# THE RIO GRANDE SILVERY MINNOW AND THE ENDANGERED SPECIES ACT

SEAN O'CONNOR*

## INTRODUCTION

The Rio Grande silvery minnow smells like a fish, does not soar, leap, or cuddle, and has no discernable dollar-value except as bait. But something tells us that the minnow is still *valuable*, and that biodiversity in general is valuable; the more species, the better. Our assignment of value goes beyond standard economic analysis, beyond utilitarian concern, beyond man as the purely rational animal.[1] Congress recognized this when it created the federal Endangered Species Act of 1973[2] (ESA), calling "the value of... [our] genetic heritage[,] ... quite literally, incalculable."[3]

That is a forceful statement when taken in the context of the ESA's long-armed ability to curtail economic activity in favor of preserving species, especially considering the ESA establishes no scale of worth against which to measure species. A lichen is assigned the same baseline value as a moss-eyed panther.[4] "Big and pretty" animals do not get extra credit, nor do

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* Candidate for Juris Doctor, University of Colorado School of Law, 2000; B.A., University of Notre Dame, 1997. The author thanks Kim Intagliata, Devon Lehman, Chris Young, and the rest of the staff at the Law Review for their diligent editorial assistance. Thanks also to Zahm Hall for immeasurable contributions of a substantive nature.

1. *See, e.g.*, Paul R. Ehrlich & Edward O. Wilson, *Biodiversity Studies: Science and Policy*, 253 SCI. 758 (1991), suggesting that our determination of the value of biodiversity can be broken into several categories, including the economic (both as a direct and a genetic resource), but also including the ecological value of species, and the philosophical value. This last category, the most subjective and profound, comprises the aesthetic, ethical, and intrinsic worth we accord to non-human species. But, depending on how biologically-deterministic your bent, you might argue that these altruisms ultimately derive from an evolutionary predisposition to favor species-rich, and hence resource-rich, environments. Wilson develops the latter belief in his theory of *biophilia*. *Id.*

2. 16 U.S.C. §§ 1531–43 (1994).

3. H.R. REP. No. 93-412, at 4 (1973).

4. There is sound utilitarian justification for this, as many of our medicines derive from (often nondescript) plants or the genetic material from other species.

organisms of extraordinary economic value, such as the Pacific salmon. Everything is supposed to be equally safe under the federal wing.[5]

The original ESA language lacked any mention of economics. The designation process allowed for no consideration of the economic hardship resulting from listing of species as endangered nor from designating "critical habitat"— that is, habitat necessary for the recovery of the species in question.[6] Then the ESA smashed mouths with economic reality and the power of the Act became apparent. Discovery of a fish no bigger than a silvery minnow, the snail darter, arrested the construction of the nearly completed multimillion dollar Tellico dam on the Little Tennessee River.[7] The dam would have flooded the endangered darter's critical habitat in violation of the ESA.[8] Alarmed by the implications, Congress responded with Amendments to the ESA[9] that tempered what had been a purely scientific mix with a new element. Now, before designating critical habitat, the United States Fish and Wildlife

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Furthermore, the ecological interconnectedness of all things, and our lack of complete understanding of these relationships, warrants the cautious maxim of Aldo Leopold: "[t]o keep every cog and wheel is the first precaution of intelligent tinkering." ALDO LEOPOLD, *The Round River—A Parable*, *in* A SAND COUNTY ALMANAC 175, 177 (1966). Neither of these justifications for maintaining biodiversity depend on a belief in an animal's intrinsic or aesthetic worth.

5. Of the 512 animal species listed or proposed for listing as endangered or threatened, several hundred are invertebrates such as snails and insects. U.S. Fish and Wildlife Service, Species Information: Threatened and Endangered Animals and Plants, *at* http://endangered.fws.gov/wildlife.html (last visited Dec. 4, 2001).

6. The ESA required the agency charged with its implementation, in most cases the United States Fish and Wildlife Service (FWS), to determine and publish as part of the final rule listing a species as endangered, that area necessary for the conservation of the species. 16 U.S.C. § 1533(a)(3)(A) (1994).

7. Tennessee Valley Auth. v. Hill, 437 U.S. 153 (1978). In *Hill*, the Court enjoined completion of the Tellico Dam near Knoxville because the action would have flooded the critical habitat of the snail darter, an endangered species, eradicating its only known population. *Id.* In 1979, however, Congress attached a rider to the House energy and water appropriations bill that allowed construction to proceed. DANIEL J. ROHLF, THE ENDANGERED SPECIES ACT: A GUIDE TO ITS PROTECTIONS AND IMPLEMENTATION 3 (1989).

8. The Tellico dam was nearing completion when, in 1977, the Sixth Circuit Court of Appeals enjoined the construction of the dam. ROHLF, *supra* note 7, at 2. The snail darter was discovered in 1973. *Id.* From the environmentalist's standpoint, the ESA provided the perfect legal grounds for saving the natural character of the Little Tennessee.

9. Endangered Species Act Amendments of 1978, Pub. L. No. 95-632, § 3(a), (e)–(m), 92 Stat. 3751, 3752–59 (1978).

Service (FWS) was to consider the *economic* impact of the designation.[10] Dilution of habitat protection on economic grounds became a viable option.

In this there is a discrepancy. The actual listing of endangered species is not infused with economic analysis. The Amendments did not change this. But by creating an economic check on the designation of critical habitat, Congress weakened protection for listed species. Simple biology tells us that it is senseless to ban killing a species if you continue to let its habitat deteriorate.[11] A protected fish, for instance, will not live in a dry river. And if the "genetic wealth" to which this fish contributes is truly "incalculable," how does it follow that protection of its "critical habitat," the river, can be outweighed by economic concerns?

Surprisingly, the economic analysis has until now not been a dominant element in the arena of critical habitat designation. Perhaps that is because the FWS,[12] arguing that critical habitat designation provides no added protection to listed species, systematically fails to make alacritous habitat designations.[13] This undervaluation of critical habitat belies an approach implicit in the ESA; protecting endangered and declining species by protecting their ecosystems. The ESA specifically names as its first purpose the conservation of "ecosystems upon which endangered and threatened species depend."[14] This language is

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10. *Id.* § 11(7). Admirably, Congress resisted pressure to gut the ESA by eliminating section 7. *See* ROHLF, *supra* note 7, at 3, 29. Congress did, however, create the so-called "God Squad" Committee, which was authorized to exempt projects from section 7. *Id.* at 29; discussed further *infra* in text accompanying notes 141–44.

11. *See generally* Katherine Simmons Yagerman, *Protecting Critical Habitat Under the Federal Endangered Species Act*, 20 ENVTL. L. 811, 818–27 (1990) (discussing the importance of maintaining habitat integrity when managing for biodiversity).

12. For terrestrial and freshwater species, such as the silvery minnow, the ESA is implemented by the FWS, which is a branch of the Department of the Interior. Protection for marine and anadromous species is administered by the National Marine Fisheries Service (NMFS) within the Department of Commerce. *See* Oliver A. Houck, *The Endangered Species Act and Its Implementation by the U.S. Departments of Interior and Commerce*, 64 U. COLO. L. REV. 277, 279 n.7 (1993).

13. *See infra* text accompanying notes 378–81.

14. The relevant passage reads: "The purposes of this chapter are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species . . . ." 16 U.S.C. § 1531(b) (1994).

a green light to attack the species conservation problem using an ecosystemic approach.[15] The critical habitat provision is the part of the ESA most appropriate for realizing the goal of ecosystem conservation. Yet the FWS does not impute its notion of critical habitat with the significance of this stated purpose of the ESA.

The critical habitat deficiencies may squeeze tightest those organisms that lack the marketability to win the public's admiration, bland critters without doe eyes. These organisms have been declared incalculably valuable, but is that valuable enough to justify doing violence to local economies? Their value is clear in the abstract, but sometimes fails to provide the people affected with the real conviction to forego economic activities and make strong, ecosystemically-integral designations of critical habitat.

Enter the Rio Grande silvery minnow. Listed as endangered in 1994,[16] the Rio Grande subspecies of the silvery minnow (*Hybognathus amarus*) is an indistinct member of the family *Cyprinidae*, one of the largest fish families in the world.[17] About two inches long, it varies from a translucent to a sandy gray, until it changes direction and pearl flashes across it;[18] your typical minnow, subtly pretty in the right light. The silvery minnow historically was one of the most abundant fish in the Rio Grande, ranging from Espanola in northern New Mexico to the Gulf of Mexico, a stretch of one thousand miles.[19] The minnow could also be found in the Pecos River and other Rio Grande tributaries.[20] The minnow has been extirpated from ninety-five percent of its historical range, surviving in only a 163-mile stretch of the Middle Rio Grande main stem in New Mexico.[21] Despite the endangered listing, it continues to suffer major population losses.

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15. *See generally* Yagerman, *supra* note 11, at 818–27 (explaining the ecosystemic approach to species conservation).

16. Endangered and Threatened Wildlife and Plants; Final Rule To List the Rio Grande Silvery Minnow as an Endangered Species, 59 Fed. Reg. 36,988 (1994) (codified at 50 C.F.R. pt. 17 (1999)) [hereinafter Listing Final Rule].

17. *Id.*

18. *See* Kate Nelson, *Biologist Sees a Larger Issue Behind Plight of Minnows*, ALBUQUERQUE TRIB., July 29, 2000, at C1.

19. Listing Final Rule, *supra* note 16, at 36,988.

20. *Id.*

21. *Id.*

The most immediate cause of the minnow's decline is ostensibly simple: lack of water.[22] The Rio Grande is sucked down to a trickle every summer by the irrigation ditches and desert cities like Albuquerque and Santa Fe that slake their thirst at its waters. In places, even to call it a "river," much less "Grande," is a misnomer. Indeed, irrigation appropriations and dams have damaged the entire ecosystem of the Rio Grande and its floodplain. Droughts in 1996 and again in the summer of 2000 have brought the minnow to the brink of extinction.

Protection for the minnow's habitat and assurances of instream water flow have come incrementally, and only with judicial fire on the heels of the FWS. In *Forest Guardians v. Babbitt* (*"Habitat I"*),[23] the court forced the FWS to designate critical habitat for the silvery minnow. The resulting habitat designation subsequently was declared arbitrary and capricious in *Middle Rio Grande Conservancy District v. Babbitt* (*"Habitat II"*).[24] In the meantime, in *Rio Grande Silvery Minnow v. Martinez*,[25] a coalition of environmentalist plaintiffs brought suit against the United States Bureau of Reclamation for failure to comply with the ESA. *Martinez* and *Habitat II* were joined in a court-ordered mediation that, as of this writing, has not resolved the lawsuit. The litigants have been unable to craft a comprehensive plan to ensure the long-term survival of the minnow by protecting the viability of its habitat, the Rio Grande. Interests in the precious water resource are fiercely guarded, and progress comes only at great cost.

While the interest groups hash it out, the minnow clings to existence in a dying river. The intermingling of politics and agency science, driven by economics and epitomized by the FWS's reluctance to assert preemptive federal water rights for instream flows or to designate critical habitat for the silvery

22. There is a strong correlation between the number of endangered fish in a county and the prevalence of irrigated agriculture in that county in all seventeen western states. *See* Michael R. Moore et al., *Water Allocation in the American West: Endangered Fish Versus Irrigated Agriculture*, 36 NAT. RESOURCES J. 319, 319 (1996).

23. 174 F.3d 1178 (10th Cir. 1999). The critical habitat designation is found at Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Rio Grande Silvery Minnow, 64 Fed. Reg. 36,274 (July 6, 1999) [hereinafter Habitat Final Rule].

24. 2000 U.S. Dist. LEXIS 21438 (D. N.M. Nov. 21, 2000).

25. No. CIV 99-1320 JP/KBM-ACE (D. N.M. June, 2000) (unpublished agreed order on file with author).

minnow, has dulled the trenchancy of the Endangered Species Act as a tool of ecosystem preservation. This Comment will analyze the failings of the ESA as applied to the Rio Grande silvery minnow and the Rio Grande.

Part I discusses the ecology of the minnow and summarizes the impacts of various water projects on the ecosystem of the Rio Grande. It also examines the laws that govern Rio Grande water use and the significance of the 1978 and 1982 Amendments to the ESA with special regard to critical habitat and water rights. Part II considers the practicality of an ecosystemic approach to the Rio Grande grounded in the ESA, with reference to other rivers that have experienced ESA litigation. It then looks more closely at the two broad issues that arise in the silvery minnow cases: the ESA's ability to curtail state and private water rights, and the FWS's duty to designate critical habitat and the conservation value of such a designation. Part III examines the politics that complicate ESA protection for the minnow, and discusses the role of judicial review in overcoming agency biases and protecting endangered species ecosystems.

In conclusion, this Comment argues that the ESA should be applied with an emphasis on protecting or restoring entire ecosystems rather than individual species. The FWS should invoke the critical habitat provision of the ESA to lever an ecosystem-healing approach to water management on the Rio Grande.

## I. BACKGROUND—HISTORY AND LAW OF THE RIO GRANDE AND THE ESA

### *A. The Hijack of a River: Reducing the Rio Grande to a Ditch*

The Rio Grande is a sick ecosystem.[26] One hundred years of water diversions for agriculture and urban use have deci-

26. In its annual report on the health of the nation's waterways, American Rivers listed the Rio Grande as one of the ten most endangered rivers in the country for the year 2000. AMERICAN RIVERS, MOST ENDANGERED RIVERS: 1986–2001, *available at* http://www.americanrivers.org/mostendangered/riverlist.htm (last visited Jan. 30, 2002).

mated the plant and animal communities of the Rio Grande.[27] The river pools up or dries out altogether during drought years.[28] In a number of places, a person can walk across the river without getting his or her feet wet.[29]

The "Bosque"[30] of the Rio Grande, a riparian gallery forest of willow and cottonwood, provides habitat for numerous animal residents of the otherwise dry New Mexico midlands.[31] The Bosque extends along the banks of the river in a narrow strip, beyond which lie the irrigated fields and the homes and businesses of forty percent of New Mexico's population, including the city of Albuquerque.[32] Almost two dozen federal or state threatened and endangered species use the Bosque, as well as 227 species of birds.[33] Seasonal wetlands in the floodplain are important to rare animals such as white-faced ibis, black hawks, New Mexico jumping mice, and tawny-bellied cotton rats.

On this biologically precious 180 mile stretch of river from Cochiti Dam to Elephant Butte Reservoir, excluding the narrow strip of trees, only one mile of floodplain has remained undeveloped.[34] Over 230 miles of levees corral the spring freshets that historically rejuvenated the Bosque.[35] This has resulted in a degraded riparian ecosystem that can no longer sustain the Rio Grande silvery minnow and the southwestern willow fly-

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27. *See* SARAH F. BATES ET AL., SEARCHING OUT THE HEADWATERS: CHANGE AND REDISCOVERY IN WESTERN WATER POLICY 100–06 (1993).

28. Listing Final Rule, *supra* note 16, at 36,992.

29. It is a surprising sight to come on the river in the summer and find it essentially a sand wash or, at El Paso, a dry concrete culvert.

30. "Bosque" comes from the Spanish word for woodland. It has come into general usage as the name for the riparian forest of the Rio Grande.

31. *See* Denise D. Fort, *Restoring the Rio Grande: A Case Study In Environmental Federalism*, 28 ENVTL. L. 15, 20–22 (1998). Very little rain falls in central New Mexico (eight inches per year on average). BATES ET AL., *supra* note 27, at 100. The water in the river comes from mountain snowmelt further north. As is often the case in semi-desert areas, riparian habitats support the vast majority of wildlife (in the Southwest, eighty percent of vertebrates depend on riparian habitats for at least half of their life cycles). This is especially true for birds. *Id.* at 47.

32. *See* Fort, *supra* note 31, at 20.

33. *Id.* at 22.

34. FOREST GUARDIANS, EXCERPTS FROM THE UNRELEASED DRAFT REPORT ON THE MIDDLE RIO GRANDE RIVER HEALTH, at 7 (excerpted from U.S. Fish and Wildlife Service, Draft Biological Opinion and Conference Report on the Effects of the Bureau of Reclamation and the U.S. Army Corps of Engineers Programmatic Biological Assessment) (on file with author) [hereinafter FOREST GUARDIANS].

35. *See id.*

catcher, a federally endangered bird that has been joined to the minnow litigation.

1. Settlement and Dambuilders

In 1540, Coronado's Spaniards, disappointed to find the golden Cities of Cibola were only the distorted rumor of the Zuni pueblos, nonetheless founded a settlement in the Rio Grande valley near present-day Albuquerque.[36] Great flocks of geese, cranes and turkeys abounded, as did grizzlies, wolves, and jaguars. All of them were extirpated as Hispanic and Anglo settlers threaded themselves onto the rope of precious Rio Grande water. In the late 1800s, heavy Anglo settlement brought overgrazing, leading to massive erosion and shifts in the vegetation structure.[37] Perennial grasses gave way to annuals and shrubs.[38] Great amounts of silt washed into the river, but because no major flood control structures had been built as yet, spring surges flushed silt from the river's sandy bed.[39]

In 1916, the United States Reclamation Service, precursor to the United States Bureau of Reclamation ("Reclamation"), constructed the first of the Rio Grande dams, Elephant Butte.[40] Though intended to make water available for irrigation, it also began trapping the silt that was washing into the river.[41] This caused the waters to spread further than desired and flooded farmland.[42] In addition, water discharged from the dam moved downstream at a higher than normal velocity, deepening the channel.[43] The United States Army Corps of Engineers ("Corps") intervened with a number of projects intended to trap silt on the tributaries and control flooding.[44] The resulting straightened river abbreviates the ancestral Rio Grande by three-hundred miles.[45]

36. BERNARD DEVOTO, THE COURSE OF EMPIRE 35–41 (1952).
37. BATES ET AL., *supra* note 27, at 102–03.
38. *Id.*
39. *Id.*
40. *Id.* at 103.
41. *Id.*
42. *Id.*
43. *Id.*
44. *Id.* at 103–04.
45. *Id.* at 104.

The State of New Mexico also took a hand in mechanizing the Rio Grande. In 1925, the New Mexico legislature created the Middle Rio Grande Conservancy District (MRGCD) to construct irrigation works and drain water-logged farmland along the Middle Rio Grande.[46] The MRGCD built four dams on the Rio Grande mainstem: Cochiti, Angostura, Isleta, and San Acacia, all of which it operates to this day.[47]

In 1972, the federal government stepped in once more in grand fashion, constructing the San Juan-Chama Project,[48] a trans-basin diversion that brings water under the continental divide via twenty-seven miles of tunnels and empties it into the Rio Chama.[49] Water from San Juan-Chama is stored primarily in the Heron Reservoir, but can be released into the Abiquiu and Elephant Butte Reservoirs, as well.[50] Albuquerque and five other municipalities possess water rights in San Juan-Chama water of 56,000 acre-feet per year.[51] Much of that water is not currently used by the cities, and it sits in the reservoirs, cooking off in the sun.[52]

### 2. Causes of Decline of the Silvery Minnow and Other Rio Grande Fish

This overlay of impoundment, diversion, and channelization has interfered with the ecology of the Rio Grande so profoundly that it is no longer a river so much as a spigot to be opened at will when water is needed for human consumption. Most heavily hit have been the Rio Grande's fish, with thirty-six to sixty-three percent of the original complement of species now gone.[53] The big river species such as gar, sturgeon, drum,

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46. ALLIANCE FOR RIO GRANDE HERITAGE ET AL., DIVERTING THE RIO GRANDE: INEFFICIENT, WASTEFUL AND ILLEGAL WATER USE BY THE MIDDLE RIO GRANDE CONSERVANCY DISTRICT at 2 (Apr. 21, 2000), *available at* http://www.fguardians.org/reports/mrgcdreportoverdiversions.html.

47. *Id.* The dams increased irrigated land in the valley to seventy-five thousand acres, but this has since declined to fifty-two thousand. *Id.* at 2–3.

48. *Id.* at 3–4.

49. *See* CHARLES F. WILKINSON, CROSSING THE NEXT MERIDIAN: LAND, WATER, AND THE FUTURE OF THE WEST 222–23 (1992).

50. *Id.* at 222.

51. *Id.* at 223.

52. *Id.*

53. BIOLOGICAL INTERAGENCY TEAM, MIDDLE RIO GRANDE ECOSYSTEM: BOSQUE BIOLOGICAL MANAGEMENT PLAN (1993) [hereinafter BBMP], *cited in* Fort, *supra* note 31, at 20–22.

redhorse, and blue sucker disappeared from the middle stretch of the river by the end of the nineteenth century.[54] The FWS traces the beginning of the silvery minnow's decline to the closing of the Elephant Butte floodgates in 1916.[55] Other species such as the American eel also began to decline with the building of Elephant Butte dam because the dam blocked migration routes.[56] Between 1939 and 1964, four minnow species similar to the Rio Grande silvery minnow disappeared from the Middle Rio Grande.[57] Causes for the elimination of fish include depletion of instream flows, sedimentation, degraded water quality, dams, and introduction of non-native fish.[58]

Today, the silvery minnow only occurs in a 163-mile stretch of the Rio Grande from Cochiti Dam in Sandoval County, New Mexico, downstream to the headwaters of Elephant Butte Reservoir, near Truth or Consequences, New Mexico.[59] Most remaining minnows live in the San Acacia reach, from the San Acacia Diversion Dam just above Socorro down to Elephant Butte Reservoir headwaters.[60] A small population of minnows also persists below the Isleta Diversion Dam, above San Acacia.[61] The San Acacia reach, from the dam of that name to Elephant Butte headwaters, dewaters more frequently than other reaches of the Middle Rio Grande. As irony would have it, however, the remaining minnows are concentrated there because they are washed downstream and cannot swim upstream past San Acacia Dam.

Though the minnow hangs on in the Middle Rio Grande, its survival is more a testament to its tenacity than to forgiving management of that stretch of the river. The water works in place on the Middle Rio Grande affect the silvery minnow both by depleting instream flow and altering the natural hydrograph, or seasonal pattern, of the river. Simple dewatering caused by appropriation is the clearest threat to the survival of the silvery minnow. During years of average flow, water re-

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54. *Id.*
55. Listing Final Rule, *supra* note 16, at 36,989.
56. BBMP, *supra* note 53, at 40, *cited in* Fort, *supra* note 31, at 21.
57. FOREST GUARDIANS, *supra* note 34, at 5–6. The four extirpated minnow species are the Rio Grande bluntnose shiner, the Rio Grande shiner, the phantom shiner, and the speckled chub. *Id.*
58. Listing Final Rule, *supra* note 16, at 36,989.
59. *Id.* at 36,988.
60. *Id.*
61. *See* FOREST GUARDIANS, *supra* note 34, at 6.

mains in the San Acacia reach channel throughout the summer. But in below-average seasons, diversions can cause the flow to stop between Angostura and Elephant Butte.

Oftentimes during its sixty-year history, the MRGCD's diversions have broken the continuity of the Rio Grande flow, causing it to go intermittent.[62] Because of the arid, hot conditions of New Mexico summers, a meter-deep pool a quarter of the size of a football field can evaporate completely in two days.[63] Minnows trapped in these pools are prone to desiccation. They may also die from oxygen deprivation. Furthermore, they are vulnerable to predators such as bass, great blue herons, and bobcats.[64]

An important feature of Reclamation's Middle Rio Grande machinery, the Low-Flow Conveyance Channel, exacerbates dewatering of the main channel. Brought on line in 1958, the conveyance channel is a water-saving device intended to help New Mexico meet its delivery requirements under the Rio Grande Compact.[65] When the flow of water at San Acacia Dam drops below two-thousand cubic feet per second, the river's flow can be directed into the conveyance channel, which runs all the way to Elephant Butte Reservoir.[66] This prevents loss of water to seepage and evaporation in the main channel, but also significantly dewaters the main channel.[67] The Low-Flow Conveyance Channel was used at full capacity for twenty-eight years until 1985.[68] It has not been put into full operation since, but if it was (and the Corps and Reclamation have drafted plans to that effect),[69] the river would dewater more frequently and for longer periods of time.[70]

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62. The MRGCD initially sought to irrigate a strip of land seven miles wide and 125 miles long, which was beyond the capacity of the river. This hunger for water, coupled with the demands of the growing city of Albuquerque, contributed to the development of the San Juan-Chama project, a trans-divide diversion of Colorado River basin water (110,000 acre-feet annually) into the Rio Grande drainage. BATES ET AL., *supra* note 27, at 105. For the history and ecological implications of San Juan-Chama, see WILKINSON, *supra* note 49, at 219–23.

63. Greg Hanscom, *Shaky Truce On the Rio Grande*, HIGH COUNTRY NEWS, Aug. 28, 2000, at 3, *available at* http://www.hcn.org/servlets/hcn.Article?article_id=5970.

64. *Id.*

65. Listing Final Rule, *supra* note 16, at 36,993.

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

70. *Id.*

Beyond dewatering, disruptions in the patterns of the Rio Grande's hydrograph have also impacted the minnow. In its pre-impounded, wild form, the river provided the sandy bed, backwater eddies, and spring rises that the silvery minnow evolved to depend on.[71] The sand seceded to a gravel and cobble substrate, and federal water projects systematically eliminated backwaters and sloughs and tamed the spring rise.[72] FWS scientists suspect these alterations in natural flow are partially responsible for the minnow's decline.[73]

The elimination of backwaters and creation of blockages in the river likely hamper the breeding strategy of the minnow. Backwaters served as nursery areas for young silvery minnows. The silvery minnow is a pelagic spawner, meaning it drops its eggs in open water, providing no parental care. The eggs and young float downstream until they are swept into backwaters, which provide stillwater nurseries for the young. At maturity, the fish migrate back upstream. The elimination of backwaters probably impacted the fish, and dams have certainly blocked migration.[74] Young fish and eggs also tend to float into diversion ditches and become trapped, a phenomenon known as entrainment. The FWS has determined that entrained fish usually die.[75] The altered flow regime may also confuse the minnow's biological behavioral cues and encourage non-native predators of the minnow.[76]

Although a clear correlation exists between alteration of the hydrograph and decline of the silvery minnow, the fish has survived the effects of the Rio Grande dams for many years. The minnow has been losing ground, however, since 1916. During periods when the river dewatered, it seems to have survived by congregating in pools caused by seepage of irrigation wastewater back into the channel and leakage from the diversion gates.[77] It is unclear why these sources of water can no

71. *Id.* at 36,992–93.

72. *Id.* at 36,993.

73. *See id.* at 36,992–93.

74. *Id.* Below Elephant Butte dam for two hundred miles to its confluence with the Rio Conchos, the Rio Grande is completely controlled by the reservoir releases. The minnow has been eliminated from this stretch, probably because no backwater habitat remains and the sandy substrate, which it prefers, has yielded to gravel and cobble. *Id.*

75. Listing Final Rule, *supra* note 16, at 36,992–93.

76. *Id.*

77. *Id.* at 36,992. The way in which the minnows secretly persist has a certain charm beyond the scientific.

longer support the fish, although additional stresses such as predation by non-native fishes and the spinal disease lordosis, caused by pollution, probably exacerbate the effects of the dams.[78] In light of the tangle of water appropriations, the fact that the silvery minnow has survived at all is a surprising testament to its toughness.

It should be noted that the Middle Rio Grande is neither the best preserved nor the most degraded stretch of the river. The northern one-hundred miles of the river within New Mexico are protected as a Wild and Scenic River.[79] There is, however, no protection for instream flows even in this stretch, and the river often winnows down to a trickle.[80] Below the Elephant Butte Dam, the Rio Grande is heavily channelized, with jetty fields or jacks built into the channel to catch sediment and protect the levees.[81] Backwater habitat has been eliminated, and the bed of the river has reverted from sand to gravel and cobble, a condition disfavored by the silvery minnows.[82] The minnow can no longer be found in this stretch.[83]

### 3. Corresponding Effects on the Bosque Ecosystem

The Bosque has declined along with the river. The Bosque trees are phreatophytes, plants that survive the aridity of their surroundings by sending roots into the river water table.[84] They depend not only on river water itself, but on the natural hydrologic functioning of the river. Alteration of the Rio Grande's seasonal cycles, combined with the invasion of exotic species such as salt cedar (also called tamarisk) and Russian olive trees, has prevented regeneration of young cottonwoods and willows.[85]

Cottonwood trees need bare soil to germinate. Under natural conditions, the release of their seeds is timed to follow the spring rise in the river, which provides a "flood scour" that clears soil. Deepening of the river channel resulting from wa-

78. *Id.*
79. Fort, *supra* note 31, at 24.
80. *Id.*
81. Listing Final Rule, *supra* note 16, at 36,993.
82. *Id.*
83. *Id.*
84. *See* WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 887 (1988).
85. BBMP, *supra* note 53, *cited in* Fort, *supra* note 31, at 26.

ter projects has limited overbank flooding.[86] Deprived of the scour needed for germination, dying cottonwoods are replaced by non-native salt cedar and Russian olive. Salt cedar is an especially pernicious problem throughout the West. Its deep-seeking roots suck up groundwater and transpire it at alarming rates, depleting reserves.[87] In the process, salts from below the surface are concentrated in the leaves; when these leaves fall, they salinize the soil and also present a fire hazard.[88] Salt cedar's thirst may cause a feedback that exacerbates dewatering of the river, and the salinization it causes further deters cottonwood and willow regeneration.[89]

Salt cedar jungle does not provide songbird habitat equivalent to native cottonwood-willow forest.[90] The disappearance of cottonwood-willow riparian forests throughout the Southwest has dramatically affected a number of bird species that use the forest for nest sites and food sources.[91] The southwestern willow flycatcher (*Empidonax traillii extimus*), an endangered bird that has become entwined with the silvery minnow litigation, has nearly disappeared from the Bosque due to degradation of the gallery forest.[92] The environmentalist plaintiffs in *Martinez* alleged that Reclamation's river management practices have affected the flycatcher as well as the minnow.[93] The FWS has designated a number of river corridors throughout the Southwest as flycatcher critical habitat, but the Rio Grande is not among them.[94] Presumably, although the Rio Grande is

86. *Id.*

87. Erika Zavleta, *The Economic Value of Controlling An Invasive Shrub*, 29 AMBIO 462, 463–64 (2000).

88. *Id.* at 463.

89. *See id.* at 463–64.

90. *Id.* at 464.

91. *See* Endangered and Threatened Wildlife and Plants, Final Rule Determining Endangered Status for the Southwestern Willow Flycatcher, 60 Fed. Reg. 10,694 (Feb. 27, 1995) (to be codified at 50 C.F.R. pt. 17).

92. Endangered and Threatened Wildlife and Plants, Final Determination of Critical Habitat for the Southwestern Willow Flycatcher, 62 Fed. Reg. 39,129, 39,129–33 (July 22, 1997).

93. *See* FOREST GUARDIANS, *supra* note 34, at 9 ("[Reclamation and Corps projects] are likely to perpetuate the continued degradation of habitat for the silvery minnow and flycatcher . . . .").

94. Final Determination of Critical Habitat for the Southwestern Willow Flycatcher at 39,133. In New Mexico, stretches of the Tularosa, San Francisco, and Gila Rivers have been designated as critical habitat for the flycatcher. *Id.*

within the flycatcher's range, the bird does not breed regularly in the Bosque.[95]

The Bosque has also experienced a marked drying of wetlands tied to the loss of overbank flooding of the river and groundwater pumping.[96] Many of the rare and relict species found in the Bosque, such as leopard frogs, need these marshes and wet meadows.[97] Drying may be affecting the cottonwoods and willows, as well.[98] Although the connectivity of groundwater with the Middle Rio Grande is poorly understood,[99] the Bosque's decline is considered to be an effect of unnatural regulation of the river.

### *B. The Law of the Rio Grande*

In order to understand the situation of the silvery minnow, one must examine the roles of the agencies and laws that control the Rio Grande. Water law is defined by the states,[100] with some significant interaction with federal laws like the ESA.[101] The State of New Mexico follows the prior appropriation system of water law, which is typical to interior western states.[102] In the prior appropriation system, water is allocated according to seniority of appropriation. Diversions of water from the streambed for a beneficial use, such as irrigation, industrial, or municipal use, establish a usufructuary right in the amount of water appropriated. The amount of the right is subject to the "call" of appropriators with an older, or senior, priority date, but good against junior diverters. New Mexico is one of three prior appropriation states that does not recognize a right to an instream flow;[103] a person cannot establish a right to water simply to maintain the river's flow if that water is not being

95. *See* FOREST GUARDIANS, *supra* note 34, at 7–8. "Due to dam and levee construction and the subsequent water regulation, conditions suitable for flycatchers to breed are only found in very localized areas below Cochiti Reservoir." *Id.* at 8.

96. Fort, *supra* note 31, at 26–27.

97. *Id.*

98. *Id.* at 27.

99. *Id.*

100. *See, e.g.*, California v. United States, 438 U.S. 645, 653–63 (1978) (tracing states' traditional powers over exploitation of water).

101. *See infra* part III.B.2.

102. *See generally* A. DAN TARLOCK ET AL., WATER RESOURCE MANAGEMENT 149–235 (4th ed. 1993).

103. Fort, *supra* note 31, at 30 n.75.

put to a consumptive use. Nor is a river itself protected; legally, the river's entire flow can be appropriated. The Rio Grande, and the fish that live in it, enjoy no legal right to stay wet.

Nonetheless, there remains a strong thread of public ownership in water. The state legislature has declared that "[a]ll natural waters flowing in streams and watercourses . . . belong to the public and are subject to appropriation for beneficial use."[104] To perfect a right to a new appropriation of water in New Mexico, the person or entity must make an application for a permit to the state engineer.[105] The state engineer may deny the permit if "approval would be contrary to the conservation of water within the state or detrimental to the public welfare of the state."[106] In other words, the state engineer has discretion to block appropriations that contravene the "public interest." The New Mexico court of appeals, however, has held that the public interest criterion does not apply to transfers of rights to water already appropriated.[107] Furthermore, the public interest doctrine has not been applied retroactively in New Mexico to curtail rights.

The Rio Grande Interstate Compact Commission,[108] an agreement between Colorado, where the river starts, New Mexico, and Texas, apportions water between the Rio Grande basin states. The United States and Mexico are party to a similar water allocation treaty.[109] Each party to the agreement must allow a specified amount of Rio Grande water to pass its borders for the benefit of the other states or Mexico. The operations of dams on the Rio Grande system, and the timing of discharges, are subject to the agreements. Although compact deliveries to Texas and Mexico sometimes provide a *de facto* instream flow in parts of the mainstem channel, the timing and volume of these deliveries does not take into account ecological concerns.[110]

104. N.M STAT. ANN. § 72-1-1 (Michie 1978) (replaced in 1997).
105. *Id.* § 72-5-1.
106. *Id.* § 72-5-7.
107. Ensenada Land and Water Ass'n v. Sleeper, 760 P.2d 787, 791–92 (N.M. Ct. App. 1988).
108. N.M. STAT. ANN. § 72-15-23 (Michie 1978).
109. Treaty on Water Utilization, Feb. 3, 1944, U.S.-Mex., 59 Stat. 1219.
110. Fort, *supra* note 31, at 31 n.77.

The irrigation district, the MRGCD, is a quasi-public agency of the State of New Mexico[111] charged with providing irrigation water to contracting farmers along the Middle Rio Grande. The MRGCD consolidates water rights owned by six Indian pueblos that border the river[112] and seventy community *acequias*.[113] It owns much of the land bordering the stretch of river inhabited by the minnow.[114] The MRGCD diverts from the river at Angostura, Isleta, and San Acacia dams.[115] These dams redirect water from the Rio Grande main channel for irrigation of alfalfa, chilies, vegetables, and pasture crops valued at $28 million by the MRGCD.[116]

By the 1940s, the MRGCD had fallen $7.5 million into debt, and it requested federal assistance.[117] Reclamation and the Corps initiated the Middle Rio Grande Project in 1951.[118] The federal water agencies agreed to pay the MRGCD's debt and revamp the works along the river; the MRGCD for its part entered into a "repayment contract" by which it transferred its water rights, storage facilities, and irrigation works to Reclamation.[119]

Although the irrigation diversion dams are still operated by the MRGCD, Reclamation has determined that the dams are federal installations that fall under environmental laws applying to federal agencies,[120] specifically the ESA and the

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111. The MRGCD has the powers of a municipal corporation. *See* Middle Rio Grande Conservancy Dist. v. Babbitt, 2000 U.S. Dist. LEXIS 21438, at *3 (D. N.M. Nov. 21, 2000).

112. Forty-five river miles of minnow habitat is bordered by these six pueblos: Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, and Isleta. *See* Habitat Final Rule, *supra* note 23, at 36,279.

113. *Id.* *Acequias* are historic ditch systems for apportioning water based on the customs and laws of early Hispanic settlers. *See* BATES ET AL., *supra* note 27, at 21.

114. Ownership of the bed of the channel itself is "unclear," but MRGCD administers most of the land that abuts the river within the minnow's current range. Habitat Final Rule, *supra* note 23, at 36,279.

115. Middle Rio Grande Conservancy Dist. v. Babbitt, 2000 U.S. Dist. LEXIS 21438, at *3 (D. N.M. Nov. 21, 2000).

116. *Id.*

117. ALLIANCE FOR RIO GRANDE HERITAGE ET AL., *supra* note 46, at 2.

118. *Id.*

119. *Id.*

120. Press Release, Bureau of Reclamation, Reclamation Takes Action to Ensure Continued Compliance With the Endangered Species Act Along Rio Grande (July 6, 2000) (on file with author) [hereinafter Press Release, Bureau of Reclamation].

National Environmental Policy Act (NEPA).[121] The MRGCD operates the dams as "transferred works" as an agent of Reclamation pursuant to terms of the 1951 repayment contract between Reclamation and the MRGCD.[122] The federal government retains title to the diversion works.[123]

### C. *The History of the 1978 and 1982 Endangered Species Act Amendments*

#### 1. The Major Provisions of ESA

The silvery minnow lawsuits rise out of the clash between New Mexico water law and the silvery minnow's protected status under the ESA. Section 4 of the ESA requires the implementing agency to determine and list endangered and threatened species,[124] and "to the maximum extent prudent and determinable," to concurrently designate "critical habitat" for the species.[125] Section 7 requires that all federal agencies consult with the FWS or the National Marine Fisheries Service (NMFS) before undertaking or funding an action to ensure that the action does not (1) "jeopardize the continued existence of" an endangered species or (2) cause the "destruction or adverse modification of [its critical] habitat."[126] Section 9 prohibits private individuals from "taking" endangered species,[127] which includes destroying habitat if doing so results in the death of the species.[128] Although the 1973 Act has been amended several times and is subject to changing interpretative regulations by the implementing agencies, these core provisions remain intact.

In its original form, the ESA required federal agencies to refrain from destroying or modifying a species's "critical habitat," but did not define that term.[129] In the first five years of

121. 42 U.S.C. §§ 4321–61 (1994).
122. Press Release, Bureau of Reclamation, *supra* note 120.
123. *Id.*
124. 16 U.S.C. § 1533(a)(1) (1994).
125. *Id.* § 1533(a)(3).
126. *Id.* § 1536(a)(2).
127. *Id.* § 1538(a)(1).
128. *See* Babbitt v. Sweet Home Chapter, 515 U.S. 687, 687 (1995) (upholding this interpretation of section 9).
129. It may be that Congress recognized the importance of habitat in a general way and left the determination of what was critical to the scientific expertise

the ESA, only twenty-nine species were given critical habitat designations.[130] The FWS published regulations in the Federal Register in 1975[131] defining critical habitat as:

> [A]ny air, land, or water area . . . and constituent elements thereof, the loss of which would appreciably decrease the likelihood of the survival and recovery of a listed species . . . . The constituent elements of critical habitat include, but are not limited to: physical structures and topography, biota, climate, human activity, and the quality and chemical content of land, water, and air.[132]

Significantly absent from this list is clear mention of economics. Critical habitat was to be determined solely on the grounds of scientific factors, by non-partial agency experts. During the public comment period that must accompany a federal action, two federal agencies and several industry groups pushed to have socioeconomic and cultural considerations factored into the analysis, but the FWS rejected them as "irrelevant."[133]

In 1978, the landmark case of *Tennessee Valley Authority v. Hill*[134] tested the critical habitat provision of the ESA. In that case, the Supreme Court enjoined the construction of the nearly completed Tellico Dam on the Little Tennessee River near Knoxville.[135] The dam would have flooded the critical habitat of the tiny snail darter, an endangered species of fish, and eradicated the fish's only known population.[136] In its opinion, the Court noted that economic factors played no role in the ESA:

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of the agencies, probably without anticipation of the political consequences. *See* Yagerman, *supra* note 11, at 829.

130. Thomas F. Darin, *Designating Critical Habitat Under the Endangered Species Act: Habitat Protection Versus Agency Discretion*, 24 HARV. ENVTL. L. REV. 209, 213 (2000).

131. Interagency Cooperation-Endangered Species Act of 1973, 43 Fed. Reg. 870, 870 (Jan. 4, 1978) (codified at 50 C.F.R. pt. 402) (explaining in background section that the FWS and the National Marine Fisheries Service jointly published a description of how to determine critical habitat in 40 Fed. Reg. 17,764, 17,764–65 (Apr. 22, 1975)).

132. 50 C.F.R. § 402.02 (1978).

133. *See* 43 Fed. Reg. 870, 872 (Jan. 4, 1978) (codified at 50 C.F.R. pt. 402).

134. 437 U.S. 153 (1978).

135. *Id.*

136. *Id.*

> One might dispute the applicability of these examples [of section 7 compliance] to the Tellico Dam by saying that in this case the burden on the public through the loss of millions of unrecoverable dollars would greatly outweigh the loss of the snail darter. But . . . the Endangered Species Act . . . [does not] provide[] federal courts with authority to make such fine utilitarian calculations. On the contrary, the plain language of the Act, buttressed by its legislative history, shows clearly that Congress viewed the value of endangered species as "incalculable."[137]

The Court seemed to consider the habitat destruction prong of section 7 separately from jeopardy to the survival of the darter, although both standards were obviously met.[138] The Court stated that it "[could not] understand how [the closing of the Tellico gates, a federal action] will 'insure' that the snail darter's habitat is not disrupted."[139] If the Court had believed that the habitat destruction prong of section 7 was a mere reiteration of the jeopardy prong, it would not have woven discussion of both into its opinion.

### 2. The 1978 ESA Amendments

Less than five months after the snail darter decision, Congress amended the ESA.[140] Most striking among the changes was the insertion of the "God Squad" provision, creating a cabinet level committee of seven that could override section 7 "jeopardy" restrictions on federal actions that conflicted with listed species.[141] Despite the power vested in the God Squad, it has proved to be rather dormant. The God Squad has fully reviewed only three projects, including Tellico Dam.[142] Considering the volume of federal actions that intersect with endangered species, this interference rate is not very large. In the Tellico case, and in the case of the Grayrocks Dam, construction of which would have jeopardized whooping cranes, the

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137. *Id.* at 187 (footnote omitted).

138. *See* Yagerman, *supra* note 11, at 844 n.157.

139. Tennessee Valley Auth. v. Hill, 437 U.S. 153, 173 (1978).

140. Endangered Species Act Amendments of 1978, Pub. L. No. 95-632, 92 Stat. 375166 (1978) (codified as amended in scattered sections of 16 U.S.C.) [hereinafter Endangered Species Act Amendments of 1978].

141. 16 U.S.C. § 1536(e) (1994).

142. *See* GEORGE CAMERON COGGINS ET AL., FEDERAL PUBLIC LAND AND RESOURCES LAW 870 (4th ed. 2001).

committee did not absolve the projects from compliance with section 7.[143] The God Squad did vote to exempt a percentage of federal timber sales from restrictions imposed because of the endangered northern spotted owl, but the government later dropped its request for the exemptions.[144] As its nickname implies, however, the God Squad is potentially a very powerful counterbalance to ESA protections.

Also included among the 1978 Amendments was a definition of "critical habitat" written into the ESA itself.[145] The Amendments defined critical habitat as:

> [T]he specific areas within the geographical area occupied by the species . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and . . . specific areas outside the geographical area occupied by the species . . . upon the determination by the Secretary that such areas are essential for the conservation of the species.[146]

The language of the new Amendment limited the scope of critical habitat by requiring that the species actually "occupy" the area, and by declaring that the entire range of the species was not critical unless the Secretary expressly defined it as such.[147] Areas outside those occupied by the species could be included in the critical habitat only if they were "essential for the conservation of the species." The ESA defines conservation as the "use of all methods and procedures which are necessary to bring any endangered species . . . to the point at which the measures provided pursuant to this chapter are no longer necessary."[148] In other words, this refers to the point at which a species can be considered "recovered" and removed from the endangered species list. If any area not currently occupied by a species but constituting prime habitat, such as a part of the species's historic range from which it has been extirpated, is

143. *Id.*
144. *Id.*
145. Endangered Species Act Amendments of 1978, *supra* note 140, § 2(2) (adding subsection (5) to § 3 of ESA).
146. *Id.*
147. Darin, *supra* note 130, at 215.
148. 16 U.S.C. § 1532(3) (1994).

not deemed necessary to recovery, it can be excluded from the critical habitat.

Congress also commanded that economic factors be included among the criteria for critical habitat determination:

> In determining the critical habitat of any endangered or threatened species, the Secretary shall consider the economic impact, and any other relevant impacts, of specifying any particular area as critical habitat, and he may exclude any such area from the critical habitat if he determines, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will not result in the extinction of the species.[149]

The inclusion of economic factors in the 1978 Amendments appeared to be a foot in the door that countervailed the high purpose expressed in the original ESA. The House Committee on Merchant and Marine Fisheries recognized it as such, rebuking the Amendment as "wholly inconsistent with the rest of the legislation . . . a loophole which could be readily abused by any Secretary of the Interior who is vulnerable to political pressure, or who is not sympathetic to the basic purposes of the . . . Act."[150]

Other language in the Amendment created latitude for compromise in the designation of critical habitat. The Secretary was required to the "maximum extent prudent" to designate critical habitat at the time of listing.[151] "Maximum extent prudent" was not defined. According to the Congressional Record, the Secretary was given discretion to decide not to identify critical habitat in those "rare circumstances where the specification of critical habitat concurrently with the listing would not be beneficial to the species."[152] For instance, identifying the critical habitat of a rare plant might facilitate illegal takings by collectors.

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149. Endangered Species Act Amendments of 1978, *supra* note 140, § 11(7) (adding subsection (b)(2) to § 4 of ESA).

150. *See* H.R. REP. NO. 95-1625, at 69 (1978), *reprinted in* 1978 U.S.C.C.A.N. at 9483.

151. Endangered Species Act Amendments of 1978, *supra* note 140, § 11(1).

152. H.R. REP. NO. 95-1625, at 17 (1978), *reprinted in* 1978 U.S.C.C.A.N. 9458–9467.

The FWS promulgated new regulations with regard to critical habitat to take into account the 1978 Amendments.[153] Economic factors were to be considered in the analysis, but only so far as they would not lead to the extinction of the species.[154] The FWS recognized that the "not prudent" exception would be invoked only where designation would result in increased takings, or be otherwise non-beneficial to the species.

### 3. The 1982 ESA Amendments

In 1982, Congress again amended the ESA,[155] reacting to a perceived inexpediency caused by the Secretary's duty to designate habitat at the time of listing.[156] The economic analysis required for the habitat designation took more time than the purely biological analysis used for listing, delaying species from making the list.[157] Congress split the process, allowing a one-year extension for the designation of critical habitat after a species was listed.[158] This extension applied only where, at the time of listing, the habitat was "not then determinable."[159]

In regulations published to reflect the 1982 Amendments, the FWS defined "not determinable" as a situation where (1) information required for the analysis was lacking, and/or (2) the biological needs of the species were not well enough known to determine the boundaries of the necessary habitat.[160] Those regulations remain in place today.

The 1982 Amendments also added the caveat that it is "the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species."[161] Congress rejected a stronger amendment that would have abrogated the ESA to state authority to allocate water and existing water

153. Rules for Listing Endangered and Threatened Species, Designating Critical Habitat, and Maintaining the Lists, 50 C.F.R. § 424.02(c) (2000).

154. *See id.*

155. Endangered Species Act Amendments of 1982, Pub. L. No. 97-304, 96 Stat. 1411 (1982) [hereinafter Endangered Species Act Amendments of 1982].

156. *See* Darin, *supra* note 130, at 221.

157. *See id.*

158. Endangered Species Act Amendments of 1982, *supra* note 155, § 2(a)(2).

159. *Id.*

160. Criteria for Designating Critical Habitat, 50 C.F.R. § 424.12(a)(2) (2000).

161. 16 U.S.C. § 1531(c)(2) (1994).

rights.[162] While the amendment has not been directly invoked to limit the application of the ESA to water conflicts, it may strengthen the FWS's adoption of a cooperative approach with regard to state water laws.[163]

Overappropriation and alteration ravaged the Rio Grande ecosystem. The listing of the silvery minnow as endangered provided those who advocate restoring the river to its natural function with a legal launching point. The ESA, however, is a law somewhat subdued by consciousness of its own power and suppressed further by the FWS's weak interpretation of one of its key provisions, critical habitat. Benefiting from these weaknesses are those who would preserve the status quo, appropriators like the MRGCD. New Mexico water law lies with them, as well. The FWS and the other federal agencies take abuse from both sides. Emerging from this clash of laws and priorities are the two silvery minnow lawsuits currently pending, framed below according to their respective issues.

## II. THE RIO GRANDE AND THE ENDANGERED SPECIES ACT: CAN THE ESA LOOSE THE NATURAL RIVER?

The failure of ESA protection to halt the decline of species such as the silvery minnow results from the FWS's weak interpretation of the ESA's mandates rather than a fatal flaw in the structure of the Act itself.[164] Endangered species are protected most effectively through protection of their habitat. Congress at least hinted that this approach was an acceptable way to understand the purpose of the ESA. Despite the amendments in the wake of *Hill*, the ESA has retained much of the power provided by the original congressional mandate. The FWS itself is often sued by environmental groups, however, for failure to comply with the ESA. This is indicative of the way the FWS implements the ESA; a rather forgiving approach intended not to radically disrupt the economies of local communities. Sometimes, such as in the silvery minnow's case, the forgiving approach fails to achieve the purpose of the ESA. The legal framework to reverse the silvery minnow's decline exists, but the FWS will not apply it forcefully enough.

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162. *See* Holly Doremus, *Water, Population Growth, and Endangered Species in the West*, 72 U. COLO. L. REV. 361, 396 (2001).

163. *See id.* at 397.

164. *See generally* Houck, *supra* note 12, at 279.

Environmental organizations opposed to the status quo recognized the need for an integrative approach to the Rio Grande and the Bosque. The FWS's treatment of the situation failed to halt the minnow's decline, and the southwestern willow flycatcher remained similarly imperiled. Meanwhile, the Rio Grande continued to gain national press as a dying river.[165] Drought was expected for the summer of 2000. The environmentalists launched two lawsuits aimed at protecting the minnow, *Martinez* and *Habitat II*. Both have far-reaching implications for the ESA.

Section A sketches the basics of what is meant by ecosystemic conservation of riverine ecosystems. It then reviews unique difficulties inherent in river ecosystems, and an apparent habitat restoration success in the Grand Canyon of the Colorado River. Section B compares the *Martinez* litigation with the elements of an ecosystemic approach, with an eye toward the difficulties of reconciling short-term and long-term solutions. It then examines the baseline problem in *Martinez*: the conflict between water rights and ESA-mandated instream flow requirements in western rivers. Section C reviews the critical habitat designation fight in *Habitat II*, the value of critical habitat designation for ecosystem protection, and the economic analysis requirement.

### *A. An Ecosystemic Approach to Species Conservation*

#### 1. The General Model

In order to maintain endangered species we need to maintain their ecosystems.[166] Although there have been marked successes,[167] ad hoc attempts to rescue individual imperiled species tend to suffer from deficient recognition of the supreme importance of preserving habitat. Habitat destruction is the overwhelming cause of species endangerment in the modern United States.[168] Certainly that is the case with the minnow.

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165. *See, e.g.*, AMERICAN RIVERS, *supra* note 26 (listing Rio Grande as one of the ten most endangered rivers in the country for the year 2000).

166. *See* Yagerman, *supra* note 11, at 812–14; *see also* Moore et al., *supra* note 22, at 346 ("A multi-species or ecosystem approach to species protection in western rivers appears desirable on both biological and economic grounds.").

167. For example, the ESA-driven recoveries of the bald eagle and peregrine falcon have been dramatic. *See* ROHLF, *supra* note 7, at 3.

168. *See* Houck, *supra* note 12, at 296.

You cannot save a fish without preserving its river. You cannot preserve a river without preserving its riparian corridor and ensuring the integrity of its watershed.

The trick of the Rio Grande, however, like that of many western rivers, is that the ecosystem has already been disrupted. The Rio Grande no longer operates as a natural river. Rather, it is a function of what has been called our "hydraulic society,"[169] a machine for moving water to people. The task is one of restoration more than one of preservation, and the former is much more complicated.

Instead of looking at the minnow in a vacuum, the river managers should create a self-sustaining approximation of the original Rio Grande ecosystem.[170] Such an approach should consist of more than isolated measures designed to correct individual deficiencies in the silvery minnow habitat, the type of desperate scrabbling for instream water that has heretofore characterized efforts to save the minnow. The health of the Bosque should be considered in tandem with the silvery minnow. Stable, self-sustaining river patterns need to be recreated. These conditions would infuse the entire river ecosystem, including the Bosque, with a renewed vigor. The current litigation reflects the tension between such a long-term solution and the creative shifting of stored water that is used as a short-term fix.

### 2. Special Difficulties Connected to the Rio Grande

The ESA has the potential to secure river conditions that protect silvery minnow and flycatcher habitat.[171] But the application of the ESA to river systems generates special chal-

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169. DONALD WORSTER, RIVERS OF EMPIRE 7 (1985).

170. *See* Mary Christina Wood, *Reclaiming the Natural Rivers: The Endangered Species Act As Applied to Endangered River Ecosystems*, 40 ARIZ. L. REV. 197, 213–18 (1998). Professor Wood advocates restoring what she calls a "Normative River," a river that exhibits the basic natural features of the historical river. *Id.* at 213–14.

171. For elaboration, see *infra* Part II.B and II.C; *see also* Yagerman, *supra* note 11, at 813–14; Denise D. Fort, *Endangered Species and the Rio Grande: The ESA and the Restoration of Rivers in* CLE INTERNATIONAL, THE LAW OF THE RIO GRANDE N1-1 (2000). *But see* Susan George, *Endangered Species and the Rio Grande: Water Law and the Endangered Species Act, in* CLE INTERNATIONAL, THE LAW OF THE RIO GRANDE N2-1, N2-1 n.2-3 (2000) ("Reliance on the ESA as the sole mechanism to protect riparian and aquatic habitats and species is misplaced.").

lenges that do not exist in terrestrial ESA situations. Significantly, when the ESA is applied to modern over-appropriated rivers, it must overcome entrenched economic interests and restore a natural condition that has been lost.[172] In more typical cases, the ESA is used to protect land in its natural state from future development; maintaining a status quo takes less effort than overthrowing one.

Restoration of ecosystem function would require that the facilities on the river be operated in a manner consistent with the ancestral hydrograph of the river. On a river like the Rio Grande, that would unseat one hundred years of engineering power pointed in the opposite direction. And these changes would be in direct conflict with local industries. Nor is there any mitigation for the industry, in the way that reforesting areas increases the future supply of wood. Many characteristics of the ancestral hydrograph were eliminated precisely because they conflicted with economic activities like irrigated farming.

A scheme mimicking the natural hydrograph would include several elements. Spring surges in water flow resulting from the snowmelt in the mountains were a defining element of the Rio Grande's pattern. Discharges from storage reservoirs, which catch the spring runoff, would need to be modeled after these ancestral patterns of high and low flow. Overbank flooding in places would also be an element of the system. This might require the alteration of levees or the disruption of straightened, deepened channels. Flooding would recharge wetlands and create "flood scour" mud flats for cottonwood germination, abating the replacement of cottonwood by salt cedar. Regeneration and maintenance of the gallery forest would upgrade breeding habitat for songbirds like the southwestern willow flycatcher.

Most important to the silvery minnow's recovery, and probably the most contentious aspect of the plan, would be the requirement that the river could not be allowed to dry out in the San Acacia reach. Drying could be prevented by two different routes. In the short term, surplus water could be released from some reservoir higher in the watershed. Such an approach involves creative shifting around of water in storage reservoirs, not curtailment of water rights. That has been the path followed by the FWS in crisis-management mode. In the

172. Wood, *supra* note 170, at 201–02.

long term, however, appropriations would need to be decreased. As the populations of Albuquerque, Santa Fe, and Las Cruces increase, their demand for water will continue to grow.[173]

That leaves the MRGCD's appropriations for irrigation as the likely target for decrease. Flood-irrigated agriculture is notoriously wasteful of water because much of the appropriated water evaporates before it can be taken up by crops.[174] Municipal use, such as watering of lawns and washing of cars, also consumes large amounts of water, but irrigation accounts for eighty to ninety percent of water use in the West.[175] Although there are ways to drastically improve irrigation efficiency, many of them cost significant amounts of money.[176] They also involve changes in ways of life, something that people naturally resist.[177] Thus, re-approximation of the ancestral hydrograph of the Rio Grande, and reduction of appropriations by the MRGCD and others, would come with significant upheaval of the status quo.

Furthermore, an enormous area would be affected. The Rio Grande is the fifth-longest river in the United States. Oftentimes, management decisions made hundreds of miles away impact endangered species far down river. Even down river management can affect upstream species, as senior users have a "call" on water that is upstream and can cause it to be released at times not favorable to the species. Most western rivers, including the Rio Grande, depend on melt water from mountain snow pack.[178] Much of the Rio Grande's water comes out of the San Juan and Sangre de Christo mountains in Colorado, far distant from the actual range of the silvery minnow. The affected area's size outstrips even the large acreage of forest famously impacted by the listing of the northern spotted owl.[179]

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173. *See* Doremus, *supra* note 162, at 371.

174. *See* WILKINSON, *supra* note 49, at 260–61.

175. *See id.*

176. Laser-leveling of fields and drip irrigation are examples of technologies that reduce waste. *Id.* at 287.

177. Of the entrenched practices of the MRGCD, a Reclamation official commented, "[f]lood irrigation is the old-time practice and irrigators are not about to change it." *Id.* at 288 (quoting Interview by Roger Flynn with Robert Grano, Bureau of Reclamation, Albuquerque, N.M.) (Aug. 7, 1990).

178. *See id.* at 219–22.

179. Wood, *supra* note 170, at 200. Logging restrictions imposed because of the northern spotted owl's endangered status led to the high profile "timber wars"

### 3. Restoration Successes

On other rivers, at least some of these difficulties have been surmounted to provide positive restorative effects. Most prominent were reforms that resulted in a precedent-setting controlled flood on the Colorado River in 1996. Glen Canyon Dam was completed in 1963, backing up the Colorado River to form Lake Powell and inundating the geologic wonders of Glen Canyon. But over the years, the disruptive effects of Glen Canyon Dam on the ecology of the Grand Canyon, further downstream, became apparent as well. The water discharged through the dam, from the cold depths of Lake Powell, impacted native fish that had evolved in the warm water characteristic of the ancestral Colorado. The dam was also trapping the huge sediment load that had been carried by the wild Colorado, and taming its notoriously violent floods.[180] Ecological consequences were not considered in the timing of releases from the dam; discharges were keyed to spin the turbines during hours of peak demand for electric power in cities such as Las Vegas, Phoenix, and Los Angeles. Native fish continued to decline, and the complex of beaches that fringed the river, starved for sediment, rapidly eroded away.

In 1982, Reclamation, operator of Glen Canyon Dam, created the Glen Canyon Environmental Studies Group to investigate these effects.[181] Pressure to abate the negative effects of Glen Canyon Dam culminated in the 1992 Grand Canyon Protection Act, which authorized operating the dam both to store water and to regulate flows for environmental benefits.[182] The Glen Canyon Environmental Impact Statement (EIS) was initiated in 1995.[183] A large-scale experimental flood release was planned to test the practicability of manipulating Glen Canyon Dam to restore beaches and fish habitat in the Grand Canyon.

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in the Pacific Northwest in the late eighties and early nineties. *See, e.g.*, Northern Spotted Owl v. Lujan, 758 F. Supp. 621 (W.D. Wash. 1991).

180. Floods on the ancestral Colorado could pump 200,000–300,000 cubic feet per second (cfs) through the canyon for weeks at a time. Larry Warren, *Stirring things up on the Colorado River*, HIGH COUNTRY NEWS, Apr. 15, 1996, *available at* http://www.hcn.org/servlets/hcn.Article?article_id=1772.

181. U.S. ENVIRONMENTAL PROTECTION AGENCY, NOTES ON RIPARIAN AND WATERSHED MANAGEMENT (Apr./May 1997), *available at* www.epa.gov/OWOW/info/NewsNotes/issue48/nnd48.htm (last visited Dec. 17, 2001) [hereinafter U.S. ENVIRONMENTAL PROTECTION AGENCY].

182. *Id.*

183. *Id.*

On March 26, 1996, then Secretary of the Interior Bruce Babbitt initiated a two-week experimental controlled surge from Glen Canyon Dam.[184] The release, which ended on April 7, 1996, topped out at a flow of 45,000 cubic feet per second.[185] This experiment, referred to as the Habitat/Beach Building Test Flow, examined the effectiveness of using the dam to directly benefit the downstream ecosystem of the Colorado River in the Grand Canyon. One purpose of the flood was to roil sediment up from the bed of the river and pile it on eroded beaches along the edges of the canyon.[186] Another was the re-creation of warm backwater pools, used as nurseries and spawning grounds by endangered fishes such as the humpback chub and razorback sucker.[187] Reclamation also hoped the flood would release nutrients into the depleted river waters and wash nonnative species downstream into Lake Mead.[188]

After the flood waters receded, Secretary Babbitt enthusiastically declared that the result "exceed[ed], I think, the most optimistic hopes of our staff, the scientists, and all the participants."[189] Babbitt reported a thirty percent increase in beach volume, up to three feet of new sand on some beaches, and the creation of new backwater habitat resulting from the flood.[190] The first comprehensive, long-term evaluations of the effects of the flood were published in the July 2001 issue of *Ecological Applications*.[191] Researchers found that the flood transported sediment onto the beaches within the first forty-eight hours of the surge, meaning that shorter floods might be adequate to achieve this purpose. Fish recovered from the flood's disruptions within seven months, with native species showing greater resilience than exotics. As Secretary Babbitt pointed out, "[p]rior to the Glen Canyon release, it wasn't clear whether [we

184. Warren, *supra* note 180.

185. *Id.*

186. U.S. ENVIRONMENTAL PROTECTION AGENCY, *supra* note 181. Glen Canyon Dam traps ninety percent of the sediment carried by the river. *Id.* It was hoped that sediment that had settled out on the riverbed below the dam would be transported back onto the beaches. *Id.*

187. *Id.*

188. *Id.*

189. Mark Bernheimer, *Grand Canyon Flooding Proves A Success*, CNN Interactive: Env't (Apr. 12, 1996), *at* http://www.cnn.com/EARTH/9604/12/gcanyon.follow/.

190. *Id.*

191. Ben Harper, *Flood Experiment Built Beaches*, SCI. NOW (July 17, 2001), *at* http://bric.posttech.ac.kr/science/97now/01_7now/010717c.html.

could] replicate natural processes to produce beaches."[192] The experiment, he noted, "proved conclusively that we can."[193]

Beyond its scientific effect, the test flow created a golden press opportunity. Secretary Babbitt was at Glen Canyon in person, where, "[o]n cue from the *Today Show*, [he] turned a wheel, pushed a button, pulled a lever and opened the first of four jet tubes to send Lake Powell water downstream into the Grand Canyon."[194] Indeed, purposeful abstinence from power generation to help fish was dramatic news, amounting to "blasphemy" when held up against old-fashioned Reclamation thinking.[195]

The pageantry continued later in the year. On October 9, 1996, Secretary Babbitt signed the "record of decision" instructing Reclamation to operate Glen Canyon Dam according to the preferred alternative in the Glen Canyon Dam EIS, the Modified Low Fluctuating Flow Alternative.[196] The Secretary described the action as a "new chapter in the fabled history of the Grand Canyon and Glen Canyon Dam," marking a "sea change in the way we view the operation of large dams. We have shown they can be operated for environmental purposes as well as water capture and power generation."[197] Babbitt suggested that similar restorative floods could be used in the Florida Everglades, the Mississippi River delta, and the Pacific Northwest.[198]

The new operating model restricted the release of wildly fluctuating amounts of water solely to meet power demands.[199] The new model also formalized agreements to operate Glen Canyon Dam for environmental benefits in addition to power generation.[200] Pursuant to the order, Reclamation published new operating criteria for Glen Canyon early in 1997.[201]

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192. *Id.*
193. *Id.*
194. Warren, *supra* note 180.
195. *See id.* The flood did not come cheap, costing three million dollars in foregone power production and research expenses. U.S. ENVIRONMENTAL PROTECTION AGENCY, *supra* note 181.
196. *See* WESTERN AREA POWER ADMINISTRATION, GLEN CANYON DAM RECORD OF DECISION AND OPERATING CONSTRAINTS, *available at* http://www.wapa.gov/crsp/16300doc/gcdrod.htm (last visited Dec. 17, 2001).
197. U.S. ENVIRONMENTAL PROTECTION AGENCY, *supra* note 181.
198. Bernheimer, *supra* note 189.
199. U.S. ENVIRONMENTAL PROTECTION AGENCY, *supra* note 181.
200. *Id.*
201. WESTERN AREA POWER ADMINISTRATION, *supra* note 196.

Among other things, the criteria established a maximum allowable release of 25,000 cubic feet per second, with fluctuations in flow during twenty-four-hour periods restricted to low levels.[202] The criteria included exceptions to the maximum flow ceiling, however, for Beach/Habitat Building Flows and Habitat Maintenance Flows such as occurred in 1996.[203] Significantly, the spring surge was not planned as an annual event, but based on its preliminary success, there was talk of another flood release in five to ten years.[204]

The Glen Canyon flood kicked off Secretary Babbitt's self-described "dam-busting" tour, in which he took symbolic swings at ten obsolete and decommissioned dams with a nine-pound hammer.[205] In August 1998, he delivered a speech at the annual meeting of the Ecological Society of America, proclaiming, "[t]he clang of the sledge hammer is one of the oldest sounds known to man. Yet now, at the end of the twentieth century, we are using it to ring in an entirely new era of conservation history, moving beyond preservation or protection towards a deeper, more complex movement, the affirmative act of restoration."[206] The dams targeted by Secretary Babbitt, however, were dwarfed by Glen Canyon, and the operational policy enunciated in the Glen Canyon decision did not become the national standard. Whether or not the Glen Canyon experiment actually marked a "sea change" in policy, it did show that operational changes in dams could have restorative effects.

### *B.* Rio Grande Silvery Minnow v. Martinez

#### 1. The Developing Lawsuit

##### *a. Short-Term Solutions*

Secretary Babbitt's dam-busting did not extend to the Rio Grande, which continued to operate much as usual through the middle and late nineties following the listing of the silvery

202. *Id.*
203. *Id.*
204. U.S. ENVIRONMENTAL PROTECTION AGENCY, *supra* note 181.
205. *See* Interior Secretary Bruce Babbitt, Remarks at the Ecological Society of America Annual Meeting (August 4, 1998), *available at* http://www.glencanyon.org/news/speeches/babbitt.htm.
206. *Id.*

minnow in 1994. On November 15, 1999, a coalition of six environmental organizations filed suit in the United States District Court for the District of New Mexico against Reclamation and the Corps for violation of sections 2, 7, and 9 of the ESA.[207] The environmentalist plaintiffs[208] alleged that Reclamation and the Corps had both the duty and the power to give priority to the Rio Grande silvery minnow and southwestern willow flycatcher in any allocation of water on the Rio Grande. In essence, the plaintiffs sought to enjoin the water agencies from allowing operation of the diversion dams, the Low Flow Conveyance Channel, and reservoir releases in any way that jeopardized the southwestern willow flycatcher and the silvery minnow or adversely affected their habitats.[209] By joining the interests of the silvery minnow, which depends directly on the river, with those of the southwestern willow flycatcher, an inhabitant of the Bosque, the *Martinez* plaintiffs recognized the profound interconnectivity of the riverine and terrestrial components of the Rio Grande ecosystem. With the ESA as a hook, the *Martinez* plaintiffs sought to restore meaningful ecosystemic function to the Rio Grande and its Bosque.

The environmental plaintiffs in the *Martinez* lawsuit wanted to formulate a broad, long-term approach to the Rio Grande. But drought conditions led to scrambling in the summer of 2000, even though the prospect of a dry Rio Grande was hardly novel. Drought in 1996 had killed ten thousand minnows. The threat of another water war in the summer of 1999 was staved off by late rains.[210] As early as January 2000, however, officials in Colorado warned that a sparse winter snow-

207. Rio Grande Silvery Minnow v. Martinez, No. CIV 99-1320 JP/KBM-ACE (D. N.M. Aug. 2, 2000) (unpublished agreed order on file with author).

208. They are: Defenders of Wildlife, Forest Guardians, National Audubon Society, New Mexico Audubon Council, Sierra Club, and the South West Environmental Center. *Id.*

209. *See* Press Release, Laird Lucas, The Land and Water Fund of the Rockies, 60 Day Notice of Intent to Sue Over Middle Rio Grande River Water Management, To Prevent Further Harms to the Remaining Populations of the Listed Species (Jan. 29, 1999), *available at* http://www.fguardians.org/riogrande-60day.html. The diversion dams used by the MRGCD, here Isleta and San Acacia, are still owned by the federal water management agencies under the terms of the Middle Rio Grande Project. Therefore, the plaintiffs argued, diversion by the MRGCD constituted a federal action subject to section 7 of the ESA. The MRGCD intervened in the suit, along with the State of New Mexico and the City of Albuquerque. *See id.*

210. *Rain Drowns Fear of Minnow Wars*, DENV. POST, Aug. 17, 1999, at B3.

pack threatened to deprive the minnow of adequate water the following summer.[211]

Litigation continued through the spring and summer of 2000. In April, the environmentalist plaintiffs motioned for a preliminary injunction that would require Reclamation and the Corps to keep the river wet from Cochiti Dam to Elephant Butte.[212] Declining to rule on the matter, the court ordered the parties to enter into mediated negotiations presided over by a federal magistrate. On June 27, the court further ordered that Reclamation and the Corps give two weeks notice of the possibility of the river going dry so that the court could consider a preliminary injunction at that time.[213]

In early July, the City of Albuquerque motioned to intervene in *Martinez* in order to protect its San-Juan Chama water.[214] Tension between Reclamation and the MRGCD mounted days later. As ordered by the *Martinez* court, Reclamation announced on July 3 the predicted date the Rio Grande would go dry as July 22.[215] Reclamation informed the MRGCD on July 6 that the MRGCD was an agent of Reclamation in accordance with the 1951 "repayment contract" and that the ESA required the MRGCD to limit appropriations if the river threatened to go dry.[216] The MRGCD rejected Reclamation's position and announced it would fight Reclamation in court.[217] The State of New Mexico weighed in as well, intervening to protect the principle of prior appropriation.[218] The multiple interventions effectively realigned the sides, leaving the original plaintiffs and defendants with positions closer to each other than to the new parties.

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211. Mark H. Hunter, *Drought Leaves Minnow at Risk, Mountain Snowpack Termed "Way Behind,"* DENV. POST, Jan. 27, 2000, at B6.

212. U. S. Bureau of Reclamation, *Parties Reach Agreement In Rio Grande Silvery Minnow Negotiations; Reclamation Encouraged By Terms of Agreement* (Aug. 2, 2000), *available at* http://www.uc.usbr.gov/pao/minnow8_2. html (last visited March 4, 2002).

213. Press Release, Bureau of Reclamation, *supra* note 120.

214. *Albuquerque Loses 1 Water Suit, Enters 2nd*, DENVER POST, July 4, 2000, at B10. The City of Santa Fe would intervene at a later date, claiming that the secretive *Martinez* negotiations hampered it from protecting its own San Juan-Chama water. Miguel Navrot, *City Eyes Minnow Role*, ALBUQUERQUE J., Sept. 29, 2000, at 1.

215. Press Release, Bureau of Reclamation, *supra* note 120.

216. *Id.*

217. Lawrence Spohn, *Fight Erupts Over Fed Order to Divert Water for Minnow*, ALBUQUERQUE TRIB., July 7, 2000, at A1.

218. *Id.*

As the fuse burned and July wore on, the Rio Grande threatened to dry up. On July 26, the Rio Grande stopped flowing at San Marcial, fifty miles below San Acacia Diversion Dam.[219] Ninety percent of the remaining minnows lived below the dam, and biologists had warned that a dry river would mean the extinction of the species.[220] The federal agencies began a sort of triage operation, with FWS personnel in planes surveiling the river for shrinking pools of water, then moving in on ATVs with seines and buckets.[221] FWS staff netted minnows from the shrinking pools and lifted them to safety, rereleasing them upstream at Los Lunas or harboring them in aquariums.[222]

Biologists had determined that a threshold flow of 300 cubic feet per second was needed to sustain the minnow in San Acacia reach, and flows had dropped as low as 222 cubic feet per second at San Acacia Dam.[223] The Department of the Interior ordered water to be put back into the river, and Reclamation acted to comply.[224] It put a third pump on line to augment two already drawing water back into the river from the Low Flow Conveyance Channel. Reclamation also instructed the MRGCD to divert water from an irrigation canal, flowing at 162 cubic feet per second, back into the river at San Acacia.[225] But when MRGCD workers arrived to let water through, an incensed group of one hundred farmers formed a human wall around the gate.[226] FWS personnel halted their three-day rescue, which had netted ninety-eight live minnows and eulogized thirty-eight dead ones, because of "'fears of violence.'"[227] The farmers went home and the MRGCD took control of the dam the following day,[228] but the event punctuated what had become a true crisis.

Another drama played out simultaneously in the district court. After eight "intense" days of negotiation, the *Martinez*

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219. Lowry McAllen, *Farmers Block Water Diversion for the Minnow*, ALBUQUERQUE TRIB., July 27, 2000, at A1.

220. *See* Hanscom, *supra* note 63.

221. *Id.*

222. *See* McAllen, *supra* note 219.

223. *Id.*

224. *Id.*

225. *Id.*

226. *Id.*

227. Tania Sousson, *Agreement Reached Over Rio, Minnow*, ALBUQUERQUE J., July 29, 2000, at A1.

228. *See* Hanscom, *supra* note 63.

parties announced an agreement on July 28, 2000.[229] The court entered an order finalizing the deal on August 2.[230] The agreement allocated a total of 85,900 acre-feet of water to keep a continuous flow in the Rio Grande from Cochiti to Elephant Butte through October 31, 2000, the end of the MRGCD irrigation season.[231] Albuquerque agreed to provide 65,000 acre-feet of its stored San Juan-Chama water. Twenty-nine thousand acre-feet were to be exchanged for native Rio Grande water and used to benefit the silvery minnow.[232] The other 36,000 acre-feet would be used as "carriage" water (to provide enough velocity of flow to "carry" the necessary amount of water to the desired location) and for irrigation by the MRGCD.[233]

Albuquerque had already in 1992 agreed to provide the MRGCD with 20,000 acre-feet of San Juan-Chama water.[234] Of the further 45,000 acre-feet of San Juan-Chama water yielded by Albuquerque, the MRGCD would reimburse 22,500 acre-feet with other water over a ten year schedule.[235] The United States would pay $45 per acre-foot to Albuquerque for the other 22,500 acre-feet it provided, and would also compensate the MRGCD for the 22,500 acre-feet it would give back to Albuquerque in the future.[236] The balance of the 85,900, another 20,900 acre-feet, would come from the MRGCD's own San Juan-Chama allotment, stored in upstream reservoirs.[237] The United States would replace that water by April, 2001, by pumping groundwater if necessary.[238]

Creative, a little labyrinthine, but in essence, the agreement required the United States to pay the water rights holders instead of preempting their claims to their water. The agreement did not require the MRGCD to conserve water. Even in emergency situations, where the deal called for the

229. *See* Sousson, *supra* note 227.

230. Rio Grande Silvery Minnow v. Martinez, No. CIV 99-1320 JP/KBM-ACE (D. N.M. Aug. 2, 2000) (unpublished agreed order on file with author). As noted by the court, the agreed order was "executed solely for the purpose of settling the Motion for Preliminary Injunction and nothing [t]herein shall be construed as precedent in any other context." *Id.* at *9.

231. *Id.* at *2–3.

232. *Id.* at *3.

233. *Id.*

234. *Id.*

235. *Id.*

236. *Id.* at *3–4.

237. *Id.* at *4.

238. *Id.*

MRGCD to forego diversions of native flows, the United States agreed to pay for the flows.[239] No one lost water. But that sort of solution will not work in the long-term. As Albuquerque grows, its demand for water will begin to suck up its San Juan-Chama surplus. As one commentator pointed out, the players in the silvery minnow crisis "are just living off some temporary fat in the system."[240] Tapping a new source, such as groundwater, would only extend the hydrological disruption caused by Rio Grande overappropriations. Conservation is the only reasonable long-term solution.

### *b. Potential Long-Term Ecological Results*

The agreed order of August 2, 2000, however, was not blind to its own insufficiency. As guidelines for ongoing negotiation, the *Martinez* court set forth "Provisions Contributing to the Long-Term Survival and Recovery of the . . . Minnow and to Sustainable Water Use in the Middle Rio Grande Basin."[241] The agreed order stated that the temporary flows "are acceptable if and only if the long-term measures . . . are implemented and enforced in an expeditious manner."[242] Important among the provisions was a call for Reclamation and the MRGCD to establish "re-connectivity" of the river at San Acacia to provide upstream passage for the minnow, development of a program to limit entrainment of the fish in ditches, and instruction to the Corps to "immediately begin habitat restoration" at Bosque del Apache National Wildlife Refuge or other locations.[243]

Several elements of the *Martinez* agreed order underscore the ironies of trying to restore natural conditions to an ecosystem. Restoration can amount to piling new engineering on the old. When artificial conditions exist for long periods of time, some living things founder, but many adapt. When the artificial condition is replaced suddenly with an approximation of

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239. *Id.* at *5.

240. Joseph L. Sax, *Symposium On Law in the Twentieth Century: Environmental Law at the Turn of the Century: A Reportorial Fragment of Contemporary History*, 88 CALIF. L. REV. 2375, 2391 (2000).

241. Rio Grande Silvery Minnow v. Martinez, No. CIV 99-1320 JP/KBM-ACE at *5–7 (D. N.M. Aug. 2, 2000) (unpublished agreed order on file with author).

242. *Id.* at *6.

243. *Id.* at *6–7.

the natural condition, there is the possibility that some organisms may suffer.

Reservoir releases to benefit the minnow resulted in at least one such unusual effect. The Corps released eight-thousand acre feet of water from Jemez Reservoir on the Jemez River beginning October 2, 2001, exposing thirty feet of accumulated muck with the consistency of pudding.[244] Fifty-eight migrating sandhill cranes, mistaking the muck for water, alighted in it and became trapped.[245] Some were rescued by Corps personnel, but most could not be reached and died. The Corps resorted to roving floodlights and timed fireworks to scare away other cranes,[246] some three thousand of which pass through the area during fall migration.[247] The incident was picked up by John Horning, conservation director for Forest Guardians, who characterized it as "one of the untold consequences of tinkering with the system."[248] Horning cautioned that it should be regarded as a result of the inability to provide balance in the river system rather than a case of conflicting needs between two different species.[249]

The same issue emerged in force in the summer of 2001, when another ESA water war grabbed national attention. Reclamation withheld contractual water from irrigators in the Klamath River Basin in Oregon and California pursuant to a court order, causing fields to go brown.[250] Reclamation, the FWS, and local irrigators opposed the order, partly on ecological grounds, claiming that migrating waterfowl depended on grain as their dietary staple, and bald eagles likewise depended on the waterfowl.[251] The FWS estimated that 25,000 waterfowl and one thousand eagles might starve that winter.[252] Similarly, a manager at Bosque del Apache National Wildlife Refuge on the Rio Grande claimed that water foregone by the ref-

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244. Fritz Thompson, *Reservoir Muck Traps Migrating Cranes*, ALBUQUERQUE J., Nov. 10, 2001, at A1.

245. Chris Ramirez, *Rescued Cranes Released*, ALBUQUERQUE J., Nov. 19, 2001, at A1.

246. *Id.*

247. Thompson, *supra* note 244, at A1.

248. *Id.*

249. *Id.*

250. Douglas Jehl, *Cries of 'Save the Suckerfish' Rile Farmers' Political Allies*, N.Y. TIMES, June 20, 2001, at A1.

251. Pat Taylor, *Federal Fish Rules Hook Other Fauna*, INSIGHT ON THE NEWS, Oct. 1, 2001, at 16.

252. *Id.*

uge to benefit the silvery minnow might impact birds in the future.[253]

Though posessing a tenor of truth, this line of argument fails to provide a strong enough reason to stop the water rights curtailments. It ignores the fact that the animals allegedly impacted are common compared to the endangered species in question. Even the threatened bald eagle, though not exactly a dime a dozen, is not so tied down to the locale as the fishes involved. While unfortunate that some individual animals might die because their water source is cut off, the curtailments may be necessary to preserve the very existence of other species. Even still, the apparent conflict strengthens the case for using the ESA to restore whole ecosystems rather than concentrating on individual species, and for preventative action by the federal agencies rather than the current crisis management tack.

The *Martinez* order also called for "explor[ing] opportunities" to clear non-native salt cedar from the Rio Grande basin.[254] Seemingly, this was recommended as a water-conserving operation, as salt cedars are phreatophytes. More so than the native phreatophytes, salt cedar has bled western water tables, taking up immense amounts of water with its deep roots.[255] As discussed, it has evicted willow and cottonwood from many riparian areas. But where salt cedar has substituted itself for these native trees and shrubs, it may provide the only cover and nest sites available for birds. The endangered southwestern willow flycatcher, whose demise owes much to the salt cedar invasion, may now depend on salt cedar for nest sites. Elimination of salt cedar could, in fact, jeopardize the flycatcher.[256]

While the silvery minnow and the southwestern willow flycatcher are beyond preventative medicine, there are indications that the FWS is moving forward with a unified recovery approach to the two species. A draft recovery plan published by the FWS for the southwestern willow flycatcher touches the

253. *Id.*

254. Rio Grande Silvery Minnow v. Martinez, No. CIV 99-1320 JP/KBM-ACE at *5 (D. N.M. Aug. 2, 2000) (unpublished agreed order on file with author).

255. *See* Zavaleta, *supra* note 87, at 462.

256. *See* Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Southwestern Willow Flycatcher, 62 Fed. Reg. 39,129, 39,129; *see generally* Zavaleta, *supra* note 87, at 464 (suggesting that native vegetation provides superior nestsites but acknowledging that restoration from salt cedar to native vegetation will require careful planning).

Middle Rio Grande.[257] The plan calls for keeping larger flows in the river.[258] It also recommends dam operations be modified to "treat rivers as landscapes 'rather than merely as commodity resources.'"[259] FWS biologists advocated the plan as beneficial to both the flycatcher and the minnow.[260]

The Corps, Reclamation, and the MRGCD have introduced specific plans for several habitat restoration projects on the Rio Grande. One, located on forty acres of burned over Bosque near Los Lunas, would involve tearing out jetty jacks and widening the river by 350 feet.[261] The area would then be planted in willow and cottonwood.[262] The first of eight such projects planned, it aims to provide backwater habitat for the minnows, and slow water velocity so minnows will not be swept downstream towards San Acacia so quickly.[263]

Another project, championed by Sen. Pete Domenici (R-N.M.), would create Albuquerque's "own version of Central Park" on five-hundred acres of MRGCD land.[264] The plans include removal of salt cedar, planting of willow and cottonwood, and removal of jetty jacks.[265] John Horning of Forest Guardians suggested the project was more cosmetic than truly restorative.[266] But Sen. Domnici did not rule out the option of overbank flooding, saying he wished to restore hydrologic connectivity between the river and the Bosque.[267]

Often, tinkering with an ecosystem that has already been excessively tinkered with, in an effort to remake what was, can have unintended effects. Exotic weeds may serve an ecological benefit that would not be quickly replaced. Even water projects can have environmentally friendly side effects that must be considered. Unlined irrigation ditches, for example, may play host to riparian belts of cottonwood and willow and the

257. Tania Soussan, *Bosque Birds Get Federal Attention*, ALBUQUERQUE J., June 26, 2001, at C3.
258. *Id.*
259. *Id.*
260. *Id.*
261. Tara King, *Minnow Habitat Planned*, ALBUQUERQUE J., Nov. 29, 2001, at A1.
262. *Id.*
263. *Id.*
264. Tania Soussan, *Plan to Boost Bosque Beauty*, ALBUQUERQUE J., Nov. 10, 2001, at A1.
265. *Id.*
266. *Id.*
267. *Id.*

animals that use them. Even the much maligned San Juan-Chama project, which destroyed the trout fishery of the Navajo River,[268] has played an unlikely conservation role: it provided Reclamation with the flexibility needed to save the silvery minnow in 2000. Any attempt to restore a natural, or "normative," river must be made in consciousness of such complexities.

### *c. More Short-Term Solutions*

The summer of 2001 saw an encouraging but temporary step in the ongoing *Martinez* lawsuit. On June 30, the agencies involved in the negotiations announced a three-year agreement to provide water for the silvery minnow and southwestern willow flycatcher.[269] The agreement was signed by representatives from the State of New Mexico, New Mexico Interstate Stream Commission, Reclamation, and the Corps.[270] Although hailed as "historic" by New Mexico Attorney General Patricia Madrid, the plan was rejected by the environmentalist plaintiffs as not going far enough.[271]

The agreement stipulated that New Mexico store up to 100,000 acre feet of water for the minnow in a "conservation pool."[272] The water was available as credit against Rio Grande Compact water owed to Texas, as New Mexico released more than the Compact required in efforts to sustain the minnow during the summer of 2000.[273] Instead of letting the water flow downstream to Elephant Butte Reservoir, where it would normally be stored, the Corps would keep it in Jemez and Abiquiu Reservoirs upstream of the minnow habitat. The water was slated to be released at a rate of 30,000 acre feet per year when needed to keep critical stretches of the river wet.[274]

The agreement provided that the federal government buy

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268. WILKINSON, *supra* note 49, at 225.

269. Heather Clark, *Governments Reach Deal on Minnow*, SANTA FE NEW MEXICAN, June 30, 2001, at A1. An earlier version of the agreement, Memorandum of Understanding Regarding Endangered Species Conservation Pool, dating to April 2001, is on file with the author and also available at http://www.spa.usace.army.mil/FONSI/Abiquiu_Jemez_nm/Enclosure_G_-_Endangered_Species_MOU.pdf (last visited Feb. 27, 2002).

270. Clark, *supra* note 269, at A1.

271. *Id.*

272. *Id.*

273. *Id.*

274. *Id.*

water over the three year period at a cost of $4.1 million.[275] The State of New Mexico was to use that money on habitat restoration, water-quality studies, and captive breeding programs to benefit the minnow.[276] The agreement also was purported to protect irrigators and municipalities by clarifying their water rights in relation to the minnow.[277]

The environmental groups took the position that the agreement was a positive step, but that 30,000 acre feet per year was not enough to rescue the minnow from extinction.[278] The agreement would not prevent certain stretches of the river from running dry in some years, including areas where the minnow now resides.[279] Additionally, the agreement conferred immunity from ESA section 9 "take" violations by allowing an "incidental take" of up to 100,000 minnows per year, if the other conditions to the agreement were complied with.[280]

Citing the agreement, the federal agencies and the State of New Mexico asked the court to dismiss the *Martinez* case. The court refused, instead allowing the environmentalist plaintiffs to expand the lawsuit by joining the FWS.[281] In a newly issued biological opinion, the FWS had written that temporary drying of certain parts of the Middle Rio Grande did not put Reclamation in violation of the section 7 "jeopardy" standard.[282] Reclamation and the Corps predicated the agreement on this reversal of finding by the FWS, an action that the environmentalist plaintiffs called "arbitrary and capricious."[283] Forest Guardians accused the FWS of bowing to "political pressure" in changing the opinion.[284]

As of this writing, *Martinez* has not been resolved. The silvery minnow weathered the summer of 2001 rather well,

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275. *Id.*
276. *Id.*
277. *Id.*
278. *Id.*
279. *Id.*
280. Tania Soussan, *Hearing Today to Get At Heart of Minnow Dispute*, ALBUQUERQUE J., Nov. 19, 2001, at A1.
281. Heather Clark, *Government Asks Judge to Drop Minnow Lawsuit*, SANTA FE NEW MEXICAN, July 3, 2001, at B5.
282. *See* Ben Neary, *Activists Challenge Minnow Agreement*, SANTA FE NEW MEXICAN, July 27, 2001, at B1.
283. Clark, *supra* note 281.
284. Neary, *supra* note 282.

with only three dead minnows counted by the FWS.[285] A captive breeding program seemed to be progressing, growing to 100,000 fish.[286] Two short stretches of the river ran dry, however, and four hundred minnows needed to be rescued.[287] Sustaining the minnow through even the forgiving summer of 2001 required government vigilance and manipulation. The silvery minnow remains dependant on artificialities—restocking and tightrope rescues. The Rio Grande's health has not improved.

While the agreement of June 2001 was a helpful step, it did not secure the future of the minnow. Once again, some surplus water (the Texas overdraft from the summer before) turned up. But that supply is limited, and as all parties admit, it is not enough to keep the river from drying up in parts. Ultimately, a federal water right will have to be established that will ensure a flow for the silvery minnow even in drought years. The path to a dependable federal water right, however, is complicated and unsure.

### 2. The *Martinez* Problem: Can ESA Secure Instream Flows?

#### *a. ESA-Water Rights Case Law*

The urgency of the silvery minnow's plight requires that any restorative action be directed foremost to securing the fish's survival. As discussed previously, the single most damaging blow to the minnow is dewatering of the river. The Rio Grande is heavily appropriated, primarily by agriculture but also by urban users, and this causes the channel to dry up. But no law requires that a certain amount of water remain in a New Mexico river simply because rivers are supposed to be wet. If an endangered species depends on the river, however, the situation changes. Nominally, the ESA creates a preemptory federal right to water that is good against other allocations.[288]

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285. Richard Benke, *Silvery Minnow Case Back in Court*, SANTA FE NEW MEXICAN, Nov. 20, 2001, at B1.

286. Soussan, *supra* note 280, at A1.

287. Benke, *supra* note 285, at B1.

288. A. Dan Tarlock, *Western Water Rights and the ESA*, *in* BALANCING ON THE BRINK OF EXTINCTION 167, 169–70 (Kathryn A. Kohm ed., 1991); *see also* Melissa K. Estes, Comment, *The Effect of the Federal Endangered Species Act on State Water Rights*, 22 ENVTL. L. 1027, 1051 (1992) ("If depletion of stream flow is

Section 7 mandates that the federal agencies that "own" the MRGCD diversion dams allow enough water to flow in the river to protect the minnow from jeopardy and to maintain its critical habitat. Section 9 restricts appropriators from causing a "taking" of minnows by dewatering the channel.

The FWS has been reluctant to exercise its power against water appropriators, however, by implementing either sections 7 or 9.[289] One reason is that requiring water users to cut back on appropriations would have serious economic consequences. The State of New Mexico believes instream flows for the minnow would deplete the state's water supply by as much as 100,000 acre-feet annually, curtailing the rights of the MRGCD and the Indian pueblos, impacting the City of Albuquerque's long-term water strategy, and interfering with the state's obligations under the Rio Grande Compact.[290] All of these vested interests predate the ESA. One need look only to the MRGCD's long history of operating exactly as it does today, coupled with the asserted value of its crops at $28 million annually, to understand the serious economic impact of enforcing an ESA water right to the detriment of a water user.

Another reason for the reluctance is that water law is traditionally an area left to the states.[291] A special aura of deference to states characterizes this area of natural resource law.[292] Even the text of the ESA makes reference to the federal government's duty to "cooperate" with states on "water resource issues."[293] Section 2(c)(2) of the ESA can be read as weakening

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destroying habitat and placing a species in jeopardy, then the depletion is prohibited under the ESA.").

289. Wood, *supra* note 170, at 225.

290. Ted Apodaca, *Endangered Species and the Rio Grande: The Silvery Minnow, in* CLE INTERNATIONAL, THE LAW OF THE RIO GRANDE N4-1 (2000). Mr. Apodaca is the Chief Legal Counsel to the Office of the New Mexico State Engineer. *Id.*

291. When the western public-lands states entered the union, most codified the so-called "Colorado Doctrine" of appropriative rights. The federal government assented to state determination of water law. *See, e.g., California v. United States*, 438 U.S. 645 (1978).

292. *See* D. Craig Bell et al., *Retooling Western Water Management: The Park City Principles*, 31 LAND & WATER L. REV. 303, 306 (1996) (calls for "a general federal policy of recognizing and supporting the pivotal role of states in water management"). For the political roots of this effect, see Part III, *infra*.

293. 16 U.S.C. § 1531(c)(2) (1994). The section reads: "It is further declared to be the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." *Id.*

federal power to interfere with state appropriative water rights for the benefit of endangered species. The FWS's negotiative approach may have roots in the provision.

That reading, however, has no basis in judicial opinion. Courts have mentioned section 2(c)(2) in only three reported cases.[294] In the only protracted discussion, *United States v. Glenn-Colusa Irrigation District*,[295] a California court said that section 2(c)(2) "does not require . . . that state water rights should prevail over the restrictions set forth in the [ESA] . . . [and] provides no exemption from compliance [with the ESA] to persons possessing state water rights."[296]

In fact, courts have several times affirmed the use of the ESA to protect endangered species on heavily dammed rivers. In *Carson-Truckee Water Conservancy District v. Clark*,[297] the Ninth Circuit upheld the United States Department of the Interior's voluntary operation of a federal dam with the primary aim of preserving endangered Lahontan cutthroat trout and cui-ui fish under section 3(3) of the ESA,[298] which requires the FWS to "conserve" endangered species.[299] The ESA provided the Secretary with the discretion to give predominance to preservation of the fish. But the court did not reach the extent of the Secretary's affirmative obligation under the ESA had he chosen not to operate the dam in order to preserve the fish.[300]

The Tenth Circuit upheld the Corps's denial of a permit to dam a tributary of the South Platte River in *Riverside Irrigation District v. Andrews*.[301] The dam would have reduced instream flows through the critical habitat of the endangered whooping crane.[302] Under section 7 of the ESA, the Corps was required to "ensure that 'any action authorized, funded, or carried out by such agency . . . is not likely to . . . result in the destruction or adverse modification of the habitat of . . . [an endangered] species.'"[303] The court said the Corps was correct

294. *See* Doremus, *supra* note 162, at 397.
295. 788 F. Supp. 1126 (E.D. Cal. 1992).
296. *Id.* at 1134.
297. 741 F.2d 257 (9th Cir. 1984).
298. *Id.* at 260–261.
299. 16 U.S.C. § 1532(3) (1994).
300. *Carson-Truckee,* 741 F.2d at 262 n.5.
301. 758 F.2d 508, 514 (10th Cir. 1985).
302. *Id.* at 511.
303. *Id.* (quoting 33 C.F.R. § 330.4(b)(2) (2001)).

in denying the dam permit because reduced instream flows constituted a modification of the crane's critical habitat.[304]

In *United States v. Glenn-Colusa Irrigation District*,[305] the court enjoined an irrigation district from pumping from a river because the irrigation intakes caused a "taking" of salmon under section 9.[306] The FWS's definition of a take includes "significant habitat modification or degradation where it actually kills or injures wildlife,"[307] a reading recognized by the United States Supreme Court in *Babbitt v. Sweet Home Chapter*.[308]

The District of Oregon recently held that contract rights held by irrigators were subservient to Reclamation's duty to fulfill ESA obligations.[309] The court also refused to issue an injunction forbidding Reclamation from shutting off the irrigators' water.[310] Although the court recognized the serious economic harm that would result to the irrigators, it found that the "ultimate harm" constituted by the threats to the endangered species tipped the balance of hardships in the species' favor.[311]

The *Carson-Truckee* opinion suggests that Reclamation has discretion to direct the MRGCD to operate the diversion dams with the primary purpose of protecting the Rio Grande silvery minnow. Stronger in its holding, *Riverside Irrigation* seems to require the Secretary to ensure an instream flow for the silvery minnow under section 7 of the ESA. *Riverside Irrigation's* applicability might be challenged because in that case, the dam in question had not yet been built.

The application of section 9 to the MRGCD is unclear. In the drought of 1996, when MRGCD diversions proximately caused the deaths of 10,000 minnows, the FWS did not bring action against the MRGCD for a section 9 taking. Reclamation has determined that the MRGCD diversion dams are federally owned, so their operation should be controlled by section 7. Although section 9 takings provisions have not been applied

304. *Id.* at 514.
305. 788 F. Supp. 1126 (E.D. Cal. 1992).
306. *Id.* at 1135.
307. 50 C.F.R. § 17.3 (2000).
308. 515 U.S. 687 (1995) (holding that the destruction of northern spotted owl habitat was a section 9 taking).
309. Kandra v. United States, 145 F. Supp. 2d 1192, 1201 (D. Or. 2001).
310. *Id.*
311. *Id.* at 1200–01.

against a federal agency, agencies are not necessarily immune to penalties for causing a section 9 taking.

Under the 1982 Amendments to the ESA, the Secretary of the Interior can grant an exemption from section 9 if the taking is "incidental" to an otherwise lawful activity[312] and will not appreciably reduce the likelihood of the survival and recovery of the species in the wild, and if the applicant will minimize and mitigate the impacts of the taking and provide funding for the mitigation plan. This approach was used by the FWS in the latest *Martinez* agreement. But if, as Reclamation has asserted, the MRGCD diversion works are actually federally-controlled, section 7 "jeopardy" protection should preclude section 9 from coming into play.

### *b. The ESA and Constitutional Takings*

Clearly the ESA authorizes the federal government to use water stored in its reservoirs—water contracted to irrigators—for the benefit of fish. An ancillary issue remains foggier. Must the government compensate the irrigators for the water it uses? Constitutional "takings" claims present potentially the greatest challenge to preemptory federal water rights. The Takings Clause of the Fifth Amendment to the Constitution states that "private property [shall not] be taken for public use, without just compensation."[313] Nonetheless, the federal government has considerable power to restrict property use to protect the environment.[314] A taking may be effected, however, by a restriction on use of property in two situations.

A regulatory taking, the first of the two, occurs when a government restriction causes a total economic diminution of the value of the property.[315] Traditionally, however, if the proscribed use is "harmful or noxious," or in other words, a nuisance at common law, then compensation by the government is not required.[316] The United States Supreme Court, in *Lucas v.*

312. 16 U.S.C. § 1539(a)(1)(B) (1994).

313. U.S. CONST. amend. V, cl. 4.

314. *See, e.g.*, United States v. Riverside Bayview Homes, 474 U.S. 121 (1985) (Corps regulation of filling of wetlands valid under authority vested in it by Clean Water Act).

315. Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1019 (1992) (state regulation that restricts lot owner from building on beachfront is regulatory taking).

316. *See id.* at 1022–27.

*South Carolina Coastal Council*, highlighted another exception to its definition of a taking, though it did not expound on it: "limitation[s] . . . [that] inhere in the title itself, in the restrictions that background principles of the State's law of property . . . place upon land ownership."[317] Property rights extend only so far as they are defined and protected by the government. As the Court stated, the government "may resist compensation only if the logically antecedent inquiry into the nature of the owner's estate shows that the proscribed use interests were not part of his title to begin with."[318]

This exception to regulatory takings is important in the water context because of the special nature of water rights. Rights to water under prior appropriation law are usufructuary; the owner of the right has a property interest in the use of the amount of the right.[319] He may use the water for a beneficial use, though technically, the water is owned by the state. One does not obtain a right to waste water.[320] It might be argued that this qualification weakens the water right *vis-à-vis* the regulatory interest of the government.[321] For instance, where an irrigator contracts with Reclamation to supply water, the irrigator's expectations must take into account the need to regulate for the benefit of wildlife. It might even be argued, using a nuisance theory, that one cannot establish the right to use one's property so as to destroy a stream or exterminate a species because these are harmful or noxious uses.[322]

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317. *Id.* at 1029.

318. *Id.* at 1027.

319. TARLOCK ET AL., *supra* note 102, at 364.

320. *See, e.g.*, Tulare Irr. Dist. v. Lindsay-Strathmore Irr. Dist., 45 P.2d 972, 1007 (Cal. 1935) ("What may be a reasonable beneficial use, where water is present in excess of all needs, would not be a reasonable beneficial use in an area of great scarcity and great need."); State Dep't of Ecology v. Grimes, 852 P.2d 1044, 1051 (Wash. 1993) ("A particular use must not only be of benefit to the appropriator, but it must also be a reasonable and economical use of the water in view of other present and future demands upon the source of supply.").

321. *See* Sax, *supra* note 240, at 2383 (2000); Joseph L. Sax, *Rights That "Inhere in the Title Itself": The Impact of the* Lucas *Case on Western Waterlaw*, 26 LOY. L.A. L. REV. 943, 951 (1993) ("Owners of water rights ought to be especially uneasy. Under the *Lucas/Phillips* approach, property rights in water are not only restrictively defined, but the definitions openly anticipate changes that may diminish or abolish uses that were once permitted."); *see also Grimes*, 852 P.2d at 1055 (appropriator may be limited to amount by concept of beneficial use without effecting a compensible taking).

322. Typically, however, state law nuisance meant polluting. That is an activity not protected by law, whereas appropriation of water is *sanctified* by western state laws. The argument would likely fail. *See* Marcus Lock, *Braving the*

The second category of taking, a physical taking, presents a thornier challenge to the ESA. A physical taking occurs where government action equates to an actual invasion or occupation of property.[323] In such a situation, compensation is always awarded.[324] In a recent decision, *Tulare Lake Basin Water Storage District v. United States*,[325] the United States Court of Federal Claims held that the federal government's curtailment of an irrigator's water appropriations in California constituted a compensable physical taking.[326] The court found that a physical taking occurs where "the intrusion is 'so immediate and direct as to subtract from the owner's full enjoyment of the property and to limit his exploitation of it.'"[327] The court reasoned that "a mere restriction on use [of water]—the hallmark of a regulatory action—completely eviscerates the right itself *since plaintiffs' sole entitlement is to the use of water.*"[328] Because, in the court's estimation, "denial of a right to the use of water accomplishes a complete extinction of all value," the United States in effect "substituted itself as the beneficiary of the contract rights with regard to that water and totally displaced the contract holder."[329] The court also rejected the United States's assertions that the irrigators' property right in the water was limited by the public trust doctrine, the doctrine of reasonable use, and common law nuisance principles.[330]

The outcome of the *Tulare Lake* case may help explain the federal government's willingness to settle ESA litigation by paying for water for endangered species. There has been a reluctance on the part of both the federal government and some

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*Waters of Supreme Court Takings Jurisprudence: Will the Fifth Amendment Protect Western Water Rights From Federal Environmental Regulation?*, 4 U. DENV. WATER L. REV. 76, 105 n.257 (2000).

323. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982).

324. Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1015 (1992).

325. 49 Fed. Cl. 313 (2001).

326. *Id.* at 319.

327. *Id.* (quoting United States v. Causby, 328 U.S. 256, 265 (1946)). In *Causby*, the Court held that flights over the landowner's property constituted an invasion "as complete as if the United States had entered upon the surface of the land and taken exclusive possession of it." United States v. Causby, 328 U.S. 256, 261 (1946).

328. *Tulare Lake*, 49 Fed. Cl. at 319 (emphasis added).

329. *Id. But see* Locke, *supra* note 322, at 106–07 (pointing out that if a court *did not* find the right to use water to be the sole measure of the right, then a complete extinction of value would not occur as the appropriator could sell to users downstream of the protected fish's habitat).

330. *Id.* at 320–24.

irrigation interests to litigate a takings case for fear of the precedent it would set.[331] Fear that the alternative is worse might provide the impetus to negotiate solutions to water problems.[332] Already, armed with the influence of the *Tulare Lake* decision, irrigators involved in the aforementioned Klamath River dispute are pursuing a takings claim in the Court of Federal Claims.[333]

### c. *ESA Enforcement on Other Rivers*

In light of the developments in *Martinez*, and the complications discussed above, the United States appears headed towards a consensus approach rooted in cooperative federalism and special deference to state management of water issues. This approach has been pursued on other rivers. For example, the FWS took a consensus-based route to ESA compliance on the heavily oversubscribed Colorado River,[334] home to four federally endangered fish species.[335] The fish-related issues on that river revolved around the delivery of water through large federal dams, notably Hoover and Glen Canyon.[336] Colorado fish were affected by dewatering for irrigation and alteration of river hydrology.

In 1983, in its recovery plans for the endangered fish, the FWS asserted its right to regulate water allocations on the Colorado using its ESA authority.[337] Out of the intense conflict that followed, a consensus-based plan for river management emerged.[338] Known as the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (RIP),[339] the plan is the result of a collaborative negotiation between FWS, the basin states of Colorado, Utah, and Wyoming, organizations of water users, and environmental groups. The plan focuses on, among other elements, instream flows for

331. Sax, *supra* note 240, at 2384.

332. *Id.*

333. Michael Milstein, *Lawsuit Against Government Will Seek Up to $1 Billion in Klamath Basin Fight*, THE OREGONIAN, Aug. 25, 2001, at D1.

334. Wood, *supra* note 170, at 233.

335. *Id.* at 212. The Colorado squawfish, the humpback chub, the bonytail chub, and the razorback sucker are listed as endangered. *Id.*

336. *Id.* at 224.

337. *Id.* at 229.

338. *Id.* at 230.

339. No irony intended.

habitat management.[340] But the entities involved in the plan must acquire these rights through state appropriative water law.[341] The FWS chose not to assert preemptive water rights. Although the FWS maintains that ultimate regulatory authority comes from the ESA, the agency has effectively laid aside its role.[342] The jointly administered RIP guides the recovery process.

Professor Wood criticizes the consensus-based Colorado recovery plan for its lack of a "watchdog" element, but concedes that it may avoid some of the gridlock inherent to conflict-based approaches.[343] Regardless of the prospective weaknesses and merits of a consensus-based process, the fact remains that Colorado river fish have continued to decline even with the protection afforded by the plan.[344] The instream flows outlined in the plan have not been met because of continued resistance from the basin states.[345]

The ESA is the only *statutory* overlay driving protection of species on the Colorado. In contrast, a number of competing plans, vested under different governmental authorities, cover endangered salmon in the Columbia River.[346] In fact, the ESA sets the least vigorous recovery goals of any of the competing plans, a "low floor, rather than a ceiling."[347] Similarly, the ESA-driven recovery plans for the Colorado River fish are "modest and survival based" when compared to the Columbia plans.[348]

Similarly to the Colorado River, statutory protection for the Rio Grande is centered on the ESA. As environmental groups have pointed out, there is no "Endangered River Act" or "Endangered Ecosystem Act." The ESA is the strongest tool available for preserving the Rio Grande ecosystem.[349]

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340. Wood, *supra* note 170, at 230.
341. *Id.* at 235.
342. *Id.* at 233.
343. *Id.* at 236–37.
344. *Id.* at 237.
345. *Id.* at 239.
346. *Id.* at 234. Besides the NMFS, which has ESA jurisdiction over anadromous fish like the salmon, the Northwest Power Planning Council and the state and tribal governments have statutorily defined roles. *Id.* at 233.
347. *Id.* at 234.
348. *Id.*
349. It is not the sole tool, however. Forest Guardians and Defenders of Wildlife have filed a lawsuit against the United States Environmental Protection Agency (EPA) contending that New Mexico's revised water quality standards fail

The *Martinez* negotiations have approximated the consensus aproach, avoiding flatly asserting the ESA's power to secure preemptory water rights. The Rio Grande's problems are not new, and New Mexico took consensus-based steps towards dealing with them in the past. In the early 1990s, Senator Pete Domenici (R-N.M.) created the Bosque Initiative to study the decline of the Rio Grande's riparian corridor.[350] With federal assistance, the Initiative produced a biological management plan that plainly stated the causes of degradation to the Rio Grande ecosystem.[351]

In response to the Initiative's report, the legislature recommended the creation of the Rio Grande Bosque Task Force.[352] That body determined that the poorly defined roles of the various federal, state, and local agencies were primarily responsible for impeding better management of the Bosque.[353] The task force proposed the creation of the Rio Grande Bosque Management Council to coordinate efforts between the agencies.[354] But New Mexico Governor Gary E. Johnson twice vetoed legislation that would have created the council, and the Initiative seems to have died in the legislature.[355] Although the players remain interested in restoring the Bosque, the recommendations of the Initiative report alone are not likely to affect management of the river.[356]

The failure of past cooperative efforts on the Rio Grande, the low recovery goals set by the cooperative plans on the Colorado, and the apparently inadequate instream flows proposed in the latest *Martinez* agreement suggest that the compromise will not be sufficient to recover silvery minnow populations. As an alternative model that promises success, Professor Sax has called attention to the ESA-driven compromise approach that

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to protect the Rio Grande silvery minnow. *Groups Sue EPA Over Water Plan*, THE SANTA FE NEW MEXICAN, Nov. 6, 2001, at B4. The EPA must approve the state standards consistent with the requirements of the federal Clean Water Act, 33 U.S.C. §§ 1251-1387. The United States Supreme Court has held that the prescription of instream flows to maintain fisheries is consistent with the authority of the Clean Water Act. PUD No. 1 of Jefferson County v. Washington Dep't of Ecology, 511 U.S. 700, 713–21 (1994).

350. Fort, *supra* note 31, at 25.

351. *Id.* at 26.

352. *Id.* at 27.

353. *Id.* at 28.

354. *Id.*

355. *Id.*

356. *See id.* at 28–29.

arose on the Platte River.[357] The resulting agreement included creation of conservation pools in three states as well as acquisition of land for habitat restoration.[358]

The tentative success of the Platte River model may be the product of a timely coincidence of conditions favorable to cooperation between the basin states.[359] Kingsley Dam, which impounds an important Nebraska reservoir, was due for relicensing by the Federal Energy Regulatory Commission (FERC).[360] Realizing that relicensing would be subject to ESA requirements, water users may have been more willing to work with endangered species concerns.[361] As Professor Sax points out, a licensee does not have as secure a property interest as an irrigator with a vested right and a contract (such as the MRGCD).[362] Additionally, three states, Colorado, Wyoming, and Nebraska, were exposed to the ESA problems on the Platte.[363] Each had an interest in making sure the others paid their fair share.[364] Wyoming and Colorado may also have been more willing to work with the ESA due to unfruitful, adversarial past experience on the Colorado River.[365]

Two elements of the Platte approach merit special attention with regard to *Martinez*. First, the states of Colorado, Wyoming, and Nebraska together footed one-half the cost of the project, with the United States paying the other half.[366] In this way, the United States sent the message that, although it had regulatory authority to require the states to yield all of the water, it was willing to relax that authority in exchange for cooperation.[367] In this way, the United States avoided setting a precedent that would weaken its ability to enforce the ESA against water users.[368] Secondly, the project encompasses the entire Platte basin; three states. Each state shares in the costs. Such a broad application of the ESA recognizes the na-

357. Sax, *supra* note 240, at 2394–2400.
358. *Id.* at 2398.
359. *Id.* at 2395.
360. *Id.*
361. *Id.* at 2395–96.
362. *Id.* at 2396.
363. *Id.*
364. *Id.*
365. *Id.* at 2396–97.
366. *Id.* at 2400.
367. *Id.*
368. *Id.*

ture of ecosystem-wide problems and the need to deal with them on the same scale.[369]

If indeed the Platte success owes a great deal to the United States's bargaining chip in FERC relicensing, the approach might not be replicable on the Rio Grande. Encouragingly, the latest *Martinez* agreement dedicates a conservation pool to the minnow, to be released in dry years (although, as noted, it may not be enough). The *Martinez* agreement lacks, however, the interstate scope of the Platte approach. And it leaves financing to the United States, weakening the United States's regulatory stance. Most disturbingly, the agreement is short-lived (three years) and draws its water from the "surplus" created by the over-release to Texas in 2000. It frees up no new water in the system. In the end, it seems that water users on the Rio Grande will need to conserve if the United States is to secure a dependable water source for maintenance of instream flows.

### *C. Critical Habitat Designation*

Apart from instream flows, the silvery minnow litigants have long banged heads over designation of the minnow's critical habitat. In *Habitat I*,[370] the Tenth Circuit ordered the FWS to designate critical habitat because the FWS had failed to comply with the one-year-after-listing deadline mandated by the ESA. The New Mexico District Court, however, threw out the resulting habitat rule as arbitrary and capricious in *Habitat II*,[371] at the urgings of both the water appropriators and the environmentalist plaintiffs.[372] The question remains: how much added protection does critical habitat designation provide over and above the instream flows mandated by the section 7 jeopardy standard? The respective sides to the dispute either seem to fear or covet a designation, while the FWS puts little stock in critical habitat's ability to cause any sort of change. The FWS may be right, if solely for the fact that its own interpretation of critical habitat has snapped off that provision's

369. *See generally id.* at 2399.

370. Forest Guardians v. Babbitt, 174 F.3d 1178 (10th Cir. 1998).

371. Middle Rio Grande Conservancy Dist. v. Babbitt, No. CIV 99-870, 99-872, 99-1445M/RLP, 2000 U.S. Dist. LEXIS 21438, at *105 (D. N.M. Nov. 21, 2000).

372. Both sides contested the FWS's habitat designation, although for different reasons. The cases were consolidated.

teeth. Recent court decisions, however, may force the FWS to rethink its approach.

### 1. The History of the Silvery Minnow Critical Habitat Designation

The FWS must designate critical habitat at the same time a species is listed "to the maximum extent prudent and determinable."[373] Under special circumstances, the FWS can delay designation of critical habitat not then "determinable" for up to two years after listing.[374] When the FWS listed the silvery minnow as an endangered species in 1994, it made no habitat designation, on the grounds that the habitat was "not then determinable."[375] In the published rule, the FWS acknowledged that it had one year to designate the habitat, with the deadline being March 1, 1995.[376] That deadline passed with no designation of critical habitat.[377]

The FWS's lack of action on the silvery minnow critical habitat decision is by no means an isolated occurrence. In fact, the FWS systematically fails to comply with its statutory duty to designate critical habitat. As of 1999, only 120 of the 1181 listed species had critical habitat designations.[378] The FWS typically falls back on one or more of three reasons to justify this discrepancy.[379] Most commonly, it cites the "not prudent" exception.[380] It also makes use of the "not determinable" standard, as it did in choosing not to designate critical habitat when it listed the silvery minnow, and an "impossibility" or "impracticability" defense grounded on fiscal shortfalls.[381]

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373. 16 U.S.C. § 1533(a)(3) (1994).

374. 16 U.S.C. § 1533(b)(6)(C)(ii) (1994). *But see* Northern Spotted Owl v. Lujan, 758 F. Supp. 621 (W.D. Wash. 1991) (limiting FWS's discretion to delay designation within the two-year period).

375. Listing Final Rule, *supra* note 16, at 36,994.

376. *Id.*

377. *See* Forest Guardians v. Babbitt, 174 F.3d 1178 (10th Cir. 1998).

378. U.S. Fish and Wildlife Service Division of Endangered Species, *Endangered Species General Statistics*, *available at* http://www/fws.gov/r9endspp/theactstats.html (last modified Mar. 31, 1999).

379. Darin, *supra* note 130, at 224.

380. *Id.* "Not prudent" is supposed to be reserved for situations where designation of critical habitat would not be in the best interest of the species, such as where the designation might pinpoint a coveted organism for unscrupulous collectors or hunters. *Id.* at 225.

381. *Id.* at 224.

The FWS later used the "fiscal impossibility" rationale in defense of its violation of the one year extension to designate minnow habitat. It still had not designated critical habitat by July 14, 1997, when Forest Guardians and Defenders of Wildlife, two environmental groups, filed a motion for review of agency decision in the District of New Mexico.[382] The FWS argued that it was prevented from designating the minnow's critical habitat because of a lack of funding.[383] The FWS predicated this on spending moratoria imposed by Congress on the listing of new species and the designation of critical habitat.[384] These moratoria were in effect from April 1995 until April 1996.[385] They created a backlog of 243 species proposed for listing under the miniscule budget of four million dollars.[386] Reasoning that critical habitat designation produced only a small increase in protection for listed species, the FWS gave low priority to using the limited funds in that way.[387] The district court recognized the "impossibility" defense and granted a stay of case until October 1999.[388]

On appeal (*Habitat I*),[389] the Tenth Circuit reversed, holding that the Secretary's duty to designate critical habitat was a mandatory, non-discretionary duty imposed by the ESA, and ordered the Secretary to comply.[390] As the court pointed out, in the rules of statutory construction, "'[s]hall' means shall."[391] It rejected the Secretary's "impossibility" defense, reasoning that when Congress sets a specific timeline for compliance with a statute, neither the courts nor the agency have the discretion to violate it.[392] The only time an "impossibility" defense is applicable to such a situation is during a contempt proceeding.[393]

The FWS's reluctance to designate critical habitat is not without cause. In the court-ordered designation of critical

382. *See* Forest Guardians v. Babbitt, 174 F.3d 1178 (10th Cir. 1998).
383. *Id.* at 1182.
384. Endangered and Threatened Wildlife and Plants, Restarting the Listing Program and Final Listing Priority Guidance, 61 Fed. Reg. 24,722 (May 16, 1996).
385. *Id.* at 24,722–23.
386. *Forest Guardians*, 174 F.3d at 1183.
387. *Id.*
388. *Id.* at 1181.
389. *Id.*
390. *Id.*
391. *Id.* at 1187.
392. *Id.* at 1190.
393. *Id.* at 1192.

habitat for the southwestern willow flycatcher,[394] the FWS stated that habitat listing was "among the most costly and controversial classes of administrative actions."[395] Among the procedural difficulties, the FWS identified: (1) lack of knowledge of management procedures at time of listing,[396] (2) economic analysis requirement necessitates a further understanding of the impacts of designation,[397] (3) the formal designation process can easily take a year to complete,[398] (4) range and habitat use of species are subject to change,[399] (5) designation is very costly,[400] and (6) designation is highly controversial with affected landowners.[401]

Doubtless, the FWS is correct in asserting that critical habitat designation is very costly. Because ESA implementation is chronically under-funded, the FWS is forced to prioritize funding for implementation of various elements of the ESA. There is a backlog of species under consideration for listing, and a limited amount of money for the process. Those funds must be shared with critical habitat designations.

The funding dilemma came to a head in late 2000. Citing budget shortfalls caused by the volume of critical habitat litigation, FWS Director Jamie Rappaport Clark directed that listing actions for fiscal year 2001 be halted so that critical habitat work could be funded.[402] Only species considered to be in "emergency" status would be listed as endangered or threatened under the directive.[403]

The environmental group Defenders of Wildlife accused the FWS of "engineer[ing] a phony budget shortfall to try to shirk . . . [its legal] duties."[404] Whether justified or not, the

394. Final Determination of Critical Habitat for the Southwestern Willow Flycatcher, 62 Fed. Reg. 39,129 (July 22, 1997) (to be codified at 50 C.F.R. pt. 17).

395. *Id.* at 39,131.

396. *Id.*

397. *Id.*

398. *Id.*

399. Final Determination of Critical Habitat for the Southwestern Willow Flycatcher, 62 Fed. Reg. 39,129, 39,131 (July 22, 1997) (to be codified at 50 C.F.R. pt. 17).

400. *Id.* at 39,132.

401. *Id.*

402. Memorandum from FWS Director Jamie Rappaport Clark, to FWS Regional Directors, Regions 1–7 (Nov. 17, 2000) (on file with author).

403. *Id.*

404. Press Release, Defenders of Wildlife, Defenders of Wildlife Condemns Endangered Species Listing Moratorium (Nov. 22, 2000) (on file with author).

moratorium presented a real danger to a number of obscure species clearly in need of immediate protection. In August of 2001, the Center for Biological Diversity and two other environmental groups reached an agreement with the FWS intended to restart the listing process.[405] The FWS agreed to initiate listing on twenty-nine species; the environmental groups aceded to delays in court-ordered critical habitat designations for eight other species.[406]

### 2. The Value Of Critical Habitat Designation

The funding moratorium brings the question: Does critical habitat designation afford a separate degree of protection over and above section 9 "takings" and section 7 "jeopardy?" It can be argued that any action that destroys critical habitat by definition also will jeopardize the species,[407] or fall under the rubric of a taking through habitat modification that was upheld in *Babbitt v. Sweet Home Chapter*.[408]

If critical habitat designation has no unique conservation value, and is subsumed under the definitions of "takings" and "jeopardy," then it may be a simple waste of funds to devote so much to critical habitat designations. The FWS takes the position that critical habitat designation provides little or no additional benefit to a species,[409] and accords the designation process low priority among its listing activities.[410] But it is the FWS's interpretation of critical habitat, not the statutory weight of the provision, which provides little or no additional benefit to a species.[411] In fact, the FWS "no additional benefit" mindset has been called a "self-fulfilling prophecy."

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405. Press Release, Center for Biological Diversity, Conservation Groups and U.S. Fish and Wildlife Service Reach Agreement to Protect Imperiled Species and Habitat Under Endangered Species Act (Aug. 28, 2001) (on file with author).

406. *Id.*

407. MICHAEL J. BEAN, THE EVOLUTION OF NATIONAL WILDLIFE LAW 359 (1983).

408. 515 U.S. 687 (1995). The FWS regulation limits the scope of taking through habitat modification to an action that "actually kills or injures wildlife by significantly impairing essential behavioral patterns." 50 C.F.R. § 17.3 (2000).

409. Final Listing Priority Guidance for Fiscal Years 1998 and 1999, 63 Fed. Reg. 25,502, 25,503 (May 8, 1998).

410. *Id.* But the Tenth Circuit's ruling in *Habitat I*, "'shall' means shall," seems to nullify the FWS's discretion to delay habitat designation based on a priority system. Forest Guardians v. Babbitt, 174 F.3d 1178, 1187 (10th Cir. 1998).

411. *See* Houck, *supra* note 12, at 297; Yagerman, *supra* note 11, at 838–45.

Most often, the FWS uses the "not prudent" exception to avoid designating critical habitat. The FWS regulations lay out two grounds for finding that critical habitat designation is "not prudent": (1) designation would expose the species to increased threat by pinpointing them for vandals, collectors, or hunters, or (2) the designation would be of no additional benefit to the species over and above listing.[412] The basis for the second and more discretionary of these reasons is not apparent in the statutory language of the ESA.[413] It points to a contradiction between Congress's conception of the critical habitat provision and the value assigned by the FWS.

Congress recognized the paramount importance of preserving a species' habitat as a way of protecting endangered species.[414] Although it circumscribed the reach of critical habitat somewhat with the 1978 Amendments, it still chose to retain the critical habitat provision when it could have eliminated it.[415] Rather than defining critical habitat as that area necessary for survival of the species, Congress defined it as that "essential to the conservation of the species."[416] In the ESA definitions, "conservation" equates to recovery to the point of delisting.[417]

In effect, the FWS has defined away the bite of the critical habitat provision of section 7 by merging it with the section 7 jeopardy standard.[418] In FWS regulations, "destruction or adverse modification [of critical habitat]" is defined as an "alteration that appreciably diminishes the value of critical habitat for *both* the survival *and* recovery of a listed species."[419] This equates to the definition of jeopardy to a species, which also requires a reduction of the likelihood of both survival and recovery.[420]

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412. 50 C.F.R. § 424.12(a)(1)(i)–(ii) (2000).
413. Houck, *supra* note 12, at 304.
414. *See id.* at 296–97.
415. *See id.* at 298–99.
416. 16 U.S.C. § 1532(5)(A)(i)(I) (1994).
417. *Id.* § 1532(3) ("The term[] . . . conservation mean[s] . . . the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.").
418. Houck, *supra* note 12, at 299 (calling the FWS's interpretation "sleight of hand").
419. 50 C.F.R. § 402.02 (1992) (emphasis added).
420. *Id.*

Above and beyond a jeopardy analysis, no separate protection is provided for critical habitat under the FWS regulations. An action that damages the potential of critical habitat to support species recovery may not go far enough to "appreciably diminish" the habitat's value for species "survival." This definition restricting critical habitat protection to that necessary for mere "survival" of a species derogates the definition of "conservation" provided by the ESA: "the use of all methods and procedures which are necessary to bring any endangered species to the point at which the measures provided pursuant to [the ESA] are no longer necessary;"[421] in other words, recovery. Furthermore, at least one commentator has suggested these regulations are unlawful because they violate the principle of statutory construction by which all portions of a law are given effect.[422] The Fifth Circuit adopted this reasoning in a recent decision: "Based on the manifest inconsistency between 50 C.F.R. § 402.02 and Congress's 'unambiguously expressed intent' in the ESA, we find the regulation's definition of the destruction/adverse modification standard to be facially invalid."[423]

Although many courts have also merged the jeopardy and critical habitat duties, that does not abrogate the importance of critical habitat designation. In fact, where critical habitat has been designated, no court to date has approved a "litigated intrusion" into the habitat.[424] Sometimes, critical habitat has provided a marker to facilitate the court's recognition of a section 7 violation. In *National Wildlife Federation v. Coleman*,[425] the Fifth Circuit reversed a district court finding of no jeopardy for a highway project within the area occupied by the endangered Mississippi sandhill crane.[426] Just before the start of litigation, the United States Department of the Interior (in other words, FWS) made an emergency designation of critical habitat for the crane. In enjoining the project, the Fifth Circuit made frequent reference to the duty not to modify critical habitat. The court also suggested that critical habitat modification was

421. 16 U.S.C. § 1532(3) (1994).
422. Houck, *supra* note 12, at 299–300.
423. Sierra Club v. United States Fish and Wildlife Serv., 245 F.3d 434, 443 (5th Cir. 2001).
424. *Id.* at 309.
425. 529 F.2d 359 (5th Cir. 1976), *cert. denied*, 429 U.S. 979 (1976).
426. *Nat'l Wildlife Fed'n*,529 F.2d at 375.

an easier standard to reach than jeopardy.[427] The Department of the Interior demonstrated an implicit agreement with this by its emergency designation.[428]

Just as significantly, courts have failed to find section 7 violations where critical habitat has not been designated. In *Sierra Club v. Froehlke*,[429] a Corps dam would have eliminated area occupied by the endangered Indiana bat.[430] Over the objections of the Department of the Interior, the court refused to enjoin the project, finding it "significant" that the Department of the Interior could have designated critical habitat such as it had in the sandhill crane case, but had not done so.[431]

Any federal action that dewatered stretches of the Rio Grande occupied by the silvery minnow would clearly violate the jeopardy standard. Operations that altered river hydrology in ways that affected spawning might be a harder standard to reach under jeopardy, because it would have to be shown that the actions threatened the survival of the species. More importantly, stretches of critical habitat where the minnow does not reside but could re-colonize would be open to dewatering under a jeopardy standard but not under the habitat modification standard.[432] This could thwart the ecosystem-restoring potential of the ESA. Confining restorative management to short reaches of the river would leave the rest, Bosque included, to continue down the road of degradation. Ultimately, the minnow itself might not survive if it could not expand its range into areas it does not currently occupy.

Environmentalists have called for inclusion of the Rio Grande floodplain in the silvery minnow critical habitat. If that scenario ever came to fruition, the habitat modification standard would become very important to ecosystem restoration. Inclusion of the floodplain would extend habitat protection to the Bosque. The law would require simulation of a natural hydrograph, and the restorative benefits would be conferred upon the gallery forest and wetlands. If the entire Rio Grande and Pecos Rivers were designated critical habitat, as the environ-

427. *See* Houck, *supra* note 12, at 309.
428. *Id.*
429. 534 F.2d 1289 (8th Cir. 1976).
430. *Id.* at 1291–92.
431. *Id.* at 1301, 1302 n.37.
432. The Fifth Circuit recognized that designation of unoccupied habitat as critical is beneficial if it aids a species's recovery. Sierra Club v. United States Fish & Wildlife Serv., 245 F.3d 434, 445 (2001).

mentalist plaintiffs in *Habitat II* have argued should be the case, under the habitat modification standard, federal water management could be impacted enormously.

### 3. The Economic Analysis Requirement

As discussed previously, the 1978 Amendments to the ESA inserted an economic analysis requirement into the critical habitat designation process.[433] Although this appears to have compromised the ESA's original inviolability, and was criticized for doing so in parts of the congressional record, it has until now had little practical effect on the administration of the ESA.[434] The legislative history makes it clear that Congress, in drafting the 1978 Amendments, still considered habitat conservation central to the ESA's purpose. Heretofore, it has been the FWS's interpretation of the critical habitat requirements in its regulations that has eroded the critical habitat prong of section 7.

But the economic analysis requirement has reared its head in recent habitat litigation, *Habitat II* included. The *Habitat II* court walked through the FWS's "incremental" approach to economic impact analysis, which comports with the FWS's merger of the jeopardy and critical habitat standards. The FWS considers the listing of an endangered species to cause a "baseline" economic impact. FWS regulations assert that section 4(b)(2) requires them only to "determin[e] . . . whether any incremental economic effects of designation exist beyond effects of the listing."[435] In the FWS's summation, as "any adverse modification of the silvery minnow's habitat is by definition likely to jeopardize the continued existence of the species . . . the designation of silvery minnow critical habitat has no economic effects beyond those caused by the silvery minnow's listing."[436] As precedent, the FWS cited *New Mexico Cattlegrowers Association v. United States Fish & Wildlife Service*,[437] in which the court upheld the FWS's incremental

433. 16 U.S.C. § 1533(b)(2) (1994).

434. Houck, *supra* note 12, at 297.

435. Habitat Final Rule, *supra* note 23, at 36,279.

436. Middle Rio Grande Conservancy Dist. v. Babbitt, No. CIV 99-870, 99-872, 99-1445M/RLP, 2000 U.S. Dist. LEXIS 21438, at *18 (D. N.M. Nov. 21, 2000).

437. 81 F. Supp. 2d 1141 (D. N.M. 1999), *overruled by* 248 F.3d 1277 (10th Cir. 2001) (*see infra* text accompanying notes 448–50).

approach in its finding that designation of critical habitat for the southwestern willow flycatcher had no economic effect over and above listing.[438]

The *Habitat II* court, however, set aside the *Habitat Final Rule* because "the administrative record . . . [was] so overwhelmingly insufficient . . . [that it] fail[ed] to establish either an in-depth analysis of facts and circumstances or a sound rational basis for the choices made."[439] Although the court did not reach the question of whether the FWS's "incremental" approach was a valid interpretation within the Secretary's discretion,[440] the court was dubious of the rationale behind this approach. The court distinguished *Cattlegrowers* on the grounds that the habitat designation in that case involved "adverse impacts on aesthetic enjoyment, reduced recreational opportunities and impaired spiritual well-being," not the "unilateral modification of water rights accompanied by the complete withdrawal of water essential for residential, agricultural, and commercial uses and . . . total cessation of local projects supporting water users throughout the Middle Rio Grande Valley" that the minnow case entailed.[441] The court cited a number of cases rejecting the *Cattlegrowers* proposition that critical habitat designation provided neither increased benefit nor greater impact than listing.[442]

By weighing the economic impacts in *Cattlegrowers* against those in *Habitat II*, the court in effect suggested that habitat designation can have greater economic impact than listing because it has greater protective value. The court quoted language from the *Congressional Record* espousing the

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438. *Id.* at 1159.

439. *Middle Rio Grande Conservancy Dist. v. Babbitt* at *25–26.

440. *Id.* at *25.

441. *Id.* at *22.

442. *Id.* at *22–25 (citing Catron County Bd. of Comm'rs v. United States Fish & Wildlife Serv., 75 F.3d 1429 (10th Cir. 1996)); Natural Res. Def. Council v. United States Dep't of the Interior, 113 F.3d 1121 (9th Cir. 1997); Conservation Council for Hawaii v. Babbitt, 2 F. Supp. 2d 1280 (D. Haw. 1998); Northern Spotted Owl v. Lujan, 758 F. Supp. 621 (W.D. Wash. 1991); *see also* Nat'l Wildlife Fed'n v. Coleman, 529 F.2d 359 (5th Cir. 1976). The *Habitat II* court said of *Coleman*, "[habitat] designation apparently made a substantial difference to the outcome . . . . The primary reason . . . the proposed action stood in violation of the ESA was not that the federal action jeopardized the crane, but that [the action modified the crane's designated critical habitat]." Middle Rio Grande Conservancy Dist. v. Babbitt, No. CIV 99-870, 99-872, 99-1445M/RLP, 2000 U.S. Dist. LEXIS 21438, at *41–42 (D. N.M. Nov. 21, 2000).

protective value of habitat designation: "[T]he designation of critical habitat is more important than the designation of an endangered species itself. In many cases, it will not be until habitat is declared to be critical to the continued existence of an endangered species that it will have impacts in the real world."[443]

In distinguishing jeopardy from critical habitat, the court stated that "[i]t was conceivable . . . that because large portions of the river contain no silvery minnow, activity that might have an adverse effect on the ecosystem may not result, at least for the short term, in any 'taking' of or jeopardy to the minnow."[444] The court found that:

> [T]he designation of critical habitat has imposed an affirmative obligation to keep water flowing irrespective of the weather . . . or other competing needs; and only since the designation of critical habitat . . . has it been necessary to demand multiple releases of water in the Middle Rio Grande at the cost of municipal and irrigation use, water management and maintenance projects.[445]

To find no economic impact attached to habitat designation in light of this, the court said, amounted to "callous treatment of the people and communities of the Middle Rio Grande Valley."[446]

While the *Habitat II* opinion seems to stand for the proposition that critical habitat designation may extend a greater degree of protection over a species, it also orders that the economic impact analysis should be taken seriously by the FWS in delineating the boundaries of critical habitat. In the wake of *Habitat II*, three other courts have agreed that critical habitat designation adds to the economic impact of listing.[447] Overrul-

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443. 124 CONG. REC. S21,575 (daily ed. July 19, 1978) (statement of Sen. Garn).

444. Middle Rio Grande Conservancy Dist. v. Babbitt, No. CIV 99-870, 99-872, 99-1445M/RLP, 2000 U.S. Dist. LEXIS 21438, at *67 (D. N.M. Nov. 21, 2000). The court rightly points out that last-minute habitat designations "provide[] a poor test. When all efforts take the form of desperate rescue questionably sustainable for more than a few months, a baseline, like impact, becomes beside the point." *Id.* at *76.

445. *Id.* at *68.

446. *Id.* at *61.

447. Lawrence R. Liebesman & Rafe Petersen, *Courts Compel Closer Review of Species' Habitat Designations*, LEGAL BACKGROUNDER, Nov. 16, 2001, at Vol. 16, No. 52.

ing *New Mexico Cattle Growers Ass'n v. United States Fish & Wildlife Service*, the Tenth Circuit held that the "baseline approach" used by the FWS did not accord with the language of the ESA.[448] Regardless of whether the economic impact of critical habitat designation overlapped with listing, the court found that the ESA required an analysis of the economic impacts.[449] The court rejected the contention that this approach improperly inserted an economic analysis into the listing process.[450]

Implicitly, the Fifth Circuit went further than the Tenth Circuit in its repudiation of the "baseline approach."[451] Although it did not discuss the economic analysis requirement, by affirming that critical habitat designation indeed afforded added protection, the court suggested that economic analysis would be important in future designations. The District of Arizona, as well, recently found that critical habitat designation adds to the economic impact of listing.[452] Additionally, the State of New Mexico has announced plans to challenge a critical habitat designation for the Arkansas River shiner based on the economic analysis reasoning.[453] This attention paid by courts to the economic analysis requirement cuts both ways. While the foot in the door of the ESA seems to be prying a little harder, at the same time the courts' analyses lend credence to the environmentalists' contentions that the critical habitat requirement strengthens ESA protection.

## III. MINNOW POLITICS

Tangling this knot of critical habitat and instream flows is the inevitable politics. Though it should, listing a species as endangered does not guarantee protection. There are success stories, but many species have continued to decline after listing, the silvery minnow and other western fishes included.[454]

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448. N.M. Cattle Growers Ass'n v. United States Fish & Wildlife Serv., 248 F.3d 1277, 1285 (10th Cir. 2001).

449. *Id.*

450. *Id.*

451. *See* Sierra Club v. United States Fish & Wildlife Serv., 245 F.3d 434 (5th Cir. 2001) (discussed *supra* text accompanying note 423).

452. *See* Liebesman & Petersen, *supra* note 447.

453. Ben Neary, *State to Sue Over Designated Fish Habitat*, SANTA FE NEW MEXICAN, Oct. 5, 2001, at B4.

454. Both Pacific run salmon and the four endangered fish in the Colorado River have continued to decline despite listing. *See* Wood, *supra* note 170, at 240.

Although the ESA is a powerful statute, it has continued to fall short of expectations, probably because the federal implementing agencies are reluctant to firmly enforce it.[455] Delays, weak interpretation, and relaxed enforcement result from immense political pressures that warp the implementing agencies' scientific role. Political pressure encourages the FWS to allow damaging projects to continue in dubious compliance with section 7 of the ESA.[456] These issues are especially pronounced in the arena of water rights in the West. Often, it has been left to the courts to achieve the ESA's mandate.

### *A. Delay in the Face of a Drying River—Par for the Course?*

It was clear throughout the 1990s that the silvery minnow, despite its endangered listing, was in imminent danger of extinction. The Rio Grande was over-appropriated; in years of average flow, it usually did not go dry, but it was well known that the channel was dewatered in low flow years. A dry river could not support the minnow, but nonetheless, Reclamation formulated no plan to allocate water. Reclamation allowed the MRGCD to divert water as it always had, and the FWS did not advise Reclamation that it was in violation of the ESA.

In 1996, when a summer drought appeared imminent, the agencies did little to coordinate their efforts to provide water for the silvery minnow.[457] The MRGCD continued to irrigate after the spring flows, and the river channel below San Acacia went dry.[458] The FWS eventually compelled the MRGDC to release 50,000 acre-feet of water,[459] but the death toll for the minnow approached 10,000.[460] The FWS did not, however, impose section 9 taking penalties against the MRGCD or Reclamation.

The MRGCD argued that it had simply followed practices in place for sixty years, while the federal agencies, informed of

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455. *See, e.g.*, Houck, *supra* note 12, at 326–27.

456. *See* Wood, *supra* note 170, at 242.

457. Maria O'Brien, *Shortage and Tension on the Upper Rio Grande: Protecting Endangered Species During Times of Drought, Comments from the Perspective of the Middle Rio Grande Conservancy District*, 39 NAT. RESOURCES J. 145, 146 (1999).

458. *Id.*

459. *Id.* at 147.

460. *See* FOREST GUARDIANS, *supra* note 34, at 4.

the impending drought, did nothing.[461] Then, claimed the irrigation district, the FWS came down on it because it was "practically speaking, the last man on the ditch" above the minnow's habitat.[462] According to the MRGCD, federally-owned water sat in upstream reservoirs like Heron and Abiquiu, "available for water skiers but not for minnows."[463] The MRGCD took the position that any water shortfalls owing to minnow instream flows should be shared, and that the federal agencies should shoulder the majority of the burden.[464]

The FWS finally designated critical habitat for the minnow, but in the meantime, the minnow continued to decline and the FWS had taken no action to abate it. Even in the summer of 2000, when it was apparent that the dwindling minnow population was being chipped away at an alarming rate, the FWS and Reclamation only reluctantly asserted authority to protect the minnow at the expense of water users. The practices that the FWS had determined harmed the fish, as laid out in the final rule to list it as endangered, had continued without modification. The FWS set no standards for minimum flow requirements. Accordingly, Reclamation, which owns the diversion dams, allowed the MRGCD to continue diverting water in a pattern that led to drying of the main channel of the river.

The implementing and action agencies showed similar delay in the Colorado and Columbia basins.[465] Citizen suits were needed to force agency action in both of those basins, and implementation of recovery plans has come slowly.[466] Regulatory delay cripples the ESA's effectiveness. Oftentimes, protections

461. O'Brien, *supra* note 457, at 146.

462. *Id.*

463. *Id.* But the water in the reservoirs is San Juan-Chama water, under contractual obligation to be delivered to Albuquerque, Santa Fe, and other New Mexico cities.

464. *Id.* at 147. Maria O'Brien, counsel for the MRGCD at the time, criticizes the ESA for a lack of a "forum for the necessary system-wide dialogue and shortage sharing," and for its ad hoc crisis management nature. *Id.* at 145. *But see*, Press Release, Forest Guardians, Group Files Suit to Stop the Decline of the Rio Grande Ecosystem (Nov. 15, 1999), *available at* http://www.fguardians.org/news/n991115.html (quoting John Horning of Forest Guardians with reference to FWS public comment period before listing the minnow: "'Had water managers and users heeded warnings from nearly a decade ago that the river was in trouble, the emergency room measures of the ESA would not have been necessary.'").

465. *See* Wood, *supra* note 170, at 237–40.

466. *Id.* at 239.

do not kick in until a crisis stage has been reached. The FWS and Reclamation should take a proactive approach to species protection by managing rivers in ways that avoid further listings of endangered fishes, giving the agencies more flexibility in protecting entire ecosystems.[467]

### *B. The Role of Politicization in Dulling the ESA*

The FWS occupies a difficult position; charged as it is with protecting obscure animals at a cost of millions, it incurs the wrath of some interest group no matter what it does. Application of the ESA to a river system means curtailing the activities of powerful, entrenched water interests. That cuts directly against the western tradition of sacrosanct prior appropriation laws. The powderkeg intensity of the minnow water fight can be followed in the pages of the Albuquerque newspapers, with their almost daily bit on the latest, usually pugnacious, minnow development. Politically powerful water interests have been called "iron triangles" because of their impregnability.[468] These conglomerations of water management agencies, big appropriators, and influential congressmen react vehemently to ESA protection for rivers.

Water interest groups have pushed for outright exemption of projects from the ESA, with the support of ranking senators.[469] In fact, congressmen representing the Klamath River irrigators hurt by the ESA in the summer of 2001 have petitioned Secretary of the Interior Gale Norton to convene the God Squad, to excuse them from the obligation to yield water to endangered suckerfish.[470] Such an effort in Congress on a broader scale resulted in the section 2(c)(2) "cooperation with the state on water issues" provision in the 1982 ESA Amendments.[471]

Senator Pete Domenici (R-N.M.) has been active in the political fight over the silvery minnow. Despite his expressed

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467. Moore, *supra* note 22, at 346.

468. *See* WILKINSON, *supra* note 49, at 225. The three corners of the triangle are western state water agencies, powerful western congressmen, and Reclamation and the Corps. *Id.*

469. Wood, *supra* note 170, at 242. Among those who have tried to undercut ESA protection are Senator Mark Hatfield of Oregon, Senator Slade Gorton of Washington, and Senator Larry Craig of Idaho. *Id.* at 242 n.335.

470. Jehl, *supra* note 250, at A1.

471. 16 U.S.C. § 1531(c)(2) (1994).

concern for the health of the Rio Grande Bosque,[472] his involvement in the minnow instream flow fight has been less ecoaltruistic.[473] In July 2000, he introduced a rider to the Senate Energy and Water Bill that would have blocked the use of federal funds to implement orders to release more water for the minnow.[474] At the threat of a veto from President Clinton, the rider was retracted.[475] Senator Domenici has also suggested transplanting the minnow to the stretch of river north of San Acacia Dam, a proposal popular with farmers south of San Acacia.[476] But that proposal ignores the fact that minnow eggs and young continually wash downstream and collect in San Acacia reach. It would at best provide a temporary solution.

Countervailing the purposes of the ESA, FWS regulations have narrowed the section 7(a)(2) duty to one of ensuring a species's "survival," rather than recovery.[477] Although courts have read section 7(a)(1) as requiring affirmative steps towards species conservation, the implementing agency has discretion in fulfilling this duty.[478] The FWS uses this weakened standard to allow projects to proceed that would result in jeopardy under the "conservation" standard. This may reflect the political suicide of blocking a major federal project for the sake of protecting something as uninspiring as a minnow.

The FWS has also used the "reasonable and prudent alternatives" section of the ESA as a compromise approach, when it does find jeopardy.[479] As alternatives, it has allowed harmful projects to proceed in exchange for fees for conservation, re-

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472. *See supra* text accompanying notes 264 and 350.

473. Western politicians seem to be of one camp when it comes to water. Wallace Stegner wrote, "[i]n matters of western water there are no political parties. You cannot tell Barry Goldwater from Moe Udall, or Orrin Hatch from Richard Lamm." WALLACE STEGNER, *Striking the Rock, in* WHERE THE BLUEBIRD SINGS TO THE LEMONADE SPRINGS 76, 88 (1992).

474. *Group Says Domenici Move is 'Death Knell' for Minnow*, ALBUQUERQUE TRIB., July 12, 2000, at A3.

475. Lawrence Spohn, *White House Joins Fray in Support of Minnow*, ALBUQUERQUE TRIB., July 22, 2000, at A1.

476. *See Domenici Proposes Habitat For Minnow*, DENV. POST, Sept. 8, 2000, at A31.

477. Houck, *supra* note 12, at 327.

478. *Id.* In *Pyramid Lake Paiute Tribe v. United States Dep't of Navy*, 898 F.2d 1410 (9th Cir. 1990), the latitude afforded the agency under the 7(a)(1) conservation duty allowed it to reject a practical project alternative that would have provided instream flows for an endangered fish. *Id.*

479. *Id.* at 320–21.

search, monitoring, and stocking programs.[480] Professor Houck has surmised that the small percentage of projects actually blocked by jeopardy findings "give[s] rise to the suspicion that the biological agencies are bending over backward to identify alternatives that send the project forward in the face of potential jeopardy—at some risk to the species."[481]

The FWS's approach to ESA enforcement may be part of a strategy designed to preserve the ESA from congressional attacks.[482] The ESA was not reauthorized in 1990, when it was due, and attempts to do so since have been resisted.[483] Through the nineties, to stave off property-rights advocates eager to emasculate the ESA with a weakened reauthorization, the FWS employed a two-part parry.[484] To assuage Congress, the Clinton administration offered no reauthorization bill of its own while working with affected interests to develop compromise approaches.[485] In the meanwhile, the administration tried to create the impression that the ESA as it stood was flexible and efficacious enough to bring about mutually acceptable solutions.[486] Many of the compromises discussed above bear the stamp of the FWS's preservation efforts.

While the FWS's aim was noble, what use is the ESA if it is applied so daintily as to render the endangered list a mere epitaph for extinct species? The FWS's reluctance to assert preemptory federal water rights for the silvery minnow, or to designate the minnow's critical habitat, epitomizes its gloves-on approach to ESA enforcement. The drama that played out during the dry summer of 2000 illustrated both the federal agencies' crisis-management approach to endangered species and the intensity of opposition to ESA enforcement. More recently, the FWS changed its biological opinion as to the needs of the minnow; suddenly, letting San Acacia reach dry out no longer jeopardized the minnow. As is often the case,[487] the political charge of the minnow situation has hampered the FWS's role as a scientific agency.

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480. *Id.* at 321.
481. *Id.* at 319.
482. Sax, *supra* note 240, at 2380–81.
483. Jehl, *supra* note 250, at A1.
484. Sax, *supra* note 240, at 2381.
485. *Id.*
486. *Id.*
487. *See, e.g.*, Doremus, *supra* note 162, at 407.

### *C. The Judicial Role in Overcoming Political Pollution*

Because of unreliable enforcement by the FWS, endangered species must continue to rely on the courts to prod the federal agencies to fulfill the mandate of the ESA. Traditionally, courts have vigorously enforced the ESA. The Snail Darter decision made clear the enormous power of the ESA. As the opinion in *Hill*[488] states, the ESA was designed to "halt and reverse the trend towards species extinction—whatever the cost,"[489] and the Court did not shy away from this purpose.

Under the Administrative Procedure Act,[490] a court must overturn an agency decision when it is "arbitrary and capricious."[491] Tempering judicial activism is the principle that courts owe considerable deference to agency decisions. Courts do, however, sometimes overturn decisions based on agency expertise. This trend began with *Citizens to Preserve Overton Park v. Volpe*,[492] in which the United States Supreme Court stated that judicial inquiry into the basis for agency decision should be "searching and careful."[493] Although *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*[494] cut back on a court's discretion to invalidate an agency decision, courts have not blinded themselves to the occasional vagaries of the agencies. For example, in *Sierra Club v. Thomas*,[495] the Sixth Circuit explicitly recognized the political polarization that produced agency bias.[496] Rulings such as this provide a footing for courts to attack politically motivated agency actions.

Even when courts are reluctant to substitute their judgment for that of the agencies, they nevertheless tend to set parameters that force agencies to more faithfully comply with the ESA.[497] In *Habitat I*, for instance, the court did not rule on the validity of the "non-determinable" issue, but forced the FWS to comply with the statutory deadline for critical habitat designation. Critical habitat designations especially have relied on ju-

488. Tennessee Valley Auth. v. Hill, 437 U.S. 153 (1978).
489. *Id.* at 153.
490. 5 U.S.C. §§ 551–559 (1994).
491. *Id.* § 706(2)(A).
492. 401 U.S. 402 (1971).
493. *Id.* at 416.
494. 467 U.S. 837 (1984).
495. 105 F.3d 248 (6th Cir. 1997).
496. *Id.* at 251–52.
497. Wood, *supra* note 170, at 257.

dicial action. Usually, this occurs when the FWS declines to identify critical habitat at listing using the non-determinable exception. The FWS rarely complies with the "mandatory, non-discretionary" duty imposed by the statute to designate the habitat within a year.[498] Although the doctrine of deference to agency science limits the judicial power to overturn the FWS's determination that critical habitat is non-determinable,[499] the court in *Northern Spotted Owl v. Lujan*[500] made it clear that the non-determinable designation is not a mere delaying tactic "automatically" available to the FWS. In *Lujan*, the court held that the FWS need make the "strongest attempt possible" to designate critical habitat at the time of listing.[501] The *Lujan* court found that the FWS had acted arbitrarily in asserting the non-determinable exception.[502]

Following suit, the court in *Habitat II* closely scrutinized the grounds for the FWS decision. As *Habitat II* demonstrates, however, judicial review can cut both ways. The environmentalist plaintiffs wanted the *Habitat Final Rule* rejected in favor of a designation of the entire river as critical habitat. More likely, it would seem, is a designation of a shorter stretch of river, in light of the court's concern with economic impact. Another point implicit in the *Habitat II* decision is the court's desire for more scientific certainty on the part of the FWS. But near certainty in science is hard to come by, and in the amount of time required to establish it, the minnow could become extinct.[503]

Federal judges, somewhat removed from political pressure, have a positive influence on agencies.[504] Considering the political polarization of the agencies and the repeated failure of the FWS to reverse declining populations of endangered species, judicial review is a necessary tool to ensure the success of the ESA. But there may also be a danger here. If federal courts

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498. *See* Darin, *supra* note 130, at 229. Among listed species, other than the minnow, for which the FWS has delayed the habitat designation are the Mexican spotted owl, the spikedace, the loach minnow, and the Southwestern willow flycatcher. *Id.* at 229–30.

499. *See* Wood, *supra* note 170, at 256–57.

500. 758 F. Supp. 621 (W.D. Wash. 1991).

501. *Id.* at 626.

502. *Id.* at 627.

503. *See generally* Wood, *supra* note 170, at 250–51.

504. *See generally* JOSPEH L. SAX, DEFENDING THE ENVIRONMENT 108–115 (1971).

thwart the political will often enough, Congress will weaken the ESA. They have done this already in response to strong judicial enforcement of the ESA, as shown by the wake of the Snail Darter decision.

## CONCLUSION

The perilous decline of the Rio Grande silvery minnow since its listing in 1994 demonstrates the failure of the United States Fish and Wildlife Service to realize the habitat conservation purpose of the Endangered Species Act. Agency delays on critical habitat decisions, as shown by ample precedent, usually take litigation to override. Too often, the FWS compromises its role as the protector of species because it is hampered by political pressure.

The role of consensus as an effective tool for preserving species is yet to be proven. Admittedly, consensus breaks gridlock that can result from litigation. But on-the-ground conservation benefits in many consensus frameworks have not been established firmly enough. Agreements that attempt to placate too many interests, that do not dare to jostle the economic picture by asserting the ESA's power, seem to be failing. Specifically, where water rights clash with the ESA, endangered fish populations continue to decline.

If the silvery minnow situation gains enough political momentum, it is conceivable that the God Squad could be invoked, as has happened on the Klamath River, to consider releasing the Rio Grande diversion dams from section 7 compliance. Or, Congress could pass special legislation to exempt the diversion dams from the ESA, as it did with Tellico Dam, after the God Squad refused to let the project go forward.[505] Although these measures have rarely been used, the Bush administration appears less friendly to endangered species protection than the Clinton administration, and it was during the latter that the silvery minnow continued to decline despite ESA protection. The issue of physical takings, broached in the *Tulare Lake* decision, also looms in the political mix. It could become an excuse for lax enforcement of regulatory water rights. An impor-

505. COGGINS ET AL., *supra* note 142, at 870. Congress also exempted a telescope that might have affected the endangered Mount Graham red squirrel. *Id.*; *see also* Mount Graham Red Squirrel v. Madigan, 954 F.2d 1441 (9th Cir. 1992).

tant test of the Bush administration's endangered species policy with regard to river management will come with the FWS's decision whether to list two Missouri River minnows, the sicklefin chub and sturgeon chub, as endangered species.[506]

The ESA has the force to preserve species by preserving ecosystems. This is recognized in the purpose of the Act, but the FWS's regulatory interpretation of the critical habitat provision has whittled away at this mandate. A congressional amendment clarifying the need to preserve entire ecosystems, rather than simply rescue individual species in crisis, would give the ESA more force. But due to economics and politics, any amendment that strengthens the ESA seems unlikely. The FWS needs to reinforce its interpretation of critical habitat. A stronger interpretation of the critical habitat provision could ground ecosystem protection and restoration under the ESA. If something does not change, endangered species will continue to decline, and the list may become, as one commentator put it, a "chronicle of extinction."

506. *See* Bill Lambrecht, *Fight Over The Missouri River's Future Now Focuses On Disappearing Minnows*, ST. LOUIS POST DISPATCH, Feb. 20, 2001, at A8.