde River, in the off-limits River Pasture on Cedar Bench allotment, adjacent to yellow-billed cuckoo and razorback sucker critical habitat. 34.290505, -111.663225. August 13, 2025.

Significant trespass cattle damage along the Verde River, in the off-limits River Pasture on Cedar Bench allotment, adjacent to yellow-billed cuckoo and razorback sucker critical habitat. 34.294212, -111.662573. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.286726, -111.662062. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.278844, -111.644650. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.277152, -111.641134. August 13, 2025.

Significant trespass cattle damage to riparian regeneration along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.275647, -111.636111. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.262394, -111.622658. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.263305, -111.621378. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.262779, -111.612718. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.262373, -111.611834. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.262363, -111.609985. August 13, 2025.

Significant trespass cattle damage along the East Verde River, in the off-limits River Pasture on Cedar Bench allotment. 34.263133, -111.608717. August 13, 2025.

Pole Hollow allotment

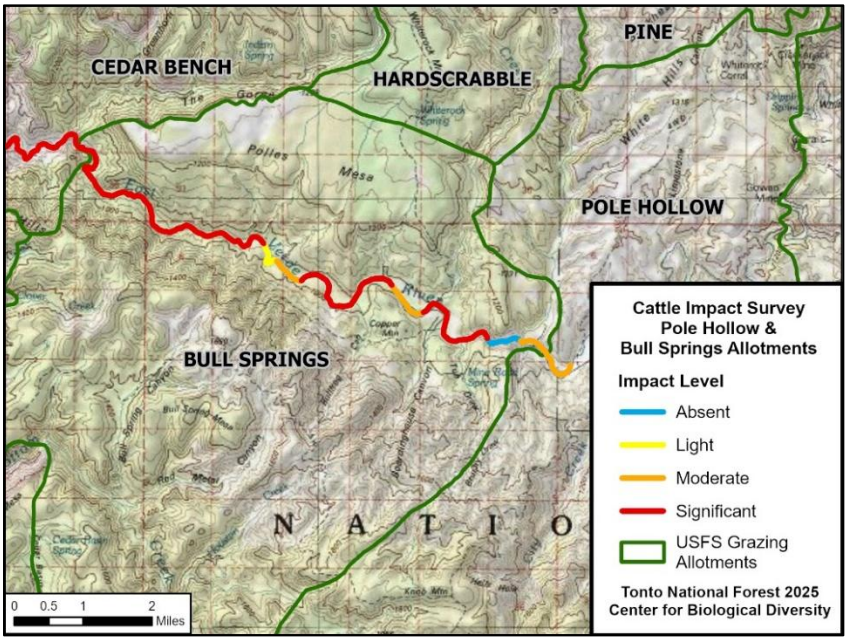


Figure 15. Map of 2025 cattle impacts on the Pole Hollow allotment, Tonto National Forest.

Trespass cattle damage along the East Verde River, in the off-limits Bull Pasture on Pole Hollow allotment. 34.216000, -111.482717. August 12, 2025.

More evidence of trespass cattle along the East Verde River, in the off-limits Bull Pasture on Pole Hollow allotment. 34.216000, -111.482717. August 12, 2025.

Appendix A. Survey Methods

Since 2017, Center for Biological Diversity field biologists have conducted field assessments of livestock grazing impacts to aquatic and riparian critical habitat in the Southwest, including impacts to the physical and biological features that are essential to the conservation of endangered and threatened species.

Field assessments characterize livestock grazing impacts to aquatic and riparian critical habitat and document whether livestock are present in critical habitats from which they have been excluded under previous agency decisions. These transect assessments characterize, photograph, and rank damage from livestock grazing to primary constituent elements (PCEs) and physical or biological features (PBFs) of critical habitat. This includes (1) removal of herbaceous vegetation and grasses, and (2) multi-year woody stems and regeneration, (3) severity and extent of soil and ground disturbances, (4) severity and extent of streambank degradation, as well as checking functionality of grazing exclosures.

On an annual basis, survey data are recorded and databased with updated, georeferenced photographs. Using a standardized protocol, surveyors record:

(1) severity of grazing impacts on herbaceous vegetation and grasses;
(2) severity of browsing impacts on streamside woody regeneration;
(3) severity of ground disturbances from trailing, trampling, and wallowing;
(4) extent of ground disturbances from trailing, trampling, and wallowing;
(5) severity of streambank degradation; and
(6) extent of streambank degradation.

Each survey is broken down into ¼-½ mile field-delineated segments of designated critical habitat based on topography, access, and trends in severity of cattle impacts. At each segment endpoint, a condition score is recorded for each of the six impact categories along a range of 0 to 4 based on the severity and extent of the impact (see Table A-1 below). A segment is rated 0 for a particular category if no evidence of impact is observed, 1 if impacts are limited, 2 if impacts are light and scattered, 3 if impacts are moderate and widespread, and 4 if impacts are severe and pervasive. Following field surveys of designated stream reaches, each segment's "overall impact level" (defined as absent, light, moderate or significant) is calculated. To determine overall impact level, condition severity scores for each segment endpoint are collated and weighted (see table A-2 below).

Multiple georeferenced photographs are taken per survey segment to document and corroborate condition scores. Overall livestock impacts are summarized and mapped by allotment and critical habitat stream segment. All data are stored in a GIS database alongside hundreds of corresponding photographs documenting damage to critical habitat stream reaches. These data are the most comprehensive, quantifiable, and up-to-date assessments of riparian conditions and cattle occupancy for each area surveyed. Transect field assessments provide the best available scientific information about the condition of aquatic and riparian critical habitats in the Southwest.

Table A-1. Condition descriptors and severity score guidelines for the six cattle impact categories used in stream assessment surveys.

Category	Condition 1	Condition 2	Condition 3	Condition 4
GRAZING EVIDENCE ON GRASSES AND HERBACEOUS GROWTH	**LIMITED** Less than 1% of the grasses impacted.	**LIGHT** Few patches of grazed areas, selective grazing in patches.	**MODERATE** Multiple grass patches grazed, more than 20% of grass impacted in patches.	**SEVERE** Multiple patches grazed, heavy grazing pressure (more than 30%) in patches.
BROWSE PRESSURE/WOODY STEMS	**LIMITED** Less than 1% of woody stems impacted.	**LIGHT** Browsing limited to multi-year stems.	**MODERATE** Browse pressure on near channel woody recruitment.	**SEVERE** Multiple green-line or near-channel recruitment browse.
GROUND COVER DISTURBANCE/INTENSITY	**LIMITED** Only transient evidence of use; no examples of sustained use.	**LOW** Trailing apparent and/or cow trails developing.	**MODERATE** Multiple, well-worn trails with examples of wallows and rutting. Bare soils developing.	**SEVERE** Trails, plus wallows, rutting and soil compaction leading to more denuded ground. Large areas of bare soils.
GROUND COVER DISTURBANCE/EXTENT	**LIMITED** Isolated example of ground disturbance. Evidence of only transient use.	**SCATTERED** Trails or other disturbances in more than one location throughout segment.	**MODERATE** Trails meander through entire segment, three or more examples of bare soil from cattle across segment (see above).	**PERVASIVE** Multiple locations of disturbance and multiple types of disturbances including severe, moderate and low (see above).
STREAMBANK DEGRADATION/INTENSITY	**LIMITED** Cattle sign present but no obvious signs of bank degradation.	**LOW** Trails lead to streambanks and water, evidence of cows in stream.	**MODERATE** Trailing creating unstable banks with evidence of chiseling, shearing, or crumbling via hoof action.	**SEVERE** Trailing leads to chutes, shearing and/or removal of portions of the streambank. Vertical surfaces may be present. Evidence of cows lingering in stream.
STREAMBANK DEGRADATION/EXTENT	**LIMITED** Isolated example of streambank entry.	**SCATTERED** Low to moderate bank degradation in more than one location.	**MODERATE** Three or more examples of low to moderate degradation across segment (see above).	**PERVASIVE** Multiple examples of low, moderate, ***and*** severe degradation (see above).

Table A-2. Weighting table for overall impact levels of stream reach segments based on condition scores (0-4) from the six categories of cattle impacts.

ABSENT	LIGHT IMPACT	MODERATE IMPACT	SIGNIFICANT IMPACT
ALL ZEROS	ANY COMBINATION OF ONE'S & TWOS & ZEROS	AT LEAST (5) TWOS WITH ANY OTHER NUMBER	ANY TIME THERE ARE (3) THREES WITH ANY OTHER COMBINATION OF NUMBERS
		ANY COMBINATION OF TWOS, THREES, AND ONE'S	ANY COMBINATION OF NUMBERS WITH AT LEAST (1) FOUR
	(UNLESS (5) TWOS-` then moderate)	*(UNLESS (3) THREES- then significant)*	

ATTACHMENT 4

Livestock Damage to Aquatic and Riparian Critical Habitat in the U.S. Southwest: Field Assessment Results 2017-2024

Grazed yellow-billed cuckoo riparian critical habitat on Montana allotment, Coronado National Forest. May 5, 2021.

Center for Biological Diversity

March 2025

Executive Summary

This report provides the Bureau of Land Management (BLM), U.S. Forest Service (FS), and U.S. Fish and Wildlife Service (FWS) the results of the Center for Biological Diversity's (Center) field assessments of livestock grazing damage to aquatic and riparian critical habitat on federal public land in Arizona, New Mexico, and Utah from 2017-2024.

Since 2017, we've assessed critical habitat within a total of 213 federally managed grazing allotments (178 FS and 35 BLM), and in critical habitat administered by both agencies outside of allotments. Administrative units include the Apache-Sitgreaves, Coconino, Coronado, Gila, Lincoln, Prescott, Santa Fe, and Tonto National Forests; the Phoenix, Gila, Hassayampa, and Paria River BLM Districts; two BLM-administered National Monuments (Grand Staircase-Escalante and Agua Fria); and two BLM-administered Riparian National Conservation Areas (Gila Box and San Pedro).

Field assessments characterize livestock grazing impacts to aquatic and riparian critical habitat and document whether livestock are present in critical habitats from which they have been excluded under previous agency decisions. Assessments involve critical habitat for spikedace, loach minnow, Gila chub, razorback sucker, Chiricahua leopard frog, Jemez Mountains salamander, narrow-headed garter snake, northern Mexican garter snake, southwestern willow flycatcher, western yellow-billed cuckoo, Mexican spotted owl, New Mexico meadow jumping mouse, jaguar, Arizona eryngo, and Huachuca water umbel. Other ESA-listed species including desert pupfish and Gila topminnow may be found in some survey areas but lack critical habitat.

This report constitutes the best available scientific information regarding the condition of the Southwest's aquatic and riparian critical habitat because the agencies lack systematic monitoring of the condition of physical and biological features that are essential to conservation of endangered and threatened species. We report results in summary tables organized by year, administrative unit, jurisdiction, and allotment. We present stream miles and percentages of cattle impact levels by district, allotment, and year. We also present comparative data of moderate-significant impacts across all survey years. Results synthesize thousands of georeferenced datapoints that are databased at the Center alongside accompanying photographs of damaged critical habitat.

Of the cumulative 2,435.6 critical habitat stream miles surveyed[1], 50 percent of the cumulative total (1,197.8 miles) showed significant damage from livestock grazing; 13 percent (315.0 miles) showed moderate damage; 23 percent (558.1 miles) showed light damage, and 14 percent (364.7 miles) showed no damage (Table 1). In 2024, assessments across 489.3 critical habitat stream miles show 45 percent of miles (217.9 miles) with significant damage, 13 percent (63.2 miles) with moderate damage, 16 percent (79.5 miles) with light damage, and 26 percent (126 miles) with no damage.

Our data show that across all survey years, and continuing in 2024, livestock grazing is causing moderate or significant damage and ongoing degradation of aquatic and riparian critical

[1] The cumulative total includes stream segments that were resurveyed in subsequent years.

habitat across federal land jurisdictions regionally. Results show that livestock grazing remains an impediment to the survival and recovery of threatened and endangered species in the Southwest. Federal agency action is needed to protect riparian critical habitat from livestock grazing damage and to prevent resultant jeopardy of threatened and endangered species in Arizona, New Mexico, and Utah. Otherwise, status quo federal agency livestock management risks driving to extinction those species that rely on riparian habitat here.

Background

More than a century of livestock grazing in Southwestern riparian ecosystems has led to a decline in insects, fish, reptiles, amphibians, birds, mammals, ground cover, biomass, and native vegetation,[2] making grazing the most destructive and widespread activity wrought on desert rivers and watersheds since the arrival of American settlers.

Decades of scientific research comparing grazed and ungrazed areas have documented that livestock grazing in the arid Southwest negatively effects water quality and quantity, stream channel morphology, hydrologic function, soil stability, streambank vegetation, and aquatic and riparian wildlife—proving that livestock grazing is an ecological catastrophe.[3]

FS scientists have concluded that grazing is the most studied threat to riparian areas in the American West[4] and that livestock use is incompatible with maintenance of habitat for wetland and riparian wildlife.[5] Livestock grazing effects have contributed to the listing of many threatened and endangered species, including the yellow-billed cuckoo,[6] spikedace and loach minnow,[7] northern Mexican and narrow-headed garter snakes,[8] and others.

Grazing impacts on riparian areas fall into four categories: impacts on streamside vegetation, stream channel morphology, water quality/quantity, and streambanks.[9] Collectively,

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[2] Krueper, D.J. 1996. Effects of livestock management on Southwestern riparian ecosystems. Pp 281-301 in Shaw, D.W., and D.M. Finch. 1996. Desired future conditions for Southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RMRS-GTR-272. USDA Forest Service, Fort Collins, CO. 359 p.

[3] Belsky, A.J., A. Matzke, and S. Uselman. 1999. Survey of Livestock Influences on Stream and Riparian Ecosystems in the Western United States. *Journal of Soil and Water Conservation* 54: 419-431.

[4] Poff, B., K.A. Koestner, D.G Neary, and D. Merritt. 2012. Threats to western United States riparian ecosystems: A bibliography. Gen. Tech. Rep. RMRS-GTR-269. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 78 p.

[5] Zwartjes, P.W., J.E. Cartron, P.L.L. Stoleson, W.C. Haussamen, and T.E. Crane. 2005. Assessment of Native Species and Ungulate Grazing in the Southwest: Terrestrial Wildlife. Gen. Tech. Rep. RMRS-GTR-142. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 74 p.

[6] 60 Fed. Reg. at 10707 ("*Overuse by livestock has been a major factor in the degradation and modification of riparian habitats in the United States … Livestock grazing in riparian habitats typically results in reduction of plant species diversity and density, especially of palatable plants like willow and cottonwood saplings*.")

[7] 77 Fed. Reg. at 10818 ("*Impacts associated with roads and bridges, changes in water quality, improper livestock grazing, and recreation have altered or destroyed many of the rivers, streams, and watershed functions in the ranges of the spikedace and loach minnow*.")

[8] 79 Fed. Reg. at 38718 ("*We found numerous effects of livestock grazing that have resulted in the historical degradation of riparian and aquatic communities that have likely affected northern Mexican and narrow-headed gartersnakes.*")

[9] Kauffman, J.B., and W.C. Krueger. 1984. Livestock impacts on riparian plant communities and streamside management implications-a review. *Journal of Range Management* 37(5): 430-438.

these impacts to vegetation, soils, and water lead to losses of wildlife habitat, reduced stream flow, increased pollution, and eradication of plant and animal species.[10] Grazing on riparian plants reduces vegetative cover and exposes soil to erosion, which in combination with streambank trampling leads to increased erosion and turbidity.[11] Livestock congregating in riparian areas feed on native tree and shrub regeneration, disrupting their reproductive cycle and leading to destabilized streambanks,[12] increased water temperatures, loss of hiding and breeding cover, and defecation and urination directly in the water. Reduced rainfall infiltration into soil[13] and increased sediment loads combine to exacerbate riparian ecosystem decline and increase stream down-cutting.[14]

Grazing in adjacent arid uplands and river terraces is equally destructive, with impacts to biological soil crusts, vegetation, soils, and wildlife.[15] A comprehensive review of grazing impacts in the Southwest concluded that no current grazing management system used by land managers is appropriate for the Sonoran Desert.[16] Cattle grazing also negatively impacts high-elevation montane riparian meadows and creeks through hydrologic changes, soil compaction, erosion, bank instability, and siltation.[17] Often, these impacts can have greater effects on wildlife than do wildfires.[18]

The only widely accepted way to eliminate cattle impacts and restore stream health is the exclusion of domestic grazers. When maintained, grazing exclosure fencing protects riparian areas and leads to rapid recovery of vigorous native vegetation,[19] which is critical to maintain streambank stability and provide habitat to riparian and aquatic wildlife.[20] Furthermore, removal of livestock from sensitive ecosystems, such as Southwestern riparian areas, is a critical component of adapting to climate change.[21] Prominent fish scientists have concluded that livestock grazing has been a major factor in eliminating native fishes from portions of their

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[10] Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: a quantitative review. *Western North American Naturalist* 60(2): 155-164.
[11] Trimble, S.W., and A.C. Mendel. 1995. The cow as a geomorphic agent - a critical review. *Geomorphology* 13(1995): 233-253.
[12] Patten, D.T. 1998. Riparian ecosystems of Semi-Arid North America: Diversity and Human Impacts. *Wetlands* 18(4): 498-512.
[13] Gifford, G.F., and R.H. Hawkins. 1978. Hydrologic Impact of Grazing on Infiltration: A Critical Review. *Water Resources Research* 14(2): 305-313.
[14] Obedzinski, R.A., C.G. Shaw, and D.G. Neary. 2001. Declining woody vegetation in riparian ecosystems of the Western United States. *Journal of Applied Forestry*. 16(4): 169-181.
[15] Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: a quantitative review. *Western North American Naturalist* 60(2): 155-164.
[16] Hall, J.A., S. Weinstein, and C.L. McIntyre. 2005. The Impacts of Livestock Grazing in the Sonoran Desert: A Literature Review and Synthesis. The Nature Conservancy in Arizona, Tucson.
[17] Federal Register Vol. 57 No. 225, November 20, 1992, Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for the Plant "*Salix arizonica*" (Arizona willow), with Critical Habitat.
[18] Horncastle, V.J., C.L. Chambers, and B.G. Dickson. 2019. Grazing and Wildfire Effects on Small Mammals Inhabiting Montane Meadows. Journal of Wildlife Management 83(3): 534-543.
[19] Schulz, T.T., and W.C. Leininger. 1990. Differences in riparian vegetation structure between grazed areas and exclosures. *Journal of Range Management* 43(4): 295-299.
[20] Sarr, D.A. 2002. Riparian Livestock Exclosure Research in the Western United States: A Critique and Some Recommendations. *Environmental Management* 30(4): 516-526.
[21] Beschta, R.L., D.L. Donahue, D.A. DellaSala, J.J. Rhodes, J.R. Karr, M.H. O'Brien, T.L. Fleischner, and C.D. Williams. 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. *Environmental Management* 51: 474-491.

historic ranges[22] and that habitat degradation is most easily reversed by excluding livestock from the riparian area.[23]

As briefed here, the scientific literature documenting the impacts of livestock grazing on ecosystems is extensive and universally shows severe and lasting negative impacts.[24] Livestock removal leads to a rapid regrowth of riparian willow shrub communities[25] and reestablishment of high-quality habitat[26] and avian populations.[27] But full recovery of mature deciduous forests and the diversity that comes with them takes decades of cattle exclusion,[28] meaning monitoring, enforcement, and maintenance of riparian exclosures is crucial. Complete exclusion of livestock animals is urgently needed to protect critical habitat and ensure the recovery and viability of native wildlife.

Since 2017, Center for Biological Diversity field biologists have conducted field assessments of livestock grazing impacts to aquatic and riparian critical habitat in the Southwest, including impacts to the physical and biological features that are essential to the conservation of endangered and threatened species.

This effort is compelled by: (1) the well-known negative impacts that livestock grazing and congregation in aquatic and riparian areas have on ecosystems and imperiled species; (2) the observed increasing presence of livestock in livestock-excluded riparian critical habitats in the Southwest, and the deteriorating condition of those habitats in recent decades; and (3) the failure of federal agencies to systematically monitor the health of riparian ecosystems in the context of habitat requirements of threatened and endangered species, and their failure to systematically detect and remove livestock congregating in riparian critical habitat.

Field assessments characterize livestock grazing impacts to aquatic and riparian critical habitat and document whether livestock are present in critical habitats from which they have been excluded under previous agency decisions. These transect assessments characterize, photograph, and rank damage from livestock grazing to primary constituent elements (PCEs) and physical or biological features (PBFs) of critical habitat. This includes (1) herbaceous vegetation and grasses, (2) multi-year woody stems and regeneration, (3) soil and ground disturbance

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[22] Propst, D.L. 1999. Threatened and endangered fishes of New Mexico. Tech. Rpt. No. 1. New Mexico Department of Game and Fish, Santa Fe, NM at page 15.

[23] Pritchard, V.L. and D.E. Crowley. 2006. Rio Grande Cutthroat Trout (*Oncorhynchus clarkii virginalis*): A Technical Conservation Assessment. Prepared for the USDA Forest Service, Rocky Mountain Region, Species Conservation Project. Department of Fishery and Wildlife Sciences, New Mexico State University, Las Cruces, NM.

[24] Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. *Conservation Biology* 8(3): 629-644.

[25] Holland, K.A., W.C. Leininger, and M.J. Trlica. 2005. Grazing History Affects Willow Communities in a Montane Riparian Ecosystem. *Rangeland Ecology and Management* 58: 148-154.

[26] Krueper, D., J. Bart, and T.D. Rich. 2003. Response of vegetation and breeding birds to the removal of cattle on the San Pedro River, Arizona (U.S.A.). *Conservation Biology* 17(2): 607-615.

[27] Poessel, S.A., J.C. Hagar, P.K. Haggerty, and T.E. Katzner. 2020. Removal of cattle grazing correlates with increases in vegetation productivity and in abundance of imperiled breeding birds. *Biological Conservation* 241 (2020): 108378.

[28] Szaro, R.C., and C.P. Pase. 1983. Short-term Changes in a Cottonwood-Ash-Willow Association on a Grazed and an Ungrazed Portion of Little Ash Creek in Central Arizona. *Journal of Range Management* 38(3): 382-384.

intensity, (4) soil/ground cover disturbance extent, (5) intensity of streambank degradation, and (6) extent and pervasiveness of streambank erosion, as well as checking exclosures.

Field assessments have included critical habitat for spikedace, loach minnow, Gila chub, razorback sucker, Chiricahua leopard frog, Jemez Mountains salamander, narrow-headed garter snake, northern Mexican garter snake, southwestern willow flycatcher, western yellow-billed cuckoo, Mexican spotted owl, New Mexico meadow jumping mouse, jaguar, Arizona eryngo, and Huachuca water umbel.

Each year, survey data are recorded and databased with updated, georeferenced photographs. Overall livestock impacts are summarized and mapped by allotment and critical habitat stream segment (see Appendix A). All data are stored in a GIS database alongside hundreds of corresponding photographs documenting damage for critical habitat stream reach. These data are the most comprehensive, quantifiable, and up-to-date assessments of riparian conditions and cattle occupancy for each area surveyed. Transect field assessments provide the best available scientific information about the condition of aquatic and riparian critical habitats in the Southwest.

Methods

On an annual basis, professional field biologists document livestock impacts to standing waters, riparian vegetation, soils, and streambanks within designated critical habitat and examine protective fencing where applicable. Hundreds of georeferenced photo points are taken along each segment to document evidence of livestock impacts. Using a standardized protocol, surveyors record:

(1) severity of grazing impacts on herbaceous vegetation and grasses;
(2) severity of browsing impacts on streamside woody regeneration;
(3) severity of ground disturbances from trailing, trampling, and wallowing;
(4) extent of ground disturbances from trailing, trampling, and wallowing;
(5) severity of streambank degradation; and
(6) extent of streambank degradation.

Each survey is broken down into ¼-½ mile field-delineated segments of designated critical habitat based on topography, access, and trends in severity of cattle impacts. At each segment endpoint, a condition score is recorded for each of the six impact categories along a range of 0 to 4 based on the severity and extent of the impact. A segment is rated 0 for a particular category if no evidence of impact is observed, 1 if impacts are limited, 2 if impacts are light and scattered, 3 if impacts are moderate and widespread, and 4 if impacts are severe and pervasive. Following field surveys of designated stream reaches, each segment's "overall impact level" (defined as absent, light, moderate or significant) is calculated. To determine overall impact level, condition severity scores for each segment endpoint are collated and weighted (see Appendix A).

Results

Since 2017, the Center has conducted surveys on 178 grazing allotments administered by the FS on eight national forests in Arizona and New Mexico, 35 grazing allotments administered by the BLM in Arizona and Utah, and in critical habitat administered by both agencies on public

lands outside of active grazing allotments where poorly managed and illegal cattle have shown repeated or sustained presence. Cattle impacts assessed result from a combination of authorized, unauthorized, trespass and feral cattle.

Not all allotments were surveyed every year. Therefore, each year represents a snapshot in time and often includes a varying number and combination of allotments (and therefore total critical habitat miles) surveyed. While Center biologists did not revisit each allotment every year over the eight years beginning in 2017, many allotments were surveyed consistently across multiple years.

Most survey mileage represents comprehensive transects of all critical habitat miles within an allotment (or other management unit). Some surveys were 'spot checks' in known problem areas, and thus the percentages of moderate to significant impacts reported do not necessarily represent a comprehensive description of all critical habitat allotment-wide (e.g., the Diamond Bar and Redstone on the Gila National Forest). Conversely, some spot checks represent inspections of grazing exclosures where impacts were found to be absent (Lincoln National Forest, 2024). In instances where survey miles are low with high percentages of 'significant' or 'absent' impact levels, caution should be used when extending results to all critical habitat within an entire allotment. This report is meant to be a broad summary of our region-wide cattle impact survey findings to date.

Results are presented in miles of overall impact level and percentage of overall impact level of the total miles surveyed per year, administrative unit, district, and allotment. We present the annual total percentage of moderately to significantly impacted miles by administrative unit, district and allotment. We also present the cumulative miles of overall impact level recorded and the percentage of those impact levels of the cumulative total of critical habitat miles surveyed to date.

To summarize the total collective effort to date, eight years of critical habitat surveys across 2,435.6 cumulative stream miles show 50 percent of the cumulative total (1,197.8 miles) with significant damage from unauthorized livestock grazing; 13 percent (315.0 miles) with moderate damage; 23 percent (558.1 miles) with light damage, and 14 percent (364.7 miles) with no damage (Table 1). In 2024, assessments across 489.3 critical habitat stream miles show 45 percent of miles (217.9 miles) with significant damage, 13 percent (63.2 miles) with moderate damage, 16 percent (79.5 miles) with light damage, and 26 percent (128.6 miles) with no damage (Table 1).

Table 1. Cattle impacts on designated critical habitat across all FS and BLM public land jurisdictions from 2017-2024.

	Absent		Light		Moderate		Significant		TOTAL
Year	miles	percent	miles	percent	miles	percent	miles	percent	miles
2017	11.78	9.85%	19.07	15.95%	15.27	12.77%	73.46	61.43%	119.59
2018	27.66	30.08%	16.96	18.44%	14.56	15.84%	32.77	35.64%	91.96
2019	60.54	18.68%	105.15	32.44%	39.17	12.08%	119.25	36.79%	324.13
2020	8.49	13.61%	22.11	35.47%	6.42	10.30%	25.32	40.62%	62.34
2021	47.19	11.78%	35.73	8.92%	51.89	12.95%	265.71	66.34%	400.52
2022	63.06	13.07%	121.43	25.17%	54.66	11.33%	243.27	50.43%	482.42
2023	17.37	3.73%	158.05	33.97%	69.82	15.00%	220.09	47.30%	465.33
2024	128.63	26.28%	79.55	16.26%	63.22	12.92%	217.96	44.54%	489.35
TOTAL	**364.72**	**14.05%**	**558.06**	**22.72%**	**315.00**	**13.27%**	**1197.84**	**49.97%**	**2435.63**

To better illustrate annual results and trends over time, we herein break the cumulative totals down by year, administrative unit, district, and individual grazing allotment.

Forest Service, Region 3

Apache-Sitgreaves National Forest (Arizona)

The Apache-Sitgreaves National Forest (ASNF) contains designated critical habitat for ten different threatened and endangered species surveyed by the Center, including spikedace, loach minnow, Gila chub, Apache trout, Chiricahua leopard frog, narrow-headed garter snake, northern Mexican garter snake, southwestern willow flycatcher, western yellow-billed cuckoo, and New Mexico meadow jumping mouse.

Aggregate data concerning ASNF surveys 2017-2024 is contained in Table 2; Tables 3-10 include data for each year of surveys. From 2017-2024, the Center surveyed 446.44 miles of public lands critical habitat designations on the ASNF for cattle impacts (range 4.3-92.9 miles/year, average 63.8 miles/year, Tables 2-10). Percent of survey miles moderately to significantly impacted by cattle on the Alpine Ranger District ranged from 23% (2018) to 44% (2023), with an average of 31.2 % across all survey years. The worst allotment was Raspberry allotment, which showed 100% of survey miles degraded by cattle in 2018 and 2021-2024.

Percent of survey miles moderately to significantly impacted on the Clifton Ranger District ranged from 0% (2019) to 100% (2020), with an average of 73.5% across all survey years. There are several allotments chronically degraded by cattle on this District, including, but not limited to, the Hickey, Pigeon, and Dark Canyon allotments.

In 2024, Cattle Impact Surveys continued for the seventh consecutive year on ASNF. In 2024, the Center surveyed 92.87 miles on 21 different grazing allotments. Of these allotments, ten had moderate to significant cattle impacts on the majority of designated critical habitat miles surveyed. Critical habitat on the Springerville Ranger District was only surveyed in 2018 and 2024, but in 2024, 20% of critical habitat miles were shown to have moderate to severe cattle impacts with these designations.

Table 2. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the Apache-Sitgreaves National Forest, by district and allotment, from 2017-2024.

Allotment	2017	2018	2019	2020	2021	2022	2023	2024
Alpine Ranger District		23%	28%		41%	37%	44%	26%
Alpine GRA			0%					0%
Black River & Black River GRA		0%						0%
Bobcat-Johnson		0%			0%	0%	0%	
Colter Creek & Nutrioso GRA								0%
Cow flat		100%			0%	0%	53%	
Coyote-Whitmer		43%	100%					
Fishhook/Steeple Mesa		0%			26%	6%	31%	
Foote Creek								
Grandfather								18%
Lower Campbell Blue		0%						
Not in allotment								0%
PS								24%
Raspberry		100%			100%	100%	100%	100%
Red Hill		51%			0%	0%	0%	
South Escudilla & Nutrioso Summer								0%
Sprucedale/Reno & Hannagan								2%
Turkey Creek		0%						
Upper Campbell Blue			32%					
West Fork								21%
Williams Valley			0%					24%
Clifton Ranger District	87%	95%	0%	100%	83%	61%	83%	79%
Black Jack			0%					
Dark Canyon		100%			96%	64%	100%	96%
Double Circle		98%			73%	13%	44%	
East Eagle		61%		100%	0%	0%	100%	100%
Hickey	87%	100%			100%	86%	90%	65%
Mud Springs		92%			91%	30%	100%	100%
Pigeon	100%				100%		100%	100%
Pleasant Valley	82%		0%		72%	34%	55%	89%
San Francisco			0%				22%	
Sandrock		99%			76%	58%	100%	64%
Sandrock/Wildbunch							100%	
Strayhorse			0%			0%		
Tule		100%						100%
Wildbunch	100%	100%				100%	85%	100%
Springerville Ranger District		5%						20%
26 Bar								0%
Greer		5%						
Not in allotment								0%
Reservation								0%
Udall								0%
Voigt								45%

Table 3. Critical habitat survey miles impacted by cattle on the Apache-Sitgreaves National Forest in 2017.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Clifton Ranger District		0.0%	1.91	13.5%	2.86	20.3%	9.34	66.2%	14.11
Hickey		0.0%	1.37	13.3%	1.77	17.1%	7.20	69.6%	10.34
Pigeon		0.0%		0.0%		0.0%	0.57	100.0%	0.57
Pleasant Valley		0.0%	0.53	17.7%	1.09	36.2%	1.39	46.2%	3.01
Wildbunch		0.0%		0.0%		0.0%	0.18	100.0%	0.18

Table 4. Critical habitat survey miles impacted by cattle on the Apache-Sitgreaves National Forest in 2018.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Alpine Ranger District	25.31	58.2%	7.95	18.3%	1.29	3.0%	8.91	20.5%	43.46
Black River & Black River GRA	7.48	74.5%	2.56	25.5%		0.0%		0.0%	10.04
Bobcat-Johnson	5.83	100.0%		0.0%		0.0%		0.0%	5.83
Cow Flat		0.0%		0.0%		0.0%	0.58	100.0%	0.58
Fishhook/Steeple Mesa	2.44	37.8%	1.26	19.4%	0.75	11.6%	2.01	31.1%	6.46
Foote Creek	4.11	86.6%	0.63	13.4%		0.0%		0.0%	4.74
Lower Campbell Blue	4.01	58.3%	2.86	41.7%		0.0%		0.0%	6.87
Raspberry		0.0%		0.0%	0.54	8.8%	5.63	91.3%	6.17
Red Hill		0.0%	0.65	48.5%		0.0%	0.68	51.3%	1.33
Turkey Creek	1.44	100.0%		0.0%		0.0%		0.0%	1.44
Clifton Ranger District	0.16	0.5%	1.52	4.3%	11.00	31.1%	22.72	64.2%	35.41
Dark Canyon		0.0%		0.0%		0.0%	4.39	100.0%	4.39
Double Circle	0.04	1.6%		0.0%		0.0%	2.68	98.3%	2.73
East Eagle		0.0%	1.33	39.3%	0.85	25.1%	1.21	35.7%	3.39
Hickey		0.0%		0.0%	0.82	100.0%		0.0%	0.82
Mud Springs	0.12	8.2%		0.0%	0.21	14.3%	1.14	77.5%	1.47
Sandrock		0.0%	0.19	1.2%	8.21	50.7%	7.79	48.1%	16.19
Tule		0.0%		0.0%		0.0%	0.91	100.0%	0.91
Wildbunch		0.0%		0.0%	0.91	16.5%	4.60	83.5%	5.51
Springerville Ranger District	2.19	26.8%	5.58	68.3%	0.40	4.9%		0.0%	8.17
Greer	2.19	26.8%	5.58	68.3%	0.40	4.9%		0.0%	8.17

Table 5. Critical habitat survey miles impacted by cattle on the Apache-Sitgreaves National Forest in 2019.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Alpine Ranger District		0.0%	5.62	72.1%	1.48	19.0%	0.69	8.9%	7.79
Alpine GRA		0.0%	0.40	100.0%		0.0%		0.0%	0.40
Coyote-Whitmer		0.0%		0.0%	0.42	38.2%	0.69	62.1%	1.11
Upper Campbell Blue		0.0%	2.21	67.7%	1.06	32.4%		0.0%	3.27
Williams Valley		0.0%	3.00	100.0%		0.0%		0.0%	3.00
Clifton Ranger District		0.0%	11.39	100.0%		0.0%		0.0%	11.39
Black Jack		0.0%	0.65	100.4%		0.0%		0.0%	0.65
Pleasant Valley		0.0%	0.45	99.8%		0.0%		0.0%	0.45
San Francisco		0.0%	7.99	100.0%		0.0%		0.0%	7.99
Strayhorse		0.0%	2.30	100.0%		0.0%		0.0%	2.30

Table 6. Critical habitat survey miles impacted by cattle on the Apache-Sitgreaves National Forest in 2020.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Clifton Ranger District		0.0%		0.0%	0.32	7.5%	3.97	92.4%	4.29
East Eagle		0.0%		0.0%	0.32	7.5%	3.97	92.4%	4.29

Table 7. Critical habitat survey miles impacted by cattle on the Apache-Sitgreaves National Forest in 2021.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Alpine Ranger District	10.19	55.1%	0.65	3.5%	0.76	4.1%	6.90	37.3%	18.50
Bobcat-Johnson	4.39	100.0%		0.0%		0.0%		0.0%	4.39
Cow Flat	0.99	99.6%		0.0%		0.0%		0.0%	0.99
Fishhook/Steeple Mesa	4.00	71.7%	0.12	2.2%	0.76	13.6%	0.70	12.6%	5.58
Raspberry		0.0%		0.0%		0.0%	6.20	100.0%	6.20
Red Hill	0.82	60.6%	0.53	39.2%		0.0%		0.0%	1.35
Clifton Ranger District	3.28	5.8%	6.40	11.3%	10.97	19.4%	36.04	63.6%	56.69
Dark Canyon		0.0%	0.15	3.6%	0.67	16.1%	3.36	80.3%	4.18
Double Circle	0.67	26.7%		0.0%	0.50	20.0%	1.34	53.5%	2.51
East Eagle	2.03	66.0%	1.04	33.9%		0.0%		0.0%	3.08
Hickey		0.0%		0.0%	0.90	5.6%	15.28	94.4%	16.18
Mud Springs	0.14	9.3%		0.0%	0.88	57.0%	0.52	33.6%	1.55
Pigeon		0.0%		0.0%	0.48	100.0%		0.0%	0.48
Pleasant Valley	0.43	6.7%	1.38	21.2%	0.30	4.6%	4.38	67.4%	6.49
Sandrock		0.0%	3.82	24.3%	4.90	31.2%	7.00	44.5%	15.72
Wildbunch		0.0%		0.0%	2.33	35.8%	4.18	64.2%	6.50

Table 8. Critical habitat survey miles impacted by cattle on the Apache-Sitgreaves National Forest in 2022.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Alpine Ranger District	9.28	53.6%	1.55	8.9%	0.27	1.5%	6.22	35.9%	17.31
Bobcat-Johnson	4.48	100.1%		0.0%		0.0%		0.0%	4.48
Cow Flat	1.12	100.1%		0.0%		0.0%		0.0%	1.12
Fishhook/Steeple Mesa	3.06	72.6%	0.89	21.1%	0.27	6.3%		0.0%	4.21
Raspberry		0.0%		0.0%		0.0%	6.22	100.0%	6.22
Red Hill	0.62	48.3%	0.66	51.4%		0.0%		0.0%	1.28
Clifton Ranger District	5.65	11.0%	14.35	27.9%	10.68	20.8%	20.68	40.3%	51.36
Dark Canyon	0.13	1.9%	2.30	33.7%		0.0%	4.39	64.4%	6.82
Double Circle	1.87	74.4%	0.33	12.9%	0.32	12.6%		0.0%	2.52
East Eagle	1.89	74.2%	0.66	26.0%		0.0%		0.0%	2.55
Hickey		0.0%	1.56	14.1%	3.24	29.3%	6.25	56.5%	11.06
Mud Springs	0.99	69.3%		0.0%	0.22	15.3%	0.22	15.2%	1.43
Pleasant Valley		0.0%	3.35	66.1%	0.77	15.1%	0.95	18.8%	5.07
Sandrock	0.52	3.3%	6.15	38.5%	1.26	7.9%	8.03	50.3%	15.96
Strayhorse	0.25	100.0%		0.0%		0.0%		0.0%	0.25
Wildbunch		0.0%		0.0%	4.88	85.4%	0.84	14.6%	5.72

Table 9. Critical habitat survey miles impacted by cattle on the Apache-Sitgreaves National Forest in 2023.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Alpine Ranger District		0.0%	10.94	55.8%	1.26	6.5%	7.39	37.7%	19.60
Bobcat-Johnson		0.0%	5.12	100.0%		0.0%		0.0%	5.12
Cow Flat		0.0%	0.53	47.1%		0.0%	0.59	52.7%	1.12
Fishhook/Steeple Mesa		0.0%	3.85	68.9%	1.26	22.6%	0.47	8.5%	5.59
Raspberry		0.0%		0.0%		0.0%	6.33	100.0%	6.33
Red Hill		0.0%	1.44	100.0%		0.0%		0.0%	1.44
Clifton Ranger District	0.86	1.3%	10.60	16.2%	14.73	22.5%	39.31	60.0%	65.49
Dark Canyon		0.0%		0.0%	0.18	9.0%	1.80	91.3%	1.97
Double Circle	0.86	34.2%	0.54	21.7%		0.0%	1.10	44.0%	2.51
East Eagle		0.0%		0.0%	0.49	4.1%	11.45	95.9%	11.94
Hickey		0.0%	1.10	10.3%	0.93	8.7%	8.72	81.1%	10.75
Mud Springs		0.0%		0.0%		0.0%	1.50	100.0%	1.50
Pigeon		0.0%		0.0%		0.0%	0.48	100.0%	0.48
Pleasant Valley		0.0%	1.70	44.8%	1.22	32.0%	0.88	23.2%	3.80
San Francisco		0.0%	6.34	77.5%	1.22	15.0%	0.61	7.5%	8.18
Sandrock		0.0%		0.0%	6.25	35.4%	11.38	64.5%	17.64
Sandrock/Wildbunch		0.0%		0.0%	0.60	100.0%		0.0%	0.60
Wildbunch		0.0%	0.90	14.8%	3.84	62.7%	1.38	22.6%	6.12

Table 10. Critical habitat survey miles impacted by cattle on the Apache-Sitgreaves National Forest in 2024.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Alpine Ranger District	24.63	72.7%	0.49	1.4%	2.09	6.2%	6.66	19.7%	33.87
Alpine GRA	0.76	100.0%		0.0%		0.0%		0.0%	0.76
Black River & Black River GRA	8.59	100.0%		0.0%		0.0%		0.0%	8.59
Colter Creek & Nutrioso GRA	1.52	100.0%		0.0%		0.0%		0.0%	1.52
Grandfather	0.22	81.5%		0.0%		0.0%	0.05	18.0%	0.27
Not in allotment	0.24	100.0%		0.0%		0.0%		0.0%	0.24
PS	4.78	75.9%		0.0%	0.78	12.4%	0.74	11.8%	6.30
Raspberry		0.0%		0.0%		0.0%	5.74	100.0%	5.74
South Escudilla & Nutrioso Summer	1.75	100.0%		0.0%		0.0%		0.0%	1.75
Sprucedale/Reno & Hannagan	2.30	97.6%		0.0%	0.05	2.2%		0.0%	2.36
West Fork	3.22	79.3%		0.0%	0.84	20.8%		0.0%	4.06
Williams Valley	1.24	54.8%	0.49	21.5%	0.41	18.2%	0.12	5.4%	2.27
Clifton Ranger District	0.44	0.9%	9.09	19.6%	9.17	19.8%	27.69	59.7%	46.39
Dark Canyon		0.0%	0.15	4.3%		0.0%	3.35	95.6%	3.50
East Eagle		0.0%		0.0%	6.27	92.0%	0.54	7.9%	6.81
Hickey		0.0%	3.73	34.9%	2.90	27.1%	4.07	38.0%	10.71
Mud Springs		0.0%		0.0%		0.0%	1.21	100.0%	1.21
Pigeon		0.0%		0.0%		0.0%	0.57	100.0%	0.57
Pleasant Valley	0.44	11.4%		0.0%		0.0%	3.40	88.5%	3.84
Sandrock		0.0%	5.21	35.8%		0.0%	9.32	64.2%	14.53
Tule		0.0%		0.0%		0.0%	0.41	100.0%	0.41
Wildbunch		0.0%		0.0%		0.0%	4.82	100.0%	4.82
Springerville Ranger District	6.92	54.9%	3.12	24.8%	1.27	10.1%	1.30	10.3%	12.61
26 Bar	0.39	100.0%		0.0%		0.0%		0.0%	0.39
Not in allotment	5.38	100.0%		0.0%		0.0%		0.0%	5.38
Reservation		0.0%	0.33	100.0%		0.0%		0.0%	0.33
Udall	0.82	100.0%		0.0%		0.0%		0.0%	0.82
Voigt	0.33	5.7%	2.79	49.1%	1.27	22.3%	1.30	22.9%	5.69

Coconino National Forest (Arizona)

Grazing allotments in the Redrock Ranger District of Coconino National Forest were surveyed in 2019 and 2020. Aggregate data concerning Coconino surveys 2019-2020 is contained in Table 11; Tables 12-13 include data for each year of surveys. In 2019, approximately one third of surveyed critical habitat miles were damaged by cattle, with Fossil Creek and Walker Basin allotments having the highest percentages at 81% and 53%, respectively (Table 11). In 2020, the Center resurveyed 1.74 miles of spikedace/loach minnow critical habitat in Fossil Creek allotment and documented only light cattle impacts along this stream reach (Tables 11-13).

Table 11. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the Coconino National Forest from 2019-2020.

District/ Allotment	2019	2020
Red Rock Ranger District	32%	0%
13-Mile Rock/ Hackberry/Pivot Rock	32%	
Apache Maid	0%	
Beaver Creek	22%	
Fossil Creek	81%	0%
Walker Basin	53%	
Windmill West (boundary w/ Antelope Hills, Prescott NF)	30%	

Table 12. Critical habitat survey miles impacted by cattle on the Coconino National Forest in 2019.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Red Rock Ranger District	12.30	37.3%	9.99	30.3%	2.60	7.8%	8.04	24.4%	32.94
Windmill West (boundary w/ Antelope Hills, Prescott NF)	3.05	70.0%		0.0%	0.85	19.5%	0.45	10.4%	4.35
13-Mile Rock/ Hackberry/Pivot Rock	5.01	36.8%	4.24	31.1%		0.0%	4.38	32.1%	13.63
Beaver Creek	1.70	25.0%	3.62	53.2%	0.38	5.6%	1.11	16.3%	6.81
Apache Maid	1.01	37.8%	1.66	62.1%		0.0%		0.0%	2.68
Walker Basin	0.69	46.8%		0.0%	0.79	53.4%		0.0%	1.47
Fossil Creek	0.84	21.0%	0.47	11.7%	0.59	14.8%	2.10	52.5%	4.00

Table 13. Critical habitat survey miles impacted by cattle on the Coconino National Forest in 2020.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Red Rock Ranger District		0.0%	1.74	100.0%		0.0%		0.0%	1.74
Fossil Creek		0.0%	1.74	100.0%		0.0%		0.0%	1.74

Coronado National Forest (Arizona)

Most of the designated critical habitat on the Coronado National Forest protects threatened yellow-billed cuckoo, but critical habitat also exists for Chiricahua leopard frog, northern Mexican garter snake, Sonora chub and Huachuca water umbel. These designations were surveyed by the Center for cattle impacts starting in 2020. Aggregate data concerning Coronado surveys 2020-2024 is contained in Table 14; Tables 15-19 include data for each year of surveys.

The Center began cattle impact surveys on Coronado National Forest by assessing over 19 miles of Chiricahua leopard frog designations across four Ranger Districts (Tables 14, 15). The Pena Blanca and Cross S allotments of the Nogales Ranger District showed 73% and 100% of leopard frog critical habitat survey miles damaged by cattle, respectively.

Continuing the effort across subsequent survey years, and expanding to yellow-billed cuckoo critical habitat, an average of 76% of the Sierra Vista Ranger District (range 42%-97%) showed moderate to significant cattle impacts to riparian and xeroriparian zones (Tables 14-19). This is the highest average in all FS Region 3 per Ranger District. Most grazing allotments of the Sierra Vista Ranger District show consistent, high percentages of significant cattle impacts repeatedly over time.

Since 2020, an average of 73% of the critical habitat survey miles within the Nogales Ranger District (range 61%-86%) have shown ecological damage from cattle impacts. Cross S and Montana allotments are the worst chronic offenders, but several other allotments within the Nogales Ranger District are close behind in the percentages of critical habitat moderately to significantly impacted by cattle.

Surveys of critical habitat in grazing allotments of the Coronado National Forest commenced in 2024 for the fifth consecutive year (Table 19). Of the 26 allotments surveyed in 2024, 22 allotments (85%) had >50% of survey miles damaged by cattle, 19 allotments (73%) had >75% of survey miles damaged, and 14 of 26 allotments (54%) had 100% of critical habitat miles damaged by cattle.

Table 14. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the Coronado National Forest, by allotment, from 2020-2024.

Allotment	2020	2021	2022	2023	2024
Douglas Ranger District	5%			0%	
Cave Creek	0%				
Walnut Canyon	8%			0%	
Nogales Ranger District	61%	76%	81%	62%	86%
Agua Caliente		40%	100%	0%	29%
Apache Springs					100%
Bear Valley	29%	71%	91%	54%	85%
Bear Valley/Not in allotment			100%		
Box Canyon		79%	100%	49%	100%
Cross S	100%		100%	100%	100%
Gardner					100%
Greaterville		100%	100%	26%	56%
Lake		100%	60%	100%	100%
Mc Beth		51%		0%	
Montana		99%	100%	99%	100%
Nogales			100%		
Not in allotment					45%
Oak Tree II			92%	75%	100%
Pena Blanca	73%	0%	31%	30%	69%
Proctor		100%	100%	100%	77%
Rock Corral			0%		
Rosemont		100%	95%	53%	100%
Safford Ranger District	0%				
Deer Creek	0%				
Willow Creek	0%				
Santa Catalina Ranger District			0%		
American Flag			0%		
Sierra Vista Ranger District	42%	84%	75%	97%	81%
Alisos		100%	100%	100%	67%
Chuney		0%	0%	100%	100%
Collins Canyon		1%	75%		
Duquesne		91%	52%	100%	92%
Farrell		98%	100%	86%	82%
Harshaw		82%	58%	100%	19%
Hayfield		100%	100%	101%	100%
Lewis		100%	100%		
Lone Mountain	42%	100%	70%	100%	86%
Lyle Canyon		100%	79%	100%	100%
Mc Farland		100%	100%	100%	0%
Post Canyon		64%	0%	100%	100%
San Rafael		68%	100%	100%	0%
Santa Cruz		100%	100%	81%	100%
Santa Cruz/Alisos					100%
Sawtelle					100%

Table 15. Critical habitat survey miles impacted by cattle on the Coronado National Forest in 2020.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Douglas Ranger District	3.57	70.4%	1.23	24.2%	0.27	5.4%		0.0%	5.08
Cave Creek	1.60	100.0%		0.0%		0.0%		0.0%	1.60
Walnut Canyon	1.97	56.7%	1.23	35.4%	0.27	7.9%		0.0%	3.48
Nogales Ranger District	0.87	9.1%	2.83	29.6%	1.22	12.7%	4.65	48.5%	9.57
Bear Valley	0.43	10.4%	2.54	60.6%	1.22	29.0%		0.0%	4.19
Cross S		0.0%		0.0%		0.0%	2.67	100.0%	2.67
Pena Blanca	0.44	16.3%	0.30	10.9%		0.0%	1.97	72.7%	2.71
Safford Ranger District	0.55	58.6%	0.39	41.9%		0.0%		0.0%	0.94
Deer Creek	0.46	53.5%	0.39	46.4%		0.0%		0.0%	0.85
Willow Creek	0.10	100.0%		0.0%		0.0%		0.0%	0.10
Sierra Vista Ranger District		0.0%	2.23	57.5%	1.64	42.4%		0.0%	3.87
Lone Mountain		0.0%	2.23	57.5%	1.64	42.4%		0.0%	3.87

Table 16. Critical habitat survey miles impacted by cattle on the Coronado National Forest in 2021.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Nogales Ranger District	1.42	4.5%	6.19	19.6%	2.22	7.0%	21.82	68.9%	31.65
Agua Caliente	0.50	10.6%	2.35	49.6%		0.0%	1.89	39.9%	4.73
Bear Valley		0.0%	0.74	28.6%	1.18	45.9%	0.66	25.6%	2.58
Box Canyon		0.0%	0.35	21.5%		0.0%	1.28	78.6%	1.63
Greaterville		0.0%		0.0%		0.0%	1.28	100.0%	1.28
Lake		0.0%		0.0%		0.0%	0.71	100.0%	0.71
Mc Beth	0.78	49.3%		0.0%		0.0%	0.81	51.0%	1.59
Montana	0.13	1.4%		0.0%	0.23	2.5%	9.10	96.2%	9.46
Pena Blanca		0.0%	2.76	100.0%		0.0%		0.0%	2.76
Proctor		0.0%		0.0%	0.81	12.4%	5.70	87.6%	6.50
Rosemont		0.0%		0.0%		0.0%	0.40	100.0%	0.40
Sierra Vista Ranger District	6.66	10.6%	3.29	5.3%	10.69	17.1%	41.90	67.0%	62.54
Alisos		0.0%		0.0%	0.87	17.0%	4.26	83.0%	5.13
Chuney	1.89	100.0%		0.0%		0.0%		0.0%	1.89
Collins Canyon	4.39	82.8%	0.86	16.3%		0.0%	0.05	1.0%	5.31
Duquesne		0.0%	0.29	9.0%	1.02	31.4%	1.93	59.7%	3.24
Farrell		0.0%	0.14	1.8%	1.89	23.6%	5.96	74.6%	8.00
Harshaw		0.0%	0.81	18.1%	1.27	28.4%	2.40	53.5%	4.48
Hayfield		0.0%		0.0%	0.50	46.3%	0.58	53.6%	1.08
Lewis		0.0%		0.0%		0.0%	0.70	100.0%	0.70
Lone Mountain		0.0%		0.0%	1.25	8.3%	13.83	91.7%	15.09
Lyle Canyon		0.0%		0.0%	1.56	15.3%	8.63	84.7%	10.19
Mc Farland		0.0%		0.0%		0.0%	0.37	100.0%	0.37
Post Canyon	0.37	36.5%		0.0%		0.0%	0.65	63.8%	1.02
San Rafael		0.0%	1.18	31.9%	2.32	62.8%	0.20	5.3%	3.70
Santa Cruz		0.0%		0.0%		0.0%	2.34	100.0%	2.34

Table 17. Critical habitat survey miles impacted by cattle on the Coronado National Forest in 2022.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Nogales Ranger District	1.68	3.1%	8.98	16.4%	6.08	11.1%	37.93	69.4%	54.66
Agua Caliente		0.0%		0.0%	0.34	100.0%		0.0%	0.34
Bear Valley		0.0%	0.78	9.3%	0.63	7.5%	6.97	83.2%	8.37
Bear Valley/Not in allotment		0.0%		0.0%	0.37	100.0%		0.0%	0.37
Box Canyon		0.0%		0.0%	0.38	16.6%	1.91	83.5%	2.29
Cross S		0.0%		0.0%	0.17	8.3%	1.83	91.5%	2.00
Greaterville		0.0%		0.0%		0.0%	1.29	100.0%	1.29
Lake	0.23	19.2%	0.24	20.3%		0.0%	0.72	60.4%	1.19
Montana		0.0%		0.0%	3.28	29.4%	7.88	70.6%	11.16
Nogales		0.0%		0.0%	0.22	100.0%		0.0%	0.22
Oak Tree II		0.0%	0.37	8.3%		0.0%	4.09	91.6%	4.46
Pena Blanca		0.0%	7.11	69.4%	0.70	6.8%	2.45	23.9%	10.25
Proctor		0.0%		0.0%		0.0%	0.96	100.0%	0.96
Rock Corral	1.45	100.0%		0.0%		0.0%		0.0%	1.45
Rosemont		0.0%	0.48	4.6%		0.0%	9.83	95.4%	10.31
Santa Catalina Ranger District	1.39	100.0%		0.0%		0.0%		0.0%	1.39
American Flag	1.39	100.0%		0.0%		0.0%		0.0%	1.39
Sierra Vista Ranger District	9.30	13.7%	7.47	11.0%	6.31	9.3%	44.90	66.0%	67.98
Alisos		0.0%		0.0%		0.0%	4.86	100.0%	4.86
Chuney		0.0%	2.00	100.0%		0.0%		0.0%	2.00
Collins Canyon		0.0%	0.12	25.2%		0.0%	0.35	75.3%	0.46
Duquesne	2.26	40.3%	0.44	7.9%		0.0%	2.92	51.9%	5.62
Farrell		0.0%		0.0%		0.0%	8.31	100.0%	8.31
Harshaw	2.32	25.4%	1.55	17.0%	0.97	10.6%	4.29	47.0%	9.13
Hayfield		0.0%		0.0%		0.0%	1.09	100.0%	1.09
Lewis		0.0%		0.0%		0.0%	0.29	100.0%	0.29
Lone Mountain	2.38	14.0%	2.66	15.6%	3.89	22.9%	8.10	47.6%	17.04
Lyle Canyon	1.55	14.4%	0.71	6.5%		0.0%	8.55	79.1%	10.81
Mc Farland		0.0%		0.0%	0.13	13.3%	0.85	86.6%	0.98
Post Canyon	0.79	100.0%		0.0%		0.0%		0.0%	0.79
San Rafael		0.0%		0.0%		0.0%	1.88	100.0%	1.88
Santa Cruz		0.0%		0.0%	1.32	27.9%	3.41	72.2%	4.72

Table 18. Critical habitat survey miles impacted by cattle on the Coronado National Forest in 2023.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Douglas Ranger District	0.54	26.0%	1.53	74.2%		0.0%		0.0%	2.06
Walnut Canyon	0.54	26.0%	1.53	74.2%		0.0%		0.0%	2.06
Nogales Ranger District	1.26	3.0%	15.01	35.4%	5.44	12.8%	20.71	48.8%	42.42
Agua Caliente		0.0%	2.13	100.0%		0.0%		0.0%	2.13
Bear Valley	0.78	12.6%	2.11	33.9%	1.44	23.2%	1.89	30.3%	6.22
Box Canyon		0.0%	1.16	50.7%		0.0%	1.12	49.2%	2.28
Cross S		0.0%		0.0%	0.18	5.8%	2.91	94.1%	3.09
Greaterville	0.32	10.7%	1.88	63.1%	0.74	24.8%	0.04	1.3%	2.98
Lake		0.0%		0.0%	0.45	33.1%	0.90	66.9%	1.35
Mc Beth		0.0%	0.49	100.0%		0.0%		0.0%	0.49
Montana	0.16	1.4%		0.0%	1.22	11.3%	9.42	87.2%	10.80
Oak Tree II		0.0%	0.64	25.5%	0.40	15.7%	1.49	59.0%	2.53
Pena Blanca		0.0%	6.52	69.8%	0.92	9.9%	1.90	20.4%	9.34
Proctor		0.0%		0.0%		0.0%	1.04	100.0%	1.04
Rosemont		0.0%	0.08	47.6%	0.09	52.7%		0.0%	0.17
Sierra Vista Ranger District		0.0%	1.07	3.5%	4.09	13.1%	25.93	83.4%	31.09
Alisos		0.0%		0.0%	0.81	27.8%	2.10	72.1%	2.92
Chuney		0.0%		0.0%		0.0%	1.82	100.0%	1.82
Duquesne		0.0%		0.0%	0.37	14.9%	2.12	85.1%	2.49
Farrell		0.0%	0.64	14.1%		0.0%	3.90	85.9%	4.54
Harshaw		0.0%		0.0%		0.0%	3.22	100.0%	3.22
Hayfield		0.0%		0.0%	0.73	100.0%		0.0%	0.73
Lone Mountain		0.0%		0.0%		0.0%	3.79	100.0%	3.79
Lyle Canyon		0.0%		0.0%	1.15	19.0%	4.89	81.0%	6.04
Mc Farland		0.0%		0.0%		0.0%	0.70	100.0%	0.70
Post Canyon		0.0%		0.0%		0.0%	1.21	100.0%	1.21
San Rafael		0.0%		0.0%	1.02	76.9%	0.31	23.3%	1.33
Santa Cruz		0.0%	0.43	18.8%		0.0%	1.86	81.0%	2.30

Table 19. Critical habitat survey miles impacted by cattle on the Coronado National Forest in 2024.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Nogales Ranger District	1.04	1.6%	8.35	12.9%	12.63	19.6%	42.56	65.9%	64.57
Agua Caliente		0.0%	2.26	70.8%	0.93	29.0%		0.0%	3.19
Apache Springs		0.0%		0.0%	1.34	13.2%	8.80	86.8%	10.14
Bear Valley	1.04	14.5%		0.0%	3.71	52.0%	2.38	33.4%	7.14
Box Canyon		0.0%		0.0%		0.0%	1.69	100.0%	1.69
Cross S		0.0%		0.0%		0.0%	2.85	100.0%	2.85
Gardner		0.0%		0.0%	1.73	57.8%	1.26	42.0%	3.00
Greaterville		0.0%	1.29	44.3%	0.66	22.7%	0.96	32.9%	2.92
Lake		0.0%		0.0%		0.0%	0.39	100.0%	0.39
Montana		0.0%		0.0%		0.0%	8.73	100.0%	8.73
Not in allotment		0.0%	2.26	55.6%	1.81	44.5%		0.0%	4.07
Oak Tree II		0.0%		0.0%		0.0%	2.44	100.0%	2.44
Pena Blanca		0.0%	1.89	31.3%		0.0%	4.13	68.6%	6.02
Proctor		0.0%	0.64	22.5%	2.22	77.5%		0.0%	2.86
Rosemont		0.0%		0.0%	0.23	2.5%	8.91	97.5%	9.14
Sierra Vista Ranger District	3.64	6.1%	7.69	13.0%	8.14	13.7%	39.88	67.2%	59.35
Alisos	0.24	4.3%	1.60	29.1%	0.59	10.8%	3.06	55.8%	5.49
Chuney		0.0%		0.0%		0.0%	1.98	100.0%	1.98
Duquesne		0.0%	0.24	8.6%	1.79	63.1%	0.81	28.5%	2.83
Farrell	0.84	12.7%	0.32	4.9%	1.81	27.4%	3.65	55.1%	6.63
Harshaw	0.67	15.8%	2.77	65.6%		0.0%	0.78	18.5%	4.22
Hayfield		0.0%		0.0%	1.07	100.0%		0.0%	1.07
Lone Mountain		0.0%	2.35	13.8%	1.97	11.6%	12.64	74.6%	16.96
Lyle Canyon		0.0%		0.0%		0.0%	9.67	100.0%	9.67
Mc Farland		0.0%	0.41	100.0%		0.0%		0.0%	0.41
Post Canyon		0.0%		0.0%		0.0%	1.47	100.0%	1.47
San Rafael	1.89	100.0%		0.0%		0.0%		0.0%	1.89
Santa Cruz		0.0%		0.0%		0.0%	0.37	100.0%	0.37
Santa Cruz/Alisos		0.0%		0.0%		0.0%	3.55	100.0%	3.55
Sawtelle		0.0%		0.0%	0.91	32.6%	1.88	67.3%	2.80

Gila National Forest (New Mexico)

The Gila National Forest allotments surveyed by the Center contain designated critical habitat for eight different threatened and endangered species, including spikedace, loach minnow, Gila chub, Chiricahua leopard frog, narrow-headed garter snake, northern Mexican garter snake, southwestern willow flycatcher, and yellow-billed cuckoo.

From 2017-2024, the Center surveyed 798.94 miles of public lands critical habitat designations in the Gila National Forest for cattle impacts (range 4.9-149.7 miles/year, average 99.8 miles/year) (Tables 20-28). Aggregate data concerning Gila surveys 2017-2024 is contained in Table 20; Tables 21-28 include data for each year of surveys.

Across all survey years, percent of survey miles moderately to significantly impacted by cattle on the Glenwood Ranger District ranged from 23% (2023) to 85% (2021), with an average of 55% across seven survey years.

Percent of survey miles moderately to significantly impacted by cattle on the Quemado Ranger District ranged from 28% (2017) to 100% (2018) with an average of 64% across survey years. Both Laney and Luna allotments had 100% of survey miles moderately to significantly impacted by cattle, documented in multiple years.

Reserve Ranger District has been surveyed for eight consecutive years, from 2017-2024, and has the highest average percentage of critical habitat miles moderately to significantly impacted by cattle across the Gila National Forest (73%, ranging from 100% in 2018 to 37% in 2023). Reserve is among the worst Ranger Districts in Region 3 in terms of riparian habitat damage due to livestock. Numerous allotments, including Deep Canyon and Frisco Plaza, demonstrate chronic, high levels of cattle-damaged critical habitat. High levels of cattle disturbance have also been documented outside of allotment boundaries in the Reserve Ranger District.

The percentage of critical habitat survey miles damaged on the Silver City Ranger District average nearly 60% over the six surveys years, but in 2024 only 4% showed moderate to significant damage.

Likewise, the Wilderness Ranger District ranged from 5% (2020) to 85% (2017) moderately to significantly damaged by cattle (average 34%) but has shown 12% and 11% over the past two years, respectively. Allotments such as Jordan Mesa, XSX, and Redstone have shown recent improvements.

Table 20. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the Gila National Forest, by allotment, from 2017-2024.

Allotment	2017	2018	2019	2020	2021	2022	2023	2024
Black Range Ranger District			17%		57%	0%	0%	0%
Corduroy			100%		57%		0%	0%
South Fork			0%			0%		
Glenwood Ranger District	71%	32%	77%		85%	52%	23%	42%
Alma	100%	100%	100%		100%	100%	37%	100%
Cedar Breaks	0%		0%					
Citizen & Roberts Park	86%		100%		100%	0%	0%	0%
Devils Park	100%	0%	100%		100%	87%	100%	100%
Dry Creek	19%		0%			66%	0%	
Harden Cienega			59%		61%	59%	35%	83%
Harve Gulch & Bighorn	86%		88%		100%	0%	0%	0%
Kelly	75%	29%	100%		90%	54%	9%	18%
Not in allotment (btw Pleasanton & Potholes)							19%	
Not in allotment (btw Harden Cienega & Pleasanton)							15%	
Pleasanton	0%							
Pueblo Creek			0%		100%			
Tennessee					100%	65%	66%	0%
Whiterocks			30%					
Quemado Ranger District	28%	100%	77%		67%	91%	41%	47%
Laney			69%		100%	100%	58%	56%
Luna	28%	100%	100%		47%	91%	11%	21%
West Apache Creek			0%					
Reserve Ranger District	81%	100%	78%	79%	91%	71%	37%	43%
Alexander	44%	100%	100%		0%	36%	4%	69%
Cienega (Black Bob)	100%	100%	100%		100%	70%	14%	13%
Corner Mountain	53%		36%		100%	65%	0%	0%
Deep Canyon	62%	100%	100%		100%	79%	62%	86%
Eagle Peak				78%		90%	0%	0%
Frisco Plaza	100%	100%	100%		100%	90%	98%	89%
Govina & West Sand Flat	67%		100%		77%	20%	0%	18%
Lower Plaza	100%		100%			100%	0%	0%
McCarty				100%				0%
Negrito/Yeguas	100%	100%	65%		88%	38%	36%	35%
Not in allotment (btw Negrito/Yeguas boundary)							36%	100%
Not in allotment (outside of Alexander)							100%	100%
T Bar			43%					
Silver City Ranger District	82%		54%		100%	44%	20%	6%
Bear Creek			62%					
Brock Canyon*	100%		51%			48%	4%	0%
Gila River	72%		57%		100%	100%	50%	20%
Mogollon Creek	0%							
Not in allotment (Gila River Wilderness)**	100%						0%	0%
Watson Mountain***	0%					0%		0%
Wilderness Ranger District	83%		51%	5%	77%	43%	34%	6%
Diamond Bar			3%	0%	73%	10%	100%	100%
Jordan Mesa	100%		87%	17%	76%	0%	0%	0%
Redstone****	100%		98%			95%	57%	0%
Sapillo	0%		0%	0%				
Taylor Creek	87%		100%		100%	26%	29%	42%
XSX	0%		38%		76%	27%	0%	0%

*Brock Canyon allotment is in both Silver City and Wilderness Ranger Districts. **May include areas within the Wilderness Ranger District. ***Watson Mountain allotment is in both Silver City and Glenwood Ranger Districts. ****Redstone allotment may occur in both Silver City and Wilderness Ranger Districts.

Table 21. Critical habitat survey miles impacted by cattle on the Gila National Forest in 2017.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Glenwood Ranger District	2.75	10.7%	4.59	17.8%	3.73	14.5%	14.65	57.0%	25.72
Alma		0.0%		0.0%		0.0%	2.69	100.0%	2.69
Cedar Breaks	0.54	100.0%		0.0%		0.0%		0.0%	0.54
Citizen & Roberts Park		0.0%	0.32	13.6%	0.38	16.0%	1.65	70.3%	2.35
Devils Park		0.0%		0.0%		0.0%	3.09	100.0%	3.09
Dry Creek	1.39	30.7%	2.26	50.0%		0.0%	0.87	19.3%	4.51
Harve Gulch & Bighorn	0.59	13.6%		0.0%	2.23	51.7%	1.49	34.6%	4.32
Kelly		0.0%	2.01	25.2%	1.12	14.1%	4.85	60.8%	7.98
Pleasanton	0.23	100.0%		0.0%		0.0%		0.0%	0.23
Quemado Ranger District	5.76	42.5%	3.92	28.9%	0.82	6.1%	3.03	22.4%	13.54
Luna	5.76	42.5%	3.92	28.9%	0.82	6.1%	3.03	22.4%	13.54
Reserve Ranger District	0.76	2.9%	4.26	16.2%	2.44	9.3%	18.84	71.6%	26.30
Alexander		0.0%	1.33	55.6%		0.0%	1.06	44.3%	2.39
Cienega (Black Bob)		0.0%		0.0%		0.0%	3.54	100.0%	3.54
Corner Mountain		0.0%	2.19	47.3%	2.44	52.6%		0.0%	4.63
Deep Canyon	0.50	15.3%	0.74	22.8%		0.0%	2.01	62.0%	3.24
Frisco Plaza		0.0%		0.0%		0.0%	7.05	100.0%	7.05
Govina & West Sand Flat	0.27	33.7%		0.0%		0.0%	0.53	66.5%	0.79
Lower Plaza		0.0%		0.0%		0.0%	0.33	100.0%	0.33
Negrito/Yeguas		0.0%		0.0%		0.0%	4.32	100.0%	4.32
Silver City Ranger District	1.11	9.8%	0.89	7.8%	0.80	7.0%	8.57	75.4%	11.37
Brock Canyon*		0.0%		0.0%		0.0%	2.62	100.0%	2.62
Gila River		0.0%	0.89	12.6%	0.80	11.2%	4.29	60.5%	5.98
Mogollon Creek	0.28	100.0%		0.0%		0.0%		0.0%	0.28
Not in allotment (Gila River Wilderness)**		0.0%		0.0%		0.0%	1.66	100.0%	1.66
Watson Mountain***	0.83	100.0%		0.0%		0.0%		0.0%	0.83
Wilderness Ranger District	1.41	4.9%	3.51	12.3%	4.62	16.2%	19.03	66.6%	28.56
Jordan Mesa		0.0%		0.0%	3.70	58.9%	2.58	41.1%	6.27
Redstone****		0.0%		0.0%		0.0%	12.98	100.0%	12.98
Sapillo	0.95	43.3%	1.25	56.6%		0.0%		0.0%	2.20
Taylor Creek		0.0%	0.65	13.0%	0.92	18.2%	3.47	68.8%	5.05
XSX	0.45	22.0%	1.61	77.9%		0.0%		0.0%	2.07

*Brock Canyon allotment is in both Silver City and Wilderness Ranger Districts. **May include areas within the Wilderness Ranger District. ***Watson Mountain allotment is in both Silver City and Glenwood Ranger Districts. ****Redstone allotment may occur in both Silver City and Wilderness Ranger Districts.

Table 22. Critical habitat survey miles impacted by cattle on the Gila National Forest in 2018.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Glenwood Ranger District		0.0%	1.91	67.9%		0.0%	0.90	32.1%	2.81
Alma		0.0%		0.0%		0.0%	0.29	100.0%	0.29
Devils Park		0.0%	0.38	100.0%		0.0%		0.0%	0.38
Kelly		0.0%	1.53	71.3%		0.0%	0.61	28.7%	2.14
Quemado Ranger District		0.0%		0.0%	0.32	100.0%		0.0%	0.32
Luna		0.0%		0.0%	0.32	100.0%		0.0%	0.32
Reserve Ranger District		0.0%		0.0%	1.55	86.4%	0.24	13.7%	1.79
Alexander		0.0%		0.0%	0.44	100.0%		0.0%	0.44
Cienega (Black Bob)		0.0%		0.0%	0.41	100.0%		0.0%	0.41
Deep Canyon		0.0%		0.0%		0.0%	0.24	100.0%	0.24
Frisco Plaza		0.0%		0.0%	0.37	100.0%		0.0%	0.37
Negrito/Yeguas		0.0%		0.0%	0.33	100.0%		0.0%	0.33

Table 23. Critical habitat survey miles impacted by cattle on the Gila National Forest in 2019.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Black Range Ranger District		0.0%	3.40	83.2%		0.0%	0.69	16.9%	4.09
Corduroy		0.0%		0.0%		0.0%	0.69	100.0%	0.69
South Fork		0.0%	3.40	100.0%		0.0%		0.0%	3.40
Glenwood Ranger District	3.99	13.1%	2.94	9.7%	5.47	18.0%	18.00	59.2%	30.41
Alma		0.0%		0.0%		0.0%	1.80	100.0%	1.80
Cedar Breaks	0.37	48.7%	0.39	51.2%		0.0%		0.0%	0.76
Citizen & Roberts Park		0.0%		0.0%		0.0%	2.03	100.0%	2.03
Devils Park		0.0%		0.0%		0.0%	2.98	99.9%	2.98
Dry Creek	0.60	35.3%	1.10	64.8%		0.0%		0.0%	1.69
Harden Cienega	1.13	27.4%	0.57	13.8%	1.36	32.9%	1.08	26.0%	4.14
Harve Gulch & Bighorn	0.56	11.6%		0.0%		0.0%	4.27	88.5%	4.82
Kelly		0.0%		0.0%	4.11	41.7%	5.75	58.3%	9.86
Pueblo Creek	1.10	55.2%	0.89	44.6%		0.0%		0.0%	1.99
Whiterocks	0.23	69.1%		0.0%		0.0%	0.10	30.4%	0.34
Quemado Ranger District	2.67	20.6%	0.37	2.8%	5.07	39.0%	4.51	35.7%	12.63
Laney	1.97	26.5%	0.37	5.0%	3.44	46.3%	1.65	22.2%	7.43
Luna		0.0%		0.0%	1.63	36.1%	2.87	63.8%	4.50
West Apache Creek	0.70	100.0%		0.0%		0.0%		0.0%	0.70
Reserve Ranger District	0.77	3.2%	4.47	18.7%	3.28	13.7%	15.38	64.4%	23.89
Alexander		0.0%		0.0%	0.74	100.0%		0.0%	0.74
Cienega (Black Bob)		0.0%		0.0%	0.39	10.9%	3.19	89.0%	3.58
Corner Mountain	0.77	22.3%	1.45	42.0%	0.54	15.7%	0.70	20.1%	3.46
Deep Canyon		0.0%		0.0%		0.0%	1.68	100.0%	1.68
Frisco Plaza		0.0%		0.0%		0.0%	7.50	100.0%	7.50
Govina & West Sand Flat		0.0%		0.0%	0.32	46.4%	0.37	53.6%	0.69
Lower Plaza		0.0%		0.0%	0.26	79.0%	0.07	21.0%	0.33
Negrito/Yeguas		0.0%	0.92	35.0%		0.0%	1.72	65.1%	2.64
T Bar		0.0%	2.09	57.6%	1.02	27.9%	0.53	14.6%	3.64
Silver City Ranger District		0.0%	8.91	46.6%	1.68	8.8%	8.55	44.7%	19.14
Bear Creek		0.0%	0.33	37.9%		0.0%	0.54	61.7%	0.88
Brock Canyon*		0.0%	5.71	49.4%	0.77	6.7%	5.07	43.8%	11.56
Gila River		0.0%	2.86	42.6%	0.91	13.6%	2.94	43.8%	6.71
Wilderness Ranger District	3.36	6.7%	21.18	42.0%	8.35	16.5%	17.59	34.8%	50.48
Diamond Bar	2.40	12.4%	16.36	84.5%		0.0%	0.61	3.2%	19.37
Jordan Mesa		0.0%	0.81	12.5%	5.68	87.5%		0.0%	6.49
Redstone**	0.23	1.5%		0.0%		0.0%	14.60	98.5%	14.83
Sapillo		0.0%	0.44	100.0%		0.0%		0.0%	0.44
Taylor Creek		0.0%		0.0%		0.0%	2.38	100.0%	2.38
XSX	0.73	10.5%	3.56	51.1%	2.67	38.4%		0.0%	6.97

*Brock Canyon allotment is in both Silver City and Wilderness Ranger Districts. **Redstone allotment may occur in both Silver City and Wilderness Ranger Districts.

Table 24. Critical habitat survey miles impacted by cattle on the Gila National Forest in 2020.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Reserve Ranger District		0.0%	1.33	20.6%		0.0%	5.11	79.4%	6.44
Eagle Peak		0.0%	1.33	21.6%		0.0%	4.82	78.4%	6.14
McCarty		0.0%		0.0%		0.0%	0.30	100.0%	0.30
Wilderness Ranger District	0.91	10.3%	7.48	84.8%	0.43	4.9%		0.0%	8.82
Diamond Bar		0.0%	4.96	100.0%		0.0%		0.0%	4.96
Jordan Mesa		0.0%	2.12	82.9%	0.43	17.0%		0.0%	2.56
Sapillo	0.91	69.2%	0.40	30.8%		0.0%		0.0%	1.31

Table 25. Critical habitat survey miles impacted by cattle on the Gila National Forest in 2021.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Black Range Ranger District		0.0%	0.34	43.1%		0.0%	0.45	57.1%	0.79
Corduroy		0.0%	0.34	43.1%		0.0%	0.45	57.1%	0.79
Glenwood Ranger District	5.69	14.6%		0.0%	1.93	4.9%	31.35	80.4%	38.97
Alma		0.0%		0.0%		0.0%	1.86	100.0%	1.86
Citizen & Roberts Park		0.0%		0.0%		0.0%	2.36	100.0%	2.36
Devils Park		0.0%		0.0%		0.0%	3.53	100.0%	3.53
Harden Cienega	4.62	38.7%		0.0%	1.44	12.0%	5.90	49.3%	11.96
Harve Gulch & Bighorn		0.0%		0.0%		0.0%	4.11	100.0%	4.11
Kelly	1.07	10.3%		0.0%		0.0%	9.32	89.7%	10.39
Pueblo Creek		0.0%		0.0%	0.49	15.2%	2.73	84.7%	3.22
Tennessee		0.0%		0.0%		0.0%	1.55	100.0%	1.55
Quemado Ranger District	3.85	19.9%	2.60	13.5%	2.20	11.4%	10.70	55.3%	19.35
Laney		0.0%		0.0%		0.0%	7.29	100.0%	7.29
Luna	3.85	31.9%	2.60	21.6%	2.20	18.3%	3.41	28.3%	12.06
Reserve Ranger District	0.18	0.5%	2.84	8.6%	3.63	11.0%	26.25	79.8%	32.89
Alexander	0.18	16.7%	0.90	83.0%		0.0%		0.0%	1.08
Cienega (Black Bob)		0.0%		0.0%		0.0%	3.54	100.0%	3.54
Corner Mountain		0.0%		0.0%		0.0%	2.51	100.0%	2.51
Deep Canyon		0.0%		0.0%	1.27	48.3%	1.36	51.8%	2.62
Frisco Plaza		0.0%		0.0%		0.0%	7.46	100.0%	7.46
Govina & West Sand Flat		0.0%	0.21	23.3%	0.44	47.4%	0.27	29.2%	0.92
Negrito/Yeguas		0.0%	1.73	11.7%	1.93	13.0%	11.10	75.2%	14.76
Silver City Ranger District		0.0%		0.0%	0.75	9.5%	7.21	90.5%	7.96
Gila River		0.0%		0.0%	0.75	9.5%	7.21	90.5%	7.96
Wilderness Ranger District		0.0%	3.63	23.1%	5.84	37.1%	6.24	39.7%	15.72
Diamond Bar		0.0%	1.39	26.9%	1.47	28.4%	2.31	44.7%	5.18
Jordan Mesa		0.0%	1.65	24.5%	2.52	37.4%	2.57	38.2%	6.74
Taylor Creek		0.0%		0.0%		0.0%	1.36	100.0%	1.36
XSX		0.0%	0.59	24.2%	1.85	75.8%		0.0%	2.44

Table 26. Critical habitat survey miles impacted by cattle on the Gila National Forest in 2022.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Black Range Ranger District		0.0%	2.25	100.0%		0.0%		0.0%	2.25
South Fork		0.0%	2.25	100.0%		0.0%		0.0%	2.25
Glenwood Ranger District	0.55	1.6%	16.39	46.9%	5.51	15.8%	12.52	35.8%	34.98
Alma		0.0%		0.0%		0.0%	1.77	100.0%	1.77
Citizen & Roberts Park		0.0%	2.35	100.0%		0.0%		0.0%	2.35
Devils Park		0.0%	0.39	12.7%	0.77	24.9%	1.92	62.2%	3.08
Dry Creek		0.0%	1.01	33.4%	1.60	53.1%	0.40	13.3%	3.01
Harden Cienega		0.0%	4.09	41.4%	0.26	2.7%	5.51	55.9%	9.87
Harve Gulch & Bighorn	0.55	12.5%	3.84	87.4%		0.0%		0.0%	4.39
Kelly		0.0%	4.30	46.1%	2.88	30.8%	2.15	23.0%	9.34
Tennessee		0.0%	0.42	35.0%		0.0%	0.77	64.6%	1.19
Quemado Ranger District		0.0%	1.16	9.0%	2.35	18.3%	9.34	72.7%	12.85
Laney		0.0%		0.0%	0.46	6.1%	7.00	93.8%	7.46
Luna		0.0%	0.42	9.4%	1.89	42.2%	2.16	48.3%	4.48
Reserve Ranger District		0.0%	9.19	29.0%	3.22	10.1%	19.33	60.9%	31.74
Alexander		0.0%	1.37	64.5%		0.0%	0.75	35.6%	2.12
Cienega (Black Bob)		0.0%	1.05	30.5%	1.17	34.0%	1.22	35.6%	3.44
Corner Mountain		0.0%	1.02	35.0%	1.07	36.7%	0.83	28.4%	2.92
Deep Canyon		0.0%	0.69	21.3%	0.27	8.3%	2.29	70.3%	3.26
Eagle Peak		0.0%	0.62	10.1%	0.71	11.5%	4.81	78.4%	6.14
Frisco Plaza		0.0%	0.73	9.7%		0.0%	6.82	90.3%	7.56
Govina & West Sand Flat		0.0%	0.73	80.7%		0.0%	0.18	19.9%	0.91
Lower Plaza		0.0%		0.0%		0.0%	0.34	100.0%	0.34
Negrito/Yeguas		0.0%	3.71	62.1%		0.0%	2.26	37.9%	5.97
Silver City Ranger District	1.71	12.0%	6.23	43.9%	2.50	17.6%	3.76	26.5%	14.19
Brock Canyon*	0.33	2.6%	6.23	49.5%	2.27	18.0%	3.76	29.9%	12.58
Gila River		0.0%		0.0%	0.23	100.0%		0.0%	0.23
Watson Mountain**	1.38	100.0%		0.0%		0.0%		0.0%	1.38
Wilderness Ranger District		0.0%	22.96	57.2%	1.95	4.8%	15.27	38.0%	40.17
Diamond Bar		0.0%	4.41	90.5%		0.0%	0.47	9.6%	4.87
Jordan Mesa		0.0%	7.41	100.0%		0.0%		0.0%	7.41
Redstone***		0.0%	0.72	5.3%	0.59	4.3%	12.30	90.4%	13.61
Taylor Creek		0.0%	3.22	74.0%	0.58	13.4%	0.55	12.7%	4.35
XSX		0.0%	7.20	72.6%	0.78	7.8%	1.95	19.6%	9.92

*Brock Canyon allotment is in both Silver City and Wilderness Ranger Districts. **Watson Mountain allotment is in both Silver City and Glenwood Ranger Districts. ***Redstone allotment may occur in both Silver City and Wilderness Ranger Districts.

Table 27. Critical habitat survey miles impacted by cattle on the Gila National Forest in 2023.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Black Range Ranger District		0.0%	1.49	100.0%		0.0%		0.0%	1.49
Corduroy		0.0%	1.49	100.0%		0.0%		0.0%	1.49
Glenwood Ranger District		0.0%	37.08	77.4%	4.92	10.3%	5.89	12.3%	47.89
Alma		0.0%	1.29	62.7%		0.0%	0.76	37.2%	2.05
Citizen & Roberts Park		0.0%	2.33	100.0%		0.0%		0.0%	2.33
Devils Park		0.0%		0.0%	2.38	86.7%	0.37	13.5%	2.75
Dry Creek		0.0%	2.18	100.0%		0.0%		0.0%	2.18
Harden Cienega		0.0%	5.75	64.9%	0.59	6.6%	2.53	28.5%	8.87
Harve Gulch & Bighorn		0.0%	4.35	100.0%		0.0%		0.0%	4.35
Kelly		0.0%	8.46	90.6%	0.17	1.8%	0.71	7.6%	9.34
Not in allotment (btw Pleasanton/ Potholes)		0.0%	6.59	81.2%		0.0%	1.52	18.8%	8.11
Not in allotment (btw Harden Cienega/ Pleasanton)		0.0%	5.72	84.9%	1.02	15.1%		0.0%	6.74
Tennessee		0.0%	0.40	34.5%	0.77	65.7%		0.0%	1.17
Quemado Ranger District		0.0%	6.75	58.0%	1.12	9.6%	3.77	32.4%	11.64
Laney		0.0%	3.25	42.2%	0.67	8.8%	3.77	49.0%	7.69
Luna		0.0%	3.50	88.7%	0.45	11.3%		0.0%	3.95
Reserve Ranger District	0.38	1.2%	19.48	61.8%	1.30	4.1%	10.35	32.8%	31.51
Alexander		0.0%	1.93	95.8%	0.08	4.1%		0.0%	2.02
Cienega (Black Bob)	0.38	11.2%	2.56	74.5%		0.0%	0.49	14.3%	3.43
Corner Mountain		0.0%	2.91	100.0%		0.0%		0.0%	2.91
Deep Canyon		0.0%	0.71	38.5%		0.0%	1.13	61.5%	1.84
Eagle Peak		0.0%	6.32	100.0%		0.0%		0.0%	6.32
Frisco Plaza		0.0%	0.15	2.0%	0.81	10.8%	6.54	87.3%	7.50
Govina & West Sand Flat		0.0%	0.91	100.0%		0.0%		0.0%	0.91
Lower Plaza		0.0%	0.32	100.0%		0.0%		0.0%	0.32
Negrito/Yeguas		0.0%	3.93	64.3%		0.0%	2.18	35.7%	6.11
Not in allotment (outside of Alexander)		0.0%		0.0%	0.41	100.0%		0.0%	0.41
Silver City Ranger District	0.33	1.4%	18.04	79.0%	1.81	7.9%	2.66	11.7%	22.83
Brock Canyon*		0.0%	11.48	96.3%	0.45	3.7%		0.0%	11.92
Gila River		0.0%	4.00	49.9%	1.36	16.9%	2.66	33.1%	8.02
Not in allotment (Gila River Wilderness)**	0.33	11.5%	2.57	88.4%		0.0%		0.0%	2.90
Wilderness Ranger District	2.28	6.7%	20.07	58.9%	10.33	30.3%	1.36	4.0%	34.05
Diamond Bar		0.0%		0.0%		0.0%	0.90	100.0%	0.90
Jordan Mesa		0.0%	4.00	100.0%		0.0%		0.0%	4.00
Redstone***	2.19	12.7%	5.30	30.7%	9.75	56.5%		0.0%	17.25
Taylor Creek		0.0%	2.55	71.0%	0.58	16.2%	0.46	12.9%	3.59
XSX	0.09	1.1%	8.22	98.9%		0.0%		0.0%	8.31

*Brock Canyon allotment is in both Silver City and Wilderness Ranger Districts. **May include areas within the Wilderness Ranger District.
***Redstone allotment may occur in both Silver City and Wilderness Ranger Districts.

Table 28. Critical habitat survey miles impacted by cattle on the Gila National Forest in 2024.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Black Range Ranger District	1.03	100.0%		0.0%		0.0%		0.0%	1.03
Corduroy	1.03	100.0%		0.0%		0.0%		0.0%	1.03
Glenwood Ranger District	7.74	27.8%	8.45	30.4%	4.06	14.6%	7.59	27.3%	27.84
Alma		0.0%		0.0%		0.0%	1.62	100.0%	1.62
Citizen & Roberts Park	2.18	100.0%		0.0%		0.0%		0.0%	2.18
Devils Park		0.0%		0.0%	2.48	80.1%	0.61	19.7%	3.09
Harden Cienega	1.07	17.0%		0.0%	0.82	12.9%	4.43	70.1%	6.31
Harve Gulch & Bighorn	4.48	100.0%		0.0%		0.0%		0.0%	4.48
Kelly		0.0%	7.69	81.8%	0.77	8.2%	0.93	9.9%	9.40
Tennessee		0.0%	0.76	100.0%		0.0%		0.0%	0.76
Quemado Ranger District	2.23	20.8%	3.50	32.6%	0.62	5.8%	4.37	40.8%	10.72
Laney		0.0%	3.50	44.3%	0.62	7.8%	3.78	47.9%	7.89
Luna	2.23	79.0%		0.0%		0.0%	0.59	21.0%	2.83
Reserve Ranger District	10.22	30.9%	8.69	26.3%	7.45	22.5%	6.69	20.3%	33.05
Alexander		0.0%	0.62	31.1%	0.07	3.4%	1.30	65.5%	1.98
Cienega (Black Bob)	0.40	11.6%	2.58	75.0%	0.16	4.7%	0.30	8.7%	3.44
Corner Mountain	2.16	75.5%	0.70	24.3%		0.0%		0.0%	2.86
Deep Canyon		0.0%	0.47	14.4%	0.26	8.1%	2.51	77.5%	3.24
Eagle Peak	2.76	46.0%	3.30	54.4%		0.0%		0.0%	6.06
Frisco Plaza	0.23	3.0%	0.58	7.6%	6.82	89.3%		0.0%	7.64
Govina & West Sand Flat	0.40	52.6%	0.22	28.9%	0.14	18.4%		0.0%	0.76
Lower Plaza	0.38	100.0%		0.0%		0.0%		0.0%	0.38
McCarty		0.0%	0.23	100.0%		0.0%		0.0%	0.23
Negrito/Yeguas	3.89	64.6%		0.0%		0.0%	2.13	35.4%	6.02
Not in allotment (outside of Alexander)		0.0%		0.0%		0.0%	0.45	100.0%	0.45
Silver City Ranger District	21.27	78.6%	4.22	15.6%		0.0%	1.56	5.8%	27.05
Brock Canyon*	11.79	100.0%		0.0%		0.0%		0.0%	11.79
Gila River	2.21	27.7%	4.22	52.8%		0.0%	1.56	19.5%	7.98
Not in allotment (Gila River Wilderness)**	5.89	100.0%		0.0%		0.0%		0.0%	5.89
Watson Mountain***	1.38	100.0%		0.0%		0.0%		0.0%	1.38
Wilderness Ranger District	28.12	90.5%	1.05	3.4%		0.0%	1.90	6.1%	31.06
Diamond Bar		0.0%		0.0%		0.0%	0.26	100.0%	0.26
Jordan Mesa	4.84	82.2%	1.05	17.8%		0.0%		0.0%	5.89
Redstone****	13.19	100.0%		0.0%		0.0%		0.0%	13.19
Taylor Creek	2.30	58.3%		0.0%		0.0%	1.64	41.6%	3.94
XSX	7.78	100.0%		0.0%		0.0%		0.0%	7.78

*Brock Canyon allotment is in both Silver City and Wilderness Ranger Districts. **May include areas within the Wilderness Ranger District. ***Watson Mountain allotment is in both Silver City and Glenwood Ranger Districts. ****Redstone allotment may occur in both Silver City and Wilderness Ranger Districts.

Lincoln National Forest (New Mexico)

Designated critical habitat on four grazing allotments in the Lincoln National Forest were surveyed in 2024. This first year of formal surveys showed no critical habitat miles moderately to significantly impacted by cattle, and most miles had no cattle impact at all (Tables 29-30). Though data are limited, the Lincoln National Forest is an outlier in Region 3 in that cattle impacts are a limited occurrence in the miles of critical habitat designations surveyed so far.

Table 29. Percent Of Critical Habitat Survey Miles Moderately To Significantly Impacted By Cattle On The Lincoln National Forest, By Allotment, in 2024.

District/ Allotment	2024
Sacramento Ranger District	0%
Agua Chiquita - Trail	0%
Bounds	0%
James Canyon	0%
Not in allotment	0%
Sacramento	0%

Table 30. Critical Habitat Survey Miles Impacted By Cattle On The Lincoln National Forest in 2024.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	miles	percent	miles	percent	miles	percent	miles	percent	miles
Sacramento Ranger District	6.77	71.6%	2.68	28.4%		0.0%		0.0%	9.45
Agua Chiquita - Trail	2.31	48.2%	2.49	51.8%		0.0%		0.0%	4.80
Bounds	0.28	100.0%		0.0%		0.0%		0.0%	0.28
James Canyon	0.37	100.0%		0.0%		0.0%		0.0%	0.37
Not in allotment	0.47	100.0%		0.0%		0.0%		0.0%	0.47
Sacramento	3.34	94.6%	0.19	5.4%		0.0%		0.0%	3.53

Prescott National Forest

Grazing allotments on Prescott National Forest were surveyed in 2019 and 2022. Surveys in 2019 focused on a group of allotments situated along the Verde River and expanded to another group of allotments north of Agua Fria National Monument in 2022. Although there are no cattle authorized in the riparian corridor of the Verde River, allotments showed varying degrees of cattle damage in 2019, the worst being Walnut Creek and Horseshoe allotments at 100% and 91%, respectively (Table 31-32). Following a 2021 court settlement to remove unauthorized cattle from along the Verde River, overall conditions improved but problem areas persisted. For example, Perkinsville allotment still showed 56% of critical habitat miles moderately to significantly damaged by cattle post-settlement (Tables 31, 33). Moderate to significant damage defined 35% of critical habitat survey miles in the Verde Ranger District in 2022, which include designations for Gila chub and yellow-billed cuckoo along the Agua Fria River and its tributaries and which flow south into Agua Fria National Monument described further below.

Table 31. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the Prescott National Forest, by allotment, in 2019 and 2022.

District/ Allotment	2019	2022
Chino Valley Ranger District	28%	7%
Antelope Hills	5%	0%
China Dam	40%	16%
Horseshoe	91%	0%
Muldoon	49%	
Perkinsville	0%	56%
Sand Flat	0%	15%
Walnut Creek	100%	
West Bear/Del Rio	8%	0%
Verde Ranger District		35%
Dugas		39%
Sycamore		30%
Todd		39%
V Bar		46%

Table 32. Critical habitat survey miles impacted by cattle on the Prescott National Forest in 2019.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	miles	percent	miles	percent	miles	percent	miles	percent	miles
Chino Valley Ranger District	0.00	0.0%	24.02	71.9%	4.91	14.7%	4.48	13.4%	33.41
Antelope Hills		0.0%	8.71	94.5%		0.0%	0.50	5.5%	9.21
China Dam		0.0%	1.85	60.2%	1.23	39.9%		0.0%	3.08
Horseshoe		0.0%	0.32	9.2%	1.16	33.6%	1.98	57.2%	3.46
Muldoon		0.0%	1.90	51.2%	1.82	48.8%		0.0%	3.72
Perkinsville		0.0%	1.33	100.0%		0.0%		0.0%	1.33
Sand Flat		0.0%	1.77	100.0%		0.0%		0.0%	1.77
Walnut Creek		0.0%		0.0%		0.0%	2.00	100.0%	2.00
West Bear/Del Rio		0.0%	8.14	92.0%	0.71	8.0%		0.0%	8.84

Table 33. Critical habitat survey miles impacted by cattle on the Prescott National Forest in 2022.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	miles	percent	miles	percent	miles	percent	miles	percent	miles
Chino Valley Ranger District	13.97	61.6%	7.12	31.4%	1.59	7.0%		0.0%	22.67
Antelope Hills	12.23	100.0%		0.0%		0.0%		0.0%	12.23
China Dam		0.0%	2.74	84.0%	0.52	16.0%		0.0%	3.26
Horseshoe	0.61	17.3%	2.91	82.7%		0.0%		0.0%	3.51
Perkinsville		0.0%	0.62	43.5%	0.81	56.4%		0.0%	1.43
Sand Flat	1.13	64.8%	0.35	20.2%	0.26	15.0%		0.0%	1.74
West Bear/Del Rio		0.0%	0.50	100.0%		0.0%		0.0%	0.50
Verde Ranger District	1.73	12.2%	7.49	52.7%	0.96	6.7%	4.02	28.3%	14.20
Dugas	0.28	12.0%	1.16	49.1%	0.50	21.3%	0.41	17.5%	2.37
Sycamore	0.63	7.3%	5.37	62.4%	0.37	4.3%	2.24	26.0%	8.61
Todd	0.39	54.8%	0.04	5.2%		0.0%	0.28	39.4%	0.72
V Bar	0.42	17.0%	0.92	36.7%	0.08	3.3%	1.08	43.2%	2.50

Santa Fe National Forest (New Mexico)

Surveys on the Santa Fe National Forest began in 2023 to assess the condition of New Mexico meadow jumping mouse critical habitat designations and to confirm that jumping mouse exclosures and off-limits riparian pastures are indeed free of cattle. Not only did we confirm cattle presence in off-limits riparian locations on multiple occasions, but surveys on the Santa Fe National Forest revealed percentages of critical habitat damage ranging from 15% on Red Top allotment to 92% on the San Miguel allotment, both in the Cuba Ranger District (Tables 34-35). The Santa Fe National Forest also contains designated critical habitat for Jemez Mountain salamander, upon which the jumping mouse designations largely overlap.

Table 34. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the Santa Fe National Forest, by allotment, in 2023.

District/ Allotment	2023
Cuba Ranger District	55%
Ojito Frio	38%
Red Top	15%
San Miguel	92%
Jemez Ranger District	30%
Cebolla San Antonio	22%
San Diego	44%

Table 35. Critical habitat survey miles impacted by cattle on the Santa Fe National Forest in 2023.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Cuba Ranger District	2.96	30.0%	1.45	14.7%	1.49	15.2%	3.96	40.2%	9.86
Ojito Frio	1.23	59.8%	0.05	2.3%	0.18	8.9%	0.60	29.0%	2.06
Red Top	1.72	53.4%	1.02	31.5%		0.0%	0.49	15.2%	3.23
San Miguel		0.0%	0.38	8.4%	1.31	28.7%	2.87	62.9%	4.56
Jemez Ranger District	7.93	46.7%	3.87	22.8%	2.91	17.2%	2.25	13.3%	16.96
Cebolla San Antonio	5.92	55.3%	2.39	22.4%	1.10	10.2%	1.30	12.2%	10.70
San Diego	2.01	32.1%	1.47	23.6%	1.82	29.1%	0.95	15.2%	6.25

Tonto National Forest (Arizona)

The Tonto National Forest contains designated riparian critical habitat for nine different threatened and endangered species including spikedace, loach minnow, Gila chub, razorback sucker, Chiricahua leopard frog, narrow-headed garter snake, northern Mexican garter snake, southwestern willow flycatcher, and western yellow-billed cuckoo. Aggregate data concerning Tonto surveys 2019-2024 are contained in Table 36; Tables 37-42 include data for each year of surveys.

From 2019-2024, the Center surveyed 223.4 miles of critical habitat on the Tonto for cattle impacts (range 5.1-78.9 miles/year, average 37.2 miles/year). A majority of stream miles surveyed on the Tonto showed moderate to significant damage from cattle (Tables 36-42).

Cave Creek District: Percent of survey miles moderately to significantly impacted by cattle when surveys began in 2019 was 56%, subsequently ranged from 0% (2022) to 75% (2023) and averaged 46.8% across all survey years. Rates of critical habitat damage were consistently high on Skeleton Ridge allotment, and the riparian border zone of Skeleton Ridge and Cedar Bench allotments showed 100% of survey miles moderately to significantly impacted in both 2019 and 2023.

Globe Ranger District: Percent of survey miles moderately to significantly impacted ranged from 67% (2021) to 100% (2024) and averaged 81% across all survey years. The most impaired allotment, Chrysotile, showed 77% and 100% of survey miles moderately to significantly impacted in the two years it was surveyed, 2022 and 2024.

Payson Ranger District: Percent of survey miles moderately to significantly impacted ranged from 0% (2022) to 100% (2021, 2023) and averaged 67% across all survey years. The most impaired allotments, Catholic Peak, Crouch Mesa, and Gentry Mountain showed 100% of survey miles moderately to significantly impacted in 2024; more than half of survey miles for each showed moderate to significant impacts in 2020, the other year in which they were surveyed.

Tonto Basin Ranger District: Percent of survey miles moderately to significantly impacted ranged from 36% (2024) to 69% (2021) and averaged 53% across all survey years. The most impaired allotment, Seventy-Six, showed 100% and 91% of survey miles with moderate to significant impacts in 2021 and 2024 respectively.

In 2024, the Center surveyed 43.2 stream miles of critical habitat on 12 grazing allotments. Of these, eight allotments showed moderate to significant cattle impacts on the majority of stream miles surveyed.

Table 36. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the Tonto National Forest, by allotment, from 2019-2024.

Allotment	2019	2020	2021	2022	2023	2024
Cave Creek Ranger District	56%			0%	75%	56%
Bartlett	63%					
Bull Springs	97%					
Cedar Bench	100%					
Copper Creek						56%
Deadman Mesa/ Skeleton Ridge	47%					
Red Creek	32%					
Sears Club/Chalk Mountain	0%			0%		
Skeleton Ridge	92%				67%	
Skeleton Ridge/Cedar Bench	100%				100%	
Skeleton Ridge/Red Creek	0%					
Globe Ranger District			67%	77%		100%
Bohme			0%			
Chrysotile				77%		100%
Pinto Creek			72%			
Payson Ranger District			100%	0%	100%	68%
Cedar Bench					100%	
Gisela			100%	0%		100%
Green Valley				0%		54%
Pleasant Valley Ranger District		63%	97%	39%		83%
Bar X			100%			
Buzzard Roost			100%	32%		
Catholic Peak		57%				100%
Crouch Mesa		71%				100%
Ellinwood/Diamond Butte				7%		
Gentry Mountain		59%				100%
Haigler Creek			100%			
Marsh Creek				42%		
OW			93%			0%
Red Lake		64%				83%
Soldier Camp			100%	100%		
Spring Creek			100%			
Tonto Basin Ranger District			69%			36%
Havens			100%			
Poison Spring			0%			
Seventy-Six			100%			91%
Tonto Basin			51%			18%
Walnut			0%			
Dagger & Hicks/Pike Peak			70%			48%

Table 37. Critical habitat survey miles impacted by cattle on the Tonto National Forest in 2019.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Cave Creek Ranger District	30.58	38.7%	3.79	4.8%	3.66	4.6%	40.95	51.8%	78.98
Bartlett	1.67	24.8%	0.81	12.0%	1.59	23.6%	2.67	39.7%	6.73
Bull Springs	0.26	3.2%		0.0%		0.0%	7.90	96.8%	8.16
Cedar Bench		0.0%		0.0%		0.0%	9.70	100.0%	9.70
Cedar Bench/ Skeleton Ridge border		0.0%		0.0%		0.0%	1.70	100.0%	1.70
Deadman Mesa/ Skeleton Ridge border	2.42	46.0%	0.35	6.7%	0.34	6.5%	2.14	40.8%	5.25
Red Creek	12.60	56.8%	2.49	11.2%	0.81	3.6%	6.27	28.3%	22.17
Sears Club/Chalk Mountain	11.39	100.0%		0.0%		0.0%		0.0%	11.39
Skeleton Ridge	0.86	6.9%	0.14	1.1%	0.92	7.4%	10.56	84.6%	12.49
Skeleton Ridge/ Red Creek border	1.38	100.0%		0.0%		0.0%		0.0%	1.38

Table 38. Critical habitat survey miles impacted by cattle on the Tonto National Forest in 2020.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Pleasant Valley Ranger District	0.20	1.9%	3.63	34.7%	2.33	22.3%	4.30	41.1%	10.45
Catholic Peak		0.0%	0.33	42.9%	0.14	18.2%	0.30	38.5%	0.78
Crouch Mesa		0.0%	0.47	29.1%	0.70	43.5%	0.44	27.4%	1.60
Gentry Mountain	0.20	8.3%	0.80	33.2%	0.67	27.8%	0.74	30.7%	2.40
Red Lake		0.0%	2.03	35.8%	0.82	14.5%	2.82	49.7%	5.67

Table 39. Critical habitat survey miles impacted by cattle on the Tonto National Forest in 2021.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Globe Ranger District	2.68	25.5%	0.83	7.9%	0.79	7.5%	6.20	59.0%	10.51
Bohme		0.0%	0.83	100.0%		0.0%		0.0%	0.83
Pinto Creek	2.68	27.8%		0.0%	0.79	8.1%	6.20	64.2%	9.67
Payson Ranger District		0.0%		0.0%		0.0%	4.03	100.0%	4.03
Gisela		0.0%		0.0%		0.0%	4.03	100.0%	4.03
Pleasant Valley Ranger District		0.0%	0.31	2.9%	2.79	26.6%	7.40	70.5%	10.49
Bar X		0.0%		0.0%		0.0%	1.69	100.0%	1.69
Buzzard Roost		0.0%		0.0%	0.91	100.0%		0.0%	0.91
Haigler Creek		0.0%		0.0%		0.0%	0.30	100.0%	0.30
OW		0.0%	0.31	7.4%	0.97	23.2%	2.90	69.5%	4.17
Soldier Camp		0.0%		0.0%	0.91	31.9%	1.95	68.1%	2.86
Spring Creek		0.0%		0.0%		0.0%	0.56	100.0%	0.56
Tonto Basin Ranger District	7.74	21.0%	3.65	9.9%	3.40	9.2%	22.03	59.8%	36.83
Havens		0.0%		0.0%	1.64	33.8%	3.22	66.2%	4.86
Poison Spring	0.41	100.0%		0.0%		0.0%		0.0%	0.41
Seventy-Six		0.0%		0.0%	1.75	23.7%	5.64	76.3%	7.39
Tonto Basin	5.69	29.7%	3.65	19.1%		0.0%	9.81	51.2%	19.15
Walnut	0.21	100.0%		0.0%		0.0%		0.0%	0.21
Dagger & Hicks/Pike Peak	1.43	29.7%		0.0%		0.0%	3.37	70.2%	4.80

Table 40. Critical habitat survey miles impacted by cattle on the Tonto National Forest in 2022.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Cave Creek Ranger District	4.39	100.0%		0.0%		0.0%		0.0%	4.39
Sears Club/Chalk Mountain	4.39	100.0%		0.0%		0.0%		0.0%	4.39
Globe Ranger District	0.65	10.6%	0.79	12.9%	1.33	21.6%	3.38	55.0%	6.14
Chrysotile	0.65	10.6%	0.79	12.9%	1.33	21.6%	3.38	55.0%	6.14
Payson Ranger District	0.46	20.1%	1.84	80.0%		0.0%		0.0%	2.30
Gisela	0.46	53.8%	0.40	46.2%		0.0%		0.0%	0.86
Green Valley		0.0%	1.44	100.0%		0.0%		0.0%	1.44
Pleasant Valley Ranger District	4.96	45.2%	1.71	15.6%	3.41	31.1%	0.90	8.2%	10.97
Buzzard Roost	0.49	18.4%	1.31	49.7%	0.41	15.7%	0.42	16.0%	2.64
Ellinwood/Diamond Butte	3.32	82.8%	0.40	9.9%	0.29	7.2%		0.0%	4.01
Marsh Creek	1.15	58.1%		0.0%	0.83	42.1%		0.0%	1.98
Soldier Camp		0.0%		0.0%	1.87	79.6%	0.48	20.2%	2.35

Table 41. Critical habitat survey miles impacted by cattle on the Tonto National Forest in 2023.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Cave Creek Ranger District		0.0%	0.54	25.0%		0.0%	1.62	75.0%	2.16
Skeleton Ridge		0.0%	0.54	33.3%		0.0%	1.08	66.7%	1.62
Skeleton Ridge/Cedar Bench		0.0%		0.0%		0.0%	0.54	100.0%	0.54
Payson Ranger District		0.0%		0.0%		0.0%	2.96	100.0%	2.96
Cedar Bench		0.0%		0.0%		0.0%	2.96	100.0%	2.96

Table 42. Critical habitat survey miles impacted by cattle on the Tonto National Forest in 2024.

	Absent		Light		Moderate		Significant		TOTAL
District/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Cave Creek Ranger District		0.0%	1.28	43.9%	1.63	56.2%		0.0%	2.91
Copper Creek		0.0%	1.28	43.9%	1.63	56.2%		0.0%	2.91
Globe Ranger District		0.0%		0.0%		0.0%	1.83	100.0%	1.83
Chrysotile		0.0%		0.0%		0.0%	1.83	100.0%	1.83
Payson Ranger District		0.0%	0.78	31.9%	0.76	30.8%	0.91	37.3%	2.45
Gisela		0.0%		0.0%	0.76	100.0%		0.0%	0.76
Green Valley		0.0%	0.78	46.0%		0.0%	0.91	53.7%	1.70
Pleasant Valley Ranger District	0.94	7.3%	1.22	9.6%	2.15	16.9%	8.44	66.2%	12.75
Catholic Peak		0.0%		0.0%		0.0%	0.79	100.0%	0.79
Crouch Mesa		0.0%		0.0%		0.0%	1.59	100.0%	1.59
Gentry Mountain		0.0%		0.0%	0.38	10.5%	3.23	89.3%	3.62
OW		0.0%	1.22	100.0%		0.0%		0.0%	1.22
Red Lake	0.94	16.9%		0.0%	1.77	32.0%	2.83	51.0%	5.54
Tonto Basin Ranger District	9.30	40.0%	5.65	24.3%	1.88	8.1%	6.42	27.6%	23.24
Seventy-Six		0.0%	0.25	8.6%		0.0%	2.62	91.5%	2.86
Tonto Basin	7.49	54.9%	3.71	27.2%		0.0%	2.45	17.9%	13.65
Dagger & Hicks/Pike Peak	1.81	26.8%	1.69	25.1%	1.88	28.0%	1.35	20.1%	6.73

Bureau of Land Management, Arizona State Office

Phoenix District

The Center began surveying critical habitat designations within the Agua Fria National Monument, of BLM's Phoenix District, in 2021. This National Monument includes five grazing allotments that were surveyed to assess critical habitat designations for Gila chub and yellow-billed cuckoo. Aggregate data concerning Agua Fria surveys in 2021-2024 are contained in Table 43; Tables 44-47 include data for each year of surveys.

Between 2021-2024, the average percent of Agua Fria National Monument critical habitat miles damaged by cattle impacts is 87% (range 71%-100%) (Tables 43-47). Despite seasonal restrictions on grazing within riparian zones of the Monument, which routinely go unenforced, there has been only one instance in four years of an allotment with less than 50% of critical habitat moderately to significantly impacted by cattle. Regardless of precipitation trends, critical habitat across the five surveyed allotments of Agua Fria National Monument is routinely degraded by damage from livestock. Critical habitat on the Box Bar allotment has yet to be less than 95% damaged by cattle in any survey year.

Table 43. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the BLM's Phoenix District, by allotment, from 2021-2024.

Unit/ Allotment	2021	2022	2023	2024
Agua Fria NM	100%	93%	71%	83%
2Y		100%	67%	66%
Box Bar		100%	96%	95%
E-Z Ranch		84%	52%	76%
Horseshoe	100%	90%	57%	79%
Sycamore		100%	45%	100%

Table 44. Critical habitat survey miles impacted by cattle in BLM's Phoenix District in 2021.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	miles	percent	miles	percent	miles	percent	miles	percent	miles
Agua Fria NM		0.0%		0.0%	0.34	7.0%	4.53	93.0%	4.87
Horseshoe		0.0%		0.0%	0.34	7.0%	4.53	93.0%	4.87

Table 45. Critical habitat survey miles impacted by cattle in BLM's Phoenix District in 2022.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Agua Fria NM	1.36	6.3%	0.11	0.5%	1.90	8.8%	18.32	84.5%	21.69
2Y		0.0%		0.0%	0.13	14.6%	0.77	85.3%	0.90
Box Bar		0.0%		0.0%	0.66	7.7%	7.93	92.2%	8.60
E-Z Ranch	0.92	14.0%	0.11	1.7%	0.71	11.0%	4.76	73.3%	6.50
Horseshoe	0.44	9.6%		0.0%		0.0%	4.13	90.3%	4.57
Sycamore		0.0%		0.0%	0.39	34.8%	0.73	65.0%	1.13

Table 46. Critical habitat survey miles impacted by cattle in BLM's Phoenix District in 2023.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Agua Fria NM	0.32	1.2%	2.83	10.6%	4.69	17.5%	18.95	70.7%	26.80
2Y		0.0%		0.0%	0.29	33.3%	0.59	66.8%	0.88
Box Bar		0.0%		0.0%	0.45	4.3%	9.84	95.7%	10.29
E-Z Ranch	0.32	6.0%	0.42	7.8%	1.85	34.5%	2.78	51.7%	5.37
Horseshoe		0.0%	2.41	25.7%	1.62	17.3%	5.34	57.0%	9.37
Sycamore		0.0%		0.0%	0.48	54.4%	0.40	45.4%	0.88

Table 47. Critical habitat survey miles impacted by cattle in BLM's Phoenix District in 2024.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Agua Fria NM	0.41	1.5%	4.08	15.0%	5.05	18.6%	17.64	64.9%	27.19
2Y	0.14	15.6%	0.16	18.3%		0.0%	0.59	66.0%	0.89
Box Bar		0.0%	0.41	5.2%	1.30	16.6%	6.16	78.3%	7.87
E-Z Ranch	0.27	5.1%	1.01	18.9%	2.54	47.5%	1.52	28.5%	5.35
Horseshoe		0.0%	2.50	20.9%	1.20	10.1%	8.23	69.0%	11.93
Sycamore		0.0%		0.0%		0.0%	1.15	100.0%	1.15

Gila District

BLM's Gila District (Tables 48-54), subdivided into the Tucson and Safford Field Offices, contains critical habitat for a multitude of species including yellow-billed cuckoo, southwestern willow flycatcher, spikedace, loach minnow, razorback sucker, Chiricahua leopard frog, northern Mexican and narrow-headed garter snakes, and plants such as Arizona eryngo and Huachuca water umbel.

The Gila District manages two Riparian National Conservation Areas (RNCAs), including the San Pedro RNCA and the Gila Box RNCA, which Congress specifically designated

to protect the riparian values found there. Despite these congressional designations, these two RNCAs routinely show a high degree of significant cattle impacts in designated critical habitat. The entirety of the San Pedro RNCA was surveyed in 2023 and nearly every mile—both within grazing allotments and outside of them—showed moderate to significant impacts from cattle. The Gila Box RNCA, despite its National Conservation Area designation and year-round grazing restrictions in riparian zones, has averaged nearly 87% of riparian critical habitat miles moderately to significantly damaged by unauthorized cattle.

Another group of allotments, managed by the Tucson Field Office, occurs along the Gila River downstream of the Gila River/ San Pedro River confluence. These seven grazing allotments were surveyed for cattle impacts beginning in 2022, and each one had 100% of survey miles moderately to significantly degraded by cattle. Percentage of moderately to significantly impacted critical habitat was slightly improved in 2024 but still ranged from 45.7% to 100%.

Government Springs and Sleeping Beauty Mountain allotments occur adjacent to the Tonto Nation Forest. These two allotments had lower rates of cattle damage, likely owing to a lack of surface water in riparian zones and thus less concentration of cattle in these places.

Table 48. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the BLM's Gila District, by allotment, from 2021-2024.

Unit/ Allotment	2019	2020	2021	2022	2023	2024
San Pedro RNCA	14.3%	67.5%	64.9%	64.1%	97.5%	
Not in allotment	14.3%	67.5%	58.7%	69.5%	97.5%	
Babocomari			100.0%	0.0%		
Brunchow Hill			0.0%	0.0%		
Lucky Hills			100.0%	0.0%		
Three Brothers			100.0%	100.0%		
Gila Box RNCA			87.2%			86.2%
Bonita Creek			58.1%			48.7%
Bull Gap Community			100.0%			71.7%
Gila			100.0%			100.0%
Johnny Creek			100.0%			
Johnny Creek/Bonita Creek						100.0%
Morenci			100.0%			100.0%
Not in allotment						100.0%
Zorilla			100.0%			100.0%
Tucson Field Office				89.1%	67.2%	68.6%
A-Diamond				100.0%		66.4%
Government Springs				26.1%		
Horsetrack				100.0%		51.0%
Len & Cochran				100.0%		100.0%
Len & Teacup Ranch				100.0%		78.9%
Myers				100.0%		
Myers/Whitlow				100.0%		45.7%
Not in allotment					67.2%	
Sleeping Beauty Mtn				39.5%		

Table 49. Critical habitat survey miles impacted by cattle in BLM's Gila District in 2019.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
San Pedro RNCA	6.87	36.9%	9.09	48.8%	2.67	14.3%		0.0%	18.63
Not in allotment	6.87	36.9%	9.09	48.8%	2.67	14.3%		0.0%	18.63

Table 50. Critical habitat survey miles impacted by cattle in BLM's Gila District in 2020.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
San Pedro RNCA	2.38	21.4%	1.24	11.2%	0.21	1.9%	7.30	65.6%	11.13
Not in allotment	2.38	21.4%	1.24	11.2%	0.21	1.9%	7.30	65.6%	11.13

Table 51. Critical habitat survey miles impacted by cattle in BLM's Gila District in 2021.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
San Pedro RNCA	2.61	13.7%	4.06	21.4%	1.36	7.2%	10.96	57.7%	18.99
Not in allotment	1.26	9.8%	4.06	31.6%	0.48	3.7%	7.07	55.0%	12.87
Babocomari		0.0%		0.0%		0.0%	1.08	100.0%	1.08
Brunchow Hill	1.35	100.0%		0.0%		0.0%		0.0%	1.35
Lucky Hills		0.0%		0.0%	0.89	25.8%	2.54	74.2%	3.43
Three Brothers		0.0%		0.0%		0.0%	0.26	100.0%	0.26
Gila Box RNCA	2.89	9.7%	0.93	3.1%	4.21	14.2%	21.70	73.0%	29.73
Bonita Creek	2.89	31.8%	0.93	10.2%	3.03	33.3%	2.25	24.8%	9.10
Bull Gap Community		0.0%		0.0%		0.0%	3.51	100.0%	3.51
Gila		0.0%		0.0%		0.0%	4.86	100.0%	4.86
Johnny Creek		0.0%		0.0%	1.18	34.7%	2.22	65.3%	3.40
Morenci		0.0%		0.0%		0.0%	7.62	100.0%	7.62
Zorilla		0.0%		0.0%		0.0%	1.23	100.0%	1.23

Table 52. Critical habitat survey miles impacted by cattle in BLM's Gila District in 2022.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
San Pedro RNCA	3.77	9.3%	10.81	26.6%	4.23	10.4%	21.84	53.7%	40.65
Not in allotment	3.77	10.7%	6.98	19.8%	4.23	12.0%	20.27	57.5%	35.25
Babocomari		0.0%	1.67	100.0%		0.0%		0.0%	1.67
Brunchow Hill		0.0%	0.13	100.0%		0.0%		0.0%	0.13
Lucky Hills		0.0%	2.03	100.0%		0.0%		0.0%	2.03
Three Brothers		0.0%		0.0%		0.0%	1.57	100.0%	1.57
Tucson Field Office	2.19	7.3%	1.07	3.6%	2.39	8.0%	24.26	81.1%	29.91
A-Diamond		0.0%		0.0%	0.47	9.3%	4.63	90.7%	5.10
Government Springs	1.98	61.9%	0.39	12.1%	0.74	23.0%	0.10	3.1%	3.20
Horsetrack		0.0%		0.0%	1.18	25.4%	3.44	74.6%	4.62
Len & Cochran		0.0%		0.0%		0.0%	4.07	100.0%	4.07
Len & Teacup Ranch		0.0%		0.0%		0.0%	5.22	100.0%	5.22
Myers		0.0%		0.0%		0.0%	2.01	100.0%	2.01
Myers/Whitlow		0.0%		0.0%		0.0%	4.20	100.0%	4.20
Sleeping Beauty Mtn	0.21	14.4%	0.68	46.1%		0.0%	0.58	39.5%	1.47

Table 53. Critical habitat survey miles impacted by cattle in BLM's Gila District in 2023.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
San Pedro RNCA		0.0%	1.06	2.5%	1.82	4.3%	39.06	93.1%	41.94
Not in allotment		0.0%	1.06	2.5%	1.82	4.3%	39.06	93.1%	41.94
Tucson Field Office		0.0%	0.83	32.8%	0.10	3.9%	1.60	63.3%	2.52
Not in allotment		0.0%	0.83	32.8%	0.10	3.9%	1.60	63.3%	2.52

Table 54. Critical habitat survey miles impacted by cattle in BLM's Gila District in 2024.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Gila Box RNCA	3.93	13.8%		0.0%	0.97	3.4%	23.62	82.8%	28.52
Bonita Creek	2.49	51.3%		0.0%	0.63	12.9%	1.74	35.8%	4.86
Bull Gap Community	1.44	28.2%		0.0%		0.0%	3.66	71.7%	5.10
Gila		0.0%		0.0%		0.0%	4.22	100.0%	4.22
Johnny Creek/Bonita Creek		0.0%		0.0%		0.0%	3.00	100.0%	3.00
Morenci		0.0%		0.0%	0.34	4.7%	6.97	95.2%	7.32
Not in allotment		0.0%		0.0%		0.0%	2.84	100.0%	2.84
Zorilla		0.0%		0.0%		0.0%	1.20	100.0%	1.20
Tucson Field Office		0.0%	5.59	31.4%	0.84	4.7%	11.38	63.9%	17.80
A-Diamond		0.0%	2.16	33.6%		0.0%	4.26	66.4%	6.42
Horsetrack		0.0%	0.52	48.8%		0.0%	0.55	51.0%	1.07
Len & Cochran		0.0%		0.0%	0.32	12.4%	2.25	87.6%	2.57
Len & Teacup Ranch		0.0%	0.82	21.1%		0.0%	3.09	78.9%	3.91
Myers/Whitlow		0.0%	2.08	54.3%	0.52	13.6%	1.23	32.1%	3.84

Hassayampa District

Beginning in 2023, the Center began our assessments of designated critical habitat within the Big Sandy River watershed (Tables 55-57). Here, grazing allotments are managed by the BLM Kingman Field Office and contain critical habitat designations for southwestern willow flycatcher, yellow-billed cuckoo, and northern Mexican garter snake. In most cases, BLM management documents require important riparian ecosystems to be protected from cattle through exclosures, seasonal limitations, and closed allotments. However, Center surveys revealed that none of these measures were being enforced on the ground and that cattle impacts were ubiquitous and significant throughout the watershed.

In 2023, percent of survey miles with moderate to significant cattle impacts averaged 91% (range 61%-100%) in allotments under Kingman Field Office management (Table 56). Five of the seven allotments surveyed exhibited 100% of riparian survey miles moderately to significantly damaged by cattle. Although only five allotments were subsequently resurveyed in 2024, high rates of cattle impacts remained (Table 57), indicating a sustained problem of cattle-damaged critical habitat in this region of Arizona, including several locations off-limits to cattle either permanently or seasonally. The only allotment that showed improvement was Planet allotment, going from 61% to 13% moderately to significantly impacted by livestock.

Table 55. Percent of critical habitat survey miles moderately to significantly impacted by cattle on the BLM's Hassayampa District, by allotment, from 2023-2024.

Unit/ Allotment	2023	2024
Kingman Field Office	91%	75%
Artillery Range	100%	100%
Chino Springs	100%	
Greenwood Community	100%	100%
Greenwood Peak Community	100%	100%
Palmerita	100%	
Planet	61%	13%
Primrose	79%	81%

Table 56. Critical habitat survey miles impacted by cattle in BLM's Hassayampa District in 2023.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Kingman Field Office		0.0%	1.98	8.6%	4.62	20.1%	16.44	71.4%	23.03
Artillery Range		0.0%		0.0%	1.12	68.6%	0.52	31.5%	1.64
Chino Springs		0.0%		0.0%		0.0%	3.60	100.0%	3.60
Greenwood Community		0.0%		0.0%		0.0%	1.47	100.0%	1.47
Greenwood Peak Community		0.0%		0.0%		0.0%	3.83	100.0%	3.83
Palmerita		0.0%		0.0%		0.0%	5.68	100.0%	5.68
Planet		0.0%	1.20	38.4%	1.91	61.5%		0.0%	3.11
Primrose		0.0%	0.78	21.1%	1.58	42.8%	1.33	36.0%	3.70

Table 57. Critical habitat survey miles impacted by cattle in BLM's Hassayampa District in 2024.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Kingman Field Office		0.0%	3.63	25.2%	4.50	31.2%	6.30	43.6%	14.44
Artillery Range		0.0%		0.0%	2.32	78.6%	0.63	21.5%	2.95
Greenwood Community		0.0%		0.0%		0.0%	2.27	100.0%	2.27
Greenwood Peak Community		0.0%		0.0%	1.70	58.5%	1.21	41.5%	2.91
Planet		0.0%	3.12	86.7%	0.48	13.3%		0.0%	3.60
Primrose		0.0%	0.51	18.9%		0.0%	2.19	81.1%	2.70

Bureau of Land Management, Utah State Office

Paria River District

In 2023, the Center expanded critical habitat surveys into the BLM's Utah State Office to assess southwestern willow flycatcher riparian designations on Grand Staircase-Escalante National Monument. While flycatcher designations occur specifically on the Cottonwood allotment, nearby allotments also host designated critical habitat and Primary Activity Centers (PAC's) for Mexican spotted owls. Of the nearly 19 miles of riparian habitat surveyed on the Cottonwood allotment, 83% was found to have moderate to significant cattle impacts (Table 58). Overall, 87% of the surveyed riparian miles across the area showed moderate to significant impacts, underscoring the need for a reevaluation and expansion of survey efforts in Grand Staircase-Escalante National Monument.

Table 58. Percent of survey miles moderately to significantly impacted by cattle on the BLM's Paria River District, by allotment, in 2023.

Unit/ Allotment	2023
Grand Staircase-Escalante NM	87%
Cottonwood	83%
Lower Hackberry	100%
Mollies Nipple	95%

Table 59. Critical habitat survey miles impacted by cattle in BLM's Paria River District in 2023.

	Absent		Light		Moderate		Significant		TOTAL
Unit/ Allotment	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**	**percent**	**miles**
Grand Staircase-Escalante NM	0.51	1.8%	3.20	11.1%	9.17	31.9%	15.88	55.2%	28.76
Cottonwood	0.51	2.7%	2.79	14.8%	5.71	30.2%	9.90	52.3%	18.92
Lower Hackberry		0.0%		0.0%	1.60	89.6%	0.19	10.7%	1.79
Mollies Nipple		0.0%	0.40	5.0%	1.86	23.0%	5.79	71.9%	8.05

Discussion

A multitude of Southwestern native species associated with riparian ecosystems, cienegas and other wetlands are threatened, endangered, or otherwise imperiled due to habitat loss, degradation, and ecosystem alteration.[29]

Results from the Center's field surveys from 2017-2024 show widespread, region-wide damage from livestock grazing to aquatic and riparian critical habitat for threatened and endangered species on federally managed public lands in Arizona, New Mexico and Utah. In total, we have documented moderate to significant cattle impacts on 62% of the total 2,435 miles surveyed across the region.

Based on our critical habitat survey results and the unwillingness of federal land managers and livestock permit-holders to prevent continued degradation of riparian habitat on the majority of critical habitat designations surveyed, and based on the absence of management plans or conservation agreements that meaningfully conserve and prevent adverse modification to the physical and biological features that endangered species depend upon, the Center recommends and insists that agencies effectively exclude livestock from designated critical habitat in Arizona, New Mexico and Utah.

Because of the vital importance of intact riparian areas to sustaining and recovering ESA-listed species, and the undeniable link between livestock grazing and damaged riparian areas, agencies must determine whether grazing is an appropriate and suitable use of riparian public lands. To undertake this assessment, federal agencies must consider the relative value that ungrazed, recovering riparian areas provide to wildlife (especially special status species), water quality and hydrological processes against the value of riparian systems degraded and lost due to public lands livestock production. Livestock grazing is an inappropriate and unsuitable use in areas where wildlife habitat of elevated worth and importance has been or has the potential to be damaged by livestock use. Livestock grazing is also inappropriate and unsuitable when it would prevent timely recovery of important and valuable keystone ecosystems or when it disrupts the functionality of essential riparian areas, compromising their ability to support imperiled native species.

Ecological conditions on Western public lands have worsened recently,[30] mainly due to reduced productivity caused by livestock production in conjunction with a changing climate and

[29] Johnson, A.S., 1989. The thin green line: riparian corridors and endangered species in Arizona and New Mexico. *In defense of wildlife: preserving communities and corridors. Defenders of Wildlife, Washington, DC*, pp.35-46.

[30] Donahue, D.L., 2006. Federal rangeland policy: perverting law and jeopardizing ecosystem services. J. Land Use & Envtl. L., 22, p. 299.

an historically unprecedented 'megadrought'.[31,32] Using public lands for livestock production is known to exacerbate the effects of climate change.[33]

FWS recognizes the escalating climate problem but has failed to take meaningful action to mitigate it. Despite dire climate projections forecasted for the southwestern states, the FS, BLM, and FWS continue to authorize status quo livestock grazing on federal public lands with no practical or meaningful revisions to protect riparian ecosystems or the imperiled native species whose future survival depends on them.

Livestock exclusion is the best way to mitigate climate change impacts and aridification, as removal of cattle grazing has been correlated with dramatic increases in native riparian vegetation.[34,35,36,37] Only by eliminating livestock impacts will native riparian ecosystems survive and recover in this historic Anthropocene era defined by record heat and drought. While the effects of climate change are difficult to control, riparian habitat on public lands in the Southwest can be dramatically improved simply by excluding livestock from these areas.

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[32] Williams, A. P., Cook, B. I., & Smerdon, J. E. (2022). Rapid intensification of the emerging southwestern North American megadrought in 2020–2021. Nature Climate Change, 12, 232–234. https://doi.org/10.1038/s41558-022-01290-z

[33] Kauffman, J.B., Beschta, R.L., Lacy, P.M. *et al.* Livestock Use on Public Lands in the Western USA Exacerbates Climate Change: Implications for Climate Change Mitigation and Adaptation. *Environmental Management* **69**, 1137–1152 (2022). https://doi.org/10.1007/s00267-022-01633-8

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[35] Smith, J.J., 1990. Recovery Of Riparian Vegetation on An Intermittent Stream Following Removal of Cattle. In California Riparian Systems Conference, p. 217.

[36] Reichenbacher, F.W., 1984. Ecology and evolution of southwestern riparian plant communities [The relationship between the distributions of plants in the floodplain and a set of physical site factors, Trout Creek, Mohave County Arizona; USA]. Desert Plants.

[37] Szaro, R.C. and Pase, C.P., 1983. Short-term changes in a cottonwood-ash-willow association on a grazed and an ungrazed portion of Little Ash Creek in central Arizona *Populus fremontii*, velvet ash, *Fraxinus velutina*, Goodding willow, *Salix gooddingii*. Rangeland Ecology & Management/Journal of Range Management Archives, 36(3), pp.382-384.

Appendix A. Survey Methods Tables

Table A-1. Condition descriptors and severity score guidelines for the six cattle impact categories used in the rapid assessment surveys.

Category	Condition: 1	Condition: 2	Condition: 3	Condition: 4
GRAZING EVIDENCE ON GRASSES AND HERBACEOUS GROWTH	**LIMITED** Less than 1% of the grasses impacted.	**LIGHT** Few to some patches of grazed area or selective grazing in patches.	**MODERATE** Multiple grass patches grazed, more than 20% of grass impacted in patches.	**SEVERE/HEAVY** Multiple patches grazed, low grass heights less than 1 inch. More than 30% grazed in patches
BROWSE PRESSURE/WOODY Stems	**LIMITED** Less than 1% of woody stems impacted	**LIGHT** Browsing limited to multiyear stems	**MODERATE** Browse pressure on near channel woody recruitment	**HEAVY/SEVERE** Multiple green-line or near channel recruitment browsed
GROUND COVER DISTURBANCE/INTENSITY	**LIMITED** Limited to transient evidence of use.	**LOW** Isolated trailing and cow trails developing.	**MODERATE** Multiple trails and the presence of wallows and rutting areas. Some bare soils.	**SEVERE** Trails, plus wallows, rutting and compaction leading to denuded ground and larger areas of bare soils.
GROUND COVER DISTURBANCE/EXTENT	**LIMITED** Few examples of disturbance.	**SCATTERED** Trails or disturbances in more than one location in segment.	**MODERATE** Trails meander through entire segment and there are multiple moderate level disturbances (see above).	**PERVASIVE** Multiple locations of disturbance and multiple types of disturbances, including severe moderate and low (see above).
STREAMBANK DEGRADATION/INTENSITY	**LIMITED** No visible signs, but other cattle impact on both sides of river that evidence crossing.	**LOW** Trails leading to streambank and water's edge.	**MODERATE** Trailing and trails creating unstable banks, some chiseling, or in low relief banks-muddy compaction	**SEVERE** Trailing leading to shearing and removal of a portion of the streambank leaving vertical surfaces.
STREAMBANK DEGRADATION/EXTENT	**LIMITED** Isolated example of streambank entry.	**SCATTERED** Bank degradation of any intensity in more than one location.	**MODERATE** Multiple examples of low and moderate bank degradation (see above).	**PERVASIVE** Multiple examples of low, moderate, and severe degradation (see above).

Table A-2. Weighting table for overall impact levels of stream reach segments based on condition scores (0-4) from the six categories of cattle impacts.

ABSENT	LIGHT IMPACT	MODERATE IMPACT	SIGNIFICANT IMPACT
ALL ZEROS	ANY COMBINATION OF ONE'S & TWOS & ZEROS	AT LEAST (5) TWOS WITH ANY OTHER NUMBER	ANY TIME THERE ARE (3) THREES WITH ANY OTHER COMBINATION OF NUMBERS
		ANY COMBINATION OF TWOS, THREES, AND ONE'S	ANY COMBINATION OF NUMBERS WITH AT LEAST (1) FOUR
	(UNLESS (5) TWOS-` then moderate)	*(UNLESS (3) THREES- then significant)*	