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KARA GILLON*

An Environmental Pool for the Rio Grande

ABSTRACT

The Bureau of Reclamation and Corps of Engineers operate a series of dams, reservoirs, and levees along the Middle Rio Grande of New Mexico. The plight of the Rio Grande silvery minnow, an endangered species, and of the river itself demonstrates the need for a change from the emphasis on water development to sustainable river management. Conservation groups invoked the protections of the Endangered Species Act to catalyze this change. Recognizing that flexibility is necessary to meeting competing water needs, the groups also promoted the need for and several approaches to a sustainable and long-term approach to river management and wildlife protection. Recently, several conservation groups took a major step forward for the river with the creation of space to store environmental water in an upstream reservoir and are now exploring how to integrate an environmental water account into the existing context.

INTRODUCTION

In 1996, New Mexicans witnessed the vast drying of the Middle Rio Grande, which caused the subsequent deaths of thousands of silvery minnows. Since then, a coalition of national and local conservation groups has been fighting for the life of the Rio Grande: specifically, to integrate ecosystem needs into river management to sustain the endangered species that depend on the river. After several years of discussions and negotiations with water managers and water users, several conservation groups filed suit in federal court under the Endangered Species Act (ESA); many of the key water players in this region are parties to the suit. **The litigation sought ESA compliance in connection with the management of native Rio Grande water and San Juan-Chama Project water.**

As the home of one-third of the people in New Mexico, and the largest contractor to the San Juan-Chama project, the City of Albuquerque's intervention in the litigation addressed issues relating to the San Juan-

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Chama Project. During the course of the litigation, the conservation groups and the City of Albuquerque/Albuquerque-Bernalillo County Water Utility Authority (Authority) discussed the possibility of reaching a settlement agreement. In February 2005, the parties announced a momentous agreement that is a step forward in ensuring the survival of the Rio Grande and a step toward ensuring a permanent water supply for the people of Albuquerque.

The settlement creates two mechanisms to ensure that the Rio Grande has a right to its own water and establishes an **environmental bank account** so that this water can be stored and released at a time when the river needs it most. The most notable feature of the agreement marks a major step forward for the river with the **creation of space to store environmental water in Abiquiu Reservoir**. In order to acquire water for environmental uses, the City/Authority and conservation groups committed \$250,000 toward a **pilot water leasing program**. Lastly, the settlement helps connect the city's urban population to the river by requiring the city to modify its water billing system so that residents have the choice to add one dollar per month to their bills to go toward the acquisition of environmental water for the Rio Grande.

This article will explore the process needed to implement this agreement. The life history of and threats to the Rio Grande silvery minnow, water supply development of the Middle Rio Grande, and litigation to integrate the two will be discussed. The article will then focus on the **settlement with the City of Albuquerque and the Authority as a step toward more flexible river management, delving into the current operation of Abiquiu Reservoir, past use of the Reservoir for a conservation pool, and options for the environmental pool to be created by the conservation groups, the City, and the Authority**.

BACKGROUND ON THE MIDDLE RIO GRANDE

The Rio Grande was **historically a wide, perennially flowing, aggrading river** with a **sandy, silty bottom**. It meandered across a wide floodplain, occasionally leaving its channel to establish a new one.¹ Within this wide floodplain were open water wetlands, marshes and meadows, and groves of cottonwood forests.² A wide variety of birds, fish, and other

1. U.S. FISH & WILDLIFE SERV., RIO GRANDE SILVERY MINNOW RECOVERY PLAN, at A-2 to -3 (1999).

2. U.S. FISH & WILDLIFE SERV., BIOLOGICAL INTERAGENCY TEAM, MIDDLE RIO GRANDE ECOSYSTEM BOSQUE BIOLOGICAL MANAGEMENT PLAN 27-29 (1993).

animals, including jaguars and grizzly bears and large numbers of sandhill cranes, quail, and beavers, occupied the valley.³

Human development along the river from Colorado to Texas has created a very different river. For example, the Rio Grande now is shorter, straighter, narrower, and faster; is dammed and diverted; and experiences more frequent and more widespread drying. In New Mexico, the marshes and meadows have largely disappeared,⁴ and the bosque, though one of the biggest intact stretches of native cottonwood-willow left anywhere in the Southwest, is deteriorating as old cottonwoods die without being replaced and non-native species continue to invade.⁵ The Rio Grande silvery minnow is only one of many aquatic and riparian species on the New Mexico state and federal list of threatened and endangered species.⁶

Middle Rio Grande Water Supply and Development

Surface waters in the Middle Rio Grande (the stretch of river from just downstream of Cochiti Dam to the headwaters of Elephant Butte Reservoir) originate from snowpack in the San Juan and Sangre de Cristo Mountains, from tributaries, and from transbasin importation via the San Juan-Chama Project.⁷ Runoff usually begins in April and can continue into June or July, depending on the level of snowpack.⁸ The summer monsoon season also contributes to river flows during storm events.⁹ Typical of a desert river, annual water flow varies wildly and widely, from as low as 250,000 acre-feet in 2002, to five times that in 2005, to ten times that in the early 1940s.¹⁰

Water resources in the Middle Rio Grande have been heavily developed over the last century, if not over-developed,¹¹ because many of

3. *Id.* at 36-38.

4. *Id.* at 55-57.

5. *Id.* at 100, 152.

6. See Sartor O. Williams, III, *Status of Native Wildlife in the Middle Rio Grande Valley of New Mexico*, 41 N.M. J. SCI. 30 (2001).

7. ERNIE NIEMI & TOM MCGUCKIN, REPORT TO WESTERN WATER POLICY REVIEW ADVISORY COMMISSION, WATER MANAGEMENT STUDY: UPPER RIO GRANDE BASIN 3 (July 1997); FISH & WILDLIFE SERV., *supra* note 2, at 52.

8. See U.S. ARMY CORPS OF ENG'RS, PROGRAMMATIC BIOLOGICAL ASSESSMENT OF U.S. ARMY CORPS OF ENGINEERS WATER-OPERATION RULES ON THE MIDDLE RIO GRANDE, NEW MEXICO 10-11 (Apr. 2001).

9. U.S. FISH & WILDLIFE SERV., *supra* note 1, at A-2.

10. Leann Towne, Upper Rio Grande Water Operations Model, Modeling Results, Presentation 2 (on file with author).

11. S.S. PAPADOPULOUS & ASSOCS., INC., MIDDLE RIO GRANDE WATER SUPPLY STUDY, PHASE 3, at 57 (2004) ("[M]odel results...indicate that water demands in the Middle Rio Grande region currently exceed the available renewable water supply by a minimum of 71,000 acre-feet per year...and perhaps by as much as 110,600 acre-feet per year.").

New Mexico's largest cities are in the Middle Rio Grande — Albuquerque, Rio Rancho, and Santa Fe — and use over 80,000 acre-feet of water per year.¹² In addition, an even larger water user, the Middle Rio Grande Conservancy District, diverts over 400,000 acre-feet per year and uses anywhere over 180,000 acre-feet per year.¹³ To enable this agricultural and municipal growth in the Middle Rio Grande, substantial manipulation of the river was necessary for water supply and flood control.

The federal government contributed to the development of the Middle Rio Grande when Congress and two federal agencies launched the Middle Rio Grande Project.¹⁴ In 1947 and 1948, the Bureau of Reclamation (Reclamation) and Army Corps of Engineers (Corps) prepared the Rio Grande Flood Control Program, which consisted of detailed studies and a joint proposal for the development of federal reclamation and flood and sediment control works on the river.¹⁵ The project called for Reclamation to rehabilitate the dam and diversion facilities of the Middle Rio Grande Conservancy District (District or MRGCD), which had fallen into disrepair, channelize 127 miles of the river, and acquire the District's outstanding debt.¹⁶ In return, the District conveyed its property interests in the dam and diversion facilities to Reclamation.¹⁷ These facilities include El Vado Dam and Reservoir on the Rio Chama and diversion dams on the Rio Grande — Angostura, Isleta, and San Acacia — as well as canals, flood control works, and water rights.¹⁸

12. NIEMI & MCGUCKIN, *supra* note 7, at 5.

13. *Id.*

14. The federal government has been involved in dam construction on the lower Rio Grande for some time, beginning with the construction of the Rio Grande Project. *See* Act of Feb. 25, 1905, ch. 798, 33 Stat. 814 (authorizing construction of Elephant Butte Dam in New Mexico). Three mainstem dams followed and signaled the initial decline of the silvery minnow. *See* Endangered and Threatened Wildlife and Plants, Designation of Critical Habitat for the Rio Grande Silvery Minnow 68 Fed. Reg. 8088, 8089 (Feb. 19, 2003) (codified at 50 C.F.R. pt. 17).

15. Congress approved those proposals in the Flood Control Acts of 1948 and 1950. Flood Control Act, ch. 771, Pub. L. No. 80-858, 62 Stat. 1175 (1948); Flood Control Act, ch. 188, Pub. L. No. 81-516, 64 Stat. 170 (1950).

16. By the late 1940s, 60 percent of farms in the MRGCD, totaling 90 percent of the District's acreage, were delinquent in their taxes. WATER POLICIES PLAN, MIDDLE RIO GRANDE CONSERVANCY DISTRICT WATER POLICIES PLAN 22 (C.T. DuMars & S.C. Nunn eds., 1993). *See* Middle Rio Grande Water Users' Ass'n v. Middle Rio Grande Conservancy Dist., 258 P.2d 391, 393 (N.M. 1953) (holding the 1951 contract between MRGCD and Reclamation valid).

17. *See generally* Memorandum Opinion and Order, Rio Grande Silvery Minnow v. Keys et al., No. CV 99-1320 JF/RHS-ACE (D.N.M. July 25, 2005) (holding that title to these facilities vested in the United States in the 1950s and remains with the United States).

18. *Id.* at 6. The MRGCD constructed El Vado Lake in 1935; it is currently used to store up to 180,000 acre-feet of native and imported flow. *See generally* U.S. BUREAU OF RECLAMATION, MIDDLE RIO GRANDE PROJECT NEW MEXICO, <http://www.usbr.gov/dataweb/html/mriogrande.html> (last visited June 14, 2007).

In 1962, the federal government was again involved with the Middle Rio Grande when Congress approved the **San Juan-Chama (SJC) Project**. The SJC Project annually imports approximately 110,000 acre-feet of water from the San Juan River basin to the Rio Grande.¹⁹ Reclamation constructed a series of diversions and tunnels that divert water from tributaries of the San Juan into tributaries of the Rio Grande. **Reclamation also built Heron Reservoir on a tributary to the Rio Chama to store up to 400,000 acre-feet of this imported water.**²⁰

The Corps owns and operates two major and several minor dams and reservoirs in the basin that trap sediment and prevent overbank flooding in the Middle Rio Grande.²¹ **Abiquiu Dam and Reservoir** are on the Rio Chama below El Vado Reservoir, 32 river-miles upstream from the confluence with the Rio Grande, and were completed in 1963.²² Abiquiu Reservoir has a **storage allocation of nearly 600,000 acre-feet for sediment and flood control**, but Congress has authorized up to 200,000 acre-feet for storage of San Juan-Chama or native Rio Grande water.²³

The second major Corps facility, **Cochiti Dam and Reservoir**, located on the mainstem Rio Grande about 50 miles north of Albuquerque, began filling in 1975.²⁴ Cochiti has a storage capacity of over 600,000 acre-feet for sediment and flood control purposes but has a 50,000 acre-foot "pool" dedicated to recreation and fish and wildlife purposes.²⁵

Rio Grande Silvery Minnow: Reasons for Imperilment

Until humans drastically altered the Rio Grande, the Rio Grande silvery minnow (*Hybognathus amarus*) was well-adapted to life in a dynamic

19. 43 U.S.C. § 620a (2000). Act of June 13, 1962, Pub. L. No. 87-483, 76 Stat. 96 (amended the Colorado River Storage Project Act of 1956); Act of Apr. 11, 1956, ch. 203, Pub. L. No. 84-485, 70 Stat. 105 (authorizing the initial phase of the SJC Project). SJC water as imported water is not subject to the Compact, Rio Grande Compact, art. X., 53 Stat. 785, 790 (1939), reprinted in N.M. STAT. § 72-15-23 (1978), and is thus distinguished from "native" Rio Grande waters.

20. U.S. BUREAU OF RECLAMATION, SAN JUAN-CHAMA PROJECT COLORADO AND NEW MEXICO, <http://www.usbr.gov/dataweb/html/sjuanchama.html> (last visited June 14, 2007).

21. Flood Control Act of 1960, Pub. L. No. 86-645, 74 Stat. 480 (setting the operating criteria for the Corps dams). Other Corps dams and reservoirs in the Middle Rio Grande are Jemez Canyon Dam, located on the Jemez River about 2.8 miles upstream from its confluence with the Rio Grande; Platoro Dam on the Conejos River; and Galisteo Dam on Galisteo Creek. See U.S. ARMY CORPS OF ENG'RS, *supra* note 8, at 7.

22. U.S. ARMY CORPS OF ENG'RS, ABIQUIU DAM AND RESERVOIR, RIO CHAMA, NEW MEXICO, WATER CONTROL MANUAL app. A, at 2-1, 3-1 (1995).

23. Act of Dec. 29, 1981, Pub. L. No. 97-140, 95 Stat. 1717, § 5(b) (authorizing San Juan-Chama storage); Act of Oct. 24, 1988, Pub. L. No. 100-522, 102 Stat. 2604 (authorizing Rio Grande storage in lieu of San Juan-Chama storage).

24. U.S. ARMY CORPS OF ENG'RS, *supra* note 8, at 7-8.

25. *Id.*

desert river. The Rio Grande silvery minnow (silvery minnow) spawns during the melting of the winter snow pack, likely corresponding with the increase in river flows of the runoff peaks.²⁶ Its semi-buoyant, non-adhesive eggs²⁷ are then able to float downstream while quickly developing, where they can establish populations in a wide range of the river.²⁸ It is a stout minnow – adults may reach about 3.5 inches in length – with moderately small eyes and a small, slightly oblique mouth.²⁹ It is silver in color, with emerald reflections. Though stout, the silvery minnow is a short-lived species, surviving about one year in the wild.³⁰ The silvery minnow grows quickly in its first year, preferring highly productive areas of slow-moving water like backwaters and oxbows.³¹

The silvery minnow was “one of the most widespread and abundant species in the Rio Grande basin,”³² having occupied close to 2,400 miles of river in New Mexico and Texas. It was found in the Rio Grande from Española, New Mexico and in the Pecos River, a major tributary of the Rio Grande, from Santa Rosa, New Mexico, and downstream to its confluence with the Rio Grande in Texas and its flow into the Gulf of Mexico.³³ It was also found in the lower Rio Chama and the lower Jemez River, tributaries of the Rio Grande in New Mexico.³⁴

Today, the silvery minnow is no longer found in the vast majority of that historic range. It has been declining in distribution and abundance for more than 50 years and has been extirpated from the Rio Chama and the

26. Memorandum from the Regional Director, Region 2, Fish and Wildlife Service, on Biological and Conference Opinions on the Effects of Actions Associated with the Programmatic Biological Assessment of Bureau of Reclamation's Water and River Maintenance Operations, Army Corps of Engineers' Flood Control Operations, and Related Non-Federal Actions on the Middle Rio Grande, New Mexico to the Area Manager, Albuquerque Area Office, Bureau of Reclamation 24 (Mar. 17, 2003), available at http://www.fws.gov/southwest/es/Documents/R2ES/FINAL_Middle_Rio_Grande_Water_Ops_BO_2003-2013.pdf.

27. Steven P. Platania & Christopher S. Altenbach, *Reproductive Strategies and Egg Types of Seven Rio Grande Basin Cyprinids*, 3 COPEIA 559, 561 (1998).

28. ROBERT K. DUDLEY & STEVEN P. PLATANIA, HABITAT USE OF RIO GRANDE SILVER MINNOW 71 (1997).

29. Endangered and Threatened Wildlife and Plants, Final Rule to List the Rio Grande Silvery Minnow as an Endangered Species, 59 Fed. Reg. 36,988 (July 20, 1994) (codified at 50 C.F.R. pt. 17).

30. Endangered and Threatened Wildlife and Plants, Designation of Critical Habitat for the Rio Grande Silvery Minnow, 68 Fed. Reg. 8088, 8089 (Feb. 19, 2003) (codified at 50 C.F.R. pt. 17).

31. DUDLEY & PLATANIA, *supra* note 28, at 72; U.S. FISH & WILDLIFE SERV., *supra* note 1, at 35.

32. U.S. FISH & WILDLIFE SERV., *supra* note 1, at 4; Kevin R. Bestgen & Steven P. Platania, *Status and Conservation of the Rio Grande Silvery Minnow*, *Hybognathus Amarus*, 36 SW. NATURALIST 225, 230 (1991).

33. U.S. FISH & WILDLIFE SERV., *supra* note 1, at 4.

34. Bestgen & Platania, *supra* note 32, at 230.

Pecos River, as well as from most of its historic range in the mainstem Rio Grande. Currently, the silvery minnow is believed to occur only in a 157 mile reach of the Rio Grande in New Mexico, known as the “middle Rio Grande.”³⁵ Its current habitat is limited to about seven percent of its former range and is fragmented by river-wide dams (Cochiti, Angostura, Isleta, and San Acacia).³⁶ It is also the last of its kind; others like it are extinct or have been extirpated from the Middle Rio Grande.³⁷

In order to protect the silvery minnow and its habitat, the Fish and Wildlife Service (FWS), acting on behalf of the Secretary of the Interior, listed the Rio Grande silvery minnow as an endangered species in 1994³⁸ and designated critical habitat for the species in 2003³⁹ pursuant to the Endangered Species Act.⁴⁰ Its listing⁴¹ was based on the multiple and rapid changes made to the river over the course of this century without consideration of impacts to wildlife and their habitat. Some of the major changes to the river are diversions of water for municipal and agricultural use, construction of diversion dams and reservoirs, channelization, and introduction of non-native species.⁴² In addition, at the time of its listing, the State of New Mexico could not administer water rights to assure the

35. Endangered and Threatened Wildlife and Plants, Designation of Critical Habitat for the Rio Grande Silvery Minnow, 68 Fed. Reg. at 8088.

36. U.S. FISH & WILDLIFE SERV., RIO GRANDE SILVERY MINNOW, DRAFT REVISED RECOVERY PLAN 3 (2007), available at http://ecos.fws.gov/docs/recovery_plans/2007/070118a.pdf.

37. The silvery minnow is part of a reproductive guild of five cyprinids (all spawn eggs that drift downstream) that historically occupied the Rio Grande in New Mexico. The other four—phantom shiner, bluntnose shiner, Rio Grande shiner, and speckled chub—no longer occur in the Rio Grande in New Mexico or are extinct. Platania & Altenbach, *supra* note 27, at 559–60.

38. Endangered and Threatened Wildlife and Plants, Final Rule to List the Rio Grande Silvery Minnow as an Endangered Species, 59 Fed. Reg. 36,988 (July 20, 1994) (codified at 50 C.F.R. pt. 17).

39. Endangered and Threatened Wildlife and Plants, Designation of Critical Habitat for the Rio Grande Silvery Minnow, 68 Fed. Reg. at 8088. The critical habitat encompasses approximately 157 miles of the Middle Rio Grande from the Cochiti Dam downstream to just north of Elephant Butte Reservoir.

40. 16 U.S.C. §§ 1531–1544 (2000).

41. The determination by the FWS to list a species as threatened or endangered is based on five factors: “(A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.” 16 U.S.C. § 1533(a)(1) (2000).

42. Endangered and Threatened Wildlife and Plants, Final Rule to List the Rio Grande Silvery Minnow as an Endangered Species, 59 Fed. Reg. at 36,992–93. *See* U.S. FISH & WILDLIFE SERV., *supra* note 1, at 1–2.

protection of the silvery minnow and its aquatic habitat.⁴³ In particular, New Mexico water law did not provide for "instream flow," as that term is meant to construe the acquisition and use of water rights for the instream protection of fish and wildlife.⁴⁴

After its listing as an endangered species in 1994, the minnow continued its rapid decline: between 1999 and 2003, the silvery minnow catch rate has declined two to three orders of magnitude, with the largest declines occurring from 1999 to 2003;⁴⁵ in 2006 the catch rate resumed its downward trend.⁴⁶ It stands to reason that if the species continues to decline, the threats that warranted listing in 1994 persist to this day.⁴⁷ Habitat loss through a variety of water-related activities remains the primary threat to the silvery minnow. Flood control and water delivery projects alter natural river processes, affecting spawning and rearing, preventing overbanking, and altering sediment transport, while reservoirs and dams fragment the river, preventing dispersal.⁴⁸ Annual dewatering of a river with short-lived species of restricted distribution is a severe threat,⁴⁹ and silvery minnow habitat dries almost annually from water diversions, reservoir storage, and drought.⁵⁰

As shown above, the federal government assumed an extensive role in the development of the Middle Rio Grande. Between the Corps and Reclamation, the federal government became the owner and operator of water diversion, storage, and delivery facilities, as well as flood control and other structures. These facilities are one of the main causes of the endangerment of the silvery minnow. The placement of the silvery minnow and other imperiled wildlife on the endangered species list would next require the federal government to assume a similarly wide-ranging role in conserving the silvery minnow and its habitat.

43. Endangered and Threatened Wildlife and Plants, Final Rule to List the Rio Grande Silvery Minnow as an Endangered Species, 59 Fed. Reg. at 36,993-94.

44. *Id.* Since then the New Mexico Attorney General has issued an opinion concluding that New Mexico law allows the state engineer to provide legal protection to instream flows for fish, wildlife, or other ecological uses. Opinion of Tom Udall, Op. N.M. Att'y Gen. No. 90-01 (Mar. 27, 1998).

45. U.S. FISH & WILDLIFE SERV., *supra* note 36, at 10.

46. See ROBERT K. DUDLEY & STEVEN P. PLATANIA, MIDDLE RIO GRANDE ENDANGERED SPECIES ACT COLLABORATIVE PROGRAM, SUMMARY OF THE RIO GRANDE SILVERY MINNOW POPULATION MONITORING PROGRAM RESULTS FROM DECEMBER 2006 (2007) (on file with author).

47. Memorandum from the Regional Director, *supra* note 26, at 28.

48. Endangered and Threatened Wildlife and Plants, Final Rule to List the Rio Grande Silvery Minnow as an Endangered Species, 59 Fed. Reg. 36,988.

49. See U.S. FISH & WILDLIFE SERV., *supra* note 1, at 1 (The silvery minnow is a short-lived species threatened by annual drying of the river because the minnow may be eliminated from dry reaches.).

50. Endangered and Threatened Wildlife and Plants, Final Rule to List the Rio Grande Silvery Minnow as an Endangered Species, 59 Fed. Reg. at 36,992.

Rio Grande Silvery Minnow v. Martinez: Into the Breach

Quite like the human communities that have shown their dependence on the river via extensive manipulation of it, the survival of the other animals of the river is also inextricably linked to water – “Lack of water is likely the single most important limiting factor for the survival of the [silvery minnow].”⁵¹ The combination of drought and ever-dwindling minnow numbers highlighted the need for more flexible river management and even for water supplies for the river itself. In the years shortly after adding the silvery minnow to the endangered species list, the river often ran dry due to drought and poor water management, and the federal government often ran out of water set aside specifically for the silvery minnow.⁵² For example, in 2002, projected summer flows for the Rio Grande at San Marcial – the downstream area with over 90 percent of the minnow population at the time – was around two percent of average.⁵³ As a result, the silvery minnow population was “alarmingly small,” as two minnow biologists reported that the collection of silvery minnows in August 2002 was one of the lowest ever taken during the tenure of the 1994 to 2002 population monitoring study.⁵⁴ At the same time, Reclamation continued to make full water deliveries despite knowing that they would be unable to meet the silvery minnow’s water needs.⁵⁵ The Middle Rio Grande had been so manipulated that the silvery minnow could not adapt to the river’s physical changes and the Middle Rio Grande could not adapt to the endangered silvery minnow’s crisis situation.

Two years after the FWS listed the silvery minnow as an endangered species, the MRGCD diverted so much water from the Rio Grande that it dried half of the imperiled silvery minnow’s habitat and

51. Endangered and Threatened Wildlife and Plants, Designation of Critical Habitat for the Rio Grande Silvery Minnow, 68 Fed. Reg. 8088, 8089 (Feb. 19, 2003) (codified at 50 C.F.R. pt. 17).

52. See Tania Soussan, *Heat Dries Up 7 Miles of River*, ALBUQUERQUE J., June 6, 2002, at A1; Kate Nash, *Minnow Issue Won’t Be Easily Untangled*, ALBUQUERQUE TRIB., Sept. 17, 2002.

53. Memorandum from the Regional Director, Region 2, U.S. Fish and Wildlife Service, on Biological Opinion and Conference Report on U.S. Bureau of Reclamation’s Amended Water Management Operations on the Middle Rio Grande through December 31, 2002 to the Area Manager, Albuquerque Area Office, U.S. Bureau of Reclamation 14 (Sept. 12, 2002), available at http://www.usbr.gov/uc/albuq/library/eis/pdfs/BO_MRG_9-12-02.pdf. This was a hundred-year low. *Id.*

54. *Rio Grande Silvery Minnow v. Keys*, 356 F. Supp. 2d 1222, 1229 (D.N.M. 2002).

55. *Id.* at 1225.

killed over 10,000 silvery minnows, along with countless other fish.⁵⁶ The FWS, Reclamation, and the Corps took emergency actions to secure water for stretches of the river in order to stabilize the remaining populations of silvery minnows for the spawning season and to prevent further losses.⁵⁷

Five years after listing the silvery minnow as an endangered species, water managers and users still were not acting in compliance with the Endangered Species Act (ESA).⁵⁸ Because of this noncompliance, several conservation groups challenged Reclamation's and the Corps' failure to consult with FWS regarding their full range of river operation and maintenance activities in the Middle Rio Grande.⁵⁹ Without consultation with the wildlife agency, the federal water management agencies could not ensure that they would avoid a repeat of conditions that in 1996 dried the river and wiped out thousands of silvery minnows, killing nearly a third of the minnow population.⁶⁰

After weeks of mediated talks, the parties reached an agreement where Reclamation and the Corps committed to acquiring 85,900 acre-feet of water to keep a continuous flow of water in the Middle Rio Grande for the remainder of the 2000 irrigation season.⁶¹ Reclamation was to use this

56. Susan Aritt, *The Rio Grande Silvery Minnow: Symbol of an Embattled River*, Pt. 2, 1 N.M. PARTNERS: CONSERVING ENDANGERED SPECIES, Fall 1996, at 5 [hereinafter Aritt, Fall 1996]. This included innumerable females ready to spawn. Susan Aritt, *The Rio Grande Silvery Minnow: Symbol of an Embattled River*, Pt. 1, 1 N.M. PARTNERS: CONSERVING ENDANGERED SPECIES, Summer 1996, at 4.

57. Aritt, Fall 1996, *supra* note 56, at 13.

58. Section 7(a)(2) of the ESA requires federal agencies to "insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species," 16 U.S.C. § 1536(a)(2) (2000), and section 9 prohibits the taking, defined as the harassment, harm, pursuit, hunting, shooting or similar activities, *id.* § 1532(19), of any listed species. *Id.* § 1538. To meet this obligation, federal agencies consult with the FWS, which then issues its biological opinion detailing how the proposed action may affect the endangered species and its habitat; if the FWS finds that the action will jeopardize the species it will offer "reasonable and prudent alternatives" that will not jeopardize the species and terms and conditions that will mitigate otherwise unlawful taking. *Id.* § 1536(b).

59. *Rio Grande Silvery Minnow v. Keys*, 469 F. Supp. 2d 973, 975 (D.N.M. 2002). The groups who ultimately became the plaintiffs in the silvery minnow litigation are Defenders of Wildlife, Sierra Club, National Audubon Society, Forest Guardians, New Mexico Audubon Council, and Southwest Environmental Center. The State of New Mexico, City of Albuquerque, Middle Rio Grande Conservancy District, and Rio Chama Acequia Association moved to intervene on behalf of the federal government soon thereafter.

60. See Aritt, Fall 1996, *supra* note 56, at 13.

61. Agreed Order Resolving Plaintiffs' Motion for Preliminary Injunction at 3, *Rio Grande Silvery Minnow v. Martinez*, CV 99-1320 JP/KBM-ACE (D.N.M. Aug. 2, 2000). Later that year, all parties reached a Supplemental Order involving the acquisition of an additional 45,000 acre-feet of water and allowing the MRGCD to continue irrigating until October 16. Supplement to Agreed Order Resolving Plaintiffs' Motion for Preliminary Injunction, *Rio Grande Silvery Minnow v. Martinez*, CV 99-1320 JP/KBM-ACE (D.N.M. Oct. 5, 2000).

water not only to protect the silvery minnow and its habitat but also to enable the MRGCD to have a full irrigation season.⁶²

In 2001, the FWS issued its first biological opinion (BiOp) on the effect of federal water management activities along the Middle Rio Grande on the silvery minnow.⁶³ The opinion of the FWS concluded that these management activities would jeopardize the silvery minnow but set forth a "reasonable and prudent alternative" (RPA) to avoid jeopardy.⁶⁴ Recognizing the need for water dedicated to the instream needs of the silvery minnow, the RPA included a Conservation Water Agreement⁶⁵ that would allow the storage and release of up to 100,000 acre-feet of water over the term of the BiOp in upstream reservoirs while also allowing some river drying.

However, because the federal agencies continued to refuse to assert ownership of and authority over their water projects, they also asserted that they could not guarantee the acquisition or delivery of water believed necessary to preserve the silvery minnow.⁶⁶ This led to a BiOp that called for less water in the river than most scientists believed was necessary for the survival of the minnow; therefore the same conservation groups challenged the BiOp.⁶⁷ The primary challenge was—and still is—the extent of federal authority over the Middle Rio Grande and San Juan-Chama Projects given the federal government's extensive role in constructing, rehabilitating, funding, and operating these facilities.⁶⁸ It was and is the intent of the

62. Lawrence Spohn, *Water Tug of War Won't Go Away*, ALBUQUERQUE TRIB., Aug. 3, 2000, at A1.

63. Memorandum from the Regional Director, Region 2, U.S. Fish and Wildlife Service, on Programmatic Biological Opinion on the Effects of Actions Associated with the U.S. Bureau of Reclamation's, U.S. Army Corps of Engineers', and Non-Federal Entities' Discretionary Actions Related to Water Management on the Middle Rio Grande, New Mexico to the Area Manager, Albuquerque Area Office, U.S. Bureau of Reclamation, at 1 (June 29, 2001), available at http://www.usbr.gov/uc/albuq/library/eis/pdfs/bo_mrg-june_2001.pdf.

64. See *id.* at 107–08.

65. See *infra* notes 127–141 and accompanying text.

66. See Second Amended Complaint at 13, *Rio Grande Silvery Minnow v. McDonald*, CV 99-1320 JP/KBM-ACE (D.N.M. July 2, 2001). For example, as Reclamation claimed it did not own the diversion dams and could not acquire water except from willing sellers, it could not provide river flows to prevent extinction or assure the delivery of water past dams. Plaintiffs' Opening Case Brief on Second Amended Complaint, *Rio Grande Silvery Minnow v. McDonald*, CV 99-1320 JP/KBM-ACE (D.N.M. July 16, 2001).

67. See Second Amended Complaint at 18–19, *Rio Grande Silvery Minnow v. McDonald*, CV 99-1320 JP/KBM-ACE (D.N.M. July 2, 2001).

68. Although still reluctant to acknowledge the full breadth of their authority, see *Rio Grande Silvery Minnow v. Keys*, 469 F. Supp. 2d 1003, 1010 (D.N.M. 2005), the federal entities continue to contemplate reinitiating consultation, keeping the issue alive and well. See Memorandum to Interested Party from Executive Committee, Middle Rio Grande Endangered Species Act Collaborative Program, Nov. 14, 2006, available at <http://www.spa.usace.army.mil/ESA/Workshop.pdf>.

conservation groups to pressure the federal agencies to recognize the extent of their influence over the river in order to introduce more flexibility into federal river management that may sustain all those who rely on the river—fish and wildlife, flora and fauna, farmers, and rafters.⁶⁹

In 2002, Judge Parker ruled and affirmed the biological opinion while cautioning that during future consultations Reclamation must recognize its discretion in managing and delivering Middle Rio Grande Project and San Juan-Chama Project water as well as its authority to look to the reasonableness of the MRGCD's water use.⁷⁰ He reasoned that absence of this discretion in the 2001 biological opinion does not invalidate it because the FWS fashioned a sufficient reasonable and prudent alternative.⁷¹

Judge Parker concluded that, if necessary to provide water for the silvery minnow, Reclamation has the ability to reduce water deliveries from the Middle Rio Grande and SJC Projects because of water contract shortage clauses,⁷² Reclamation's duty under federal law to limit water deliveries to reasonable beneficial use,⁷³ and project authorizing legislation.⁷⁴ This ruling had the potential to change the status quo by directing Reclamation to consider using water it stores, delivers, or otherwise manages—such as San Juan-Chama water in Heron Reservoir—in its efforts to protect the river's endangered species. The federal government, however, soon would refuse to recognize this new reality.⁷⁵

The lack of long-term comprehensive water planning soon manifested in emergencies faced by the silvery minnow, Reclamation, and the conservation groups when, only months after the court upheld the 2001 consultation, Reclamation requested reinitiation of consultation because the agency ran out of water set aside for the silvery minnow.⁷⁶ Rather than recognize the discretion Judge Parker had instructed them to use just months earlier, Reclamation officials proposed instead to dry most of the

69. See, e.g., Kara Gillon, *Balance on the Rio Grande*, ALBUQUERQUE TRIB., Dec. 4, 2003.

70. See *Rio Grande Silvery Minnow v. Keys*, 469 F. Supp. 2d 973 (D.N.M. 2002).

71. *Id.* at 998–1000 (finding procedural violations of the ESA but noting the interim nature of the BiOp and the need for new consultation in the near future).

72. *Id.* at 990–92.

73. *Id.* at 991–92 (citing 43 U.S.C. § 372). The State Engineer had indicated that the MRGCD may be using more water than necessary. Ben Neary, *Make Do with Less Water, Irrigators Told*, SANTA FE NEW MEXICAN, Mar. 24, 2001, at A1.

74. *Rio Grande Silvery Minnow*, 469 F. Supp. 2d at 994–96.

75. Mary Perea, *Bureau of Reclamation Says It Won't Release Water for Minnow*, ALBUQUERQUE J., Sept. 18, 2002.

76. *Rio Grande Silvery Minnow v. Keys*, 356 F. Supp. 2d 1222, 1231 (D.N.M. 2002).

river almost immediately, keeping only the uppermost river reaches wet, and that only through September.⁷⁷

FWS's new 2002 BiOp confirmed that Reclamation's proposal was likely to jeopardize the existence of the silvery minnow as it would dry the river to an extent that "*all silvery minnows*" within the Isleta and San Acacia reaches would be lost.⁷⁸ The FWS, though, could not formulate a reasonable and prudent alternative (RPA) that would avoid jeopardy.⁷⁹ Compelled to prevent the immediate drying of over 70 percent of the silvery minnow's habitat and the loss of nearly all of the silvery minnows in the river, the conservation groups requested emergency relief from the court.⁸⁰

A week later, Judge Parker ruled from the bench, striking down this new BiOp.⁸¹ In his order, Judge Parker found that Reclamation's delay in addressing how to protect the silvery minnow during the 2002 drought aggravated the problem and narrowed the options available, leading to its proposal that would "eliminate well over 95% of the small remaining wild silvery minnow population."⁸² He also found that, by asking the court to uphold a BiOp with a jeopardy conclusion but no RPA, the federal government was asking the Court to perform the function of the God Squad, but only the God Squad can grant exemptions from the ESA.⁸³

Given this background, the BiOp could not withstand scrutiny because, among other reasons, it did not fully consider all the options available to Reclamation. Options could have included releasing water from Heron Reservoir or reducing future water deliveries from either the San Juan-Chama or Middle Rio Grande Project in order to free up water for the silvery minnow.⁸⁴

Noting that the ESA tips the balance in favor of the protected species, the court partially reversed the 2002 BiOp and granted a preliminary injunction, ordering that Reclamation was relieved from the

77. *Id.* Reclamation refused to utilize its authority to release SJC water from Heron or reduce MRGP or SJCP deliveries without a court order. *Id.* at 1231.

78. Memorandum from the Regional Director, *supra* note 53, at 26 (emphasis added).

79. *Id.* at 30.

80. *Rio Grande Silvery Minnow*, 356 F. Supp. 2d at 1227.

81. Tania Soussan, *Judge Orders Water Released for Minnow*, ALBUQUERQUE J., Sept. 19, 2002, at A1.

82. *Rio Grande Silvery Minnow*, 356 F. Supp. 2d at 1232.

83. *Id.* at 1225. The God Squad, or Endangered Species Committee, can exempt projects from the ESA, if necessary, to avoid irreconcilable conflicts. 16 U.S.C. § 1536(e) (2000). The God Squad considers whether there are reasonable and prudent alternatives to the proposed action, whether the proposed action is in the public interest and its significance, whether there are mitigation measures available, whether the agency made an irreversible commitment of resources, and whether the benefits of the action outweigh the harm to the species in determining whether or not the proposed action should proceed. *Id.* § 1536(g), (h).

84. *Rio Grande Silvery Minnow*, 356 F. Supp. 2d at 1235-36.

flow requirements of the June 2001 BiOp and setting forth different flow targets that would keep silvery minnow habitat wet while requiring less water.⁸⁵ If necessary to meet these flow requirements, Reclamation was required to reduce water deliveries and/or restrict diversions by the MRGCD.⁸⁶ Judge Parker also ordered Reclamation to reinitiate consultation immediately "to plan for the various contingencies that may arise during the rest of 2002 and during 2003 based on the different amounts of water that may be available in the Rio Grande basin."⁸⁷

Everyone but the conservation groups appealed this decision, demonstrating the unwillingness to change the status quo and further delaying long-term planning and, more importantly, reforms. In June 2003, the Tenth Circuit Court of Appeals affirmed, finding that Reclamation does indeed have the discretion to determine the available water from which it makes allocations, which, in times of scarcity might be altered for other causes, such as compliance with the ESA.⁸⁸ The Court reasoned that Reclamation must consider federal reclamation laws, the projects' authorizing legislation, and subsequent legislation, such as the ESA, in its interpretation of water contracts that it holds with water users.⁸⁹ Shortage clauses and other clauses in the water contracts provide a basis for Reclamation to retain discretion to allocate available water to comply with the ESA.⁹⁰

85. *Id.* at 1237.

86. *Id.* at 1238. The court also ruled that, if the federal government reduces any water user's deliveries, it must compensate that water user. *Id.* at 1237.

87. *Id.* at 1238. The FWS issued a new biological opinion shortly before the 2003 irrigation season. See Memorandum from the Regional Director, *supra* note 47. The BiOp target flows allow extensive river drying where the majority of the silvery minnows remain; the RPA offsets that harm with "non-water" mitigation activities such as fish rescue, relocation of stranded silvery minnows into upstream habitats, egg salvage, captive propagation, augmentation, and habitat restoration. *Id.* at 90-102.

88. *Rio Grande Silvery Minnow v. Keys*, 333 F.3d 1109 (10th Cir. 2003). The Tenth Circuit Court of Appeals vacated their decision as moot in January 2004 because the preliminary injunction awarded by the district court in 2002 had expired and remanded the case back to the district court to dispose of any remaining issues. 355 F.3d 1215 (10th Cir. 2004). After hearings, Judge Parker issued his final opinion and order agreeing that issues relating to discretion over San Juan-Chama project water are moot but declining to vacate any of his earlier orders. *Rio Grande Silvery Minnow v. Keys*, No. CV99-1320 JP/RHS-ACE (filed D.N.M. Nov. 11, 2005). As of the writing of this article, appeals of this opinion and order were pending in the Tenth Circuit.

89. *Rio Grande Silvery Minnow*, 333 F.3d at 1130.

90. *Id.* The Court held that the issue of whether compensation is owed to water contractors for reduced water deliveries was moot. *Id.* at 1138.

Still hoping that these hard-won rulings could catalyze long-term and cooperative water management reforms in the Middle Rio Grande,⁹¹ a diverse group of New Mexicans, including the conservation groups, engaged in negotiations convened by New Mexico Governor Richardson, who later made the talks public, saying, "We need to lower the rhetoric, roll up our sleeves and find a solution."⁹² Unfortunately, after months of intense talks, Gov. Richardson called off the negotiations after the Bureau of Reclamation claimed that they did not have enough time to develop a position on any agreements negotiated thus far.⁹³

SETTLEMENT OF SAN JUAN-CHAMA ISSUES

Negotiations continued between the conservation groups and the City of Albuquerque. On February 23, 2005, the City of Albuquerque, Albuquerque-Bernalillo County Water Utility Authority,⁹⁴ and the conservation groups announced a settlement agreement.⁹⁵ Key items in the agreement include a release of claims relating to the SJC Project by the conservation groups, funding—from all parties—for a pilot environmental water leasing program, modification of the city's water bills so that residents have the choice to add one dollar per month to their bills to go toward the purchase of environmental water for the Rio Grande, and storage space in Abiquiu Reservoir for an "Environmental Pool" of water.⁹⁶ Conservation water in the Environmental Pool will be used to benefit the

91. See, e.g., *id.* at 1121 (in finding ripeness, the court reasoned that "resolution of the purely legal question at the heart of this appeal may permit the parties to fully address the array of long-term planning and water management issues which lurk beneath the surface").

92. Tania Soussan, *Minnow Talks Secretly Held*, ALBUQUERQUE J., July 22, 2003. Some of the rhetoric in the summer of 2003 featured the Mayor of Albuquerque's mistaken assertion that this decision will "take[] 'water from the mouths of children'" See Ben Neary, *Court Rules in Favor of Minnow*, SANTA FE NEW MEXICAN, June 13, 2003, at A1.

93. Press Release, Office of the Governor, State of New Mexico, Governor Bill Richardson Postpones Silvery Minnow Talks Pending Federal Legislative Action (Sept. 10, 2003) (on file with author); Ben Neary, *Governor Ends Minnow Talks with Enviros*, SANTA FE NEW MEXICAN, Sept. 12, 2003, at B1.

94. In 2003, the Albuquerque-Bernalillo County Water Utility Authority was formed. N.M. STAT. § 72-1-10 (Supp. 2006). The legislation creating the Authority called for the City of Albuquerque to transfer its real and personal property, such as its San Juan-Chama water contract with Reclamation, to the Authority. Unless another entity is specified, this article will refer to this entity as the Authority because it has acquired the City's SJC interests. See NMSA 1978, § 72-1-10 (2005).

95. Erik Siemers, *Water Accord Signed: Groups, City Reach Compromise on Minnow Lawsuit*, ALBUQUERQUE TRIB., Feb. 23, 2005, at A1.

96. Settlement Agreement Between *Rio Grande Silvery Minnow v. Keys Plaintiffs*, the City of Albuquerque and the Albuquerque-Bernalillo County Water Utility Authority 2-4 (Feb. 23, 2005).

Rio Grande's aquatic and riparian habitat as well as protected wildlife.⁹⁷ The purpose of this agreement was to put in place permanent measures to help recover the silvery minnow by creating an environmental bank account for the Rio Grande via long-term storage space for environmental water and funding sources for acquiring water.⁹⁸

Judge Parker approved the settlement between the conservation groups and the City of Albuquerque, stating, "The Court commends the Plaintiffs, the City of Albuquerque, the Albuquerque-Bernalillo County Water Utility Authority, and their attorneys for amicably resolving their disputes following highly contentious battles in this case."⁹⁹ With these kind words ringing in the parties' ears, they must now learn how to transform this environmental bank account from an idea into reality. In addition to familiarizing themselves with the existing laws governing Corps operation of Abiquiu Reservoir, the parties also examined previous uses of Abiquiu for storage, which this article explores.

Corps Management of Abiquiu Reservoir

The Flood Control Acts of 1948, 1950, and 1960 authorized Abiquiu Reservoir and later set forth its operating criteria.¹⁰⁰ According to the operating criteria, the Corps operates the Reservoir for flood control and to bypass El Vado inflows for delivery to the MRGCD.¹⁰¹ The Corps can deviate from normal operations if there is an emergency or if the Corps receives the advice and consent of the Rio Grande Compact Commission.¹⁰² The operating criteria, as spelled out in the Corps' water control manual, require, on occasion, the carry over of flood waters through the irrigation season rather than swift evacuation:

Typically, if Rio Grande inflows exceed downstream channel capacities during April and May, Abiquiu captures this peak of snowmelt runoff, and releases it during June and early July. However, any Rio Grande storage remaining after the

97. *Id.* § III.3.b.iv.

98. *See id.* §§ II, IV. *See also* Memorandum from the Regional Director, *supra* note 47, at 109 (recommending acquisition of storage space and water rights for a conservation pool to further the conservation of the silvery minnow).

99. *Rio Grande Silvery Minnow v. Keys*, 469 F. Supp. 2d 1003, 1012 (D.N.M. 2005) (dismissing SJC claims).

100. *See supra* note 15 (authorizing the Middle Rio Grande Flood Control Program); Pub. L. No. 86-645, 74 Stat. 480 (setting operating criteria).

101. *See generally* U.S. ARMY CORPS OF ENGINEERS, *supra* note 22, vol. I, app. A, at 2-1. Abiquiu Reservoir has a flood control pool of approximately 550,000 acre-feet and a sediment pool of 77,039 acre-feet. *Id.* at 2-3.

102. Pub. L. No. 86-645, § 203, 74 Stat. 480, 493 (1960). *See also* 33 C.F.R. § 208.11(d)(9) (2006).

natural flow at Otowi drops below 1,500 cfs (July 1st or later) is carried over...and not released until November 1st or later.¹⁰³

In addition, Congress later authorized the storage of 200,000 acre-feet of SJC water within Abiquiu's flood and sediment space.¹⁰⁴ The Corps can enter into agreements with SJC contractors for a total of 200,000 acre-feet of storage in Abiquiu Reservoir.¹⁰⁵ Utilization of this storage space required the storing entity to acquire easements to inundate lands up to 6,220 feet elevation within the existing flood control and sediment pool.¹⁰⁶ Albuquerque holds easements up to this elevation (which correlates to the original 200,000 acre-feet based on sediment accumulation at the time), but current storage space available below that elevation is 183,000 acre-feet.¹⁰⁷

Congress also authorized the Corps to store up to 200,000 acre-feet of native water within the unused space of the SJC pool in Abiquiu.¹⁰⁸ To store native water in this space, the Corps must first take several actions. First, the Corps believes that it must approve the Authority's subleases, if any, of Abiquiu Reservoir storage space, although the form of approval is not specified in the contract with the Authority.¹⁰⁹ Second, the Corps currently considers the storage of native water to be a deviation from normal reservoir operations and thus the agency must obtain the advice and consent of the Rio Grande Compact Commission.¹¹⁰ The Rio Grande Compact Commission administers the Rio Grande Compact (Compact), which apportions the waters of the Rio Grande among Colorado, New

103. Upper Rio Grande Water Operations Model Rules Documentation, Summary 5 (June 2005), available at [http://www.spa.usace.army.mil/urghom/trcdocs/jun2005/Rules%20Description%20\(June,%202005\)%20\(RULES\).pdf](http://www.spa.usace.army.mil/urghom/trcdocs/jun2005/Rules%20Description%20(June,%202005)%20(RULES).pdf). See also U.S. ARMY CORPS OF ENG'RS ET AL., UPPER RIO GRANDE BASIN WATER OPERATIONS REVIEW: TECHNICAL TEAM REPORTS, FINAL ENVIRONMENTAL IMPACT STATEMENT, vol. 2, app. I, at I-7 (Apr. 2007).

104. Pub. L. No. 97-140, § 5(b), 95 Stat. 1717, 1717-18 (1981). Utilization of this storage space shall not interfere with the flood control and sediment purposes. *Id.* As sediment increases, it displaces SJC storage space. U.S. ARMY CORPS OF ENG'RS, *supra* note 103, vol. 2, app. I, at I-8.

105. Pub. L. No. 97-140, § 5(b), 95 Stat. 1717, 1717-18 (1981). See, e.g., Contract Between the United States of America and Albuquerque, New Mexico for Water Storage Space in Abiquiu Reservoir, DACW47-86-C-0009 (Mar. 20, 1986) [hereinafter Contract Between the United States and Albuquerque] (on file with author).

106. Contract Between the United States and Albuquerque, *supra* note 105, art. 5.

107. U.S. ARMY CORPS OF ENG'RS ET AL., *supra* note 103, at VI-1.

108. Pub. L. No. 100-522, § 1, 102 Stat. 2604, 2604 (1988). SJC water has the first right to storage in Abiquiu Reservoir. Only if there is space left over after storing SJC water can native water be stored. *Id.*

109. See Contract Between the United States and Albuquerque, *supra* note 105, art. 10.

110. See U.S. ARMY CORPS OF ENG'RS ET AL., *supra* note 103, vol. 1, ch. II, at II-5 to -6; see also Flood Control Act of 1960, Pub. L. No. 86-645, § 203, 74 Stat. 480, 493 (1960).

Mexico, and Texas and determines the water available for use in the Middle Rio Grande.¹¹¹

Instead of seeking approval for each deviation on a case-by-case basis—an annual proposition for multi-year storage and carry over—the corps may amend its *Water Control Manual*. The *Manual* presents the Corps' overall plan for flood control in the basin and deviations from the plan require approval of the Compact Commission.¹¹² Modification of the plan to include congressional authorization to store native water within the Corps' operating criteria would eliminate native water storage as a deviation from normal operations.¹¹³ For either, a deviation or amendment of the *Water Control Manual*, the Corps must comply with the National Environmental Policy Act (NEPA)¹¹⁴ and other applicable laws and regulations.¹¹⁵

In addition, for permanent storage of water, which would be required for the environmental pool, the Corps may need to reach agreement with SJC contractors who have contracts to store SJC water in Abiquiu and with landowners party to the SJC storage easements because these agreements may only cover the storage of SJC water.¹¹⁶ Reservoir storage is also subject to a permit from the state engineer.¹¹⁷

Supplemental Water Program and Conservation Water Agreement

Reclamation's supplemental water program demonstrates how the parties could implement an Environmental Pool comprised of SJC water.¹¹⁸ For example, the Authority has leased up to 20,000 acre-feet of storage space in Abiquiu to Reclamation for supplemental water for the silvery minnow. This agreement—an agreement closely related to the type of

111. Rio Grande Compact, 53 Stat. 785 (1939), reprinted in N.M. STAT. § 72-15-23 (1978).

112. U.S. ARMY CORPS OF ENG'RS, *supra* note 22, at 7-1, 7-11.

113. *Id.* at 7-10 to -11.

114. 42 U.S.C. §§ 4321-4335 (2000).

115. *E.g.*, U.S. ARMY CORPS OF ENG'RS, ABIQUIU AND JEMEZ CANYON RESERVOIRS SUPPLEMENTAL WATER STORAGE AND RELEASE: FINDING OF NO SIGNIFICANT IMPACT AND ENVIRONMENTAL ASSESSMENT 8 (Apr. 2001) (on file with author).

116. Letter from Todd Wang, District Engineer, U.S. Army Corps of Engineers, to Mark S. Sanchez, Executive Director, Albuquerque-Bernalillo County Water Utility Authority 2 (July 15, 2005) (noting the need for "amendments of lease agreements with landowners") (on file with author).

117. U.S. ARMY CORPS OF ENG'RS ET AL., *supra* note 103, ch. 11, at II-5 to -6.

118. See generally DEPT OF INTERIOR, BUREAU OF RECLAMATION, MANAGING WATER IN THE WEST, SUPPLEMENT TO THE RIO GRANDE SUPPLEMENTAL WATER PROGRAMMATIC ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT (May 2006), available at <http://www.usbr.gov/uc/albuq/envdocs/ea/riogrande/index.html>.

sublease contemplated in the settlement agreement — has approval from the Corps.¹¹⁹

Reclamation acquires SJC water for its supplemental water program and will store all or part of this SJC water in this space.¹²⁰ As part of this program, Reclamation leases SJC water from contractors and exchanges that water for native water, allowing the MRGCD to use the SJC water and bypass the same amount of native water for beneficial instream flow and delivery to Elephant Butte.¹²¹ Reclamation performs this exchange because SJC water does not count toward Compact delivery and must be consumptively used within the Middle Rio Grande.¹²²

The Conservation Water Agreement (CWA) of 2001 illustrates the procedures that the parties to the settlement agreement may follow in establishing an Environmental Pool using native water. The CWA is an innovative solution to the puzzle posed by the need for instream flow for the silvery minnow's river habitats. It was instigated by the silvery minnow litigation when the State of New Mexico, on March 5, 2001, sent a settlement proposal to the United States that would involve storing water in upstream reservoirs for release to meet instream environmental needs.¹²³ The state was taking advantage of its Compact credit status — helped by deliveries of supplemental minnow water in previous years — to store native water in Abiquiu Reservoir.¹²⁴ The agreement would operate in compliance with the

119. Agreement Between the U.S. Department of the Interior, Bureau of Reclamation and the Albuquerque Bernalillo County Water Utility Authority to Lease Abiquiu Reservoir Storage Space (on file with author). The agreement was signed August 17, 2005. See Albuquerque Bernalillo County Water Utility Authority Minutes 5 (Aug. 17, 2005), *available at* http://www.abcwua.org/pdfs/minutes_08_17_2005.pdf.

120. See generally DEP'T OF INTERIOR, *supra* note 118. For example, as part of its supplemental water program, in August 2006, Reclamation leased Albuquerque's San Juan-Chama allocation for the silvery minnow. See Albuquerque Bernalillo County Water Utility Authority Minutes 4 (Aug. 16, 2006), *available at* http://www.abcwua.org/pdfs/minutes_08_16_2006.pdf (approving San Juan-Chama Project Contract Between the United States of America, the Bureau of Reclamation, and the Albuquerque-Bernalillo County Water Utility Authority to Lease the Use of up to 48,200 Acre-Feet of Stored Water).

121. See DEP'T OF INTERIOR, DRAFT RIO GRANDE SUPPLEMENTAL WATER PROGRAMMATIC ENVIRONMENTAL ASSESSMENT ch. 2, at 1 (Feb 2001).

122. Rio Grande Compact, art. IX, 53 Stat. 785, 790 (1939), *reprinted in* NMSA 1978, § 72-15-23 (2005).

123. See Letter from Stephen Farris, N.M. Asst. Att'y Gen. et al., to Andrew Smith, U.S. Dep't of Justice et al. (Mar. 5, 2001), *available at* <http://www.ose.state.nm.us/doing-business/mrgsettle/3-5-01-Settlement-Proposal.pdf>.

124. Memorandum of Understanding Regarding Endangered Species Conservation Pool between the Interstate Stream Commission (ISC) and the Corps of Engineers (Apr. 12, 2001) (on file with author). In addition to setting the downstream water delivery requirements of each state, the Compact limits "the amount of water in storage reservoirs constructed after 1929 whenever there is less than 400,000 acre feet of usable water in project storage...." See Rio Grande Compact, art. IX, 53 Stat. 785, 790 (1939), *reprinted in* NMSA 1978, § 72-15-23 (2005). The

Compact by storing only that water that otherwise would have flowed to Elephant Butte Reservoir, contributing to the state's credit, and would not diminish any downstream user's water use.¹²⁵

On June 29, 2001, the day the FWS issued its first biological opinion, the Conservation Water Agreement was signed, establishing the terms and conditions of the storage and use of the water.¹²⁶ The CWA itself is an agreement between the State of New Mexico, on behalf of the New Mexico Interstate Stream Commission and Attorney General, and the United States, on behalf of Reclamation and the Corps.¹²⁷

The CWA provided for total storage of up to 100,000 acre-feet of water and the release of up to 30,000 acre-feet per year of "Conservation Water" from a "Conservation Pool" in the Corps' Jemez and Abiquiu Reservoirs from 2001 to 2003 and the carryover of unused water into the following year.¹²⁸ The CWA was intended to assist in fulfilling the obligations of the 2001 BiOp's RPA by making water available to meet the flow targets for the silvery minnow and flycatcher, to avoid jeopardy to listed species, to contribute to their recovery, and for other purposes.¹²⁹

The CWA defines Conservation Water as "water stored and made available consistent with state law by New Mexico as a conservation pool above Elephant Butte Reservoir. This is native Rio Grande water that, if not stored, would otherwise have flowed downstream to Elephant Butte Reservoir and contributed to New Mexico's compact deliveries."¹³⁰ The agreement also sets forth the obligations of the State and the United States and the conditions under which Conservation Water may be made available to the United States.

In sum, under the CWA, the Corps would store native water in its upstream reservoirs and release it for the silvery minnow's benefit.¹³¹ Such

Compact also limits upstream storage when accrued debits exceed set quantities. *Id.* art. VI. The Compact defines "Usable Water" as "all water, exclusive of credit water, which is in project storage and which is available for release in accordance with irrigation demands, including deliveries in Mexico." *Id.* art I(l). "Credit Water" is "that amount of water in project storage which is equal to the accrued credit of Colorado, or New Mexico, or both." *Id.* art. I(m).

125. U.S. ARMY CORPS OF ENG'RS, *supra* note 113, at 8.

126. Conservation Water Agreement (June 29, 2001), *available at* <http://www.ose.state.nm.us/doing-business/mrgsettle/conservationwateragreement.f01.pdf>.

127. *Id.*

128. *Id.* § 4, at 3.

129. *Id.* § 1, at 1.

130. *Id.* § 3, at 2.

131. Because only the Corps is authorized to store native water, supplemental agreements were needed between the Corps and the State of New Mexico to establish the Conservation Pool and utilize Abiquiu storage space for temporary storage of native water for the benefit of listed species. *See, e.g.,* Memorandum of Agreement Between the New Mexico Interstate Stream Commission and the United States Army Corps of Engineers (Apr. 4, 2001), *available at* www.ose.state.nm.us/doing-business/mrgsettle/4-12-01-Abiquiu-MOA.pdf.

storage and carry over was a deviation from Corps operations and required the advice and consent of the Rio Grande Compact Commission, obtained via a resolution before the agreement was signed.¹³² Deviation from normal operations in a non-emergency situation required Corps approval; the Corps completed NEPA compliance on the deviation of native water storage in Abiquiu and Jemez reservoirs.¹³³

Water released pursuant to the CWA had to be "release[d] to the Rio Grande for beneficial uses occurring in the Rio Grande...consistent with a permit issued by the New Mexico Office of the State Engineer...."¹³⁴ The United States would pay New Mexico \$41 for each acre-foot of water stored and released and would join with the New Mexico Interstate Stream Commission (ISC) to seek a permit from the State Engineer for storage and release of the Conservation Water.¹³⁵ The ISC submitted an emergency application for a permit so that the Corps could begin capturing runoff in April 2001 pursuant to an interim agreement.¹³⁶ The State Engineer granted the application and issued a permit for "[s]torage and release of water for Endangered Species Act and/or Rio Grande Compact Management" in the amount of 100,000 acre-feet of water.¹³⁷

Storage of native flow was also allowed to occur because space was available in the reservoirs, New Mexico had acquired a credit in Compact deliveries, Article VII of the Compact was not limiting upstream storage, and the agreement allowed the capture only of water that would have otherwise flowed to Elephant Butte, i.e., water in excess of upstream demand.¹³⁸

Though previously untested, the CWA was generally successful. By the end of 2001, the Corps had stored approximately 59,000 acre-feet of water in the Conservation Pool.¹³⁹ The Corps, Reclamation, and ISC released

132. Resolution of the Rio Grande Compact Commission Regarding the Storage of Native New Mexico Rio Grande Water in U.S. Army Corps of Engineers Middle Rio Grande Project Reservoirs (Apr. 11, 2001) (on file with author).

133. See generally U.S. ARMY CORPS OF ENG'RS, *supra* note 115.

134. Conservation Water Agreement, *supra* note 126, § 5.D, at 4.

135. *Id.* § 6.A-B, at 5. The water would be leased to the federal government, and funds received would be used for minnow protection, see generally *id.*

136. See Application # 4822 (filed Apr. 11, 2001, amended June 29, 2001 to include Reclamation as a permittee) (on file with author); see also Memorandum from Richard M. DeSimone on Application No. SP-4822 to File (Apr. 28, 2003) (on file with author).

137. Permit No. SP-4822 (Apr. 28, 2003) (on file with author).

138. See generally U.S. ARMY CORPS OF ENG'RS, *supra* note 115.

139. See Endangered and Threatened Wildlife and Plants, Designation of Critical Habitat for the Rio Grande Silvery Minnow, 68 Fed. Reg. 8088, 8103 (Feb. 19, 2003) (codified at 50 C.F.R. pt. 17).

about 22,000 acre-feet later that year, and the remainder in 2002, for the benefit of the silvery minnow and flycatcher.¹⁴⁰

The negotiation and implementation of the CWA will guide the parties to the settlement agreement. Many of the documents used to implement the CWA will serve as templates for agreements among the Corps, the State of New Mexico, the Authority, and the conservation groups and draw attention to the conditions on storing and releasing water in their Environmental Pool.

Options for an Environmental Pool

Establishment of the Environmental Pool will require several steps, with each taken in cooperation with the Authority, Corps, State of New Mexico, and other parties. First, as called for in the settlement agreement, the conservation groups will enter into a sublease with the Authority and obtain sign-off from the Corps. Next, these parties must determine the use and source(s) of water in the Environmental Pool. The settlement agreement directs that the parties will use the water for the benefit of the Rio Grande, the Bosque, and the silvery minnow; the agreement also contemplates both agricultural and municipal sources of water for the Environmental Pool.¹⁴¹

In order for the Corps to store native water, the conservation groups may be required to enter into agreements with the Corps setting forth the terms and conditions of storage, carry over, and release. The Corps, in the CWA, demonstrated its ability to store native water that is available after all downstream needs are met.¹⁴² One other potential source of water, water acquired via a pilot leasing program supplied by agricultural forbearance, per the Settlement Agreement, would require an application for change in purpose and place of use.¹⁴³ Though not mentioned in the settlement agreement, the purpose of the Environmental Pool lends itself to partnership with the Strategic Water Reserve, a recent creation of the New Mexico legislature.¹⁴⁴ The legislation allows the ISC to

140. *Id.*

141. Settlement Agreement Between *Rio Grande Silvery Minnow v. Keys* Plaintiffs, the City of Albuquerque, and the Albuquerque-Bernalillo County Water Utility Authority, § III.c, d (Feb. 23, 2005).

142. See *supra* notes 132-140 and accompanying text. See also U.S. ARMY CORPS OF ENGINEERS ET AL., *supra* note 103, vol. 2, ch. II, at 10-11 (Native storage may occur when (1) native water flow on the mainstem is sufficient to meet downstream demand, (2) native water inflow to the reservoir exceeds downstream demand on the Rio Chama, (3) the Compact does not limit native water storage, (4) New Mexico is in accrued Compact credit status, and (5) space exists in Abiquiu's SJC pool.).

143. See NMSA 1978 § 72-5-24 (1997).

144. NMSA 1978, § 72-14-3.3 (2005). See also N.M. CODE R. § 19.25.14 (Weil 2007).

acquire water rights from willing sellers, lessors, or donors¹⁴⁵ and states that the ISC “shall manage water and water rights within the strategic water reserve in order to assist...the state and water users in water management efforts for the benefit of threatened or endangered species or in a program intended to avoid additional listings of species.”¹⁴⁶ Such a partnership with the state could facilitate the acquisition of a permit from the State Engineer for the storage and release of water for the Environmental Pool.

The conservation groups would then work with the ISC to obtain the advice and consent of the Compact Commission for any deviation from normal operations, whether case by case or by amendment to the *Water Control Manual*. The parties would then work with the Corps to complete NEPA compliance for the deviation or amendment to the *Manual*. If necessary, the parties, the Corps and the Authority, would seek arrangements with others who hold contracts to store in Abiquiu Reservoir and with landowners subject to Abiquiu Reservoir storage easements.

NEPA compliance for these actions by the Corps could tier off an existing programmatic environmental impact statement regarding river operations.¹⁴⁷ In early 2007, the Corps, Reclamation, and the ISC issued their Final Environmental Impact Statement for the Upper Rio Grande Basin Water Operations Review (URGWOPS Review), which is an examination of potential flexibilities in basin water operations from the headwaters to west Texas within existing legislative requirements and parameters.¹⁴⁸ The Final Environmental Impact Statement for the URGWOPS Review considers six action alternatives, each of which includes the element of storage of up to 20,000 acre-feet, 75,000 acre-feet, or 180,000 acre-feet of native water in Abiquiu Reservoir, in addition to other operational changes.¹⁴⁹ The URGWOPS Review predicted that native water would be available for storage in up to 20 years of the 40-year period¹⁵⁰ but did not model the

145. N.M. CODE R. § 19.25.14.10 (Weil 2007). The Middle Rio Grande is one of the ISC's priorities for 2007. Conversation with Amy Haas, ISC, Mar. 12, 2007.

146. N.M. CODE R. § 19.25.14.13(A).

147. Tiering is a process of addressing a broad program or proposal in a programmatic environmental impact statement and analyzing a site-specific proposal related to the initial proposal in a subsequent NEPA document. See 40 C.F.R. § 1502.20 (2007). See also 32 C.F.R. § 651.14(c)(1-2) (2007) (for Corps NEPA implementing regulations). See also U.S. ARMY CORPS OF ENG'RS, *supra* note 22, vol. I, at I-7 (noting the use of the final EIS for tiering to future analysis of related site-specific actions).

148. Department of the Interior, Bureau of Reclamation [FES-05-80], Upper Rio Grande Basin Water Operations Review, Notice of Availability of the Final Environmental Impact Statement for the Upper Rio Grande Basin Water Operations Review, 72 Fed. Reg. 19, 959, 19,960 (Apr. 20, 2007).

149. U.S. ARMY CORPS OF ENG'RS ET AL., *supra* note 110, vol. 1, ch. II, at II-15.

150. *Id.* ch. IV, tbl. 4-3, at IV-22.

specific uses, releases, and storage of the water as that would be dictated by specific agreements for storage.¹⁵¹

CONCLUSION

Based on the analysis above, acquiring long-term storage space and water for the Environmental Pool will entail cooperation with federal, state, municipal, and other entities. This reflects what the conservation groups have promoted since day one: there are many activities that will contribute to the conservation of the silvery minnow and the Rio Grande; these activities must be collaborative; and they must be long term.¹⁵² It is the conservation groups' hope that implementing a key conservation recommendation will catalyze other reforms.¹⁵³ For example, the setting aside of space to store water specifically for environmental uses may encourage other water managers and users to sell, lease, or donate water for instream uses. The ability to lease water for and to dedicate water to instream uses may then spur innovative mechanisms for water conservation and flexibility in moving that water among Middle Rio Grande water users.

151. *Id.* ch. IV, at IV-15.

152. See Mary Orton et al., *Middle Rio Grande: Water Plan for the Future* (2007) (on file with author).

153. See Memorandum from the Regional Director, *supra* note 26, at 109.