June 9, 2021

Via Certified Mail Return Receipt Requested

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Department of the Interior
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Washington, D.C. 20240-0001

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Secretary Deb Haaland
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Principal Deputy Director Martha Williams
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1849 C Street N.W., Rm. 3331
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RE: Cover Letter to WildEarth Guardians’ 60-day notice of intent to sue under the Endangered Species Act

Dear Deputy Commissioner Calimlim-Touton, Area Manager Faler, Secretary Haaland, Regional Director Lueders, Principal Deputy Director Williams, New Mexico State Engineer D’Antonio, Director Schmidt-Peterson, and Chief Engineer Hamman,

I am writing to express the sadness and frustration we feel with regard to the forecasted conditions on the Rio Grande for the summer of 2021 and the resulting collision of crises that could cause extreme and extensive drying of the river, extinction of imperiled species, and widespread hardship for human communities for recreation, growing crops, maintaining livelihoods, sustaining cultural practices, and basic quality of life. We know that warming temperatures due to climate change are playing a role in the reduction of river flows, but must also acknowledge the role of longstanding, unsustainable use and management in the Rio Grande Basin that contributes to this reality from the San Juan Mountains to the Gulf.

A reckoning is here for the Rio Grande Basin. The water scarcity problems in the Southwest are centuries in the making and we all share a collective responsibility and accountability for the situation before us and the solutions ahead. A comprehensive solution needs to involve not only those traditionally included in water management decisions and policy over the past century, but also needs to right historic injustices to
certain communities and interests. While there is no doubt the choices ahead will be hard and sacrifices will be required of all, we need to rethink how we value and manage water and ensure that both communities and the environment have a balanced and equitable future. We all lose if we refuse to adapt to the warming climate and face the new reality of a future with less water.

Individual communities in the Rio Grande Basin need to look beyond their experience and take into consideration what others are facing throughout the Basin. For those in the middle valley near Albuquerque, it may seem incredible that the river through the city will likely go dry this summer. To be sure, people in those communities will feel that loss. We must be mindful, however, that people south of Albuquerque witness the river drying nearly every summer and communities south of Elephant Butte only have some semblance of a living river a few months of the year. This year, given the current conditions and outlook, the Rio Grande will likely only flow south of Elephant Butte for a matter of weeks. These inequities have long been perpetrated on communities and sacrifices made that those communities were not a part of deciding. A wholesale change to the water management paradigm and a just transition to a more balanced future is needed.

This letter serves to transmit Guardians’ 60-day notice of intent to sue under the Endangered Species Act to the parties listed in the notice letter and to notify other interested communities and people of this letter. We understand that litigation will not solve all of the problems in the Rio Grande Basin, but we also know that litigation can serve as a strong impetus for changes in policies, new programs, funding, and more equitable discussions between water managers and other interested communities outside the existing power structure to reform existing water policy and management. While we commend the efforts of many this year to move forward with water leasing as a solution for reducing demands on the river (among other solutions being implemented), given the severe and imminent consequences of a warming climate, those efforts must be magnified to scale and happen more quickly to meet the challenge of the times.

We believe there is much more that can be done to coordinate water management and reduce demand at key times to ensure water for both people and ecosystems. We sincerely hope this letter will serve to spur the beginning of more inclusive and regular discussions around water management, result in firm commitments by federal, state, and local agencies and individuals to implement both short and long-term solutions, identify and fund studies vital to this transition, and highlight the need and build political will to rethink water laws, policies and agreements to better align with current and future climatic conditions throughout the Basin.

Extraordinary short-term solutions may be necessary this year to prevent the worst-case scenario for both people and the environment. However, we must also use the urgency of this moment to investigate and implement long-term solutions that will help identify opportunities and rethink water management as the climate warms. We do not have another decade to ensure that these measures and policy changes are in place, including but not limited to, securing upstream conservation storage, fish passage and/or dam removal or reconfiguration to ensure habitat connectivity, dynamic and perennial flows in the river, a comprehensive third-party study of Upper Rio Grande Basin reservoir operations and flexibilities, a transitional water leasing program that is to scale, the redistribution of climate inequities under the Rio Grande Compact, and ultimately a recognition and legal protection of non-consumptive uses and values of the river. The Rio Grande is proving to be ground zero in the West on the impact of climate change on water availability. We hope that this warning (both the legal notice and the dire conditions on the river) will provide water managers, and quite frankly all people, an incentive to rethink water management as it has existed this past century and chart a new course for this dying river. The Rio Grande is too valuable to lose.

We don’t have all the answers, but know that the existing system is at its breaking point. I believe, while we don’t agree on all things, we can agree that we all want a sustainable future for this river and its people. We hope this 60-day notice to file suit sparks a conversation between Guardians and the parties named in this notice, but more importantly we hope that anyone who has ideas or wants to be involved in
crafting a solution is given a meaningful voice. This is an invitation to express your concerns and/or solutions to me and my staff, to your elected representatives in Congress or at the state level, to the media, or to your local water managers and agency officials. We believe collectively—as more voices are heard and more knowledge is shared—the Basin can find a new path forward.

Sincerely,

Jen Pelz

Rio Grande Waterkeeper and
Wild Rivers Program Director
WildEarth Guardians
jpelz@wildearthguardians.org
303-884-2702

Enc: Guardians’ 60-day notice of intent to sue under the Endangered Species Act
June 9, 2021

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Mike Hamman, CEO/Chief Engineer
Middle Rio Grande Conservancy District
1931 Second St. SW
Albuquerque, NM 87103

RE: Notice of Intent to Sue the U.S. Fish and Wildlife Service; U.S. Bureau of Reclamation; State of New Mexico; and Middle Rio Grande Conservancy District for Violations of the Endangered Species Act

In accordance with the 60-day notice requirement of the Endangered Species Act (ESA), 16 U.S.C. § 1540(g), you are hereby notified that WildEarth Guardians (Guardians) intends to bring a civil action against the U.S. Bureau of Reclamation (Reclamation) and the U.S. Fish and Wildlife Service (the Service) for (1) violating their nondiscretionary duties under ESA Section 7 to ensure that ongoing and future activities related to water management and maintenance activities (the Proposed Action) on the Middle Rio Grande, New Mexico, will not jeopardize the survival and recovery of the Rio Grande silvery minnow, Southwestern willow flycatcher, yellow-billed cuckoo, or adversely modify their critical habitats; and (2) failing to reinitiate consultation based on new information showing that (a) the Proposed Action’s effects to listed
species are of a greater magnitude than originally contemplated in the 2016 Biological Opinion; (b) impacts to listed species are not being minimized or mitigated; and (c) designation of critical habitat for the yellow-billed cuckoo. Additionally, Guardians intends to bring separate claims against the Service for its arbitrary and unsupported no-jeopardy conclusion and incidental take statement, and against Reclamation for (1) making irreversible or irretrievable commitments of resources foreclosing the formulation or implementation of any reasonable and prudent alternative measures for listed species protection; (2) violation of ESA Section 9 by causing ongoing an imminent future “take” of listed species and their critical habitats without a legally valid permit; and (3) failing to consult with the Service over the full scope of its discretionary authority for water management in the Middle Rio Grande. 16 U.S.C §§ 1536(a)(2), 1536(d), and 1538(g); 50 C.F.R. § 402 et seq.

Guardians also intends to bring civil actions against the State of New Mexico and the Middle Rio Grande Conservancy District (MRGCD) as non-federal parties under the 2016 Biological Opinion, through the above-named officials for each, for violating ESA Section 9. The State’s administration, distribution, and regulation of water in the Middle Rio Grande and MRGCD’s past and ongoing water management activities that divert Middle Rio Grande water cause ongoing and imminent future “take” of listed species and adverse modification to their critical habitats without a permit authorized by law.

I. SUMMARY

The silvery minnow, flycatcher, and cuckoo all depend on healthy aquatic and floodplain environments. Their plight is inextricably tied to destruction of these habitats along the Rio Grande, particularly from Cochiti Dam to Elephant Butte Reservoir in New Mexico (hereafter referred to as Middle Rio Grande). More specifically, they are all negatively affected by continued surface water diversions and inadequate mitigation measures by Reclamation and the non-federal parties that have dramatically reduced the flows of the Rio Grande. But the agencies’ ESA consultation on Reclamation’s and the non-federal parties’ operations, which resulted in Reclamation’s 2015 Biological Assessment and the Service’s 2016 Biological Opinion, nonetheless concluded that Reclamation’s and the non-federal partners’ operations would not jeopardize these species’ continued existence. See U.S. Fish & Wildlife Serv., Final Biological and Conference Opinion for Bureau of Reclamation, Bureau of Indian Affairs, and Non-Federal Water Management and Maintenance Activities on the Middle Rio Grande, New Mexico (Dec. 2, 2016) (2016 Biological Opinion or BiOp).

The Service’s no jeopardy conclusion in the 2016 Biological Opinion rests entirely on implementation of a series of vague, uncertain, and unenforceable conservation measures. Many of the conservation measures lack implementation deadlines or set implementation deadlines that are many years out, failing to take into account the present impacts on the species (prior to full implementation) and also the silvery minnow’s very short 2-3-year life span. The Service also failed to analyze the efficacy of the conservation measures, presenting only unsupported conclusions that the conservation measures would mitigate the Proposed Action’s plethora of adverse effects to listed species. In addition to the improper reliance on conservation measures to avoid jeopardy, the Service also failed to consider the additive effects of climate change to the impacts of the Proposed Action. Further, the Service ignored the Proposed Action’s impacts on
species recovery when it failed to provide any analysis or measures related to promoting recovery.

Reclamation violated the ESA’s consultation requirement in three ways. First, in its consultation with the Service, Reclamation failed to consult on the full range of the agency’s discretionary authorities related to water management in the Middle Rio Grande, instead arbitrarily cabining the consultation to an unreasonable narrow subset of Reclamation’s discretionary authorities. Second, Reclamation arbitrarily relied on the Service’s flawed 2016 Biological Opinion, violating its substantive duty to avoid jeopardizing listed species or adversely modifying their critical habitat. 16 U.S.C. § 1536(a)(2). Third, Reclamation failed to reinitiate consultation with the Service based on new information related to previously-unanalyzed impacts of the Proposed Action on listed species.

In addition, the State of New Mexico has authorized and endorsed past and on-going water management actions by MRGCD, wherein MRGCD has engaged in water diversions from the Rio Grande that deplete flows and dewater the river, having the effect of harming, harassing, wounding, and killing silvery minnows and willow flycatchers. Such authorizations and activities cause significant habitat modification and degradation resulting in actual death and injury of silvery minnows and willow flycatchers by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. See Babbitt v. Sweet Home Chapter of Communities for a Greater Oregon, 516 U.S. 687 (1995); Palila v. Hawaii Dept. of Land & Natural Resources, 649 F.Supp. 1070 (D. Haw. 1986, aff’d 852 F.2d 1106 (9th Cir. 1988); The Aransas Project v. Shaw, 930 F.Supp.2d 716, 726 (S.D. Texas 2013); 50 C.F.R. §17.3. Furthermore, the State has and continues to authorize diversions and depletions within the Middle Rio Grande that the State thereafter fails to properly regulate.1 Accordingly, such action and failure to act by the State represents “take” of the listed species in violation of Section 9 of the ESA.

The above-listed ESA violations must be resolved through reinitiation of consultation and production of a new, legally-compliant biological opinion analyzing the effects of Reclamation’s and the non-federal parties’ Middle Rio Grande water operations. Because the existing 2016 Biological Opinion is not valid, it does not cover the water management and maintenance activities of Reclamation nor the actions of its cooperating non-federal partners.2

Guardians cannot stand by any longer and watch the river dry, minnow populations plummet, and riparian habitat shrink. We have intentionally exercised restraint to allow the

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1 The State Engineer and Interstate Stream Commission are charged with the administration, distribution, regulation and conservation of waters within the state. See NMSA §§ 72-2-1, 72-2-9 and 72-14-3.

2 The Service acknowledges the following the 2016 BiOP: “Nothing in this BiOp precludes any new depletion that results from the exercise of Native American water rights or other senior water right holders within the Action Area or modifies the obligation to store, release, and deliver water to the six MRG Pueblos to meet their statutorily recognized rights.” BiOp at 16. None of Guardians’ claims raised in this Notice challenge Pueblo water diversions or the Pueblos’ use of water.
federal, state, and local agencies to operate under the 2016 Biological Opinion in a variety of conditions, and your efforts have shown that measures are not in place to ensure the survival and recovery of imperiled Rio Grande species. If Reclamation and the Service do not reinitiate consultation within 60 days of receiving this letter, Guardians will consider all its options, including litigation, to protect the suite of endangered and threatened species and their habitat in the Middle Rio Grande.

Guardians is a regional non-profit organization dedicated to protecting and restoring the wildlife, wild places, wild rivers, and health of the American West. Guardians has over 178,000 members and supporters nationwide and maintains offices in Santa Fe, Denver, Missoula, Portland, Seattle, and Tucson. Since the silvery minnow was listed as endangered in 1994, Guardians has worked to protect and restore flows in the Rio Grande in central New Mexico specifically to ensure the survival and recovery of the silvery minnow, willow flycatcher, yellow-billed cuckoo and the ecosystems upon which these and other native species depend. As you know, Guardians has been a strong consistent voice and pivotal force in working to ensure that the Rio Grande continues to flow from Cochiti Dam to Elephant Butte Dam (Middle Rio Grande) and that imperiled species habitats are protected from damaging infrastructure, lack of connectivity, and unsustainable water management. Guardians has devoted significant resources over the past 25 years to prevent extinction and put the Rio Grande silvery minnow and other imperiled Rio Grande species on the path toward recovery. We believe that healthy populations of native imperiled species are a key facet of sustaining a living Rio Grande for both people and the environment for generations to come.

II. LEGAL FRAMEWORK

In 1973, Congress enacted the Endangered Species Act to provide “a program for the conservation of . . . endangered species and threatened species” and “a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.” 16 U.S.C. § 1531(b). In enacting the statute, the plain intent of Congress was “to halt and reverse the trend towards species extinction, whatever the cost.” Tennessee Valley Authority v. Hill, 437 U.S. 153, 184 (1978). Under the ESA, federal agencies are obligated “to afford first priority to the declared national policy of saving endangered species.” Id. at 188.

A. ESA Section 7.

To implement Congress’s policy, section 7(a)(2) of the ESA prohibits federal agencies from undertaking actions that are “likely to jeopardize the continued existence” of any listed species or “result in the destruction or adverse modification of” critical habitat. 16 U.S.C. § 1536(a)(2). “Jeopardy” results when it is reasonable to expect, “directly or indirectly,” that the action would appreciably reduce “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. “Adverse modification” is defined as “a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species.” Id.

“Section 7(a)(2) imposes both a procedural and a substantive obligation on federal agencies.” Rio Grande Silvery Minnow v. Bureau of Reclamation, 601 F.3d 1096, 1105 (10th
To enable compliance with section 7’s substantive mandate, the ESA and its implementing regulations impose specific procedural duties on federal agencies, requiring an “action agency”—in this case, Reclamation—to consult with the Service before undertaking any “action” that “may affect” a listed species or its designated critical habitat. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). An “action” includes “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies,” in which there is “discretionary Federal involvement or control.” 50 C.F.R. §§ 402.02, 402.03. The Service and the action agency must use the best scientific and commercial data available throughout the consultation process. 16 U.S.C. § 1536(a)(2).

For federal actions, the action agency must request from the Service a determination of whether any listed or proposed species may be present in the area of the agency action. 16 U.S.C. § 1536(c)(1). 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. Id.; 50 C.F.R. § 402.12. In a biological assessment, the action agency describes the proposed action to the Service and evaluates its potential effects on listed species and their designated critical habitats. 16 U.S.C. §1536(c)(1); 50 C.F.R. §402.14(c). If the action agency determines that its proposed action “may affect” any listed species or its critical habitat, the action agency must engage in “formal consultation” with the Service. 50 C.F.R. § 402.14; see also 51 Fed. Reg. 19,926, 19,949 (June 3, 1986) (explaining that “may affect” broadly includes “[a]ny possible effect, whether beneficial benign, adverse or of an undetermined character”).

After formal consultation, the Service issues a biological opinion to explain whether the agency action is likely to “jeopardize” any species’ existence. 16 U.S.C. § 1536(a)(2). The biological opinion must include a summary of the information on which it is based and must adequately detail and assess how the proposed action affects listed species. 50 C.F.R. § 402.14(h). If the action is likely to cause jeopardy, then the biological opinion shall specify reasonable and prudent alternatives that avoid jeopardy. See 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(h)(3). If the Service concludes that the action or the implementation of reasonable and prudent alternatives will not cause jeopardy in violation of section 7(a)(2), the Service will issue an incidental take statement that specifies “the impact, i.e., the amount or extent, of . . . incidental taking” that may occur. See 50 C.F.R. § 402.14(i)(1).

Throughout the Section 7(a)(2) consultation process, the action agency and the Service must utilize the “best scientific and commercial data available” when developing both the action agency’s biological assessment and the Service’s biological opinion. 16 U.S.C. § 1536(a)(2), 50 C.F.R. §§ 402.14(f), 402.14(g)(8). However, the agencies’ consultation duties do not end with the issuance of a biological opinion. Instead, the agencies must reinitiate consultation when: 1) the amount of take specified in the incidental take statement is exceeded, 2) new information reveals that the action may have effects not previously considered, 3) the action is modified in a way not previously considered, or 4) “[i]f a new species is listed or critical habitat designated that may be affected by the identified action.” 50 C.F.R. § 402.16. “The duty to reinitiate consultation lies with both the action agency and the consulting agency.” Salmon Spawning & Recovery Alliance v. Gutierrez, 545 F.3d 1220, 1229 (9th Cir. 2008) (citing 50 C.F.R. § 402.16).
After consultation is initiated or reinitiated, ESA Section 7(d) prohibits the agency or any permittee from “mak[ing] any irreversible or irretrievable commitment of resources” toward a project that would “foreclos[e] the formulation or implementation of any reasonable and prudent alternative measures . . .” 16 U.S.C. § 1536(d). The 7(d) prohibition “is in force during the consultation process and continues until the requirements of section 7(a)(2) are satisfied.” 50 C.F.R. § 402.09.

**B. ESA Section 9.**

Section 9 of the ESA and its implementing regulations prohibit any person, including any federal agency, from “taking” a listed species. 16 U.S.C. § 1538(a)(1); 50 C.F.R. § 227.21. Taking is defined broadly under the ESA to include harming, harassing, or killing a protected species either directly or by degrading its habitat sufficiently to significantly impair essential behavioral patterns. 16 U.S.C. § 1532(19); 50 C.F.R. § 17.3. To maintain compliance with Section 9, a federal agency may cause the “take” of a listed species incidental to an otherwise lawful activity only after obtaining an Incidental Take Statement (ITS) from the Service. 16 U.S.C. §§ 1536(b)(4), 1536(o). The Service incorporates an ITS into a biological opinion if it finds that implementation of the action that is the subject of a biological opinion (as modified by the RPA, if any) will result in the “incidental take” of individuals of a listed species. 16 U.S.C. § 1536(b)(4).

An ITS sets forth the amount of incidental take that is permitted, and this specified take level is therefore exempt from ESA Section 9’s take prohibition. Id. In every ITS, the Service specifies the amount of incidental take that is expected to occur as a result of the implementation of the federal action which is the subject of the BiOp. 16 U.S.C. § 1536(b)(4)(C)(i), 50 C.F.R. § 402.14(i)(1)(I). Only if setting a numerical take threshold is impractical may the Service use a surrogate species. And in that event the Service must clearly explain how the surrogate reasonably substitutes for measuring direct take of the listed species, and that the surrogate serves the same functions of a numerical take threshold such as providing a clear and measurable trigger for reinitiation of consultation. Id. Any take above the amount specified in the ITS constitutes a violation of Section 9.

Without an adequate biological opinion and ITS in place, any activities likely to result in incidental takes of members of listed species are unlawful. 16 U.S.C. §§ 1538(a)(1)(B), 1536(o)(2). Accordingly, anyone who undertakes such activities, or who authorizes such activities, 16 U.S.C. § 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 16 U.S.C. § 1540.

The ESA provides for citizen enforcement of the provisions of the Act. To enforce section 7 of the ESA, 16 U.S.C. § 1536(a)(2), (d) and 1538(g), “any person may commence a civil suit on his own behalf . . . to enjoin any person, including the United States and any other governmental instrumentality or agency, who is alleged to be in violation of any provision of this chapter.” 16 U.S.C. §1540(g)(1)(A).
III. FACTUAL BACKGROUND

A. The Rio Grande.

The Rio Grande is an artery of life in the desert Southwest. It originates in the San Juan Mountains of Colorado and travels about 1,900 miles south to the Gulf of Mexico near Brownsville, Texas. During its journey, the river passes through the rocky canyons, deep gorges and wide-open valleys of Colorado, New Mexico and Texas and serves as the United States-Mexico border. The dynamic flows in the Rio Grande originate from snow melting out of the southern Rocky Mountains in Colorado and northern New Mexico. As temperatures rise in spring, so do flows in the river creating a pulse of water in the Rio Grande between April and June of each year. Summer monsoonal rainfall also contributes significantly to the flows in the Rio Grande. These highly variable and sometimes considerable snowmelt and rain events throughout the valley help to provide dynamic flows and sustain this historically perennial river.

Many species that were uniquely suited for the boom and bust cycle of the Rio Grande thrived here for centuries. For example, the Rio Grande was home to six species of pelagic spawning fish (broadcast spawners) that reproduce by releasing semi-buoyant eggs that passively drift downstream until they develop into fish able to independently navigate the river and return to colonize reaches upstream. These fish were found throughout the Rio Grande from the Gulf of Mexico to northern New Mexico and in much of the Pecos River, which provided thousands of miles of wild river and floodplain habitat. Today, however, due to significant changes to the character of the Rio Grande and Pecos Rivers, two of these species (the phantom shiner and Rio Grande bluntnose shiner) are extinct; two species (Rio Grande silvery minnow and Pecos bluntnose shiner) are listed under the ESA as endangered and threatened, respectively, and limited to only a small portion of their historical range (one in the Middle Rio Grande and one on the Pecos); and the final two species (Rio Grande shiner and speckled chub) populations are dwindling, have limited habitat remaining, and are in need of Endangered Species Act protections to survive.

In the Middle Rio Grande valley—roughly 174 miles from Cochiti Dam (located just south of Santa Fe) to Elephant Butte Reservoir (located just north of Truth or Consequences)—only the Rio Grande silvery minnow remains. Like its close relatives, the Rio Grande silvery minnow evolved with the dynamic and perennial flows of a wild, living Rio Grande and as such depends on the natural river processes that result from variable peak and persistent flows including sediment transport and deposition, channel and floodplain connectivity, and overbanking and backwater habitats for its survival and recovery. Instead, dams, unsustainable water diversions, flow regulation, and efforts to tame the river’s dynamism over the past century have driven native species like the silvery minnow to the brink of extinction. Despite being afforded the protections of the ESA for 25 years, a century of unsustainable water use and mismanagement of the Rio Grande (as a conduit rather than a living river) continue to perpetuate

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3 Robert K. Dudley & Steven P. Platania, Flow Regulation and Fragmentation Imperil Pelagic-Spawning Riverine Fishes, Ecological Applications 17(7), 2,017-2,086 (2007). (Exh. 1)
conditions that barely allow the silvery minnow and other imperiled species (e.g., Southwestern willow flycatcher and yellow-billed cuckoo) to survive, let alone thrive.

The Middle Rio Grande is a stark contrast to other sections of the Rio Grande—like the 200-mile Forgotten Reach—where water only flows in response to sporadic rainstorms and the native flora and fauna are gone as a result of human use and abuse of the river upstream. This loss of the natural riparian and aquatic ecosystems is also reflected in the community as lack of access to water, recreational opportunities, and quality of life. Ultimately, the river system of the past century needs to be rebalanced to guarantee all values, including that of a living river, are recognized. The Endangered Species Act requires federal agencies ensure the survival and recovery of imperiled species as a priority in water management. This suit seeks to enforce these important obligations on the Rio Grande, both for the species and their ecosystems. If we ensure that species and ecosystems can thrive, we can also support community values such as recreation, quality of life, and health of adjacent communities.

B. Rio Grande Silvery Minnow (Hybognathus amarus).

1. Minnow Condition at the Time of Listing.

Over 25 years ago, on July 20, 1994, the Service listed the Rio Grande silvery minnow as an endangered species under the ESA. 59 Fed. Reg. 36,988 (July 20, 1994). The silvery minnow was historically one of the most abundant and widespread species in the Rio Grande Basin. Id. It was found from Espanola, New Mexico, to the Gulf of Mexico and in the Pecos River from Santa Rosa, New Mexico, downstream to its confluence with the Rio Grande in south Texas. Id. The species presently occupies only about 5 percent of its historic range.5 Id.

In 2003, the Service designated critical habitat for the minnow including 174 river miles in the Middle Rio Grande valley from Cochiti Dam to the headwaters of Elephant Butte Reservoir (68 Fed. Reg. 8,088 (Feb. 19, 2003). Currently, the minnow is only found in the designated critical habitat reach in the middle valley of New Mexico and a small experimental non-essential population in Big Bend National Park in Texas. Id. However, a recent study by Horwitz et al., questions whether the 22-mile reach of the Rio Grande through Cochiti Pueblo supports any notable wild population of silvery minnow, which would leave only 152 miles of occupied habitat in the Middle Rio Grande.6

The decline of the minnow is attributed to modification of stream discharge patterns and channel desiccation by impoundments, water diversion for agriculture, and stream

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channelization. 59 Fed. Reg. at 36,988. When it listed the minnow as an endangered species on July 20, 1994, the Service explained how the operation of dams in the Rio Grande modified the species’ habitat to such an extent that listing was warranted:

Decline of the species in the Rio Grande probably began in 1916 when the gates at Elephant Butte Dam were closed. Elephant Butte was the first of five major mainstream dams constructed within the Rio Grande silvery minnow’s habitat (Shupe and Williams 1988). These dams allowed the flow of the river to be manipulated and diverted for the benefit of agriculture. Often this manipulation resulted in the desiccation of some river reaches and elimination of all fish.

Id. at 36,989. The Service went on to explain:

Construction and operation of these dams, which are either irrigation diversion dams such as Angostura, Isleta, and San Acacia; or flood control and water storage dams such as Elephant Butte, Cochiti, Abiquiu, and El Vado, have modified the natural flow of the river. The dams make it possible during a low-flow year to completely divert all of the flow from the river channel into irrigation ditches.

Id. at 36,993. All of these structures persist today, offer no fish passage, and continue to segment and modify flows in the Rio Grande. The Service has attributed the minnow’s decline and failure to improve primarily to “destruction and modification of its habitat due to dewatering and diversion of water, water impoundment, and modification of the river (channelization).”

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Ongoing Threats to the Minnow.  

Currently, the biggest threats to the silvery minnow remain unaddressed and continue to foreclose opportunities for recovery of the species. The most significant threats are the destruction and modification of habitat due to dewatering and diversion of flows from the Rio Grande, altered natural dynamic flow patterns due to water impoundment, and river modifications and infrastructure that confine and straighten the once meandering channel, that deprive the river of sediment, and eliminate access and water to the floodplain. However, even
since the Service finalized the Biological Opinion in 2016, new information has come to light on additional, continuing, and increased severity of the existing threats due to low population numbers, the resulting loss of genetic diversity, the precarious nature of the minnow based on its short lifespan, and severe reductions in flows due to the warming climate.

One of the primary reasons the status of the silvery minnow has not improved over the past 25 years is that the recovery of the species continues to take a back seat to other water management objectives of state and federal agencies throughout the Middle Rio Grande (e.g., consumptive use and delivery of water). The Middle Rio Grande Endangered Species Act Collaborative Program (Collaborative Program)—including Reclamation, the State and MRGCD among others, was established in 2000 with the joint goals “to strive for the survival and recovery of threatened and endangered species in the Middle Rio Grande while simultaneously protecting existing and future water uses in compliance with state and federal law, including compact delivery obligations.” The Collaborative Program has weighed this balance heavily in favor of existing water uses, providing merely a secondary focus on survival and recovery of listed species like the silvery minnow without a real intention to do what is necessary to protect the population and actively promote its recovery.  

Instead of the Service ensuring protection of the minnow, flycatcher and cuckoo by finding “jeopardy” to the species in 2016 (as it had done in the decade prior in 2003) and setting forth clear, enforceable metrics for protection and recovery of the species, the Service structured the 2016 Biological Opinion to accommodate a finding of “no jeopardy” despite the fact that conditions on the ground did not support such a finding. The Service concluded “basic conditions in the Action Area have not changed” as it is “still subject to drought and variable water supply, and geomorphic degradation.” BiOp at 101. Further, the Service found that “[t]he status of the silvery minnow continues to not meet recovery goals.” Id. The following threats to the survival and recovery of the minnow have not been abated under the measures required by the 2003 BiOp, and will not be abated in the future through the vague and voluntary conservation measures listed in the 2016 BiOp, upon which the Service arbitrarily based its “no jeopardy” finding.

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8 The Albuquerque Journal reported and agency officials confirmed that the MRGCD diverted and routed water from the Rio Grande through its irrigation canals through October 2020 in order to “more efficiently” delivery water to Elephant Butte Reservoir to meet the State’s obligation under the Rio Grande Compact. This decision was not contemplated by the 2016 BiOp, was opposed by Reclamation, and caused the river to remain dry south of Albuquerque extending further conditions that destroy critical habitat and harm endangered species survival and recovery. https://www.abqjournal.com/1517200/dry-as-a-bone-ex-2021-to-be-a-critically-low-water-supply-year.html.
a. Low minnow population densities and perpetual low river flows.

Since the silvery minnow was listed in 1994, population densities have only exceeded the density at the time the fish was listed (18.16 fish per 100 m²) in three of the past 24 years—in 1995, 2005, and 2017 (12 percent of the time).  

Figure 2. Rio Grande Silvery Minnow Population Graph 1993-2019

The Service’s recovery goals for Rio Grande silvery minnow are set to achieve a density of at least 5 fish per 100 m² for five consecutive years in all reaches. This density has only been met in 9 of 24 years (38 percent of the time) and only in two consecutive years twice: 1994-1995 and 2016-2017. In fact, 58 percent of the time (14 of the past 24 years of monitoring),

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9 Robert K. Dudley, Steven P. Platania & Gary C. White, Rio Grande Silvery Minnow Population Monitoring During 2019 (May 7, 2020) at 32 (Table 7). (Exh. 6)
10 Id. at 18 (Figure 8).
11 Supra, n.7 at vi (Emphasis added). (Exh. 5)
12 See Robert K. Dudley, Steven P. Platania & Gary C. White, Rio Grande Silvery Minnow Population Monitoring During 2018 (April 29, 2019) at 32 (Table 7) (Exh. 7); see also U.S. Fish
minnow densities were below the recovery standard (5 fish per 100 m²), including for five consecutive years from 2000-2004 and six years from 2010 to 2015. Id. In 13 of those 14 years of monitoring, minnow densities were at or below 1 fish per 100 m² (in 1996, 2000, 2001, 2002, 2004, 2006, 2010, 2011, 2012, 2013, 2014, 2015, 2018) and densities remained extremely low for four consecutive years twice from 2000 to 2004¹³ and from 2012 to 2015. Even in 2019 (one of the wettest years in several decades), the density of minnows in October (2.10 fish per 100m²) was well below the recovery goal (5 fish per 100 m²).¹⁴ The 2019 high and sustained streamflow followed a very dry (18 percent of average at the Otowi gauge) streamflow in 2018; thus, “extended low flows during the summer [are] key to explaining reductions in the occurrence of this species across years.”¹⁵

Table 1. Rio Grande Silvery Minnow Densities Estimated in October 1993-2019¹⁶

<table>
<thead>
<tr>
<th>Year</th>
<th>Add(N)[Dry][Y]¹</th>
<th>Add(N)[Dry][N]¹</th>
<th>Add(Y)[Dry][Y]¹</th>
<th>Add(Y)[Dry][N]¹</th>
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<td>1993</td>
<td>14.80 (5.20-42.13)</td>
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<td>14.80 (5.20-42.13)</td>
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<td>1994</td>
<td>18.19 (7.33-88.34)</td>
<td>21.46 (4.49-102.93)</td>
<td>16.16 (3.73-80.34)</td>
<td>21.46 (4.49-102.93)</td>
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<tr>
<td>1995</td>
<td>36.63 (7.65-165.42)</td>
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<td>36.03 (7.65-165.42)</td>
<td>36.03 (7.65-165.42)</td>
</tr>
<tr>
<td>1996</td>
<td>1.51 (0.54-4.20)</td>
<td>1.51 (0.54-4.20)</td>
<td>1.51 (0.54-4.20)</td>
<td>1.51 (0.54-4.20)</td>
</tr>
<tr>
<td>1997</td>
<td>15.48 (6.75-35.50)</td>
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<td>15.48 (6.75-35.50)</td>
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</tr>
<tr>
<td>1999</td>
<td>8.76 (2.42-18.87)</td>
<td>8.76 (2.42-18.87)</td>
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<td>8.76 (2.42-18.87)</td>
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<tr>
<td>2000</td>
<td>0.43 (0.18-1.02)</td>
<td>0.43 (0.18-1.02)</td>
<td>0.43 (0.18-1.02)</td>
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<tr>
<td>2001</td>
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<td>2002</td>
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<td>0.08 (0.03-0.21)</td>
<td>0.08 (0.03-0.21)</td>
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<tr>
<td>2003</td>
<td>0.06 (0.03-0.21)</td>
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<td>0.06 (0.03-0.21)</td>
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<td>2004</td>
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<td>2005</td>
<td>44.84 (18.34-109.59)</td>
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<td>44.84 (18.34-109.59)</td>
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<td>2006</td>
<td>0.96 (0.57-1.63)</td>
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<td>2010</td>
<td>1.21 (0.60-2.44)</td>
<td>1.21 (0.60-2.44)</td>
<td>1.21 (0.60-2.44)</td>
<td>1.21 (0.60-2.44)</td>
</tr>
<tr>
<td>2011</td>
<td>1.27 (0.39-4.17)</td>
<td>1.27 (0.39-4.17)</td>
<td>1.27 (0.39-4.17)</td>
<td>1.27 (0.39-4.17)</td>
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<td>2012</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>2013</td>
<td>0.03 (0.01-0.08)</td>
<td>0.03 (0.01-0.08)</td>
<td>0.03 (0.01-0.08)</td>
<td>0.03 (0.01-0.08)</td>
</tr>
<tr>
<td>2014</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>0.16 (0.06-0.30)</td>
<td>0.16 (0.06-0.30)</td>
<td>0.16 (0.06-0.30)</td>
<td>0.16 (0.06-0.30)</td>
</tr>
<tr>
<td>2018</td>
<td>0.00 (0.02-0.31)</td>
<td>0.00 (0.02-0.31)</td>
<td>0.00 (0.02-0.31)</td>
<td>0.00 (0.02-0.31)</td>
</tr>
<tr>
<td>2019</td>
<td>2.10 (1.15-3.84)</td>
<td>2.10 (1.15-3.84)</td>
<td>3.77 (2.23-6.37)</td>
<td>3.77 (2.23-6.37)</td>
</tr>
</tbody>
</table>

¹ Additional sites were excluded and dry sites were included.
² Additional sites and dry sites were excluded.
³ Additional sites were included and dry sites were excluded.

In fact, as the Service finalized the 2016 Biological Opinion and during the preceding four years of consultation (2012-2015), minnow population densities fell and remained at or near


¹³ There was no population monitoring in 2003.

¹⁴ Supra, n.9 at 32 (Table 7). (Exh. 6)

¹⁵ Id. at x.

¹⁶ Id. at 32 (Table 7).
zero for that nearly five-year period: 2012 (0.0 fish per 100 m$^2$), 2013 (0.03 fish per 100 m$^2$), 2014 (0.00 fish per 100 m$^2$); and 2015 (0.16 fish per 100 m$^2$). It was not until 2016, right before the Service issued its Biological Opinion, that the population improved (7.2 fish per 100 m$^2$), which was still well below the density when the species was listed 1994 (18.16 fish per 100 m$^2$) but meeting the recovery goal level (5 fish per 100 m$^2$) for the first time in 7 years.

In the 2016 Biological Opinion, the Service acknowledges these historical fluctuations in minnow population densities, that the densities correspond to fluctuations in spring flows, and that “the capacity of the species to respond to good hydrologic years is dependent on a variety of factors including the previous year’s survivorship and number of adults able to reproduce.” 2016 BiOp at 31. The Service also recognizes that the Proposed Action will worsen the already-degraded river conditions and will adversely affect the minnow by continuing to decrease minnow population densities. Id. at 61-62. The Service concludes that “[i]mplementation of the Proposed Action will result in May and June river depletions each year that are in addition to the environmental baseline,” and “a decrease in May and June flows will result in a decrease in the October densities and percent occupancy . . . of silvery minnows within the Action Area.” Id. at 61. The Service reached the same conclusion for the Proposed Action’s effects on water depletions for July through October where the loss of 104,560 to 124,390 acre-ft of water will:

| decrease [ ] the amount of wetted habitat . . . thereby adversely affecting the survival of newly spawned silvery minnows and silvery minnows from the previous years within the Action Area through increased mortalities and decreased genetic diversity due to habitat fragmentation.

Id. at 64. The Service also concluded that channel incision and sediment plugging from the Proposed Action would adversely affect minnow habitat by reducing connectivity between the channel and floodplain and reducing floodplain inundation, ultimately reducing flows and increasing river intermittency. Id. at 66-67. These habitat impacts “will cause a decline in silvery minnow abundance by “reduc[ing] the amount of available spawning and rearing habitat available to the silvery minnow, resulting in loss of reduction in young-of-year silvery minnows and recruitment to the breeding population.” Id. at 67-68.

Since the Service signed the 2016 Biological Opinion, the Middle Rio Grande has experienced four years of very different conditions that have continued the “boom and bust” trend in minnow densities identified in the 2016 Biological Opinion, 2016 BiOp Apx. A at 8, and that the conservation measures discussed in the Opinion were intended to mitigate.

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17 Id.
18 Id.
19 The Service estimates that during May and June the Proposed Action “would result in the loss of approximately 113,150 to 179,010 acre-ft of water depending on whether it is a very dry, average, of very wet year for the system as a whole.” 2016 BiOp at 61.
In 2017, flows were 128 percent of average and there was a natural peak flow in the hydrograph that lasted from April 1 to mid-June.

Figure 3. 2017 Rio Grande Flows at San Marcial, NM (08358400)

As a result of the sustained high flows, the silvery minnow population density rebounded to 23.17 fish per 100m². However, even after this miraculous rebound of the population due to a year of high snowpack and extended spring peak flow, the population density gain was lost in 2018.

In 2018, the snowpack in the basin was abysmal (18 percent of average) and no peak flow occurred naturally in the Rio Grande. Low flows persisted throughout the Middle Rio Grande from March to October with the exception of a few summer rainstorms. In fact, flows at San Marcial were below 50 cubic feet per second for 195 days (80 percent) of the irrigation season and the gauge recorded no flows at all for 17 days in July. In Escondida, New Mexico,

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22 Supra, n.9 at 32 (Table 7) (Exh. 6).

just upstream, flows were below 50 cubic feet per second 106 days (43 percent) of the irrigation season.\textsuperscript{24}

**Figure 4. 2018 Rio Grande Flows at San Marcial, NM (08358400)**

![Graph showing water flow data from 2018 Rio Grande Flows at San Marcial, NM (08358400)]

Faced with extremely challenging—but reasonably foreseeable—conditions (based both on the historic record and scientists’ predictions on flow declines due to climate change), water managers failed to take adequate measures to insulate the population gains from the prior year to ensure the survival and recovery of the species. In fact, from October 2017 to 2018, minnow densities fell 99.6 percent from 23.17 fish per 100m\textsuperscript{2} in 2017 to 0.09 fish per 100m\textsuperscript{2} in 2018.\textsuperscript{25}

In 2019, flows were 133 percent of average\textsuperscript{26} and there was a large, natural, and sustained peak in the hydrograph that lasted from mid-April to mid-July.\textsuperscript{27}


\textsuperscript{25} Supra, n.9 at 32 (Table 7) (Exh. 6).

\textsuperscript{26} The 2019 flow estimate is from the NRCS’s Streamflow Forecast Summary: May 1, 2019 for the Rio Grande at Otowi Bridge gauge (based on 1981-2010 reference period). See https://www.wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/NM/BFcs_5_2019.pdf?

As a result of the high flows, the silver minnow population density again rebounded to 2.1 fish per 100m² in October 2019, but did not reach levels in 2016 or 2017 despite incredibly high flows.

Finally, in 2020, flows in May were forecasted to be 36 percent of average. While starting off at higher flows than in 2018, a steep decline in flows occurred since March 2020 due to a hot and dry spring and summer. Like 2018, there was no natural peak flow in the hydrograph and flows were extremely low.

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28 Supra, n.9 at 32 (Table 7) (Exh. 6).
Figure 6. 2020 Rio Grande Flows at San Marcial, NM (08358400)

The minnow population density for 2020 declined from the 2.1 fish per 100m² in October of 2019. The estimated density of silvery minnow, based on the 20 standard sites, fell in October of 2020 to 0.23 fish per 100m².³¹

Given the retreat in protections afforded to the listed species between the 2003 and 2016 Biological Opinions, it is not surprising that little to no progress has been made toward ensuring survival and recovering self-sustaining populations of Rio Grande silvery minnow. As described in the Service’s 2018 five-year review, the recovery goals and criteria in the 2010 Revised Rio Grande Silvery Minnow Recovery Plan are not being met and both the Middle Rio Grande (from Cochiti Dam to Elephant Butte Reservoir in New Mexico) and Texas populations of silvery minnow remain unstable and threatened with extinction.³² While preventing extinction is one goal of the Recovery Plan, water managers and the Service refuse to require necessary measures to ensure recovery of the species. The risk of silvery minnow extinction is heightened because it is a short-lived species, making any multi-year drought a potential crisis; climate change also increases the frequency and severity of multi-year droughts. And, as discussed below, climate change is causing significant flow reductions in the Middle Rio Grande, increasing the extinction risk at a rate not contemplated in the 2016 Biological Opinion.

³¹ U.S. Bureau of Reclamation, Albuquerque Area Office, Calendar Year 2020 Report to the Rio Grande Compact Commission (March 2021), at 40. (Exh. 36)
³² Supra, n.12 at 4-8. (Exh. 8)
b. Loss of genetic diversity.

“In addition to causing silvery minnow mortalities [and reduced densities], river drying and intermittency can adversely affect silvery minnow genetic diversity, resulting in genetic bottlenecks and inbreeding depression.” 33 2016 BiOp at 64. “These effects were observed in silvery minnows within the Action Area after extensive drying events in 1996, 2002, and 2013 (Turner and Osborne 2004; Osborne et al. 2012, 2015). These effects will occur if fall silvery minnow densities drop below 0.3 fish per 100 m² (Appendix A).” Id. Silvery minnow densities have been below 0.3 fish per 100 m² in 2000, 2002, 2012, 2013, 2014, 2015, and 2018.34 “It is widely recognized that erosion of genetic diversity increases a species’ vulnerability to decline through lowered fitness (e.g., associated with inbreeding depression) that can ultimately accelerate a species’ path to extinction.” 35 Further, “[n]egative genetic impacts to a population can occur over relatively short time periods for fishes that are characterized by a short lifespan (the population is dominated by age-1 fish in the spring; Horwitz et al. 2018) and in which dramatic changes in abundance occur from year to year (Dudley et al. 2014).” Id. at 4.

“The population monitoring program for Rio Grande Silvery Minnow (1993-2019) shows that the wild population has experienced multiple, order-of-magnitude changes in density over the past two decades (Dudley et al. 2014, Dudley et al. 2016).” 36 In 2003, in an effort to restore and stabilize the silvery minnow populations in the Middle Rio Grande, the Service began to augment the population of wild silvery minnow with hatchery-reared fish. 2016 BiOp at 32. Although augmentation may prevent minnow extinction, “it may have negative genetic consequences if less diverse animals are stocked in excess.” Id.

Decreased genetic diversity can adversely affect silvery minnow reproduction by reducing birth rates, reproductive lifespan, recruitment into breeding life stage, and variation in reproductive success. In addition, decreased genetic diversity can increase mortalities of silvery minnows by reducing individuals’ resilience to stressors.

Id. at 64. Scientists began monitoring the genetic diversity of the wild and hatchery stocks annually from 1999-2012 and again from 2014 through 2019 in an attempt to maintain and monitor genetic diversity.37

The 2019 annual report by Osborne and Turner, Genetic Monitoring of the Rio Grande Silvery Minnow: Genetic status of wild and captive stocks, summarizes “the genetic status of the population in 2018 and compared these results to previous years” and makes several key findings.

33 The Service concluded that the Proposed Action will result in decrease in wetted habitat and increased river drying and intermittency from July to October of each year, which will result in silvery minnow mortalities. 2016 BiOp at 64.
34 Supra, n.12 at 32 (Table 7). (Exh. 7)
36 Id. at 12.
37 Id. at 2.
regarding: 1) the effects of steep population declines on genetic diversity, 2) the genetic effective size of the population, and 3) the genetic metrics (including gene and allelic diversity, mitochondrial (mtDNA) gene diversity for the wild and hatchery fish.

i. **Steep population declines are expected to erode genetic diversity.**

The 2019 Osborne and Turner report points out that repeated and steep declines in population (as occurred between 2017 and 2018) “are expected to gradually erode genetic diversity particularly in absence of actions to buffer the population (i.e. supportive breeding and augmentation).”\(^{38}\) For example, “200,000 fish were released in the middle Rio Grande” in the fall of 2018 and spring of 2019 “due to extremely poor recruitment in 2018.”\(^{39}\) Such repeated and steep declines are not rare over the past 25 years and density rates shown to have genetic effects have occurred in 7 of the past 26 years (27 percent of the time). This trend has only continued as steep declines again occurred in silvery minnow populations from 2019 to 2020, where densities fell from 2.1 fish per 100m\(^2\) in 2019 to 0.23 fish per 100m\(^2\) in 2020. This decline resulted in the augmentation of 310,634 minnows in 2020, which is triple the amount released in 2019 (83,635 minnows).\(^{40}\)

ii. **2019 marked a substantial decline in genetic effective size.**

The 2019 Osborne and Turner report indicates that in 2019 the metric of “genetic effective size” that indicates “maternal contributions to the population” declined “substantially from most recent temporal estimates.”\(^{41}\) Further, the 2019 estimate “was the third lowest estimate obtained since the study commenced.”\(^{42}\) Scientists found when comparing values of this parameter that the annual trend continues to reflect “the lack of stability in the Rio Grande Silvery Minnow population.”\(^{43}\) Finally, the report concluded that “[r]eductions in all measures of genetic effective size estimates are consistent with demographic decline of the middle Rio Grande population due to extremely poor recruitment in 2018.”\(^{44}\)

iii. **Genetic diversity metrics were all lower in 2019 than the prior year.**

The 2019 Osborne and Turner report also found with regard to the status of the “wild” (untagged) population of silvery minnow that the “gene diversity and allelic diversity were marginally lower than 2018 values.” As such, the “[a]verage number of alleles declined in 2019, and was below the minimum benchmark level for this metric.”\(^{45}\) Further, the report indicates that

\(^{38}\) Id. at 14.
\(^{39}\) Id.
\(^{40}\) Id. at 18-19.
\(^{41}\) Id. at 13.
\(^{42}\) Id.
\(^{43}\) Id. at 14.
\(^{44}\) Id.
\(^{45}\) Id. at 2 (Executive Summary).
mitochondrial (mtDNA) gene diversity was lower than in 2018” and “MtDNA diversity metrics decreased in all river reaches between 2018 and 2019.”

With regard to the captive stocks of silvery minnow released in fall of 2018 and spring of 2019, the “diversity statistics for the pooled hatchery sample had values marginally lower than the benchmark values but that were almost identical to the ‘wild’ population sampled in 2019.” Similarly, “[a]llelic diversity was marginally lower than the benchmark value while genetic diversity exceeded the benchmark values obtained using random sampling of all ‘wild’ fish collected from the middle Rio Grande over the course of the study.”

Overall, the scientists found in 2019 “that the trajectory of genetic change in the wild Rio Grande Silvery Minnow population is determined largely by supplementation with captive reared stocks. Supplementation buffers the population against potential losses of diversity predicted by drastic changes in population size (Osborne et al. 2012).” Id. at 14. This is consistent with the prior year report’s finding that “[t]he results of this study indicate that the trajectory of genetic change in the wild Rio Grande Silvery Minnow population is determined largely by supplementation with captive reared stocks and not by changes in population size (Osborne et al. 2012) and this continues to be true.” Thus, without augmentation genetic diversity in wild minnow populations would be dangerously low, to a point where wild minnow reproduction and survival would be compromised.

c. Increased minnow and habitat vulnerability due to climate change.

Climate change is amplifying the already perilous water crisis in the Rio Grande Basin. Scientists predict that flows in the Rio Grande will decline by at least one-third and likely by half by the end of the century due to increase in temperatures due to a warming climate. The best and only habitat for silvery minnow will experience the brunt of these flow declines, yet federal and state agencies continue to refuse to take necessary measures in a timely manner to anticipate these changes and to ensure the survival and recovery of the Rio Grande silvery minnow.

Both Reclamation and the Service were aware of predictions relating to climate-induced impacts to the Rio Grande. In the 2016 Biological Opinion, the Service cites a 2015 peer-reviewed scientific study by Dettinger et al. concluding that “[t]he Rio Grande offers the best example of how climate-change induced flow declines might sink an admittedly smaller, multistate, water system into permanent drought.” 2016 BiOp at 96. Further, Reclamation’s

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46 Id.
47 Id. at 14.
48 Id.
50 Michael Dettinger, Bradley Udall & Aris Georgakakos (2015), Western Water and Climate Change, Ecological Applications 25(8), 2069-2093 (2015) at 2088. (Exh. 11)
51 Id. The study authors predicted the following for the Rio Grande Basin: Divertable flows in the Middle Rio Grande were projected to decline by 35% . . . These declines are Reclamation’s
own 2013 West-Wide Climate Risk Assessment for the Upper Rio Grande Basin (“2013 Reclamation study”) found that average annual temperatures in the basin increased by 2.5 degrees Fahrenheit (°F) from 1971 to 2012 (0.7°F per decade), a rate nearly double the global rate of temperature rise.\textsuperscript{52} The report stated that “[t]he greatest temperature increases were measured at sites in the Middle Rio Grande” with an increase of 0.88°F per decade from 1971 to 2012.\textsuperscript{53} Reclamation’s 2013 study also predicted that future mean annual temperatures in the Upper Rio Grande Basin would increase by an additional 5°F to 7°F, and precipitation would gradually decrease by the end of this century.\textsuperscript{54} As a result, flows in the Rio Grande were projected to decrease by an average of one-third.\textsuperscript{55} The distribution of how those flow declines could be allocated are described by Dettinger \textit{et al.}\textsuperscript{56} as follows:

Lewellyn \textit{et al.’}s 2013 study indicated that, by 2100, flows available for irrigation uses in Colorado’s San Luis Valley could decline by 25%. Divertible flows in the Middle Rio Grande were projected to decline by 35%, in large part because the compact allows Colorado to use more flow at lower flow levels so that it could deliver less to New Mexico. Below Elephant Butte, flows could decline by 50%.

An example of how the inequitable allocation plays out in dry years is demonstrated by comparing Rio Grande flows during the spring runoff (March to June) at the Del Norte gauge (the index gauge for the Rio Grande Compact that is upstream of the San Luis Valley) in Colorado to the Lobatos gauge that is located near the Colorado-New Mexico state line in a wet and dry year scenario (e.g. 2019 and 2020). The following graphs show the March to June streamflow at each gauge:

worst modeled flow outcomes from climate change in the entire United States, and reflect the small size of the basin, the small size of its primary runoff-generating snow-covered areas, and its position far enough south so that it is projected (by nearly every climate model) to lie within the zone where climate change is most likely to entail significant precipitation declines. \textit{Id.} at 2083.
\textsuperscript{53} \textit{Id.} at 38.
\textsuperscript{54} \textit{Id.} at 39.
\textsuperscript{55} \textit{Id.} at 40; \textit{see also supra}, n.50 at 2083. (Exh. 11).
\textsuperscript{56} \textit{Supra}, n.50 at 2083.
As demonstrated in Figure 7, the flows at the two streamflow gauges roughly parallel each other when flows are high (e.g. 2019 with 516% of median snowpack in June\textsuperscript{57}). As the volume at the index gauge goes up so does the volume (deliveries) at the state-line. This is due to the increasing delivery curve that results from the schedule found in Article III of the Rio Grande Compact. At low flows, however, this is not the case. In a dry year (e.g. 2020 with 0% of median snowpack in June\textsuperscript{58}), the flows at the state-line gauge are nearly zero and only slight upticks of deliveries occur when flows reach about 3,000 cubic feet per second at the index gauge. These low flows are incredibly problematic for the Rio Grande silvery minnow, Southwestern willow flycatcher and yellow-billed cuckoo in the Middle Rio Grande of New Mexico. The impacts underlying base flows in the Rio Grande, as the climate warms and flows decline, will be compounded. The Service did not address these concerns in the 2016 Biological Opinion given the predicted frequency of dry years, and did not provide an explanation as to why, given these extreme flow declines, it did not make a “jeopardy” finding.

The 2013 Reclamation study acknowledged that the predicted decreases in water availability due to climate change will have significant impacts on water management (e.g., decreased reservoir storage, increased need for flood control operations, decreased water quality, etc.). For example:

\[\text{[t]he reduction in water is expected to make environmental flows in the river more difficult to maintain, and reduce the shallow groundwater available to riparian vegetation. Both of these impacts have implications for the habitat of fish and wildlife in the Upper Rio Grande Basin riparian ecosystems.}\textsuperscript{59}\]

\textsuperscript{57} USDA/NRCS, \textit{Colorado Water Supply Outlook Report June 1, 2019}.

\textsuperscript{58} USDA/NRCS, \textit{Colorado Water Supply Outlook Report June 1, 2020}.

\textsuperscript{59} \textit{Supra}, n.52 p. S-v. (Exh. 12)
In addition, the authors concluded:

Ecological and human systems within the basin already operate close to thresholds (i.e., points at which small changes could have larger-scale repercussions) related to available water supply. It is possible that some systems in the basin have already crossed ecological thresholds. In the future, as projected water supplies decrease and demands increase, water availability thresholds may be crossed—causing additional key systems to undergo regime shifts.60

While the Service recognized and discusses that climate change impacts on the silvery minnow (e.g. increased water temperature, change in peak runoff and timing, decrease in magnitude and duration of runoff, and increase in extreme events) in its 2016 Biological Opinion, it does not appear to consider the additive effects on the listed species when making its “no jeopardy” determination or explain how the conservation measures will alleviate such effects. 2016 BiOp at 97.

Since the 2016 Biological Opinion was finalized, scientists have published several additional studies of climate change in the Upper Rio Grande Basin.61 The 2018 Chavarria and Gutzler study concluded that:

climate change is beginning to impact the streamflow volume derived from snowpack in the [Upper Rio Grande], but recent increases in precipitation during the snow ablation season are (temporarily, at least) masking the effects of declining snowpack. Earlier melting of seasonal snowpack is apparent in hydrographs of mean streamflow, where spring flows have increased in the late winter and early spring and decreased late in the runoff season, with both features consistent with streamflow projections through mid-century (Hurd and Coonrod 2012; Llewellyn and Vaddey 2013; Elias et al. 2015).62

While the overall flow volumes are only beginning to be impacted, the change in timing and pattern of snowmelt runoff (or lack thereof) to earlier in the season will have a negative impact on spawning behavior of the Rio Grande silvery minnow as peak flow is a trigger for reproduction and must coincide with appropriate temperatures.

60 Id.
62 Supra, n.61 Chavarria and Gutzler 2018 at 657.
In addition, the authors also warned in their conclusion that further changes in southwestern hydroclimate will impact life in the region. For example, warmer temperatures and diminished streamflow in the growing season will increase reliance on groundwater resources, further depleting aquifers and altering surface water-groundwater interactions (NM Universities Working Group on Water Supply Vulnerabilities 2015). In addition to greater water demands by agriculture and vegetation, demands for water to meet energy needs could increase. The ability to meet obligations set forth by the [Rio Grande] Compact and instream flows for aquatic species would also be affected (Llewellyn and Vaddey 2013). Knowing that changes are occurring should motivate those reliant on [Rio Grande] water to plan for diminished flow in the years ahead, and to support more sustainable and efficient consumptive use of water in the basin.63

These anticipated flow declines and shifts in timing of spring flows make clear the importance of acting now to stabilize the population of Rio Grande silvery minnow as conditions in the basin are anticipated/predicted to only deteriorate in the coming decades.64 Yet, the Service fails to account for river conditions from both the Proposed Action and climate change in its impacts analysis; instead, generally concluding that “climate change is expected to result in continued degradation of silvery minnow, flycatcher, and cuckoo habitat, resulting in reductions of density and distribution.” 2016 BiOp at 99. This conclusion is disconnected from the rest of the effects analyzed in the 2016 Biological Opinion, particularly relating to how and whether these climate-induced changes will affect the efficacy of the conservation measures. For example, there is no analysis by the Service or the action agencies of whether the conservation measures can even be achieved given the climate induced flow declines predicted for the Rio Grande (e.g. 30,000 acre-feet of conservation storage65). Also, the Service does not analyze whether the combination of the Proposed Action and climate-induced reductions in minnow density and distribution will be adverse, or threaten minnow survival and recovery.

Finally, the Service uses climate change as an excuse for dismissing low minnow population densities in 2018 that fell below the 0.3 fish/100m2 incidental take limit as not attributable to the Proposed Action.66 Yet the Service provides no justification for this conclusion, nor was such a dismissal of population density measurements based on ostensible other causes contemplated in the 2016 Biological Opinion or the incidental take statement.67

63 Id. at 658 (emphasis added).
65 2016 BiOp at 149, Table 1, Conservation Measure 2 (“Coordinate to develop Conservation Storage (30,000-60,000 acre-ft) in upstream reservoirs.”).
66 Supra, n.31 at 18.
67 Reclamation and the non-federal parties are contemplating a similar baseless request to exempt the violation of the 0.3 fish per 100m2 for the 2020 density of 0.23 fish per 100m2.
3. 2010 Minnow Recovery Plan Goals are Not Being Met.

The 2010 Recovery Plan for the minnow established three goals: (1) prevent minnow extinction in the Middle Rio Grande; (2) recover the minnow to the extent sufficient to downlist the species from endangered to threatened; and (3) recover the minnow to the extent sufficient to delist it. The Service defined specific criteria to meet each of these goals, including in relevant part:

- **Criterion 1-A-1** (prevent extinction): presence of minnow at ¾ of all sampling sites, per reach, sampled during October.
- **Criterion 1-A-2** (prevent extinction): presence of young-of-year at ¾ of all sampling sites, per reach, sampled during October.
- **Criterion 2-A-1** (downlisting): document for at least 5 consecutive years, sampled during October, a density of >5 fish/100m² for all monitoring sites within each reach.
- **Criterion 2-A-2** (downlisting): document for at least 5 consecutive years, presence of young-of-year at ¾ of all sampling sites, per reach, sampled during October.
- **Criterion 2-B-1**: Base flow within occupied habitat sufficient to generate survival rates necessary to achieve Criteria 2-A-1.
- **Criterion 2-B-2**: Recruitment flows that generate population growth rates necessary to achieve Criteria 2-A-1.
- **Criterion 2-B-3**: Habitat of sufficient quantity and quality to generate recruitment and survival rates that meet Criteria 2-A-1.
- **Criterion 2-B-4**: Improve water quality within occupied areas and reintroduction sites to support recruitment and survival rates necessary to achieve Criteria 2-A-1.

Although the Service recognized that various minnow conservation efforts had been undertaken in the Middle Rio Grande over the years, the Service concluded “the threat of extinction of the Rio Grande silvery minnow continues because of the high probability of continued drought, the fragmented and isolated nature of currently occupied habitat, and the absence of silvery minnows in other parts of its historic range.” The Service recommended, at that time, that “[a]dditional work needs to be done to conserve this species and the ecosystems upon which it depends.”

The 2010 Recovery Plan identifies recovery actions as near-term recommendations to guide the activities needed to accomplish the recovery objectives and achieve the recovery criteria. As discussed in more detail below, the Service failed to conduct any 5-year reviews for the Rio Grande silvery minnow from the time of listing until 2018. This lack of review of the status of the species and the progress made toward recovery for nearly 25 years likely contributed to the failure of the Service and other action agencies to ensure the survival and recovery of the species and the resulting failure to meet “14 out of the 15 recovery criteria.”

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68 Supra, n.7 at p. iv-v. (Exh. 5)
69 Id. at iv - vii.
70 Id. at 50 (emphasis added).
71 Id.
72 Supra, n.12 at p. 14. (Exh. 8)
4. **2018 Five-Year Review of the Minnow Shows No Consistent Improvement in Minnow Condition.**

In 2018, the Service—after missing four consecutive (and mandatory) 5-year reviews of the minnow in 1999, 2004, 2009, 2014—finally released its first 5-year review of the silvery minnow since it was listed in 1994. The purpose of the review is to assess progress toward meeting silvery minnow recovery criteria. The Service’s review was based on goals and criteria set forth in the 2010 Revised Recovery Plan for the silvery minnow, which set three recovery goals including: (1) preventing the extinction of the silvery minnow in the Middle Rio Grande of New Mexico; (2) recovering the silvery minnow to an extent sufficient to downlist the species from endangered to threatened; and (3) recovering silvery minnow to an extent sufficient to remove it from the list. The Service’s recovery goals and conclusions in the 5-year Review are included below:

**Recovery Goal 1. Prevent the extinction of the Rio Grande silvery minnow in the middle Rio Grande of New Mexico.**

- **Recovery Criterion 1-A-1.** Presence of Rio Grande silvery minnow (all unmarked fish) at ¾ of all sites, per reach, sampled during October. Not Met.

- **Recovery Criterion 1-A-2.** Annual reproduction in the middle Rio Grande below Cochiti Reservoir, as indicated by the presence of young-of-year at ¾ of all sites, per reach, sampled during October. Not Met.


To justify its conclusions above, the Service provided a sentence or two of reasoning per criterion, but does not relay the full scope of the failure by the action agencies. For example, Recovery Criterion 1-A-1 requires “presence of Rio Grande silvery minnow (all unmarked fish) at ¾ of all sites, per reach, sampled during October.” The Service found that this requirement was not met because “[i]n 2012 (Dudley et al. 2013) and in 2014 (Dudley et al. 2015), no silvery minnows were detected using the standard sampling data.” However, a review of the Rio Grande silvery minnow October population monitoring reports for 2010 through 2017 reveals that silvery minnow were not found at ¾ of sampling sites in each reach during 5 of the 8 years (more than half the decade), not in only the two years disclosed by the Service. This analysis

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73 *Id; see also* WildEarth Guardians’ and Defenders of Wildlife’s Comments on the Five-year Status Review for the Rio Grande Silvery Minnow. These comments are attached and incorporated herein by reference. (Exh. 15)

74 *Supra*, n.12 at 69-71. (Exh. 8)

75 *Id.* at 4-5.

76 *See generally* minnow population monitoring reports. (Exhs. 2, 6-7, 16-22).
was updated to include date for 2018 and 2019 showing that the recovery criteria were only met in 4 of the past 10 years.

Table 2. Status of Rio Grande silvery minnow v. recovery criteria

<p>| Criteria 1-A-1. Presence of RGSM at 3/4 of all sites per reach in October |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Percentage of sites where RGSM found</th>
<th>Year</th>
<th>Angostura Reach</th>
<th>Isleta Reach</th>
<th>San Acacia Reach</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>4/5</td>
<td>80%</td>
<td>5/6</td>
<td>83%</td>
<td>6/9</td>
</tr>
<tr>
<td>2011</td>
<td>2/5</td>
<td>40%</td>
<td>2/6</td>
<td>33%</td>
<td>4/9</td>
</tr>
<tr>
<td>2012</td>
<td>0/5</td>
<td>0%</td>
<td>0/6</td>
<td>0%</td>
<td>0/9</td>
</tr>
<tr>
<td>2013</td>
<td>0/5</td>
<td>0%</td>
<td>0/6</td>
<td>0%</td>
<td>3/9</td>
</tr>
<tr>
<td>2014</td>
<td>0/5</td>
<td>0%</td>
<td>0/6</td>
<td>0%</td>
<td>0/9</td>
</tr>
<tr>
<td>2015</td>
<td>3/5</td>
<td>60%</td>
<td>4/6</td>
<td>67%</td>
<td>1/9</td>
</tr>
<tr>
<td>2016</td>
<td>4/5</td>
<td>80%</td>
<td>6/6</td>
<td>100%</td>
<td>8/9</td>
</tr>
<tr>
<td>2017</td>
<td>5/5</td>
<td>100%</td>
<td>6/6</td>
<td>100%</td>
<td>9/9</td>
</tr>
<tr>
<td>2018</td>
<td>2/5</td>
<td>40%</td>
<td>0/6</td>
<td>0%</td>
<td>2/9</td>
</tr>
<tr>
<td>2019</td>
<td>5/5</td>
<td>100%</td>
<td>5/6</td>
<td>83%</td>
<td>9/9</td>
</tr>
</tbody>
</table>

* Fish per 100 square meters

It is also significant that in those years when the requirements were met, river flows were naturally considerably higher than in those years where conditions were not met. For example, the April forecasts at the Otowi gauge in 2010, 2016, 2017, and 2019 were 99, 60, 128, and 148 percent of average. We are very concerned that the action agencies are not taking to heart the Service’s conclusions in the 5-Year Review and in reviewing monthly and annual data, that the minnow is still not meeting the basic recovery goal to prevent jeopardy to the species. The Service and the agencies need to be taking additional steps in a more timely fashion to ensure the silvery minnow’s survival and recovery.

The Service also found the second recovery goal—to recover the minnow in the Middle Rio Grande—was not met based on all three metrics:

Recovery Criterion 2-A-1. Document for at least 5 consecutive years, an October catch per unit effort (CPUE) from all monitoring sites within each reach of > 5 fish/100 m². Not Met.

Recovery Criterion 2-A-2. Annual reproduction in the middle Rio Grande below Cochiti Reservoir, as indicated by the presence of young-of-year at ¾ of all sites, per reach, for at least five consecutive years. Not Met.

Recovery Criterion 2-A-3. [Establish] two additional populations of Rio Grande Silvery Minnow, in the historic range of the species but outside the middle Rio Grande of New Mexico, that each demonstrate (by quantitative analysis) a probability of extinction in the wild of less than 10% within 50 years. Not Met.

The Service admits that not only were the criteria not met, but that with regard to Criterion 2-A-1 “this criterion may be difficult to meet.” Certainly, the criterion will be difficult to meet without a concerted effort on the part of Reclamation, its non-federal partners, and a firm directive from the Service that a change to the status quo must occur.

Similarly, the Service found that the four Threat-Based Criteria (2-B-1, -2, -3, and -4) were also not met in the last 25 years. These threat-based criteria include the following conditions necessary to generate the habitat and population to meet recovery criteria listed above: 1) sufficient base flows (wetted habitat); 2) necessary recruitment flows (spring flows of proper duration, magnitude and timing); 3) habitat of sufficient quantity and quality; and 4) adequate water quality.

Recovery Goal 3. Recover the Rio Grande silvery minnow to the extent sufficient to remove it from the List of Endangered and Threatened Wildlife (delisting).

Recovery Criterion 3-A-1. Three populations of Rio Grande silvery minnow, in the historical range of the species, each of which demonstrate (using quantitative analysis) a probability of extinction in the wild of less than 10% within 100 years. Not Met.

Recovery Criterion 3-B-1. Base flows within occupied habitat sufficient to generate survival rates necessary to achieve Criteria 3-A-1. Not Met.


Recovery Criterion 3-B-3. Habitat of sufficient quantity or quality to generate recruitment and survival rates that meet Criteria 3-A-1. Not Met.

The Service found that neither of the two existing silvery minnow populations were self-sustaining. The Service also found that none of the threat-based criteria had been met because of consistently inadequate base flows, spring runoff to trigger spawning, and number of inundated acres for nursery habitat in May and June. Although the 2003 Biological Opinion had imposed specific measures to deal with these issues, and was in place at the time these recovery goals were defined, the measures were not working to promote minnow survival and recovery.

The Service made the following important conclusions in its 5-year Review\(^77\):

- Rio Grande Silvery Minnow remains endangered with extinction based on the current variable and projected hydrology.
- Due to climate change, water extraction, and geomorphological changes, the inundated areas during spring runoff flooding will likely diminish and result in a decrease of nursery habitats and subsequent recruitment (USFWS 2016).
- Water management coordination has improved, genetic management and captive propagation have prevented extinction, and habitat restoration has been implemented, but these activities do not yet prevent population collapse during extended drought years (Archdeacon 2016; Horwitz et al. 2018).
- Rio Grande Silvery Minnow are short lived and will likely be extirpated with consecutive low spring runoff years followed by reduced flows and extensive river drying without fish passage to perennial water during long-term drought (Dudley et al. 2007b; Horwitz et al. 2018).
- Because 14 out of 15 recovery criteria were not met, the species is short-lived, and threats can and do lead to population collapse in the MRG, we recommend that the Rio Grande Silvery Minnow remain listed as an endangered species with a listing priority of 2C.

Finally, the Service provided recommendations for future actions that should be considered and incorporated into the management of the species.\(^78\)

C. Southwestern willow flycatcher (*Empidonax traillii extimus*).

In 1995, the Service listed the Southwestern willow flycatcher (“flycatcher”) as endangered. 60 Fed. Reg. 10,694 (Feb. 27, 1995). At the time of its listing, the breeding range of the flycatcher included southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and extreme northwestern Mexico. Id. The known flycatcher population was estimated between 300 and 500 pairs. Id. The majority of flycatcher pairs were located in New Mexico (45 percent) and the remaining pairs were found in Arizona (29 percent), California (21 percent), Colorado (2 percent), Utah (2 percent),

\(^{77}\) Supra, n.12 at 14. (Exh. 8)

\(^{78}\) Id. at 15.
and Nevada (1 percent). The populations in Texas, Sonora, Mexico and Baja, Mexico were unknown. The three largest populations of willow flycatchers in New Mexico were found in the Gila (150 pairs), Rio Grande (21 pairs), and Rio Chama (1 pairs).

The Service concluded in its listing rule that “changes in riparian plant communities have resulted in the reduction, degradation, and elimination of nesting habitat for the willow flycatcher, curtailing the ranges, distributions, and numbers.” 60 Fed. Reg. 10,707. The Service found “[l]arge scale losses of southwestern wetlands have occurred, particularly the cottonwood-willow riparian habitats of the southwestern willow flycatcher.” Id. It noted that “Dahl (1990) reviewed estimated losses of wetlands between 1780 and the 1980s in the Southwest: California is estimated to have lost 91 percent, Nevada 52 percent, Utah 30 percent, Arizona 36 percent, New Mexico 33 percent, and Texas 52 percent.” Id.

The Service attributed the loss and modification of habitat of the willow flycatcher on:

- urban and agricultural development, water diversion and impoundment,
- channelization, livestock grazing, off-road vehicle and other recreational uses, and hydrological changes resulting from these and other land uses.

Id. “Modern river management” is largely responsible for the decline of cottonwood-willow riparian forests, which resulted in a widespread impact on distribution and abundance of bird species that utilize such forests. Id. at 10,707. The rule found:

- Water developments also likely reduced and modified southwestern willow flycatcher habitat. The series of dams along most major southwestern rivers (Colorado, Gila, Salt, Verde, Rio Grande, Kern, San Diegito, and Mojave) have altered riparian habitats downstream of dams through hydrological changes, vegetational changes, and inundated habitats upstream.

Id. at 10,709.

In New Mexico, the Service found that while the willow flycatcher’s range had not been reduced, its numbers had declined. In the late 1970s, flycatchers appeared to be “common” near Elephant Butte Reservoir in the Middle Rio Grande. However, in 1987, 15 breeding flycatcher pairs were lost due to the rising waters of the reservoir. Id. at 10,710. The decline in flycatchers coincides with the extreme fluctuation in the level of Elephant Butte Reservoir from extremely low levels in the late 1970s to full by the 1980s.

In 1997, the Service designated critical habitat for the flycatcher. 62 Fed. Reg. 39,129 (July 22, 1997). Over the years, the Service modified its critical habitat designation for the flycatcher on several occasions. See 62 Fed. Reg.44,228 (Aug. 20, 1997) and 70 Fed. Reg. 60,886 (Oct. 19, 2005). In 2013, the Service revised the critical habitat designation for the

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80 Id.
willow flycatcher to include 112 miles in the Middle Rio Grande between the Valencia-Bernalillo county line and the upper part of the Elephant Butte Reservoir in Socorro County, New Mexico. 78 Fed. Reg. 344 (Jan. 3, 2013).

The Service has found that reduced peak flows, channelization, and reduced sediment in the Middle Rio Grande below Cochiti Dam has eliminated thousands of acres of willow flycatcher habitat. The lack of large peak flows combined with channelization causes narrowing of the Rio Grande channel and eliminates overbank flooding, both of which limit development of the backwater habitats necessary for willow flycatcher survival in the Middle Rio Grande. The 235 miles of levees between Cochiti Dam and Elephant Butte Reservoir that have restricted the width of the floodplain and disconnected the river from most of its natural floodplain have further reduced the amount and quality of suitable habitat for the willow flycatcher.

These river conditions caused by short-sighted water management schemes have not changed in the decades following listing. In the 2017 Five-Year Review of the flycatcher, the Service identified habitat loss and modification as the “primary cause of the flycatcher’s decline” and recognized “alteration of river function from land and water management actions” as the cause.\(^{81}\) The Service stated that: “The failure to recognize the impact of river regulation and water use on the reduced distribution and abundance of native riparian vegetation and increase/spread of tamarisk has helped generate additional and ongoing widespread threats to the flycatcher and its habitat that are expected to increase in the future.” Id. at 65. With respect to habitat conservation measures, such as those included in the 2016 Biological Opinion, the Service pointed out that such measures “have not been extensive enough yet to counter the widespread impact of historical and ongoing habitat loss and modification across the Southwest.” Id. The Service concluded that “based on the best scientific and commercial information available that the present or threatened destruction, modification, or curtailment of its habitat or range currently poses a significant threat to the southwestern willow flycatcher, and is likely to continue to be a threat to the subspecies in the future.” Id. at 66.

D. **Yellow-billed cuckoo (Coccyzus americanus).**

The Service listed the western yellow-billed cuckoo as a threatened species under the ESA on October 3, 2014. 79 Fed. Reg. 59,992 (Oct. 3, 2014). Anticipating the final listing rule, the Service proposed critical habitat for the cuckoo on August 15, 2014. 79 Fed. Reg. 48,548 (Aug. 15, 2014). On February 27, 2020, the Service issued a revised proposed critical habitat designation that reduced by 30 percent the 546,335 acres of critical habitat originally proposed in 2014. 85 Fed. Reg. 11,458 (Feb. 27, 2020). In addition, the 2020 Revised Proposed Rule considers for exclusion an additional 30 percent of the proposed critical habitat (145,710 acres). The identified critical habitat omitted from the original rule (164,248 acres) and the exclusions from the revised rule (145,710 acres) make up over half (309,958 acres) the original designation of critical habitat for the yellow-billed cuckoo. On April 21, 2021, the Service issued its final rule designating approximately 298,845 acres of critical habitat for the yellow-billed cuckoo. 86 Fed. Reg. 20798 (April 21, 2021). The final critical habitat includes “63 units and is located in

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the States of Arizona, California, Colorado, Idaho, New Mexico, Texas, and Utah.” *Id.* The final rule reduces the designation proposed in the 2020 Revised Proposed Rule by about 194,820 acres and leaves certain cuckoo populations unprotected. Therefore, it is crucial that what critical habitat was designated in the Middle Rio Grande be protected and not be further undermined by the Proposed Action.

Because the cuckoo requires large blocks of riparian habitat for breeding, historical and ongoing riparian habitat loss and degradation is the primary cause of the species’ decline. 78 Fed. Reg. at 61,633 and 61,643. Unlike the flycatcher, cuckoos need landscapes with both cottonwood and willow dominated vegetation cover for multistory riparian habitat. *Id.* at 61,648. Areas of required wide riparian habitat facilitate the distribution and abundance of the cuckoo. *Id.* at 61,633.

Human actions impact both the landscape and hydrology in a way that prevents the growth of riparian plants that form the cuckoo’s habitat. *Id.* at 61,643. Principal causes of riparian habitat destruction include flood control efforts like levee construction, channelization and other forms of bank stabilization, water diversions, alteration of hydrology due to dams, and riverflow management that differs from natural hydrological patterns. *Id.* at 61,646. Floodplain conversion for agricultural uses exacerbates habitat loss by altering hydrology and converting existing, primarily native habitats to monotypic stands of nonnative vegetation. *Id.* at 61,643. Once habitat is lost, the changed conditions (such as changed hydrologic regime) also prevent riparian habitat from regenerating, even without other impacts. *Id.*

One of the most successful cuckoo populations in the United States exists in the Middle Rio Grande Basin from Cochiti Dam to Elephant Butte Reservoir. The Middle Rio Grande cuckoo population “is consistently occupied by a large number of breeding cuckoos and currently is the largest breeding group north of Mexico.”82 Further, a 2013 study found that “the exposed pool of the Elephant Butte Reservoir constituted 86 percent of all cuckoo detections and 86 percent of all territories found within the San Marcial Reach” at the southern end of the middle Rio Grande.83 Two of the remaining strongholds of cuckoo habitat on the Rio Grande occur in reservoirs, namely the Caballo and Elephant Butte reservoir deltas. “These vegetated patches within the full pool footprint of both reservoirs are dynamic due to both natural succession and to changes brought about by fluctuating reservoir levels.”84

The “San Marcial Reach [just above Elephant Butte Reservoir] supports the largest population with 53 percent of the detections and 54 percent of the territories, nearly all were found within the exposed pool of Elephant Butte Reservoir.”85 “The cuckoo population within [Elephant Butte Reservoir] is largely concentrated in a section of the historic reservoir pool at a

83 *Id.*
84 *Id.* at 30.
very low elevation and within only 11.5 miles of Elephant Butte Dam. A dynamic hydrological system is critical in [Elephant Butte Reservoir] over the long term in order to increase or maintain plant health and foliage cover, promote natural regeneration, and scour and deposit nutrients in the soil." Too much inundation of Elephant Butte Reservoir could destroy cuckoo habitat.

IV. ESA CONSULTATION HISTORY IN THE MIDDLE RIO GRANDE

A. The 2003 Jeopardy Biological Opinion.

Reclamation began consulting with the Service over its water management and river maintenance activities in the Middle Rio Grande in 1996. Over the next seven years, the Service issued three separate biological opinions in 2001, 2002 and 2003 collectively to Reclamation, the U.S. Army Corps of Engineers (Corps) and the non-federal parties. Like its biological opinions in 2001 and 2002, the Service’s March 17, 2003 biological opinion (2003 Biological Opinion) concluded that Reclamation’s water and river maintenance operations and the related actions of the non-federal parties “are likely to jeopardize the continued existence of the silvery minnow and the flycatcher and adversely modify critical habitat of the silvery minnow.” 2003 Biological Opinion at 84-88 (emphasis added). As a result of its “jeopardy” determination, the Service developed a reasonable and prudent alternative (RPA), an incidental take statement (ITS), reasonable and prudent measures, terms and conditions, and conservation recommendations to provide a guide for water management in the Middle Rio Grande over the next decade. Id. at 102-110.

The RPA detailed a number of actions that, if implemented together, the Service believed would mitigate the significant negative effects on the listed species and alleviate jeopardy. Id. at 87-102. Those mandatory actions incorporate: (1) water operations elements, including a spawning spike to cue reproduction in the silvery minnow (Element A), management of available water to create habitat and allow species to persist in less than ideal conditions (Element B), and maintenance of minimum flows in the river during certain times of the year depending on the hydrologic conditions that year (Elements E to N); (2) habitat improvement elements, including

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86 Wally Murphy 2016, Biological Opinion on effects of actions associated with the proposed continuation of the Rio Grande Project Operating Agreement and storage of San Juan-Chama Project water in Elephant Butte Reservoir, New Mexico. U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office, Albuquerque, NM at p. 31 (Exh. 27)

87 The non-federal parties included the State of New Mexico and the Middle Rio Grande Conservancy District.

88 Biological and Conference Opinions on the Effects of Actions Associated with the Programmatic Biological Assessment of the Bureau of Reclamation’s Water and River Maintenance Operations, U.S. Army Corps of Engineers’ Flood Control Operation, and Related Non-Federal Actions on the Middle Rio Grande, New Mexico (Consultation #2-22-03-F-0129).

89 “‘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.” See 50 C.F.R. § 402.02.
restoring river connectivity to allow upstream movement of silvery minnow throughout the Middle Rio Grande (Element R), creating riparian habitat and low velocity in-channel aquatic habitat throughout the action area (Element S), increasing the safe channel capacity of the river near San Marcial to allow for essential flooding flows (Element U), and completing the Cochiti environmental baseline study and investigating feasibility of sediment transport from Cochiti Lake (Element W); (3) water quality elements, and (4) reporting elements, among other requirements. *Id.*

In addition to the RPA, the original ITS included in the 2003 Biological Opinion provided the estimated number of silvery minnows and flycatcher territories the agencies could “take” without causing “jeopardy” to the species. *Id.* at 102-105. On August 15, 2005, the Service amended the 2003 Biological Opinion to allow for “take” to be estimated for the silvery minnow on an annual basis (April 1 to March 31). The Service calculated the level of take each year as a proportion of the 38,000 minnows originally included in the ITS. By April 1 of each year, the Service was required to transmit a letter to Reclamation, the Corps and the non-federal parties specifying the estimated take for the year.

**B. Reinitiation of Consultation Upon Expiration of the 2003 Biological Opinion.**

The 2003 Biological Opinion remained valid for a 10-year term ending on February 28, 2013. *Id.* at 110. However, the 2003 Biological Opinion included a very specific provision providing a unique opportunity for the agencies to ensure continued compliance with the ESA upon reinitiation of consultation. *Id.* The Reinitiation Notice provision provided “[c]onsultation must be reinitiated prior to the expiration of this biological opinion to ensure continued compliance with sections 7 and 9 of the ESA.” *Id.* Although the validity of this extension under the ESA was questionable, any such coverage that stemmed from reinitiation of consultation had to be linked to compliance with the RPA in the 2003 Biological Opinion to ensure the activities of Reclamation, the Corp, and the non-federal parties did not jeopardize the continued existence of the species.

On February 22, 2013 (prior to the expiration of the 2003 Biological Opinion), the Service reinitiated consultation with Reclamation and the non-federal parties (Consultation #02ENNM00-2013-F-0033) concerning the effects of their proposed water management and river maintenance activities on the listed species.90 *Id.* During the 2013 irrigation season, Reclamation and the non-federal parties operated pursuant to this so-called “extension” of the 2003 Biological Opinion and RPA. In correspondence with Reclamation at the beginning of the 2013 irrigation season, the Service emphasized that “[d]uring this interim period before new biological opinions are issued, compliance with the 2003 BO remains necessary to alleviate jeopardy to the listed species and adverse modification to designated critical habitat.” *See* April 2, 2013 Letter from the Service transmitting 2013 ITS at 1.

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90 On the same day, the Service also reinitiated consultation with the U.S. Army Corps of Engineers (Consultation #02ENNM00-2013-F-0034) and the Bosque del Apache National Wildlife Refuge (Consultation #02ENNM00-2013-F-0035).
C. The 2016 No-Jeopardy Biological Opinion.

On December 2, 2016, after three years of consultation, the Service issued a final Biological Opinion for the water management and maintenance activities of Reclamation, the Bureau of Indian Affairs, and non-federal parties. See generally 2016 BiOp. The Service concluded that “the Proposed Action will not jeopardize the continued existence of the silvery minnow, flycatcher, and cuckoo, and will not destroy or adversely modify designated or proposed critical habitat” based on full implementation of the Conservation Measures set forth in the Biological Opinion. This decision reversed the Service’s finding in 2003 that the same water operations and river maintenance by the federal agencies and non-federal partners would cause jeopardy to listed species. The 2016 Biological Opinion included an ITS that used minnow densities per 100 m² as a proxy for a numeric take limit. The 2016 Biological Opinion’s species-specific legal deficiencies are discussed below.

The Service based its no jeopardy determination solely on the implementation of Conservation Measures as part of the Proposed Action. 2016 BiOp at 11; see also Table 1 at 149-171 (listing Conservation Measures for minnow, flycatcher, and cuckoo). Many of the Conservation Measures lack specificity and/or deadlines for implementation. The Service does not evaluate the efficacy of any of the measures beyond including a “Benefits” column in the table with a qualitative summary for each measure. The legal deficiencies associated with these measures are discussed below.

V. FISH & WILDLIFE SERVICE’S ESA VIOLATIONS

Guardians hereby puts the Service on notice that it will promptly seek judicial relief if the agency fails to remedy its violations of the ESA and its implementing regulations as described below.

A. The Service’s No Jeopardy Conclusions are Arbitrary and Unsupported.

For the reasons discussed throughout this Notice, the Service’s conclusion in the 2016 Biological Opinion that Reclamation’s Middle Rio Grande water operations “will not jeopardize the continued existence of the silvery minnow, flycatcher, and cuckoo, and will not destroy or adversely modify designated or proposed critical habitat,” 2016 BiOp at 11, is arbitrary and capricious. The Service’s no-jeopardy conclusion exclusively relies on a host of conservation measures that are uncertain or unenforceable, and that that Service has not shown will actually reduce or eliminate the Proposed Action’s multiple adverse effects to species and their critical habitats. The Service also fails to use the best available science in analyzing the Proposed Action’s ongoing and future impacts to listed species in light of climate change, and does not include in the Biological Opinion a full analysis on the effects of the Proposed Action on species recovery.
1. The Service Arbitrarily Relies on Uncertain or Unenforceable Mitigation Measures for Its No Jeopardy Determinations. [all species]

The Service can only base a no jeopardy conclusion on implementation of conservation measures where those measures are “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.” Native Fish Society. v. National Marine Fisheries Services, 992 F. Supp. 2d 1095, 1113 (D. Or. 2014) (citations omitted); see also Sierra Club v. Marsh, 816 F.2d 1376 (9th Cir.1987).

In the 2016 Biological Opinion, the Service based its no jeopardy determination “on full implementation of the Conservation Measures.” 2016 BiOp at 11 (“Our conclusion that the Proposed Action will not jeopardize the continued existence of the silvery minnow, flycatcher, and cuckoo, and will not destroy or adversely modify designated or proposed critical habitat, is based on full implementation of the Conservation Measures.”). Many of the Conservation Measures have not yet been planned out with any specificity, while others have no deadline or have deadlines that are too far in the future to prevent near-term jeopardy to imperiled species with short life-spans.

For example, the Service’s no-jeopardy determinations for the minnow, flycatcher, and cuckoo all rely on implementation of conservation measures that are part of Reclamation’s River Integrated Operations (RIO) approach that uses “adaptive management” principles. 2016 BiOp at 18-19; see also id. at 156-61 (listing conservation measures that would be part of RIO). But RIO is a vague, undeveloped plan that lacks any definite, enforceable commitments. Id. at 18-19 (describing RIO as an approach that is yet to be developed). The specific conservation measures that fall under the RIO approach are very general, not subject to implementation deadlines, and have no explicit enforcement mechanisms. See, e.g., RIO Conservation Measures 31-45, id. at 157-160. Moreover, this set of conservation measures is intended to mitigate the Proposed Action’s adverse impacts to minnow production and survival goals stipulated in the Hydrobiological Objectives, id. at 62-66, yet nowhere in the 2016 Biological Opinion does the Service evaluate the efficacy of these conservation measures to achieve the desired hydrobiological goals. The table summarizing the various conservation measures simply includes a “Benefits” column with “a summary of the beneficial effects” of each measure, which is not the equivalent of an analysis of each measure’s efficacy. Id. at 149, n.3.

The non-RIO conservation measures similarly suffer from a lack of specificity, implementation deadlines, and enforcement mechanisms. For example, Conservation Measures 51-60 related to river maintenance are characterized as “proposed minimization measures” and include suggested use of “General BMPs and Category BMPs,” “Adaptive Management for project Sites,” and “BMPs for water pumping.” Id. at 162-63. Conservation Measures 80-86 related to habitat improvements are similarly vague, and lack any deadlines or other enforceable mechanisms. See, e.g., No. 81 (“Habitat Monitoring program will establish a [GIS] database to track habitat restoration”), No. 84 (“Revise and refine the population monitoring program as determined through workshops . . . to provide reliable indices to track the status and trend of the population and to inform management decisions”), id. at 170-171. With respect to mitigating the
Proposed Action’s adverse effects to the flycatcher for example, the Service references Conservation Measure 68, which is a “planning effort” for water management and maintenance in the San Acacia reach, an area supporting 45 percent of the flycatcher population in the Middle Rio Grande. Id. at 81, 166. Yet the Service acknowledges the “uncertainty” associated with any habitat improvement projects that may result from this planning effort “because plans have not been completely developed.” Id. at 81. Reliance on conservation measures that have not yet been developed, and the efficacy of which is unknown, renders the Service’s reliance on these types of measures arbitrary and does not support a no-jeopardy determination for the flycatcher.

Finally, the 2016 Biological Opinion’s time span for assessing whether conservation measures are working to promote the Hydrobiological Objective’s survival and recovery goals for the minnow is also arbitrary because the proposed 5-year Adaptive Management Review exceeds the three-year life-span of the minnow. 2016 BiOp at 23 (“Reclamation will implement a defined adaptive management process over the duration of the BiOp to allow for evaluation and adjustment of Conservation Measures at 5-year intervals.”); 2016 BiOp at 24 (“The silvery minnow is reported to live from 2 to 3 years (Horwitz et al. 2011).”). Thus, the minnow could lose 1-2 life cycles before Reclamation or the Service would be aware that the conservation measures were ineffective to prevent jeopardy to the minnow. See Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv., 524 F.3d 917, 934 (9th Cir. 2008) (“NMFS must consider near-term habitat loss to populations with short life cycles.”) (citation omitted). “It is not enough to provide water for [endangered fish] to survive in five years, if in the meantime, the population has been weakened or destroyed by inadequate water flows.” Id.

The lack of concrete, enforceable, and timely conservation measures in the 2016 Biological Opinion will result in the Proposed Action likely jeopardizing listed species and adversely modifying their critical habitats.

2. The Service Failed to Additively Consider Climate Change Effects in Connection with the Effects of the Proposed Action in Making Its No Jeopardy Determination. [all species]

The Service fails to account for impacts to river conditions from both the Proposed Action and climate change. Climate change over the remainder of the century will significantly alter availability of flows in the basin. As the climate warms, these stresses on riverine and riparian environments will become even more pronounced. The Service acknowledges that “[c]hanges in peak flow timing [attributed to climate change] will likely adversely affect the reproductive success of the silvery minnow” by reducing hatching by 2.1-6.4 percent. BiOp at 98. The Service also expects flow volume to decline due to climate change, with a reduction of 6,580 acre-ft in spring volume in 15 years, and an increase in the frequency of reduced spring flow volumes from two to four occurrences during the next 15 years. Id. Although the Service admits that changes in flow volume caused by climate change “will have negative impacts” on the minnow, flycatcher, and cuckoo, the agency does not analyze the magnitude of these negative impacts when added to the effects of the Proposed Action, nor analyze whether and how these climate-induced stream changes will affect the efficacy of the proposed conservation measures the Service relies on to reach its no-jeopardy conclusion.
A biological opinion must consider and address the effects of climate change if—as is often the case—the best available information “indicates that climate change will have a significant negative effect on the listed populations of endangered or threatened species.” *Nat'l Wildlife Fed’n v. Nat'l Marine Fisheries Serv.*, 184 F. Supp. 3d 861, 873–74 (D. Or. 2016). In considering the effects of climate change, an agency cannot merely provide conclusory statements or generalized descriptions. Instead, it must actually analyze the impact of climate change on the proposed action and its effects. *See, e.g.*, *Wild Fish Conservancy v. Irving*, 221 F. Supp. 3d 1224 (E.D. Wash. 2016). Cases concerning listed fish have held that failure to discuss climate impacts in relation to the proposed action rendered biological opinions arbitrary. *See, e.g.*, *NRDC v. Kempthorne*, 506 F. Supp. 2d 322 (E.D. Cal. 2007); *S. Yuba River Citizens League v. NMFS*, 723 F. Supp. 2d 1247 (E.D. Cal. 2010).

By failing to analyze climate change effects along with the effects of the Proposed Action, the Service failed to consider an important aspect of the problem, rendering its no-jeopardy conclusion arbitrary.

3. **The Service’s Failure to Analyze the Proposed Action’s Impacts on Minnow Recovery in the Biological Opinion Violates the ESA. [minnow only]**

There is an implicit requirement of the ESA and its implementing regulations to analyze whether an action may jeopardize a species or adversely modify its critical habitat by appreciably reducing the species’ prospects of recovery, as well as survival. *Ctr. for Biological Diversity v. Salazar*, 804 F. Supp. 2d 987, 997 (D. Ariz. 2011). According to the ESA’s implementing regulations, “[j]eopardize 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 ... by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. § 402.02 (emphasis added). Similarly, adverse modification is defined as “a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species.” The ESA defines “conservation,” as “the use of all methods and procedures which are necessary to bring any endangered species ... to the point at which the measures provided pursuant to [the ESA] are no longer necessary.” 16 U.S.C. § 1532(3). “It is only logical to require that the agency know roughly at what point survival and recovery will be placed at risk before it may conclude that no harm will result” and “[r]equiring some attention to recovery issues ... provides some reasonable assurance that the agency action in question will not appreciably reduce the odds of success for future recovery planning, by tipping a listed species too far into danger.” *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 936 (9th Cir. 2008).\(^9\)

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\(^9\) In addition, the Endangered Species Consultation Handbook confirms that the final jeopardy analysis looks at “whether, given the aggregate effects, the species can be expected to both survive and recover.” *FWS & NMFS, Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act*, at 4–37 (March 1998). The Consultation Handbook defines survival, in part, to include recovery: “Recovery: ... the process by which species’ ecosystems are restored and/or threats to the species are removed so self-sustaining and self-regulating populations of listed species can be supported as persistent members of native biotic communities. Survival: the
The Service’s analyses of the Proposed Action’s impact in the 2016 Biological Opinion focus almost entirely on the minnow’s survival. The Biological Opinion includes only three paragraphs discussing in general terms the Proposed Action’s effects on minnow recovery, culminating in an unsupported conclusion that the Proposed Action “will not preclude the recovery of silvery minnow.” 2016 BiOp at 72-73. Although this brief section recognizes the demographic recovery goal of 5 fish per 100m$^2$, the Service assumes that implementation of voluntary conservation measures, such as the RIO program, will “help achieve” this goal. Yet the Service identifies only the need to meet the “survival” density goal of 1 fish per 100m$^2$ for more than 5 years and the genetic diversity goal of 0.3 fish per 100 m$^2$ to prevent jeopardy. Id. at 76. The Service does not explain how meeting the survival density target, which is well below the recovery target, “will not preclude recovery” of the minnow. And because the Incidental Take Statement places no limits on minnow take once the 1 fish per 100m$^2$ density figure is met, there are no measures in place to promote achieving the 5 fish per 100m$^2$ metric required for recovery. There is no supporting data or analyses in the Biological Opinion showing that the conservation measures associated with the Proposed Action (even if those measures were specific and certain to occur, which they are not as discussed above) will not appreciably reduce the minnow’s chances of recovery.

B. The Service’s Incidental Take Statement for the Proposed Action Violates the ESA and Is Arbitrary.

As explained above, the ITS serves a vital function in the ESA’s protective scheme by estimating the amount of the take that will result from an action, and setting a clear and measurable trigger for reinitiating formal consultation if take is exceeded, thus ensuring that the action’s real-world effects do not jeopardize the survival or recovery prospects of the silvery minnow.

The Service provided an ITS for the silvery minnow, flycatcher, and cuckoo. 2016 BiOp at 106-108. Incidental take of flycatcher will be considered exceeded if more than 26 flycatcher territories are displaced in any year as a result of the Proposed Action, or if more than 385 territories are impacted as a result of the Proposed Action over the 15-year duration of the 2016 Biological Opinion. 2016 BiOp at 107. Incidental take of cuckoos will be considered exceeded if more than 11 cuckoo territories are displaced in any year as a result of the Proposed Action, or if more than 2,071 acres of suitable cuckoo habitat are impacted as a result of the Proposed Action over the 15-year duration of the 2016 Biological Opinion. 2016 BiOp at 108. Incidental take of silvery minnows is authorized for the Proposed Action if:

- October density is greater than or equal to 1.0 fish per 100 m$^2$ for 10 of 15 years; and
- October density is less than 1.0 per 100 m$^2$ for no more than 5 of 15 years; and
- October density is less than 0.3 fish per 100 m$^2$ for no more than 2 of the 15 years.

species' persistence ... beyond the conditions leading to its endangerment, with sufficient resilience to allow recovery from endangerment. Said another way, survival is the condition in which a species continues to exist into the future while retaining the potential for recovery.” Id. at 4–36, 4–37. See https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf.
2016 BiOp at 106-107. “Incidental take will be considered exceeded if these densities are not met as a result of the Proposed Action.” 2016 BiOp at 107. There are serious legal flaws in the Service’s ITS for the actions analyzed in the 2016 BiOp. The take limits for all three species represent a legally and scientifically improper use of an ITS, and it also contravenes the “institutionalization of caution” that is supposed to guide federal agencies’ implementation of section 7 of the ESA. Tenn. Valley Auth. v. Hill, 437 U.S. 153, 178, 194 (1978).

1. **Silvery Minnow Take.**

First, the Service’s ITS for silvery minnow is crafted only with minnow survival in mind, and completely ignores the recovery metric in the 2010 Recovery Plan and the 2016 Biological Opinion. 2016 BiOp at 106-107. The Service chose to use the proxy of October minnow densities because of the impracticality of finding and counting actual fish. Although the ESA allows use of a proxy, and the Recovery Plan uses a similar proxy measure, the Service has failed to explain its decision to limit take only until the density metric for survival is met, and to place no limits on take to help achieve the recovery goal. The Service fails to explain how allowing unlimited take of minnows once the survival metric is achieved does not preclude recovery, particularly when the recovery metric requires a higher minnow density over a 5-year period.

Second, the time frames associated with finding take has occurred, and triggering reconsultation (e.g. 2, 5, and 10 of 15 years), are arbitrary because they do not reflect the needs and biology of the minnow. The minnow has a 2-3 year lifespan. If the minnow population falls below 1.0 fish per 100 m² for two years, the population is all but extinct before reconsultation would be mandated. None of the minnow take criteria would trigger reconsultation in a timely enough manner to allow implementation of measures to protect species survival. Because the Service chose to limit take only until the survival metric is met, there is no buffer to protect the minnow from extinction in the event of multiple consecutive low flow/drought years.

Finally, when faced with violating the requirement that “October density is less than 0.3 fish per 100 m² for no more than 2 of the 15 years,” when the minnow densities in 2018 fell to 0.09 fish per 100 m², Reclamation simply blamed the hydrologic conditions on the river and asked for the Service to not count that years “take” against the incidental take in the 2016 Biological Opinion. Yet in 2018, Reclamation and the non-federal parties continued to execute the Proposed Action.

2. **Flycatcher Take.**

The Service chose to use a proxy of flycatcher territories for flycatcher take because of the impracticality of finding and counting flycatchers in dense riparian vegetation. 2016 BiOp at 107. The Service set a maximum allowable take of 26 flycatcher territories annually, and up to 385 territories over the 15-year term of the 2016 Biological Opinion. Id. But the annual take limit is based on the number of territories the Proposed Action will displace on an annual basis, rather than on a scientific assessment of the amount of annual habitat loss the Middle Rio Grande

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92 *Supra*, n.31 at 18.
flycatcher population can bear before its survival and recovery are threatened. The recovery goal for the flycatcher in Middle Rio Grande Management Unit is 100 territories. Although the Service reports that there were 400 flycatcher territories in the Project area in 2015, if Reclamation is allowed to take up to 385 territories before triggering the need to reinitiate consultation, the number of flycatcher territories in the Project area will fall to 15 territories, well below the recovery goal. Thus, the Service has allowed Reclamation to completely undermine flycatcher recovery in furtherance of its Proposed Action, thus jeopardizing flycatcher recovery in violation of the ESA.

3. Cuckoo Take.

Similar to flycatcher take, the Service chose to use a proxy of cuckoo territories for cuckoo take. 2016 BiOp at 108. The Service set a maximum allowable take of 11 cuckoo territories annually, and up to 172 territories over the 15-year term of the 2016 Biological Opinion. Id. But the Service does not explain how it derived these take limits, and has ignored the results of its own analysis presented earlier in the Biological Opinion. First, the Service’s statement that the Proposed Action “may result in the displacement of 11 cuckoo territories annually” contradicts the Service’s earlier statement in the impacts section of the 2016 Biological Opinion that the Proposed Action “could impact up to six [cuckoo] territories annually.” Compare id. at 108 with id. at 95. Second, the Service ignores its earlier finding that there were only 110 cuckoo territories in the Project Area in 2016, id. at 95, when it set a maximum take limit of 172 cuckoo territories over the 15-limit term of the Biological Opinion. Allowing take of more cuckoo territories than currently exist can hardly be considered “incidental”, given the lack of evidence that the number of cuckoo territories is increasing on an annual basis. Finally, an 11-territory annual take limit could result in destruction of the 110 existing territories in 10 years without triggering the requirement that the agencies reinitiate consultation. The discrepancies in these incidental take estimates suggest an attempt to develop take limits to accommodate the Proposed Action rather than basing take limits on the best available science. These arbitrary take limits jeopardize flycatcher survival and recovery in violation of the ESA.

VI. RECLAMATION’S LEGAL VIOLATIONS

Guardians hereby puts Reclamation on notice that it will promptly seek judicial relief if the agency fails to remedy its violations of the ESA and its implementing regulations as described below.

A. Reclamation Failed to Consult Over the Full Scope of Its Discretionary Authority Over All Aspects of Its Middle Rio Grande Water Management Actions.

In Reclamation’s Final Joint Biological Assessment of August 2015 (“2015 Biological Assessment”), Reclamation describes its water management actions with respect to native water that are the subject of the Section 7(a)(2) consultation with the Service. See 2015 Biological Assessment Part II at pp. II-1 (“Operate El Vado Dam and Reservoir to store and release water, including response to requests by the MRGCD and BIA.”); see also pp. II-8 – II-11 (details of El Vado Dam and Reservoir operations). It is clear that Reclamation failed to consult with the
Service on the full range of Reclamation’s discretionary authorities for water management actions in the Middle Rio Grande, including the agency’s discretion to manage water to promote survival and recovery of listed species, and the authority to reduce water deliveries to the Middle Rio Grande Conservancy District (MRGCD) for the benefit of listed species.

First, the discretionary authorities discussed in the preceding paragraph, which are omitted from the 2015 Biological Assessment and arbitrarily “cabined” into an unreasonably narrow subset of Reclamation’s discretionary authorities – were assessed by the Solicitor of the Department of the Interior in 2000, and the subject of the Solicitor’s memoranda of June 19, 2000 and July 6, 2000.93 In those memoranda, the Solicitor stated that Reclamation was required to engage in a Section 7(a)(2) consultation as to the operation of the facilities that MRGCD had transferred to Reclamation as part of the Middle Rio Grande Project, as well as subsequently constructed facilities. The Solicitor specifically determined that Reclamation has the discretionary authority – and the affirmative duty under the ESA – to bypass flows to MRGCD so that Reclamation can use that water for the benefit of the minnow and the flycatcher. The source of this discretionary authority is federal reclamation law and Reclamation’s contracts with MRGCD.

Subsequent decisions of the United States District Court for the District of New Mexico and the United States Tenth Circuit Court of Appeals confirmed that federal reclamation law and water delivery contracts confer on Reclamation the discretionary authority to operate dams and diversion structures on the Middle Rio Grande for the benefit of listed species, even if the exercise of this discretionary authority reduces flows to MRGCD. Rio Grande Silver Minnow v. Keys, 469 F.Supp.2d 973, 991-92 (D.N.M. 2002), Rio Grande Silvery Minnow v. Keyes, 333 F.3d 1109, 1129-31, 1138 (10th Cir. 2003). Although the Tenth Circuit subsequently vacated these decisions as moot in Rio Grande Silvery Minnow v. Keyes, 601 F.3d 1096, 1111-12 (10th Cir. 2010), because vacatur was based on grounds unrelated to the scope of Reclamation’s discretionary authority over water operations, the Tenth Circuit’s decision did not alter the nature and the extent of Reclamation’s discretionary authority with respect to the operation of dams and diversion structures in the Middle Rio Grande. See WildEarth Guardians v. U.S. Army Corps of Eng’rs, 947 F.3d 635, 641 n.4 (10th Cir. 2020) (affirming that “Reclamation retained discretion in managing water deliveries.”).

Second, Reclamation’s consultation with the Service did not include Reclamation’s discretionary authority and statutory duty to limit water deliveries to MRGCD to an amount that can be beneficially used. The exercise of this authority and duty is essential to the conservation and recovery of listed species, and to the integrity of their respective designated critical habitats. As with Reclamation’s authority to operate dams and diversion structures for the benefit of listed species, in the above-cited decisions both the New Mexico Federal District Court and the Tenth Circuit addressed and confirmed Reclamation’s authority to limit water deliveries to MRGCD to the amount that can be beneficially used. Rio Grande Silver Minnow v. Keys, 469 F.Supp.2d at 992, 994.

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93 Solicitor’s memoranda (June 19, 2000 & July 6, 2000). (Exhs. 28-29)
In light of Reclamation’s failure to consult with the Service on the full scope of Reclamation’s discretionary authorities in connection with Middle Rio Grande facilities, as described above, Reclamation is in violation of Section 7(a)(2) of the ESA.

B. **By Relying on a Legally Deficient Biological Opinion, Reclamation is Violating Sections 7 and 9 of the ESA.**

To the extent that Reclamation has taken—or is taking—any actions in furtherance of the water management actions analyzed in the unlawful 2016 BiOp, those actions violate the ESA. First, actions taken by action agencies violate Section 7(a)(2) of the ESA when the agency acts in reliance on a legally inadequate biological opinion such as the 2016 BiOp. See, e.g., *Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt.*, 698 F.3d 1101, 1127–28 (9th Cir. 2012) (“[A]n agency cannot meet its section 7 obligations by relying on a Biological Opinion that is legally flawed or by failing to discuss information that would undercut the opinion's conclusion.”); *Pyramid Lake Paiute Tribe v. U.S. Dep't of the Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990) (“A federal agency cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species; its decision to rely on a FWS (biological opinion must not have been arbitrary or capricious.”); *Fla. Key Deer v. Paulison*, 522 F.3d 1133, 1145 (11th Cir. 2008) (an agency’s reliance on an inadequate, incomplete, or flawed biological opinion cannot satisfy its duty to avoid the likelihood of jeopardy to listed species). Hence, any actions taken by Reclamation in furtherance of its Middle Rio Grande water operations analyzed in the 2016 BiOp violate Reclamation’s independent duty to ensure compliance with Section 7(a)(2) of the ESA in the absence of reinitiation of consultation and a new biological opinion at the end of that process.

Second, because the major deficiencies in the 2016 BiOp identified throughout this Notice require reinitiation of consultation pursuant to 16 U.S.C. § 1536(a)(2), “the 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 or implementation of any reasonable and prudent alternative measures.” 16 U.S.C. § 1536(d). Accordingly, until Reclamation and the Service reinitiate consultation, and the Service issues a new biological opinion that is legally valid, Reclamation cannot take any actions that would make it more difficult for the Service to impose reasonable measures at the conclusion of the reinitiated consultation process to minimize take of listed species, or else those Reclamation actions would violate Section 7(d) of the ESA.

Third, in light of the fact that there is no meaningful ITS in place in the 2016 BiOp that is supported by best available science, Reclamation does not have a legal authorization for silvery minnow, flycatcher, or cuckoo take in the absence of a new biological opinion that is scientifically and legally sound. As a result, any of Reclamation’s actions implementing water management actions analyzed in the 2016 BiOp violate Section 9 of the ESA by taking federally protected silvery minnow, flycatcher, and cuckoo without lawful authorization under a legally valid ITS issued by the Service. See 16 U.S.C. § 1536(o) (stating that “any taking that is in compliance with the terms and conditions specified in a written [ITS] shall not be considered to be a prohibited taking of the species concerned”).
VII. RECLAMATION AND THE SERVICE VIOLATED THE ESA WHEN THEY FAILED TO REINITIATE CONSULTATION OVER THE PROPOSED ACTION

As required by 50 C.F.R. § 402.16, the 2016 Biological Opinion provides that Reclamation and the Service must reinitiate consultation when: 1) the amount of take specified in the incidental take statement is exceeded, 2) new information reveals that the action may have effects not previously considered, 3) the action is modified in a way not previously considered, or 4) “[i]f a new species is listed or critical habitat designated that may be affected by the identified action.” Since completion of the consultation in 2016, the second and third triggers to reinitiating consultation have occurred. As discussed throughout this Notice, new information since 2016 shows that the Proposed Action’s effects to listed species may be of a magnitude greater than originally contemplated in the 2016 Biological Opinion and that the Proposed Action’s impacts to listed species are not being minimized or mitigated. Further, the Service recently designated critical habitat for the yellow-billed cuckoo, including over 45,000 acres upstream of Elephant Butte Reservoir identified as a core breeding area with the largest number of cuckoos north of Mexico. 86 Fed. Reg. 20,798, 20,863 (April 21, 2021).

First, as discussed above, the 2018 Status Review found that minnow populations have not improved, continue to boom and bust based on river flows, and are still well below species recovery goals. The new information listed below shows that the minnow continues to have high mortality and has not increased in abundance, productivity, or genetic diversity, contrary to expectation in the 2016 Biological Opinion. The new information also shows that the ITS threshold for the minnow has already been reached—the October density is less than 0.3 fish per 100 m² for no more than 2 of the 15 years—in 2018 (0.09 fish/100m²) and 2020 (0.23 fish/100m²). Thus, if this year falls below 0.3 then re-consultation is imminent and that it might already be too late for the survival and recovery of the fish in the wild. Reclamation and the Service must therefore reinitiate consultation to take into account the Proposed Action’s continued adverse effects to the species, perform a realistic assessment of whether the myriad number of adverse effects rise to the level of jeopardy to the species and adverse modification to critical habitat, and to craft Reasonable Prudent Alternatives and conservation measures that will mitigate short-term adverse effects to the minnow and promote both survival and recovery.


Second, the Hydrobiological Objectives (HBOs) used as the framework for evaluating the Project’s impacts to the minnow, developing metrics for minnow survival and recovery, and providing a surrogate for calculating incidental take of minnow were re-examined and peer-reviewed in 2017 and 2019 by panels of independent scientists who addressed major uncertainties related to the 2016 HBOs and the models used to derive them, and also provided recommendations for improving the efficacy of the HBOs. Given that the HBOs form the foundation of Reclamation’s and the Service’s impacts analysis of the Proposed Action and Incidental Take Statement, and peer reviews of the HBOs determined that they are not based on best available science, Reclamation and the Service must reinitiate consultation.

5) Phaedra Budy & Timothy E. Walsworth, Review of “Analytical framework for evaluating the proposed water management and maintenance actions on Rio Grande silvery minnow, southwestern willow flycatcher, and yellow-billed cuckoo and their critical habitats” with recommendations for future analytical considerations (Feb. 20, 2019). Prepared for U. S. Bureau of Reclamation. (Exh. 30)


7) Memorandum from Rich Valdez (SWCA) to Eric Gonzales (Bureau of Reclamation) regarding “Review of Parameters for Hydrobiological Objectives (HBO)” (Oct. 6, 2018). (Stating that minnow HBOs and recovery goals were developed using parameters for the Colorado Pikeminnow, a fish not directly analogous to the minnow, and recommending an external scientific peer review by population ecologists and geneticists of parameters used to derive HBOs). (Exh. 32)

Third, in its 5-Year review of the flycatcher (which post-dates the 2016 Biological Opinion), the Service discussed climate impacts to flycatchers and their critical habitat and concluded that “the impacts of the effects of climate change will be a significant threat to the flycatcher, its habitat, and recovery.” The Service determined the flycatcher population in the Middle Rio Grande as “the most vulnerable” to climate change impacts. A peer-reviewed scientific study also found the flycatcher to be extremely vulnerable to climate change. Given the lack of analysis of climate impacts to the flycatcher in the context of the Proposed Action, and new information about the flycatcher’s vulnerability to climate change, Reclamation and the Service must reinitiate consultation.


Fourth, even if the Service had considered climate change impacts in connection with the Proposed Action (which it did not), new information shows that drought conditions, and their effects on flow volumes and timing, are significantly worse than anticipated in the years leading up to the 2016 Biological Opinion. New information also shows that the Service wrote off low minnow population densities in 2018 as purportedly caused by climate change rather than the Proposed Action, a factor that the Service failed to properly account for in its analysis of Project impacts. Yet incidental take limits for the minnow are based on October fish densities over a multi-year period that do not envision excluding low-density years for any reason. There is no disclosure in the Biological Opinion that the Service reserved the prerogative to decide whether any given year’s minnow densities would be counted towards take, nor an explanation of how such subjective decisions would not cause jeopardy to the species or inhibit its recovery. Reclamation and the Service must reinitiate consultation in light of new information about climate impacts on the River and the Service’s subjective attribution of climate impacts to ignore plummeting minnow densities.


Fifth, in the 2016 Biological Opinion the Proposed Action’s effects on the flycatcher and incidental take were discussed in terms of the amount of flycatcher habitat that would be lost as a result of the Proposed Action compared to the amount of remaining habitat. But the 2017 Tiffany Fire destroyed 570 acres of flycatcher habitat, including high-quality habitat near the Low Flow Conveyance Channel in the Tiffany Reach. The destruction of this acreage nearly cancels out the 731 acres of habitat improvements proposed by Reclamation as a conservation measure and, thus, requires the Service and Reclamation to reconult to assess the Proposed Action’s impacts in light of this permanent habitat destruction.


Finally, the Service recently designated critical habitat for the cuckoo that includes a unit (Unit 37) in the Middle Rio Grande overlapping with the Proposed Action. 86 Fed. Reg. at 20,863. The Service determined that this habitat unit is “consistently occupied by the largest number of western yellow-billed cuckoos during the breeding season north of Mexico” and also “provides a movement corridor for western yellow-billed cuckoo.” *Id.* Reclamation retains “discretionary Federal involvement or control over the action” proposed in the 2016 BiOp and
can, therefore, take actions that benefit the newly-designated critical habitat for the cuckoo in the action area. *Cottonwood Envtl. Law Center v. USFS*, 789 F.3d 1075 (9th Cir. 2015) (citing 50 C.F.R. § 402.16). Thus, the Service and Reclamation must reconult to assess the Proposed Action’s impacts on this critical habitat unit.

Reclamation’s and the Service’s failure to reinitiate consultation to consider adverse effects to listed species not previously considered violates 50 C.F.R. § 402.16. It is important to note that “[w]hen reinitiation of consultation is required, the original biological opinion loses its validity, as does its accompanying incidental take statement, which then no longer shields the action agency from penalties for takings.” *Ctr. for Biological Diversity* 698 F.3d at 1108.

**VIII. STATE OF NEW MEXICO AND MRGCD’S VIOLATIONS OF SECTION 9 OF THE ESA**

**A. State of New Mexico.**

The State, through the Office of the State Engineer, has a statutory duty to supervise the waters of the state, including the measurement, appropriation and distribution thereof, as well as the apportionment of waters in the state according to licenses issued by him and his predecessors and the adjudication of the courts. See NMSA §§ 72-2-1 and 72-2-9. Similarly, through the authority of the Interstate Stream Commission, the State’s authority includes the investigation of water supply, and developing, conserving and protecting the waters and stream systems of the State. See NMSA § 72-14-3.

The State has and continues to authorize MRGCD to divert substantial amounts of water from the Rio Grande between March 1 and October 31 of each year despite never having issued a license to MRGCD to confirm its right to such diversions. MRGCD’s diversions deplete flows and dewater the river to a substantial degree having the effect of harming, harassing, wounding, and killing silvery minnows, willow flycatchers, and cuckoos. Such diversions cause significant modification and degradation of habitat resulting in death and injury of silvery minnows, willow flycatchers, and cuckoos by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering. See *Babbitt v. Sweet Home Chapter of Communities for a Greater Oregon*, 516 U.S. 687 (1995); *Palila v. Hawaii Dept. of Land & Natural Resources*, 649 F.Supp. 1070 (D. Haw. 1986, aff’d 852 F.2d 1106 (9th Cir. 1988); *The Aransas Project v. Shaw*, 930 F.Supp.2d 716, 726 (S.D. Texas 2013); 50 C.F.R. §17.3. The State’s authorization of diversions that reduce or eliminate flows in the Rio Grande and its failure to act to ensure maintenance of critical habitat to support silvery minnow willow flycatchers, and cuckoos has and will continue to cause “take” of the listed species in violation of Section 9 of the ESA.

In addition, the State has and continues to authorize activities that create depletions to the Rio Grande that harm listed species and adversely modify their critical habitats, including but not limited to the transfer of water from irrigation to non-irrigation purposes; water transfers from downstream to new upstream locations; and transfer approvals without imposing necessary “dry up covenants” on the transfer-from location. Such transfers deprive the river of flows between the transfer-from and transfer-to locations as well as increase depletions to the system. The State’s policies regarding water transfers fail to ensure that no net increase in depletions occur to
the Rio Grande, having the effect of reducing flows in the river significantly modifying habitat necessary to maintain essential behavioral patterns, including breeding, feeding, and sheltering. Accordingly, the State’s act of approving water transfers and its failure to act to prevent net increases in depletions or impacts in transfer reach has and will continue to cause “take” of the listed species and adverse modification of their critical habitats in violation of Section 9 of the ESA.

Further, the State refuses to order shutdown of MRGCD’s illegitimate Water Bank that causes additional diversions and depletions from the Rio Grande. In 1997, the State asserted in a letter to MRGCD that it would not approve operation of the Water Bank until MRGCD submitted “proof of beneficial use” (PBU”) of its water rights to the State. The State’s authorization is necessary to prove that operation of the Water Bank will not create new depletions to the river. The original PBU was due to the State on August 20, 1935; MRGCD has continued to thwart its responsibility to provide PBU to the State for nearly 90 years. Despite the fact that MRGCD has still not provided such evidence to the State, the State continues to be unwilling to shut down the Water Bank until submission and approval of the PBU. Such actions and failures to act by the State continue to “harm” listed species in violation of the “take” provision in section 9 of the ESA.

B. MRGCD.

From March 1 to October 31 of each year, MRGCD diverts a substantial amount of water from the Rio Grande at four separate diversion structures (Cochiti, Angostura, Isleta and San Acacia dams) to irrigate lands within the District. MRGCD’s diversions of water from the Rio Grande deplete flows and dewater the river to a significant extent, having the effect of harming, harassing, wounding, and killing silvery minnows, willow flycatchers, and cuckoos. Such diversions cause significant habitat modification and degradation resulting in actual death and injury of silvery minnow, willow flycatcher, and cuckoo by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering. See Babbitt, 516 U.S. 687; Palila, 649 F.Sup. 1070; Aransas Project, 930 F.Sup.2d at 726; 50 C.F.R. §17.3. Such reduction or elimination of flows in the Rio Grande have caused and will continue to cause “take” of the listed species in violation of Section 9 of the ESA.

In addition, MRGCD has caused and continues to cause “take” of the silvery minnow through physical “entrapment” in irrigation diversion facilities and conveyance facilities, which MRGCD operates and controls in the Middle Rio Grande valley. Through such entrapment, silvery minnows are caught or captured within the diversions, canals, or other conveyance systems; their essential behavioral patterns, including breeding, feeding, and sheltering, are disrupted or impaired; and individuals of the species are harassed, harmed, injured and/or killed. Accordingly, entrapment of the silvery minnow further represents “take” of the listed species, in violation of ESA section 9 and its implementing regulations. 16 U.S.C. § 1538(a); 50 C.F.R. § 17.3; see also Babbitt, 515 U.S. 687; U.S. v. Glenn-Colusa Irrig. Dist., 788 F. Supp. 1126 (E.D. Cal. 1992).

MRGCD has also caused and continues to cause “take” of silvery minnow through its operation and control of irrigation diversion structures, including but not limited to the San...
Acacia and Isleta diversion dams. These diversion dams cause harm to the silvery minnow, including by blocking the ability of the minnow to move upstream past these facilities, and thereby occupy or reoccupy habitat critical for breeding, feeding, sheltering, reproduction, and survival. The dams have no fish passage facilities, despite the fact that both agency and scientific studies have documented the importance of upstream movement to successful reproduction of silvery minnow and habitat reoccupation and that the reasonable and prudent alternative for the 2003 Biological Opinion required such fish passage to be in place for both facilities by 2013. The impacts of these dams thus have caused, and will continue to cause, “take” of silvery minnow in violation of ESA Section 9.

Further, MRGCD has caused and continues to cause “take” of the silvery minnow, willow flycatcher, and cuckoo by undertaking a number of activities that have the effect of increasing the net depletions in the Middle Rio Grande, including but not limited to: operation of the Water Bank; transferring water for non-irrigation purposes both inside and outside of the District; inefficient use and distribution of water throughout the District; storage of water in upstream reservoirs, diversion of water through its irrigation system to meet delivery obligations under the Rio Grande Compact; and release of upstream storage in November and December of each year to satisfy the Rio Grande Compact obligation despite the lack of environmental benefit to the species and failure to use that water at a time that enhances endangered species and environmental benefits. The impacts of such depletions of water from the Rio Grande will result in harm to the silvery minnow, willow flycatcher, and cuckoo and thereby result in “take” of the species as that word is used for purposes of the ESA.

C. The State’s and MRGCD’s Water-Related Actions in the Middle Rio Grande are Subject to Liability under Section 9 of the ESA.

Neither the State nor MRGCD currently have any incidental take coverage that would exempt them from the “take” prohibition of Section 9 of the ESA. As non-federal parties associated with the 2016 Biological Opinion, these entities could receive umbrella take coverage under that Opinion if it is legally valid. For the reasons explained throughout this Notice, the 2016 Biological Opinion is not legally valid. The State and MRGCD are not authorized to “take” any members of the listed species under an existing valid ITS or ITP issued by the Service. Therefore, any “take” resulting from the State’s action or failure to act to authorize, distribute and regulate water management activities within the State of New Mexico, or MRGCD’s water management activities, will subject both parties to liability under Section 9 of the ESA.

Because there is no meaningful ITS in place in the 2016 BiOp for the reasons discussed above, the State and MRGCD do not have legal authorization to take silvery minnows, willow flycatchers, or cuckoos in the absence of a new biological opinion and ITS that are scientifically and legally sound. As a result, any actions taken by the State or MRGCD—including, but not limited to, the MRGCD’s operation of diversion dams and water diversions, operation of drains and wasteways to redivert water for irrigation, and storage and release of water in El Vado; and/or the State of New Mexico’s Rio Grande Compact related activities, administration of surface and groundwater, issuance of permits for uses as required by law (see 2016 BiOp at 17)—in the meantime to implement water actions analyzed in the 2016 BiOp violate Section 9 of the ESA by taking federally-protected species without lawful authorization under a legally valid
ITS issued by the Service. See 16 U.S.C. § 1536(o) (stating that “any taking that is in compliance with the terms and conditions specified in a written [ITS] shall not be considered to be a prohibited taking on the species concerned.”).

IX. CONTACT INFORMATION OF THE NOTICING PARTY

The name, address, and telephone number of the party giving this notice is as follows:

Samantha Ruscavage Barz
WildEarth Guardians
301 N. Guadalupe Street, Suite 201
Santa Fe, NM 87501
sruscavagebarz@wildearthguardians.org
505-401-4180

X. CONCLUSION

One of the purposes of the ESA citizen suit provision, 16 U.S.C. § 1540(g), is to encourage discussions among parties to avoid potential litigation. This is precisely Guardians’ intent in providing this notice. We encourage Reclamation, the Service, the State of New Mexico, and the Middle Rio Grande Conservancy District to seriously consider the concerns detailed in this notice and ask that the agencies discuss the steps that they may take going forward to remedy these legal violations. We would like to continue our ongoing dialogue with Reclamation and others with the hope that this notice can catalyze swift action to not only avert the crises that the species are potentially facing this summer but also to ensure firm new commitments to mandatory conservation actions for the species are made for the future.

We prefer to avoid litigation if possible. However, if the aforementioned violations of the ESA are not remedied within 60 days of the date of this letter or the agencies have not initiated discussions with Guardians regarding other potential remedies, we intend to file a citizen suit seeking preliminary and permanent injunctive relief, as well as attorneys’ fees and costs.

If you believe that any of the above information is incorrect, have any additional information that might help avoid litigation, or wish to discuss this matter further, please feel free to contact the undersigned individuals. Our contact information is listed below.

Sincerely,

Samantha Ruscavage Barz
Legal Director
WildEarth Guardians
Counsel for WildEarth Guardians

Cc: Attorney General Hector Balderas

Enc: Flash drive with all exhibits
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