

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO**

WILDEARTH GUARDIANS,)	
)	
Plaintiff,)	Case No. 1:22-cv-914
)	
v.)	
)	
UNITED STATES FISH AND WILDLIFE)	PETITION FOR REVIEW
SERVICE, UNITED STATES BUREAU OF)	OF AGENCY ACTION
RECLAMATION,)	
)	
Defendants.)	
_____)	

INTRODUCTION

1. The Rio Grande is an artery of life in the arid 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.

2. 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.

3. In the Middle Rio Grande valley—roughly 174 miles from Cochiti Dam to Elephant Butte Reservoir—the Rio Grande silvery minnow is the only species of pelagic spawning fish that remains after human modifications to the Rio Grande’s character over the last century caused other species of pelagic spawning fish to go extinct. Like its close relatives, the Rio Grande silvery minnow evolved with the dynamic and perennials 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.

4. Dams, unsustainable water diversions, flow regulation, and efforts to tame the Rio Grande'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 Endangered Species Act (ESA) for 25 years, a century of unsustainable water uses and mismanagement of the Rio Grande (as a conduit rather than a living river) continue to perpetuate conditions that barely allow the silvery minnow and other imperiled species including the ESA-listed Southwestern willow flycatcher and yellow-billed cuckoo to survive, let alone thrive.

5. 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 Middle Rio Grande. More specifically, all of these listed species are negatively affected by continued surface water diversions and inadequate mitigation measures by the U.S. Bureau of Reclamation (Reclamation) that have dramatically reduced the flows of the Rio Grande. To address these impacts, the U.S. Fish and Wildlife Service (the Service) undertook formal consultation with Reclamation pursuant to the ESA and issued a Biological Opinion in 2016.

6. Even though Reclamation and the Service acknowledge that Reclamation's Middle Rio Grande water operations would adversely affect listed species and their habitats in multiple ways, the Biological Opinion concludes that Reclamation's activities are not likely to jeopardize any endangered species or destroy or adversely modify their critical habitats.

7. This conclusion is arbitrary, ignores the factors that Congress directed the Service to consider, and is contrary to the ESA. In particular, the Service's no-jeopardy decision rests

entirely on implementation of a series of vague, uncertain, and unenforceable conservation measures; fails to consider the additive climate change impacts to the impacts of Reclamation's water operations; fails to account for recovery of listed species; and provides scientifically inadequate incidental take statements to protect listed species that lack meaningful triggers for reinitiating consultation. For these reasons, WildEarth Guardians seeks to set aside the 2016 Biological Opinion as invalid under the ESA and Administrative Procedure Act (APA). 16 U.S.C. § 1536(b)(3), 5 U.S.C. § 706(2).

8. WildEarth Guardians also challenges Reclamation's reliance on the invalid Biological Opinion as violating its ESA duties to (1) ensure that its water operations are not jeopardizing listed species or modifying their critical habitats, and (2) not make any irreversible and irretrievable commitments of resources that would foreclose reasonable and prudent alternative measures to avoid such jeopardy and adverse habitat modification. Finally, WildEarth Guardians challenges the failure of Reclamation and the Service to reinitiate consultation, in violation of the ESA. 16 U.S.C. §§ 1536, 1538.

JURISDICTION AND VENUE

9. This Court has jurisdiction over this action pursuant to 28 U.S.C. § 1331 (federal question jurisdiction), 28 U.S.C. § 2201 (declaratory judgment), 28 U.S.C. § 2202 (injunctive relief), and 16 U.S.C. § 1540(g) (ESA citizens' suit). Guardians' claims arise under the judicial review provision of the APA, 5 U.S.C. §§ 701-706, and the citizen suit provision of the ESA, 16 U.S.C. § 1540(g). As required by the ESA, 16 U.S.C. § 1540(g), Guardians has provided 60 days' notice of intent to sue before bringing this action. This Court has jurisdiction to grant Guardians' attorneys' fees and costs pursuant to the Equal Access to Justice Act, 28 U.S.C. § 2412, and the ESA citizen suit provision, 16 U.S.C. § 1540(g).

10. Venue is properly vested in this Court pursuant to 16 U.S.C. § 1540(g)(3)(A), as all or part of the ESA violations alleged in this Petition occurred in the District of New Mexico. Venue is also properly vested in this Court pursuant to 28 U.S.C. § 1391(e), as a substantial part of the events and omissions giving rise to the claims occurred in this judicial district. Guardians is headquartered in New Mexico.

PARTIES

11. Plaintiff WILDEARTH GUARDIANS is a non-profit environmental advocacy and conservation organization headquartered in Santa Fe, New Mexico. Guardians has more than 197,000 members and activists. Many of these members and activists reside in New Mexico. Guardians and its members are dedicated to protecting and restoring the wildlife, wild places, wild rivers, and health of the American West.

12. One of Guardians' main endeavors is its "Wild Rivers Program." A specific purpose of this program is to work towards the enhancement and restoration of riverine ecosystems, with a particular focus on the Rio Grande. Amongst other concerns, Guardians and its members are concerned about impairment of rivers like the Rio Grande due to water management activities, point and nonpoint source pollution, and physical modification of river ecosystems through channelization and the construction of levees. Guardians works through administrative appeals, litigation, public outreach, and other efforts to assure that all federal agencies fully comply with the provisions of all pertinent federal environmental laws relevant to river operations and management, including the ESA, to protect riverine and floodplain habitats, and their dependent fish and wildlife species.

13. For the past 20 years, the focus of Guardians' Wild Rivers Program has been its campaign to protect and restore the Rio Grande. This campaign accomplishes its goals by

working to, among other things, restore and ensure dynamic flows to the Rio Grande; promote dam removal or modification; remove other obstacles to river flows; and ensure that federal government management policies promote a healthy, ecologically functional Rio Grande that supports diverse native species.

14. Over the past two decades, Guardians has participated extensively in agency proceedings and other matters relating to the Rio Grande ecosystem broadly, and advocated for the survival and recovery of the Rio Grande silvery minnow, Southwestern willow flycatcher, and yellow-billed cuckoo specifically. Guardians has reviewed and commented on numerous documents that address the silvery minnow or its habitat, and frequently talked to U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, and other Federal agency personnel concerning the effects of various Federal actions on the silvery minnow. Guardians has also commented on federal agency projects, recovery plans, and critical habitat rules for both the Southwestern willow flycatcher and yellow-billed cuckoo and highlighted the strengths and weaknesses of these plans to its members and in the media. For more than 20 years, in the case of the flycatcher, Guardians been an outspoken advocate for protecting the cottonwood/willow habitats along the Rio Grande for the importance not only to the survival and recovery of this critically endangered species, but also because of the importance of these habitats to so many species of plants and animals.

15. Guardians and its members have deep and long-standing interests in the survival and recovery of the silvery minnow, Southwestern willow flycatcher, and yellow-billed cuckoo, which interests are directly harmed by Defendants' actions and inactions challenged herein. Guardians and its members use and enjoy the Rio Grande, including the Middle Rio Grande, its tributaries, and adjoining public lands in New Mexico for recreational, scientific, aesthetic,

professional, and other purposes. Guardians and its members derive recreational, scientific, aesthetic, and professional benefits from the existence of the Rio Grande silvery minnow, Southwestern willow flycatcher, and yellow-billed cuckoo in the wild through observation, study, photography, and other pursuits. Guardians' members will continue to use the Rio Grande, including the Middle Rio Grande, its tributaries, and adjoining lands in 2023 and beyond for these purposes. These purposes will continue to be harmed if portions of the river continue to dry, and populations of silvery minnow, Southwestern willow flycatcher, and yellow-billed cuckoo remain at dangerously low numbers due to the effects of the Middle Rio Grande Project's operations and the Service's failure to address these impacts with robust measures for species survival and recovery.

16. The above-described aesthetic, conservation, recreational, scientific, professional and other interests of Guardians and its members have been, are being, and, unless the relief prayed for is granted, will continue to be adversely affected and irreparably injured by the failure of the Federal Defendants to comply with their mandatory duties under the ESA. Guardians brings this action on behalf of itself and on behalf of its injured members.

17. Defendant U.S. FISH AND WILDLIFE SERVICE (Service) is an agency of the United States. The Service's responsibilities include administration of the ESA for terrestrial species that include the Rio Grande silvery minnow, Southwestern willow flycatcher, and yellow-billed cuckoo. As part of its statutory duty to administer the ESA for terrestrial species, the Service has a mandatory duty to prepare biological opinions that fully comply with relevant laws and regulations.

18. Defendant UNITED STATES BUREAU OF RECLAMATION (Reclamation) is an agency of the United States within the Department of the Interior. Reclamation owns a portion

of the physical infrastructure of the Middle Rio Grande Project, including but not limited to El Vado Dam, from which it releases water for diversion and delivery onto the irrigated lands lying within the Middle Rio Grande Conservancy District (MRGCD). Reclamation performs discretionary river and infrastructure maintenance activities in the Middle Rio Grande and maintains discretionary control and management authority over the use of water rights and physical facilities, and has a mandatory obligation to assure that its maintenance activities, as well as the use of water rights and physical facilities complies in all respects with the mandatory requirements of the ESA.

LEGAL BACKGROUND

I. The Endangered Species Act

19. The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). The expressed purpose of the ESA is “to provide a program for the conservation [of] endangered species and threatened species” and “to provide a means whereby the ecosystems upon which [such] species depend may be conserved.” 16 U.S.C. § 1531(b). Congress enacted the ESA to achieve two purposes: to provide for the protection of imperiled species to prevent their extinction, and to facilitate recovery of those species so that they no longer need the protections provided by the ESA.

20. To achieve its twin objectives of survival and recovery, the ESA directs the Service to list a species as “endangered” if “it is in danger of extinction throughout all or a significant portion of its range,” or must list a species as “threatened” if “it is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” 16 U.S.C. §§ 1532(6) & (20). Concurrently with listing, the Service must designate

“critical habitat,” which is defined as those areas “essential to the conservation of the species.” 16 U.S.C §§ 1533(a)(3); 1532(5)(A) & (B).

21. Pursuant to the ESA, the Service has the duty to list imperiled species as threatened or endangered solely on the basis of biological criteria without regard to the economic impact of listing. 16 U.S.C. § 1533(c).

A. ESA Section 7 Consultation

22. Pursuant to Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), federal agencies have a mandatory, substantive duty to “insure that any action . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of the species’ designated critical habitat.

23. “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.” 50 C.F.R. § 402.02.¹

24. To ensure that federal agencies comply with their substantive Section 7(a)(2) duty to insure against jeopardy or adverse modification of designated critical habitat, Section 7(a)(2) of the ESA mandates a “formal consultation” process which requires all federal agencies to consult with the Service as to those projects that may adversely affect a listed species or may adversely modify designated critical habitat. 16 U.S.C. § 1536(a)(2).

¹ On October 28, 2019, new ESA regulations went into effect. *See* 84 Fed. Reg. 44,976, 44,976–78, 44,988 (Aug. 27, 2019); 84 Fed. Reg. 50,333 (Sept. 25, 2019) (delaying effective date until Oct. 28, 2019). The new regulations, however, were prospective and do not apply to previous consultations under ESA section 7(a)(2). *Id.* at 44,976. Because the Service issued the BiOp for Middle Rio Grande water operations in 2016, the previous version of the regulations applies in this case.

25. The first step in the Section 7(a)(2) formal consultation process is a written request for the initiation of formal consultation from the action agency to the Service. 16 U.S.C. § 1536(c), 50 C.F.R. § 402.14(c). The phrase “action agency” refers to the federal agency that proposes to implement or provide funding for a project that may adversely affect listed species. This written request includes submission of a Biological Assessment (BA) prepared by the action agency identifying the action which it proposes to implement and assesses the expected impact of the proposed action on listed species and their designated critical habitats. 16 U.S.C. § 1536(c), 50 C.F.R. §§ 402.12, 402.14.

26. The formal Section 7(a)(2) consultation process, including the Service’s analysis of jeopardy to species and adverse modification to designated critical habitat, concludes with the Service’s issuance of a Biological Opinion (BiOp). 16 U.S.C. § 1536(b)(3)(A). A BiOp provides certain required information including (1) a summary of the information on which the BiOp is based; (2) a detailed discussion of the environmental baseline of the listed species and critical habitat; (3) a detailed discussion of the effects of the action on listed species or critical habitat; and (4) the Service’s opinion as to whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(h)(1)(i)-(iv).

27. In undertaking its Section 7(a)(2) jeopardy and critical habitat analyses during the course of preparing a BiOp, the Service must consider how a proposed action affects a species’ prospects for recovery, as well as its prospects for survival. A species’ prospects for recovery are adversely affected when an action’s impacts reduce the reproduction, numbers, and/or distribution of the species. 50 C.F.R. § 402.02.

28. Throughout the Section 7(a)(2) formal consultation process – including the development of both the BA and the BiOp – the action agency and the Service must utilize the “best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2), 50 C.F.R. §§ 402.14(f), 402.14(g)(8).

29. In the BiOp that it issues at the conclusion of a formal consultation process, the Service determines whether a proposed agency action comports with the action agency’s Section 7(a)(2) substantive duties. If the Service finds that a proposed agency action will jeopardize a listed species or adversely modify its designated critical habitat, the Service formulates a “Reasonable and Prudent Alternative” (RPA) which avoids that effect.

30. If the Service issues a BiOp that does not adequately evaluate the effects of the action and cumulative effects on listed species and critical habitat—considering both survival and recovery—then the Service’s “opinion on whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat” is fatally flawed. *See* 50 C.F.R. § 402.14(h)(3).

31. When a BiOp’s “no-jeopardy” or “no-adverse modification” conclusion is based in whole or in part on mitigation measures, those measures must be reasonably specific, certain to occur, and capable of implementation. *Sierra Club v. Marsh*, 816 F.2d 1376 (9th Cir.1987). The proposed mitigation measures must also be subject to deadlines or other enforceable obligations, and must address threats to the listed species so as to satisfy the jeopardy and adverse modification standards set forth in the ESA. Regardless of the conclusion the Service reached in the BiOp, the action agency has an independent duty to meet its substantive section 7 obligation to ensure its actions are not likely to jeopardize listed species or result in the destruction or adverse modification of designated critical habitat. 16 U.S.C. § 1536(a)(2); 50

C.F.R. § 402.16 (requiring re-consultation under certain circumstances and where agency maintains discretionary involvement over the action).

32. 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).

33. An agency’s consultation duties do not end with the issuance of a BiOp. Re-initiation of consultation on an action that was already approved and subject to a Section 7(a)(2) consultation is required under a number of circumstances including 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; 16 U.S.C. § 1536(a)(2).

34. During the course of the Section 7(a)(2) formal consultation process, an action agency action is prohibited by Section 7(d) of the ESA from taking any action that would result in irreversible and irretrievable effects to listed species. 16 U.S.C. § 1536(d).

B. ESA Section 9 Take Prohibition

35. Section 9 of the ESA prohibits any person, including any federal agency, from “taking” an endangered species. 16 U.S.C. § 1538(a)(1). 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.

36. 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), (o).

37. An ITS sets forth the amount of incidental take that is permitted for the proposed action, and that is therefore exempt from the take prohibition of Section 9. *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). Any take above the amount specified in the ITS constitutes a violation of Section 9.

38. The Service incorporates an ITS into the BiOp if it finds that implementation of the action that is the subject of a BiOp will result in the “incidental take” of individuals of a listed species. 16 U.S.C. § 1536(b)(4).

39. 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 undertaking or authorizing such activities, 16 U.S.C. § 1538(g), may be subject to federal enforcement actions, as well as civil actions by citizens for declaratory and injunctive relief. *See* 16 U.S.C. § 1540.

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II. The Administrative Procedure Act

40. The APA provides a right to judicial review for any “person suffering legal wrong because of agency action.” 5 U.S.C. § 702. Actions that are reviewable under the APA include final agency actions “for which there is no other adequate remedy in a court.” *Id.*

41. Under the APA, a reviewing court shall “hold unlawful and set aside agency action . . . found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A).

42. A biological opinion produced through Section 7 formal consultation is a final agency action subject to judicial review under the arbitrary and capricious standard. *See Rio Grande Silvery Minnow v. Bureau of Reclamation*, 601 F.3d 1096, 1105-06 n.3 (2010).

FACTUAL BACKGROUND

I. Reclamation’s Middle Rio Grande Water Management

A. The Middle Rio Grande Project.

43. Significant federal involvement and control over the Middle Rio Grande and its principal tributary, the Rio Chama, traces back to the 1940s when Congress authorized the Middle Rio Grande Project.

44. The Middle Rio Grande Project, as authorized by the 1948 and 1950 Flood Control Acts, is a federal reclamation project under which Reclamation assumed ownership, control, and authority over all assets and operations of MRGCD at a time when MRGCD was essentially bankrupt and seeking federal assistance. At the time, MRGCD’s assets and operations consisted of water rights; El Vado Dam and Reservoir; four permanent diversions dams; two river canal headings; a canal siphon across the Rio Grande; several hundred miles of irrigation canals,

laterals, and drains; 180 miles of riverside levees; and jetties and other flood control works. A map of the Middle Rio Grande Project is shown below..

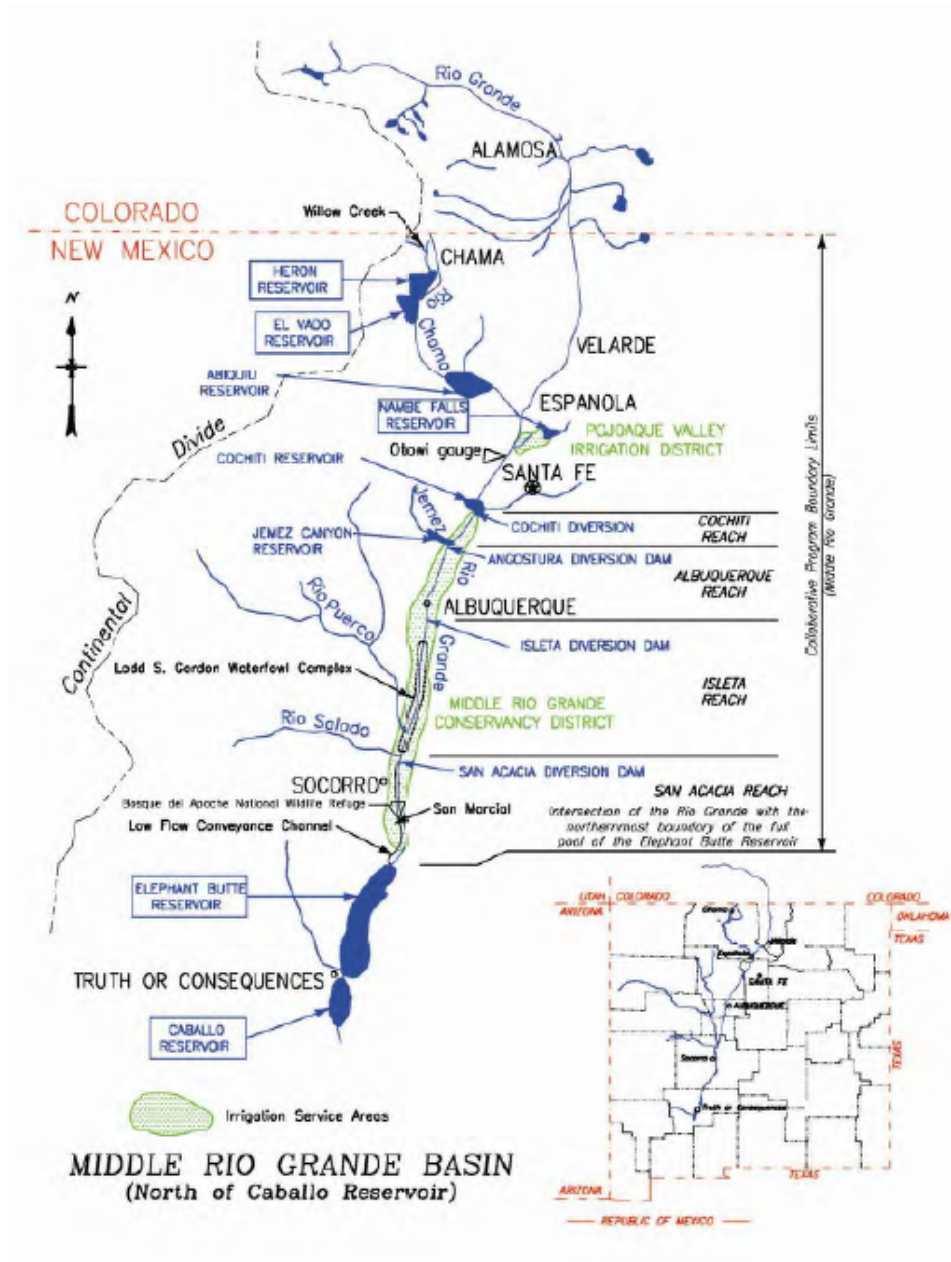


Figure 1. Map of the Rio Grande Basin – major Federal water project facilities.

Source: Bureau of Reclamation, *Joint Biological Assessment: Bureau of Reclamation and Non-Federal Water Management and Maintenance Activities on the Middle Rio Grande, New Mexico* (July 2012, Amended January 2013) at 16.

45. The respective rights, duties, and obligations of Reclamation and MRGCD with respect to the water and physical facilities of the Middle Rio Grande Project are spelled out in federal reclamation law statutes and in various legal documents, including the Repayment Contract of September 24, 1951 executed by Reclamation and MRGCD and the Transfer and Assignment of Water Rights of May 28, 1963 executed by MRGCD.

46. The 1951 Repayment Contract between Reclamation and MRGCD provides, *inter alia*, that all MRGCD's property interests—including diversion dams, irrigation and drainage canals, and storage facilities—were conveyed to Reclamation and would remain under Reclamation ownership and control until such time as MRGCD paid off that portion of the cost of the project allocated and Congress acts to retransfer property back to MRGCD.

47. The 1951 contract further provides that “any and all [water right] filings made in the name of the District [MRGCD]” are “to be assigned to the United States for beneficial use in the project and for Indian lands in the project area.”

48. In 1963, MRGCD executed a Transfer and Assignment of Water Rights in which it stated that it “does grant and convey to the United States” all the surface water rights that it had acquired in the Middle Rio Grande pursuant to New Mexico law.

49. Also pursuant to the 1951 contract, Reclamation assumed operation and maintenance of all MRGCD facilities. In the 1970s, Reclamation permitted MRGCD to assume operation and maintenance of the irrigation facilities associated with the Middle Rio Grande Project as the United States' agent, other than El Vado Reservoir. Although MRGCD has assumed operation and management of most irrigation facilities associated with the project, the 1951 contract makes clear that it does so as the “agent” of Reclamation and must implement Reclamation's instructions.

50. The legal relationship between Reclamation and MRGCD was specifically addressed by Reclamation in a letter of July 6, 2000 to Mr. Subhas Shah, Chief Executive Office of MRGCD. In that letter, Mr. Michael Galbadon, Reclamation Area Manager, writes that “[a]s an agent of the United States operating Federal facilities, [MRGCD] is required to operate all transferred works in compliance with Federal law including the ESA” and “in a way that Pueblo water rights are not adversely affected.”

B. Reclamation’s Discretionary Authority Over Middle Rio Grande Water Management and Operations.

51. Reclamation retains significant discretionary authority and control over all aspects of water operations in connection with the Middle Rio Grande Project – including bypass, storage, release, and diversion. These discretionary authorities stem from Reclamation’s development of the Middle Rio Grande Project, and are based in federal reclamation law and the 1951 repayment contract between Reclamation and MRGCD.

52. Subject to constraints imposed by the Rio Grande Compact and the United States’ obligations to the six Indian Pueblos in the Middle Rio Grande,² Reclamation’s discretionary authorities over water operations in the Middle Rio Grande include the authority to bypass, to store, and/or to release water at El Vado Dam. The Section 7(a)(2) consultation between Reclamation and the Service did not address the discretionary authorities to adjust operations.

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² None of Guardians’ claims raised in this case challenge Pueblo water diversions or the Pueblos’ use of water. This is consistent with the Service’s acknowledgement on p. 16 of 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.”

II. Listed Species in the Middle Rio Grande

A. Rio Grande Silvery Minnow (*Hybognathus amarus*).

1. General Description and Habitat.

53. The Rio Grande silvery minnow is a small, relatively heavy-bodied minnow, with small eyes and a small, slightly oblique mouth. Adults reach about 3.5 inches in length. The back, sides, and abdomen of the minnow are silver with a green dorsal stripe. The silvery minnow is pictured here.³



54. Preferred habitat for the silvery minnow includes stream margins, side channels, and off-channel pools where water velocities are low or reduced from main channel velocities. Within this habitat, silvery minnows are found in sandy bottom areas with aquatic vegetation and instream debris. The silvery minnow does not tend to occupy stream reaches characterized by straight and narrow channels with rapid flows.

55. The silvery minnow was historically one of the most abundant and widespread aquatic species in the entire Rio Grande, occurring from Espanola, New Mexico, downstream nearly 1,000 miles to the Gulf of Mexico. The silvery minnow also occurred in much of the Pecos River. The silvery minnow has been extirpated from more than 95% of its historical range

³ Photo credit: Aimee Robetson (U.S. Fish & Wildlife Service)

and today only occupies a 174-mile stretch of the Middle Rio Grande from Cochiti Dam in Sandoval County to the headwaters of the Elephant Butte Reservoir in Socorro County.

56. This 174-mile stretch is fragmented by the four diversion dam structures associated with the Middle Rio Grande Project: the Cochiti, Angostura, Isleta, and San Acacia diversion dams. These structures constitute physical barriers to the upstream passage of silvery minnows.

57. Silvery minnow spawning is triggered by and corresponds with high or peak spring flows in the Middle Rio Grande that historically occurred between March and June as a result of snow melt runoff. Once spawning occurs, the associated peak flows carry the semi-buoyant eggs downstream and the young rear in broad sandy-bottomed reaches of the river.

58. Under natural conditions, some newly hatched fish swim upstream and rear in habitats upstream of the locations where they hatched. However, because diversion dams associated with the Middle Rio Grande Project prevent the species from migrating back upstream once the eggs are hatched downstream, approximately 70% of the entire population of Rio Grande silvery minnow currently exists below the San Acacia Diversion Dam (the furthest downstream of the four diversion dams) in a 58-mile stretch of the Middle Rio Grande.

59. The Service listed the Rio Grande silvery minnow as an endangered species under the ESA in 1994 and designated a 157-mile reach of the Middle Rio Grande as critical habitat in 1999. 59 Fed. Reg. 36,988 (July 20, 1994); 64 Fed. Reg. 36,274 (July 6, 1999). The initial rule designating critical habitat for the silvery minnow was vacated by court order in 2000, and the Service issued a new rule re-designating critical habitat on February 19, 2003. 68 Fed. Reg. 8,088.

60. The Service listed the silvery minnow as endangered due to reductions in stream flow, dewatering of extended lengths of the river channel as a result of diverting river flow for agricultural purposes, alteration of the natural hydrograph by dams and other artificial features, and stream channelization. 59 Fed. Reg. at 36,988. Construction and operation of various irrigation diversion, flood control, and water storage dams along the Rio Grande have modified the river to the extent that during low-flow years it is possible to divert all of the river channel flow into irrigation ditches. *Id.* at 36,993.

2. Ongoing Threats to the Silvery Minnow.

61. 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 26 years—in 1995, 2005, and 2017.⁴

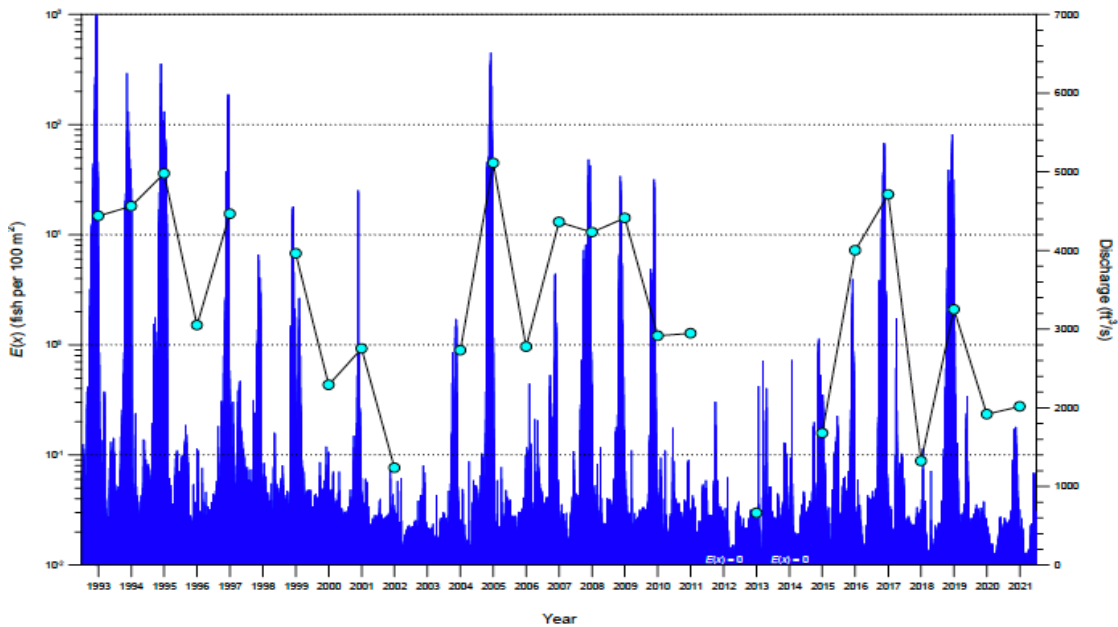


Figure 8. Rio Grande Silvery Minnow densities (estimated using October sampling-site data), and mean daily discharge data from the Albuquerque Gage (1993-01-01 to 2021-12-31), across years. Sampling did not occur in 1998, and density could not be estimated for 2003. Additional sites were excluded, and dry sites were included.

⁴ Figure is from Robert K. Dudley, Steven P. Platania & Gary C. White, *Rio Grande Silvery Minnow Population Monitoring During 2021* (May 19, 2022) at 18.

62. In the Service's 2010 Recovery Plan for the silvery minnow, the agency set as the recovery goal a density of at least 5 fish per 100 m² for five consecutive years in all reaches. In the past 24 years of monitoring, this minnow density has only been met in two consecutive years twice. For over half of the 24-year monitoring period, annual minnow densities were below 5 fish per 100 m², and minnow densities were extremely low—at or below 1 fish per 100 m²—for four consecutive years from 2000 to 2004 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 metric of 5 fish per 100 m². In October 2020 and October 2021, minnow densities again collapsed to 0.23 and 0.27 fish per 100 m², respectively. By October 2022, population densities declined even further to 0.17 fish per 100 m².

63. During the four years preceding issuance of the 2016 Biological Opinion (2012-2015), silvery minnow population densities fell and remained at or near zero for that nearly five-year period. It was not until late 2016, right before the Service issued its Biological Opinion, that the population improved to 7.2 fish per 100 m². The 2016 minnow density was still well below the density when the species was listed 1994 (18.16 fish per 100m²), but meeting the recovery goal level (5 fish per 100 m²) for the first time in seven years.

64. In the Service's 2016 Biological Opinion, the agency 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."

65. 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. 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.” 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.

66. 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. 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.”

67. Also according to the Service’s 2016 Biological Opinion, “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.” The Service also 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.”

68. Scientists began monitoring the genetic diversity of the wild and hatchery silvery minnow stocks annually from 1999-2012 and again from 2014 through 2019 in an attempt to maintain and monitor minnow genetic diversity. The studies showed that repeated, steep minnow population declines over the last two decades have gradually eroded the minnow's genetic diversity and genetic effective size. Without supplementation of the wild minnow population with captive-reared stocks, genetic diversity in wild minnow populations would be dangerously low, to a point where wild minnow reproduction and survival would be compromised.

69. With respect to climate change impacts to the silvery minnow, 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 increased temperatures from a warming climate, significantly impacting the silvery minnow and its habitat. Changes in timing and pattern of snowmelt runoff (or lack thereof) to earlier in the season will have a negative impact on the minnow's spawning behavior as peak flow is a trigger for reproduction and must coincide with appropriate temperatures.

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

1. General Description and Habitat.

70. The Southwestern willow flycatcher is a small migratory bird approximately six inches long. It has a grayish-green back and wings, whitish throat, light grey-olive breast, and pale yellowish belly. The willow flycatcher is pictured below.⁵

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⁵ Photo credit: Jim Rorabaugh (U.S. Fish & Wildlife Service)



71. The willow flycatcher inhabits the streamside and wetland thickets of New Mexico and Arizona, and southern portions of Nevada, Utah, and California. River features such as broad floodplains, water, saturated soils, and fine sediments help maintain desirable willow flycatcher streamside habitats for nesting, foraging, migration, dispersal, and shelter.

72. On February 27, 1995, the Service listed the Southwestern willow flycatcher as an endangered species, and designated critical habitat on July 22, 1997. 60 Fed. Reg. 10,694 (Feb. 27, 1995); 62 Fed. Reg. 39,129 (July 22, 1997). Pursuant to Court order, the Service has modified its critical habitat designation for the willow flycatcher several times since the original designation in 1997 including, most recently, in 2013. 78 Fed. Reg. 344 (Jan. 2, 2013). At the time of listing, the known willow flycatcher population was estimated between 300 and 500 pairs. 60 Fed. Reg. at 10,711.

73. The majority of willow flycatcher pairs were located in New Mexico (45 percent); specifically, in the Gila (150 pairs), Rio Grande (21 pairs), and Rio Chama (1 pair).

74. In its listing rule, the Service concluded 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.” Thus, the Service found that the decline of the Southwestern willow flycatcher resulted from loss of habitat, including adverse modifications of riparian habitat necessary for the breeding and successful reproduction of the willow flycatcher as a result of human development, channelization, changes in surface water hydrologic regimes, introduction of alien species, and other activities. *Id.* at 10,714.

75. The Service attributed the loss and modification of habitat of the willow flycatcher to hydrological changes resulting primarily from urban and agricultural development, water diversion and impoundment, and channelization. *Id.* at 10,707. “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.*

76. In 2013, the Service revised the critical habitat designation for the 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).

2. Ongoing Threats to the Flycatcher.

77. The Service found that reduced peak flows, channelization, and reduced sediment in the Middle Rio Grande below Cochiti Dam 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.

78. The river conditions discussed in the previous paragraph are caused by water management schemes that have not changed in the decades following the flycatcher 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.

79. 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.” 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.”

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C. Yellow-Billed Cuckoo (*Coccyzus americanus*).

1. General Description and Habitat.

80. The yellow-billed cuckoo is a slender, long-tailed bird about 12 inches long. Its distinguishing feature is its fairly stout and slightly down-curved bill, which is blue-black with yellow on the lower mandible. The yellow-billed cuckoo is pictured here.⁶



81. Historically, the yellow-billed cuckoo was widespread in the arid and semiarid portions of the western and southwestern United States, including New Mexico. 78 Fed. Reg. 61,622, 61,631 (Oct. 3, 2013). In the past 90 years, the species' range in the western United States has significantly decreased. *Id.* The cuckoo is considered a “rare, highly vulnerable, and declining species in the Rio Grande Valley of southern New Mexico and extreme west Texas.” 78 Fed. Reg. 61,641. New Mexico has “an estimated 100 to 155” breeding pairs, and Texas has “fewer than 10.” *Id.*

⁶ This file is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license.

82. 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 10 percent the 546,335 acres of critical habitat originally proposed in 2014. 85 Fed. Reg. 11,458 (Feb. 27, 2020). On April 21, 2021, the Service issued its final rule designating approximately 298,845 acres of critical habitat for the yellow-billed cuckoo, a 45% reduction from the Service's original proposal. 86 Fed. Reg. 20798 (April 21, 2021).

83. Cuckoos typically nest in lowland riparian woodlands that cover 50 acres or more within arid and semiarid landscapes, and they require these large, moist habitats for successful hatching and rearing of young. at 78 Fed. Reg. at 61,633. 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. *Id.* 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.

84. 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. In a 2016 study, Reclamation noted that 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." Reclamation also 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. 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.”

85. 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.” “The cuckoo population within [Elephant Butte Reservoir] is largely concentrated in a section of the historic reservoir pool at a 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.”

2. Ongoing Threats to the Cuckoo.

86. Human actions impact both the landscape and hydrology in a way that prevents the growth of riparian plants that form the cuckoo’s habitat. 71 Fed. Reg. 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; hydrologic alteration from dams; and river flow 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, changed conditions (such as changed hydrologic regime) also prevent riparian habitat from regenerating, even without other impacts. *Id.*

III. History of Consultation Over the Middle Rio Grande Project

A. The 2003 Jeopardy Biological Opinion.

87. 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, and the non-federal parties.⁷

88. 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."

89. As a result of its "jeopardy" determination, the Service developed a reasonable and prudent alternative; an incidental take statement; 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.

90. The reasonable and prudent alternative 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. Those mandatory actions incorporate: (1) water operations elements including a spawning spike to cue reproduction in the silvery minnow, management of available water to create habitat and allow species to persist in less than ideal conditions, and maintenance of minimum flows in the river during certain times of the year depending on the

⁷ The non-federal parties included the State of New Mexico and the Middle Rio Grande Conservancy District.

hydrologic conditions that year; (2) habitat improvement elements, including restoring river connectivity to allow upstream movement of silvery minnow throughout the Middle Rio Grande, creating riparian habitat and low velocity in-channel aquatic habitat throughout the action area, increasing the safe channel capacity of the river near San Marcial to allow for essential flooding flows, and completing the Cochiti environmental baseline study and investigating feasibility of sediment transport from Cochiti Lake; (3) water quality elements; and (4) reporting elements, among other requirements.

91. The Incidental Take Statement provided the estimated number of silvery minnows and flycatcher territories the agencies could “take” without causing “jeopardy” to the species. 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 Incidental Take Statement. By April 1 of each year, the Service was required to transmit a letter to Reclamation, the U.S. Army Corps of Engineers, and the non-federal parties specifying the estimated take for the year.

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

92. The 2003 Biological Opinion remained valid for a 10-year term ending on February 28, 2013. It included a very specific provision providing a unique opportunity for the agencies to ensure continued compliance with the ESA upon reinitiation of consultation. 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.”

93. 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

reasonable and prudent alternative in the 2003 Biological Opinion to ensure the activities of Reclamation, the U.S. Army Corps of Engineers, and the non-federal parties did not jeopardize the continued existence of the species.

94. On February 22, 2013 (prior to the expiration of the 2003 Biological Opinion), the Service reinitiated consultation with Reclamation and the non-federal parties concerning the effects of their proposed water management and river maintenance activities on the listed species.⁸ During the 2013 irrigation season, Reclamation and the non-federal parties operated pursuant to this so-called “extension” of the 2003 Biological Opinion and reasonable prudent alternative.

95. 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.”

IV. The 2016 No-Jeopardy Biological Opinion.

96. 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.

97. 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

⁸ 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).

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.

A. Reliance on Uncertain or Unenforceable Mitigation Measures.

98. 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.

99. 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.

100. For example, the Service's no-jeopardy determinations for the silvery 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. But RIO is a vague, undeveloped plan that lacks any definite, enforceable commitments. The specific conservation measures that fall under the RIO approach are very general, not subject to implementation deadlines, and have no explicit enforcement mechanisms.

101. The RIO conservation measures are intended to mitigate the Proposed Action's adverse impacts to minnow production and survival goals stipulated in the Hydrobiological Objectives, 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 in the Biological Opinion 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.

102. 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 [Best Management Practices] and Category BMPs,” “Adaptive Management for project Sites,” and “BMPs for water pumping.” Conservation Measures 80-86 related to habitat improvements are similarly vague, and lack any deadlines or other enforceable mechanisms.

103. With respect to mitigating the Proposed Action’s adverse effects to the flycatcher, 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. 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.”

104. The Biological Opinion’s time span for assessing whether conservation measures are working to promote the Hydrobiological Objective’s survival and recovery goals for the silvery minnow is problematic because the proposed 5-year Adaptive Management Review exceeds the three-year life-span of the minnow. 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.*

B. Lack of Serious Consideration of Climate Change Impacts.

105. Climate change over the remainder of the century will significantly alter availability of flows in the Rio Grande Basin. As the climate warms, these stresses on riverine and riparian environments will become even more pronounced.

106. In the 2016 Biological Opinion, 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. 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.

107. Although the Service admits that changes in flow volume caused by climate change “will have negative impacts” on the silvery 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.

108. The Service fails to account for impacts to river conditions from *both* the Proposed Action *and* climate change. 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.

C. Failure to Analyze the Proposed Action’s Impacts on Silvery Minnow Recovery.

109. In the 2016 Biological Opinion, the Service’s analyses of the Proposed Action’s impacts focus almost entirely on the silvery minnow’s survival. The Biological Opinion includes

only three paragraphs discussing in general terms the Proposed Action's effects on silvery minnow recovery, culminating in an unsupported conclusion that the Proposed Action "will not preclude the recovery of silvery minnow."

110. Although this brief section recognizes the demographic recovery goal of 5 fish per 100m², 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 100m² for more than 5 years and the genetic diversity goal of 0.3 fish per 100 m² to prevent jeopardy.

111. 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.

112. Because the Incidental Take Statement places no limits on minnow take once the 1 fish per 100m² density figure is met, there are no measures in place to promote achieving the 5 fish per 100m² 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 will not appreciably reduce the minnow's chances of recovery.

D. The Incidental Take Statements are Inadequate to Prevent Jeopardy.

1. Silvery Minnow Take.

113. 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 m² for 10 of 15 years; and
- October density is less than 1.0 per 100 m² for no more than 5 of 15 years; and
- October density is less than 0.3 fish per 100 m² for no more than 2 of the 15 years.

114. If these densities are not met as a result of the Proposed Action, then the Service will consider incidental take exceeded.

115. 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 Silvery Minnow Recovery Plan uses a similar proxy measure, the Service does not 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 does not explain how allowing unlimited take of silvery 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.

116. The time frames associated with finding take has occurred, and triggering reconsultation (*e.g.*, 2, 5, and 10 of 15 years) do not reflect the needs and biology of the silvery 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.

117. None of the silvery 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.

2. Flycatcher Take.

118. 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.

119. 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.

120. 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 flycatcher population can bear before its survival and recovery are threatened.

121. 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 Proposed Action's 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 Proposed Action's area will fall to 15 territories, well below the recovery goal.

122. The Service has allowed Reclamation to completely undermine flycatcher recovery in furtherance of its Proposed Action, thus jeopardizing flycatcher recovery.

3. Cuckoo Take.

123. 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.

124. Similar to flycatcher take, the Service chose to use a proxy of cuckoo territories for cuckoo take.

125. The Service does not explain how it derived the take limits for the cuckoo, and has ignored the results of its own analysis presented in the Biological Opinion.

126. The Service's statement that the Proposed Action "may result in the displacement of 11 cuckoo territories annually" contradicts the Service's statement in the impacts section of the 2016 Biological Opinion that the Proposed Action "could impact up to six [cuckoo] territories annually."

127. The Service also contradicts its finding that there were only 110 cuckoo territories in the area of the Proposed Action in 2016, 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 is not “incidental”, given the lack of evidence that the number of cuckoo territories is increasing on an annual basis.

128. 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.

V. Significant New Information.

129. Since completion of the consultation in 2016, new information 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.

130. Also, the Service recently designated critical habitat for the 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).

131. First, the 2018 Silvery Minnow 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. Population monitoring studies for 2017 and 2018, along with a 2017 study of recent silvery minnow age and growth trends,⁹ show that the silvery minnow continues

⁹ R.J. Horwitz *et al.*, *Age and Growth of the Rio Grande Silvery Minnow, An Endangered, Short-lived Cyprinid of the North American Southwest*, Transactions of the American Fisheries Society, Vol 146 (2). DOI: 10.1002/tafs.10012 (2017).

to have high mortality and has not increased in abundance, productivity, or genetic diversity, contrary to expectation in the 2016 Biological Opinion. Population monitoring studies for 2017 and 2018 show that the threshold for silvery minnow take in the Incidental Take Statement 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). Population monitoring studies for 2021 and 2022 show minnow densities of 0.27 and 0.17 respectively, triggering the need to reinitiate consultation, even though it might already be too late for the survival and recovery of the fish in the wild.

132. Second, the Hydrobiological Objectives (HBOs) used as the framework for evaluating the Proposed Action’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 2017¹⁰ and 2019¹¹ 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. A 2018 memo from a fish biologist to Reclamation staff regarding the “Review of Parameters for Hydrobiological Objectives (HBO)” stated that silvery minnow HBOs and recovery goals were developed using parameters for the Colorado Pikeminnow, a fish not directly analogous to the silvery minnow, and recommending an external scientific peer review by population ecologists and geneticists of parameters used to derive HBOs for the silvery minnow.

¹⁰ Barry Noon, *et al.*, *Independent Science Panel Findings Report: Rio Grande Silvery Minnow Key Scientific Uncertainties and Study Recommendations* (June 2017).

¹¹ 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.

133. Third, in its 5-Year review of the flycatcher in 2017, 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 from 2018 also found the flycatcher to be extremely vulnerable to climate change.¹²

134. Fourth, new information on climate change impacts in the Middle Rio Grande from 2018¹³ and 2020¹⁴ 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 from a 2020 Report of the Engineer Advisors to the Rio Grande Compact Commission 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 the Proposed Action’s 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.

¹² Kristen Reugg, *et al.*, *Ecological Genomics Predicts Climate Vulnerability in an Endangered Southwest Songbird*, *Ecology Letters* (2018), doi:10.1111/ele.12977.

¹³ Shaleene B. Chavarria and David S. Gutzler, *Observed Changes in Climate and Streamflow in the Upper Rio Grande Basin*, *Journal of the American Water Resources Ass’n* 54(3), 644-659 (June 2018).

¹⁴ Nolan T. Townsend and David S. Gutzler, *Adaptation of Climate Model Projections of Streamflow to Account for Upstream Anthropogenic Impairments*, *Journal of American Water Resources Ass’n* 56(4), 586-598 (August 2020).

135. 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 a 2017 flycatcher study prepared for Reclamation by Dave Moore and Darrell Ahlers shows that 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.

136. 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.* Thus, the Service and Reclamation must reinitiate consultation to assess the Proposed Action's impacts on this critical habitat unit.

CLAIMS FOR RELIEF

First Claim for Relief: Violations of the ESA and APA: The Fish and Wildlife Service's 2016 Biological Opinion is Arbitrary

137. Each and every allegation set forth in this Petition is incorporated herein by reference.

138. The Service's conclusions in the 2016 Biological Opinion that Reclamation's Middle Rio Grande water operations will not jeopardize the minnow, flycatcher, and cuckoo, and

will not destroy or adversely modify designated or proposed critical habitat are arbitrary for the reasons discussed throughout this Petition including, but not limited to:

- The Service arbitrarily relies on uncertain or unenforceable mitigation measures for its no jeopardy determinations;
- The Service failed to additively consider climate change effects in connection with the effects of the proposed action in making its no jeopardy determination;
- The Service failed to analyze the proposed action's impacts on minnow recovery; and
- The Service's incidental take statements for the minnow, flycatcher, and cuckoo set arbitrary take limits for each species that are not based on best available science and lack sufficient reinitiation triggers.

139. The Service's 2016 Biological Opinion for Middle Rio Grande water operations is arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with the law and procedures required by law, in violation of ESA Section 7 and its implementing regulations and the standards of the Administrative Procedure Act. 16 U.S.C. § 1536(b)(3); 5 U.S.C. § 706(2).

Second Claim for Relief:

Violations of the ESA Sections 7 and 9: Reclamation's Reliance on a Legally Deficient Biological Opinion

140. Each and every allegation set forth in this Petition is incorporated herein by reference.

141. ESA section 7(a)(2) prohibits action agencies, such as Reclamation, from undertaking actions that are "likely to jeopardize the continued existence" of any listed species or "result in the destruction or adverse modification of" their critical habitat. 16 U.S.C. § 1536(a)(2). The agency has an independent duty to meet its substantive Section 7 obligation to

ensure its actions are not likely to jeopardize listed species or result in the destruction or adverse modification of designated critical habitat. *See* ¶ 31.

142. As explained above, the Service committed legal errors in its 2016 Biological Opinion by arbitrarily relying on uncertain or unenforceable mitigation measures for its no jeopardy determinations, neglecting to adequately consider adverse effects to listed species' survival and recovery, and providing an arbitrary incidental take statement. Because Reclamation's reliance on a legally flawed biological opinion is arbitrary and capricious, Reclamation violated ESA Section 7(a)(2)'s substantive requirements.

143. Because the 2016 Biological Opinion's legal flaws include an inadequate Incidental Take Statement for the silvery minnow, flycatcher, and cuckoo, there is no meaningful Incidental Take Statement in place that is supported by best available science. Reclamation does not have 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 Biological Opinion violate Section 9 of the ESA by taking federally protected silvery minnow, flycatcher, and cuckoo without lawful authorization under a legally valid Incidental Take Statement issued by the Service.

Third Claim for Relief:

Violations of the ESA: Reclamation's Violation of ESA Section 7(d)

144. Each and every allegation set forth in this Petition is incorporated herein by reference.

145. Section 7(d) of the ESA, 16 U.S.C. § 1536(d), prohibits federal agencies, including Reclamation, from making any irretrievable and irreversible commitments of resources

during consultation pursuant to ESA Section 7(a)(2), 16 U.S.C. § 1536(a)(2), “which [have] the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures” that would avoid jeopardy to the species. This prohibition continues until the requirements of section 7(a)(2) are satisfied. 50 C.F.R. § 402.09.

146. The restrictions imposed by section 7(d) are in effect because Reclamation has not yet completed the consultation process lawfully by ensuring that a valid biological opinion is in place regarding the agency’s Middle Rio Grande water operations before putting listed species at risk.

147. Reclamation has taken or will take action that could foreclose implementation of reasonable and prudent alternatives that would avoid jeopardy in violation of section 7(d).

Fourth Claim for Relief:

Violations of the ESA: Reclamation’s and the Service’s Violation of ESA Section 7(a)(2)’s Requirement to Reinitiate Consultation

148. Each and every allegation set forth in this Petition is incorporated herein by reference.

149. As discussed in Section V above, since completion of the Biological Opinion in 2016, new information 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. Also, the Service recently designated critical habitat for the 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).

150. This new information reveals that effects of the action will affect protected species “in a manner or to an extent not previously considered,” thus requiring Reclamation and the Service to reinitiate consultation. 50 C.F.R. § 402.16(a)(2); 16 U.S.C. § 1536(a)(4).

PRAYER FOR RELIEF

WildEarth Guardians requests that the Court:

- A. Declare the Service’s 2016 Biological Opinion unlawful under the ESA and arbitrary under the APA;
- B. Vacate, set aside, and remand the 2016 Biological Opinion challenged herein;
- C. Declare that Reclamation is violating its duty under ESA Section 7(a)(2) to ensure that its water operations and management activities under the Middle Rio Grande Project are not likely to jeopardize the Rio Grande silvery minnow, Southwestern willow flycatcher, and Yellow-billed cuckoo or adversely modify their critical habitats;
- D. Declare that Reclamation is violating its duty under ESA Section 9 to avoid “take” of Rio Grande silvery minnow, Southwestern willow flycatcher, and Yellow-billed cuckoo by continuing to operate and maintain the Middle Rio Grande Project in a manner that causes or contributes to harm and harassment of these listed species without legal authorization for that take;
- E. Declare that Reclamation is violating ESA Section 7(d) by taking actions which have irreversible and irretrievable effects on the Rio Grande silvery minnow, Southwestern willow flycatcher, and Yellow-billed cuckoo without a valid biological opinion in place for the agency’s Middle Rio Grande water operations and management;
- F. Declare that Reclamation and the Service are violating ESA regulation 50 C.F.R. § 402.16 by failing to reinitiate consultation over the Middle Rio Grande Project’s impacts to the

Rio Grande silvery minnow, Southwestern willow flycatcher, and Yellow-billed cuckoo, and their designated critical habitats;

G. Order Defendants to immediately reinstate consultation on the effects of the Middle Rio Grande Project's ongoing and future water operations and management on the Rio Grande silvery minnow, Southwestern willow flycatcher, and Yellow-billed cuckoo in accordance with ESA Section 7;

H. Award WildEarth Guardians its reasonable costs, litigation expenses, and attorneys' fees associated with this litigation pursuant to the ESA, 16 U.S.C. § 1540(g) and to the Equal Access to Justice Act, 28 U.S.C. § 2412 *et seq.*; and

I. Grant such further relief as the Court deems just and proper in order to provide WildEarth Guardians with relief and protect the public interest.

Respectfully submitted on this 30th day of November 2022,

/s/ Samantha Ruscavage-Barz
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