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by

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BALANCING ENDANGERED SPECIES PROTECTION AND IRRIGATION WATER RIGHTS: THE PLATTE RIVER COOPERATIVE AGREEMENT

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I. INTRODUCTION

The federal Endangered Species Act (ESA) has become a major factor in western water policy decision making on rivers supporting endangered or threatened species.[1] Proposed water projects have been scuttled because the project would interfere with endangered species protection. Restrictions in irrigation district operations and irrigator water rights have been required to protect endangered species under the ESA.

The ESA has now become a determining factor in the use and development of the Platte River. The ESA has thwarted major water project development within the basin, and a federal relicensing proceeding involving Nebraska's major hydropower and irrigation project has triggered a unique multistate-federal partnership to develop a basin-wide recovery plan for endangered species. The Platte Cooperative Agreement establishes a broader framework for resolving endangered species-water development conflicts than the frustrating case-by-case process it replaces.[2]

Section I of this article discusses the Platte River and its development. Section II provides an overview of the Endangered Species Act, and how the ESA has been interpreted as affecting water rights in other endangered species protection conflicts. Section III reviews the Platte River water projects that have been stopped or delayed as interfering with endangered species protection. Section IV discusses the relicensing of Kingsley Dam by the Federal Energy Regulatory Commission (FERC), and how the Kingsley relicensing proceeding grew into the Cooperative Agreement. Section V discusses the Cooperative Agreement, and section VI identifies implementation challenges posed by the Cooperative Agreement, particu-

1. Melissa K. Estes, Comment, *The Effect of the Federal ESA on State Water Rights*, 22 ENVTL. L. 1027 (1992); Debora L. Freeman & Carmen M. Sower, *Against the Flow: Emerging Conflicts Between Endangered Species Protection and Water Use*, 40 ROCKY MTN. MIN. L. INST. 23-1 (1994); A. Dan Tarlock, *The Endangered Species Act and Wester Water Rights*, 20 LAND & WATER L. REV. 1 (1985); Michael A. Yuffee, Comment, *Prior Appropriations Water Rights: Does Lucas* Provide a Takings Action Against Federal Regulation Under the Endangered Species Act?, 71 WASH. U. L. Q. 1217 (1993).

2. The full name for this document is the "Cooperative Agreement for Platte River Research and Other Efforts Relating to Endangered Species Habitats Along the Central Platte River, Nebraska." *See infra* text accompanying note 148.

larly regarding changes in water rights administration in the three Cooperative Agreement states.

II. THE PLATTE RIVER

The Platte River is an internationally significant wildlife resource. The "big bend" segment in south central Nebraska is one of the most important migratory waterfowl habitats in North America.[3] The area serves as habitat for the threatened piping plover and the endangered whooping crane, lease tern and bald eagle, as well as other migratory waterfowl. Efforts in the early 1970s to protect the area as a national wildlife refuge failed, leading to the 1978 critical habitat designation by the U.S. Fish and Wildlife Service under the ESA.[4]

The Platte also serves as the basis for significant irrigation and hydropower development in Nebraska, Colorado and Wyoming. Irrigation is the predominant use of the river: the U.S. Geological Survey estimates that seventy percent of the Platte's flows at Grand Island, Nebraska have been depleted by diversion and use.[5] Flowing through Wyoming, Colorado and Nebraska, the Platte supports the surface irrigation of 1,083,000 acres in Colorado, 238,000 acres in Wyoming and 608,000 acres in Nebraska.[6] Over seven million acre-feet[7] (AF) of Platte River water is impounded in larger reservoirs, with 1.6 million acre-feet (MAF) of storage in Colorado, 3.5 MAF in Wyoming and 2 MAF in Nebraska.[8] Allocation of the North Platte River among Colorado, Wyoming and Nebraska is governed by the U.S. Supreme Court decree,[9] while the South Platte is allocated between Colorado and Nebraska.[10] Nebraska and Wyoming are currently in litiga-

3. Thomas G. Shoemaker, *Wildlife and Water Projects on the Platte*, National Audubon Society, Audubon Wildlife Report 1988/1989 285-87 (1988).

4. Endangered Species Act, 50 CFR § 17.95 (b) (1997).

5. G.P. WILLIAMS, GEOLOGICAL SURVEY CIRCULAR, U. S. GEOLOGICAL SURVEY, THE CASE OF THE SHRINKING CHANNELS—THE NORTH PLATTE AND PLATTE RIVERS IN NEBRASKA 781 (1978).

6. Leo Eisel & J. David Aiken, Platte River Basin Study, Report to the Western Water Policy Review Advisory Committee (August 1997), figure 2 (hereinafter Eisel & Aiken).

7. An acre-foot is enough water to cover an acre of land to a depth of one foot, or 325,851 gallons. A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 2.03 [1] (West 1998). KAF is a thousand acre feet, while MAF is a million acre feet.

8. *Eisel & Aiken, supra* note 6 (reservoirs of five KAF or more). Major Colorado reservoirs include Eleven Mile Canyon, ninety-eight KAF; North Sterling, eighty-one KAF; and Lake Cheeseman, seventy-nine KAF. Major Wyoming reservoirs include Seminoe, one MAF; Pathfinder, one MAF; Glendo, 789 KAF, and Alcova, 184 KAF. Major Nebraska reservoirs include Lake McConaughy, one and seven-tenths MAF; Sutherland, sixty-five KAF; and Lake Minatare, sixty-two KAF. *Id.* Sixty percent of the water stored in Glendo, and over seventy-five percent of the water stored in Pathfinder, Alcova and Guernsey are used by Nebraska irrigators. Federal Energy Regulatory Comm'n, FINAL ENVIRONMENTAL IMPACT STATEMENT, KINGSLEY DAM (FERC PROJ. NO. 1417) & NORTH PLATTE/KEYSTONE DIVERSION DAM (FERC PROJ. NO. 1835) PROJECTS, NEBRASKA (FERC/FEIS-0063) 3-5 (July 1998) (hereinafter FINAL ENVIRONMENTAL IMPACT STATEMENT).

9. Nebraska v. Wyoming, 325 U.S. 589 (1945), *modified* 345 U.S. 981 (1953).

10. South Platte River Compact, 44 Stat. 195 (March 8, 1926).

tion regarding portions of the North Platte Decree.[11] The Platte and its associated ground water alluvium also provides water to Denver, Casper, Lincoln and Omaha, as well as a number of smaller Platte valley communities in all three states.[12]

Several new irrigation projects have been proposed to increase irrigation diversions, diversions that could deplete streamflows in the central Platte critical habitat area. Federal and Nebraska endangered species protection requirements stemming from the whooping crane critical habitat designation have contributed to the demise or delay of virtually all these projects. In addition, the whooping crane critical habitat designation has complicated the FERC relicensing of Kingsley dam in Nebraska. Coping with the policy challenges of reconciling endangered species protection and irrigation and hydropower production led to the negotiation of the Platte Cooperative Agreement, establishing a broader framework for endangered species protection in the Platte basin.

III. THE ENDANGERED SPECIES ACT AND WATER RIGHTS

The ESA establishes strong legal protection for designated threatened or endangered species as well as for the protected species' designated critical habitat.[13] Species are listed as threatened or endangered by the Fish and Wildlife Service (FWS), U.S. Department of the Interior (Interior).[14] When species are listed as threatened[15] or endangered,[16] their critical habitat[17] is often designated[18] as well. The FWS may adopt protective reg-

11. Nebraska v. Wyoming, 113 S.Ct. 1689 (1993) (Nebraska v. Wyoming I); Nebraska v. Wyoming, 115 S.Ct. 1933 (1995) (Nebraska v. Wyoming II).

12. *See Eisel & Aiken, supra* note 6 at 29, 42-50.

13. 16 U.S.C. §§ 1531-1544 (1994). The first federal Endangered Species Act was adopted in 1963 and amended in 1969. The 1973 act provides the basis for the current ESA. Amendments in 1978 authorized the endangered species committee exemption process, and 1982 amendments provided for habitat conservation plans to lessen disputes involving private property designated as critical habitat for threatened or endangered species. For an overview of the historical development of the ESA, *see* Holly Doremus, *Patching the Ark: Improving Legal Protection of Biological Diversity*, 18 ECOL. L. Q. 265, 295-304 (1991).

The ESA literature is voluminous. *See, e.g.,* Coggins & Russell, *Beyond Shooting Snail Darters in Pork Barrels: Endangered Species and Land Use in America*, 70 GEO. L. J. 1433 (1982); *Doremus, supra*; Oliver A. Houck, *The Endangered Species Act and It's Implementation by the U.S. Departments of Interior and Commerce*, 64 U. COLO. L. REV. 277 (1993); and Zygmunt Plater, *The Embattled Social Utilities of the Endangered Species Act–A Noah Presumption and Caution Against Putting Gasmasks on the Canaries in the Minefield*, 27 ENVTL. L. 845 (1997).

14. 16 U.S.C. § 1533 (1994).

15. "The term 'threatened species' means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." *See id.* at § 1532 (20).

16. "The term 'endangered species' means any species which is in danger of extinction throughout all or a significant portion of its range other than by a species of the Class Insecta determined by the Secretary [of the Interior] to constitute a pest whose protection under the provisions of this chapter would present an overwhelming and overriding risk to man." *See id.* at § 1322 (6) & (15).

17. "The term 'critical habitat' for a threatened or endangered species means:

(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 1533 of this title, 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

ulations to protect listed species,[19] and must develop and implement recovery plans to bring listed species back from the brink of extinction.[20]

Section 7 of the act requires federal agencies to consult with the FWS to determine whether proposed federal actions would jeopardize the continued existence of listed species, and must insure that federal agency actions are not likely to (1) jeopardize the continued existence of listed species or (2) destroy or adversely modify identified critical habitat.[21] If the FWS determines that the proposed federal agency action is likely to jeopardize protected species or their critical habitat, the FWS must suggest "reasonable and prudent alternatives" that would avoid jeopardy.[22] The Section 7 consultation requirement is the ESA provision that brings federal water projects under scrutiny. Not only do the interagency consultation requirements apply to review of new projects, to determine whether project design should be modified to protect endangered species, but existing projects with a federal nexus may also be required by the FWS to enter into consultation to determine whether existing operations should be modified to protect endangered species.[23]

Exemptions may be granted by the Endangered Species Committee to authorize jeopardy federal agency action.[24] Exemptions may be granted if the committee determines (1) there are no reasonable and prudent alternatives to the proposed federal agency action; (2) the benefits of the proposed action clearly outweigh benefits of alternative courses consistent with conserving the species or its critical habitat, and such action is in the public interest; (3) the action is of regional or national significance; (4) neither the federal agency concerned nor the exemption applicant made any irreversible or irretrievable resource commitment which forecloses the formulation or implementation of any reasonable and prudent alternatives that would avoid jeopardy; and (5) reasonable mitigation and enhancement requirements are established to minimize jeopardy.[25] Despite the controversy surrounding the ESA, surprisingly few exemptions have been

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(ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species.

See id. § 1532 (5) (A).

18. *See id.* at § 1533 (a) (3). However, critical habitat has been designated for only twenty-two percent of the species listed. *Doremus*, *supra* note 13, at 309, n.278.

19. 16 U.S.C. § 1533 (d) (1994).

20. *See id.* § 1533 (f).

21. *See id.* § 1536 (a) (2); *see also* Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978). *See generally* J. David Aiken, *New Directions in Nebraska Water Policy*, 66 NEB.L.REV. 8, 29-40 (1987).

22. 16 U.S.C. § 1536 (b) (3) (A) (1994).

23. The ESA regulations for interagency consultation are at 50 C.F.R. pt. 402 (1998).

24. 16 U.S.C. § 1536 (e). Committee members include the Agriculture, Army and Interior Secretaries, the Council of Economic Advisors chair, the EPA and National Oceanic and Atmospheric Administration administrators, and one representative from each affected state appointed by the President. *See id.* § 1536 (e) (3).

25. *See id.* §§ 1536 (h) (1) and (d). Additional requirements are established for the applicant to be considered for an exemption. *See id.* § 1536 (g).

requested, and no exemptions have been granted to date.[26]

Section 9 of the ESA prohibits any person from taking threatened or endangered species, even if no federal agency action is involved.[27] The term "take" is broadly defined,[28] and has been interpreted to include destruction or modification of critical habitat.[29] Those whose property use affects critical habitat may apply to the FWS for an incidental take permit "if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."[30] Incidental take permit applicants must prepare a conservation plan indicating inter alia "the steps the applicant will take to minimize and mitigate" adverse impacts on threatened or endangered species.[31] An incidental take permit can be granted only if inter alia the applicant will, "to the maximum extent practicable, minimize and mitigate the impacts of such taking" and "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild . . . ."[32] Penalties for civil and criminal violations of these requirements are substantial.[33]

WATER RIGHTS IMPLICATIONS

In two of the three federal court decisions involving water rights and the ESA, the use of existing water rights were significantly curtailed to protect endangered species. In the third case, all the water from a new federal reservoir was dedicated to endangered species protection. These results foreshadow the similar treatment of proposed water projects discussed in section III. These cases have crucial implications for Platte valley water right holders, as well as water project developers. No cases reported to date provide any assurance to appropriators that their water use will be protected against the claims of endangered species protection.

The first decision is the controversial *Pyramid Lake* case.[34] At issue

26. *Houck, supra* note 13, at 330.

27. 16 U.S.C. § 1538 (a) (1) (B) (1994).

28. "The term 'take' shall mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." *See id.* § 1532 (19).

29. Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 115 S.Ct. 2407 (1995) (interpreting 50 C.F.R. § 17.3 (1997)).

30. 16 U.S.C. § 1539 (a) (1) (B).

31. *See id.* § 1539 (a) (2) (A).

32. *See id.* § 1539 (a) (2) (B). The incidental take authority has been used by the Department of Interior (Interior) to authorize "habitat conservation plans," where (generally) private owners of critical habitat agree to preserve habitat in exchange for FWS approval to develop part of the habitat. The habitat conservation plan (HCP) authority has emerged as a powerful tool for avoiding endangered species habitat protection conflicts. *See* Donald C. Bauer and Karen L. Donovan, *The No Surprises Policy: Contracts 101 Meets the Endangered Species Act,* 27 ENVTL. L. 767 (1997); John Kostyack, *Reshaping Habitat conservation Plans for Species Recovery: An Introduction to a Series of Articles on Habitat Conservation Plans*, 27 ENVTL. L. 755 (1997); J. B. Ruhl, *Regional Habitat Conservation Planning Under the Endangered Species Act: Pushing the Legal and Practical Limits of Species Protection*, 44 SW. L. REV. 1393 (1991); Richard E. Webster, comment, *Habitat Conservation Plans Under the Endangered Species Act*, 24 SAN DIEGO L. REV. 243 (1987).

33. Up to $25,000 penalty for civil violations, and up to $50,000 fine, up to one year imprisonment, or both for criminal violations. 16 U.S.C. § 1540 (a) (1) and (b) (1) (1994).

34. Carson-Truckee Irr. Water Conserv. Dist. v. Watt, 549 F.Supp. 704 (D. Nev. 1982), *aff'd*

was the Bureau of Reclamation's (Bureau)[35] authority to place endangered species protection over the demands of municipal and industrial (M&I) water uses for water from the 225 KAF Stampede reservoir, constructed in 1970.[36] In *Carson-Truckee,* the court rejected the contention of M&I water users that the ESA required the Bureau to merely prevent the extinction of the endangered cutthroat trout and cui-ui fish species; instead, the court ruled that the ESA "give[s] endangered species priority over the 'primary missions' of federal agencies."[37] The court concluded that "the Secretary [of Interior] is required to give the Pyramid Lake fishery priority over all other purposes of Stampede until the cui-ui fish and Lahontan cutthroat trout are no longer classified as endangered or threatened."[38] This holding was based on the ESA's definition of "conserve," which is "to use all methods and procedures which are necessary to bring any endangered species or listed species to the point at which the measures provided pursuant to this chapter are no longer necessary."[39] The court's ruling indicates that Interior (and the FWS) have wide latitude in what is appropriate agency action to effect the recovery of threatened or endangered species. In this case the court ruled that the Bureau's election to dedicate the entire water supply from Stampede to the recovery of endangered species was authorized by the ESA. The implications are staggering: any federal water project could have its entire water supply rededicated from its prior water supply uses to endangered species recovery. Congress subsequently authorized the use of 7.5 KAF from Stampede for M&I use in "worse than critical drought conditions."[40]

In the second federal court decision with important implications for the Platte valley irrigation projects subject to endangered species protection, a California irrigation district was prohibited from pumping water from the Sacramento River at a rate greater than 1100 cubic feet per second[41] (cfs) during the irrigation season (during which pumping averaged

in part & *rev'd* in part on other grounds, Carson-Truckee Irr. Water Conserv. Dist. v. Clark, 741 F.2d 257 (9th Cir. 1984), *cert. denied sub nom.* Nevada v. Hodel, 470 U.S. 1083 (1985) (hereinafter Carson-Truckee).

35. The Bureau of Reclamation (Department of the Interior) is responsible for administering the federal reclamation, which includes construction and operation of federal reclamation (i.e. irrigation) projects. *Aiken, supra* note 21, at 17-19.

36. The Stampede reservoir was part of the development of the Little Truckee river, which flows from eastern California through a series of dams and reservoirs (including Stampede, joining the Truckee river and flowing into Nevada where it empties into Pyramid Lake). *Carson-Truckee*, 549 F.Supp at 706. The much larger Newlands irrigation project was allocated over 712 KAF for irrigation purposes. *Id.* at 707-08 n.7. However, only 65,000 acres out of the 232,000 intended to be irrigated were actually irrigated. United States v. Carson-Truckee Irr. Dist., 649 F.2d 1286, 1292 n.1 (9th Cir. 1981).

37. *Carson-Truckee,* 549 F.Supp at 709, (quoting *Tennessee Valley Authority v. Hill*, 437 U.S. at 185).

38. *Id.* at 710.

39. 16 U.S.C. § 1532 (3) (1994).

40. In 1990 Congress enacted the Truckee-Carson-Pyramid Lake Water Settlement Act, which implements a preliminary settlement among most major water users. The Secretary of Interior is directed to develop recovery plans for the listed fish species to include water rights purchases from willing sellers. TARLOCK, *supra* note 9, § 9.06 [4] [c] at 9-48.

41. A cubic foot per second is a measurement of the rate of water flow. One cfs equals 448.8

2000 cfs and peaked at 2900 cfs) in order to avoid jeopardizing the continued existence of the threatened winter-run chinook salmon.[42] The district's pumping at rates exceeding 1100 cfs resulted in the loss of 400,000-10,000,000 juvenile chinook salmon annually. The decision indicates that private water rights may be severely restricted (e.g. reduced by forty-five to sixty-two percent in order to protect endangered species). This decision is another warning to private (non-federal) appropriators using water that also provides habitat for endangered species: the needs of endangered species come before those of prior appropriators under the ESA, even though those private appropriations have no federal connection (beyond the ESA).

The third case involves the cancellation of Bureau water contracts in order to provide water for endangered species.[43] Westlands project irrigators had purchased 900 KAF for irrigation from the Bureau beginning in 1963. In 1993, the Bureau announced reductions in irrigation allotments ranging from 50-100 percent in order to satisfy ESA requirements. The irrigators sought a court order requiring the Bureau to continue the water sales without reference to ESA requirements.[44] The court concluded that the Bureau was authorized to reduce irrigation water sales in order to protect endangered species.[45]

In all three of these cases the interests of endangered species were placed above the interests of appropriators. It made little difference whether the irrigators were purchasing water from federal water projects, or whether appropriators were simply exercising their water rights under state law. If the FWS determines that appropriated water is needed in order to accomplish the recovery of endangered species, the endangered species get first claim. In negotiations regarding the recovery of endangered species, the FWS negotiates from a very strong legal position.

IV. PLATTE WATER PROJECTS AND THE ESA

The experience in the Platte has not differed from the three federal cases discussed above: water projects not taking endangered species into account would violate the ESA.[46] There are two separate threads in the Platte endangered species-water rights controversies: protection efforts

gallons per minute (gpm) of water flow. GEORGE GOULD & DOUGLAS GRANT, CASES & MATERIALS ON WATER LAW 14 (West 5th ed. 1995).

42. United States v. Glenn-Colusa Irr. Dist., 788 F.Supp. 1126 (E.D. Cal. 1992).

43. Barcellos & Wolfsen v. Westlands Water Dist., 849 F.Supp. 717 (E.D.Cal. 1993).

44. *Id.* at 720-21.

45. The irrigators also sought, unsuccessfully, to require the Bureau to pay for the cost of replacement water. *Id.* at 721.

46. While the ESA requires that "federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species," 16 U.S.C. § 1531 (c) (2) (1994), the courts have continued to rule that the conservation of endangered species continues to be the primary consideration, despite the impact on water rights. "This provision does not require . . . that state water rights should prevail over the restrictions set forth in the [ESA]. Such an interpretation would render the Act a nullity." *United States v. Glenn-Colusa Irr. Dist.*, 788 F.Supp. at 1134.

under the federal ESA, and protection efforts under the Nebraska endangered species act. The results are the same, even though the laws are somewhat different. The reasonable and prudent alternatives (RPAs) developed by the FWS to avoid jeopardy in several of the federal cases is traced to provide background on the Platte Cooperative Agreement endangered species recovery plan.

CRITICAL HABITAT DESIGNATION

On May 15, 1978, the FWS designated the "Platte River bottoms" in Nebraska from Lexington to Shelton as critical habitat for the endangered whooping crane.[47] In time additional endangered and threatened species would be identified.[48]

GRAYROCKS

The first Platte River water project impacted by the ESA was the proposed Grayrocks dam and reservoir in Wyoming.[49] Grayrocks was to impound approximately 104 KAF of Laramie River water in Wyoming as part of a coal-fired electric generating station developed by Basin Electric cooperative and located on the Laramie near Wheatland, Wyoming.[50] The Laramie River is the major tributary to the North Platte River in Wyoming, contributing approximately seventeen percent of its flows at the Wyoming-Nebraska line.[51] The power project alone would have reduced flows into Nebraska by approximately 23 KAF per year.[52] The North Platte is allocated by *Nebraska v. Wyoming*,[53] which grants Nebraska seventy-five percent of the river flow during the irrigation season. The flow reductions from Grayrocks would most directly have affected water storage downstream in Lake McConaughy for irrigation and hydropower generation purposes. The flow reductions also had the potential to impact the central Platte whooping crane critical habitat designation. The Central Nebraska Public Power and Irrigation District (CNPPID), which owns and operates Kingsley dam and Lake McConaughy, sought to have the Nebraska Attorney General challenge Grayrocks as violating the *Nebraska v. Wyoming* water allocation.[54] However, the state of Nebraska filed suit alleging viola-

47. *See* 50 C.F.R. § 17.95 (b) (1997) (The Platte River bottoms are described as the Platte River channel and immediately adjacent wetlands.).

48. The other additional threatened and endangered bird species are: interior lease tern, piping plover, bald eagle, peregrine falcon and Eskimo curlew. Additional species include the endangered American burying beetle and the threatened western prairie fringed orchid. FEDERAL ENVIRONMENTAL IMPACT STATEMENT, *supra* note 8, at 3-36.

49. The discussion of the *Grayrocks* case is taken from *Aiken*, *supra* note 21, at 32-40.

50. *Aiken*, *supra* note 21, at 32-33.

51. Nebraska v. Rural Electrification Administration (REA), 12 Env't. Rep. Cas. (BNA) 1156, 1161 (D. Neb. 1978), *appeal vacated & dismissed*, 594 F.2d 870 (8th Cir. 1979).

52. *Aiken*, *supra* note 21, at 33. An additional 22.5 KAF of water from Grayrocks was to be allocated to the proposed Corn Creek irrigation project. *Nebraska v. REA*, 12 Env't. Rep. Cas. (BNA) at 1164.

53. 325 U.S. at 589.

54. *See Aiken*, *supra* note 21, at 33 n.149.

tions of the National Environmental Policy Act (NEPA)[55] and the ESA.

The suit sought to enjoin construction of Grayrocks, alleging that the Rural Electrification Administration (REA) (who was providing the project financing) and the U.S. Army Corps of Engineers (Corps) (who was considering granting the project's Section 404 permit under the Clean Water Act[56]) had both violated NEPA and the ESA, first by failing to consider the project's environmental impacts on the whooping crane critical habitat in Nebraska, and second by failing to insure that Grayrocks did not jeopardize the continued existence of the whooping cranes.[57] The federal district court ruled that the REA's environmental impact statement (EIS) was deficient inter alia for not considering downstream impacts on the Nebraska whooping crane habitat, and for failing to consult with the FWS on the endangered species issues.[58] The court set aside the Section 404 permit and the REA loan guarantees as unlawful.[59]

With the adverse ruling, the Grayrocks developer, Basin Electric (Basin), had to settle the case or prepare a new EIS dealing with the Nebraska whooping crane habitat issues. Basin elected to settle, agreeing to reduce project water consumption to satisfy Nebraska irrigation interests, and to establish the $7.5 million Platte River Whooping Crane Habitat Maintenance Trust.[60] There is considerable irony in the Grayrocks outcome. Recall that it was CNPPID who persuaded the State of Nebraska to initiate the Grayrocks litigation. The Whooping Crane Trust created by the Grayrocks settlement was an aggressive participant in the hydropower relicensing of CNPPID's Kingsley dam and Lake McConaughy, which ultimately led to the development of the Platte Cooperative Agreement.

The *Grayrocks* decision foreshadowed what would happen to subsequent Platte water development projects in Colorado, Nebraska and Wyoming: all would be deferred or terminated because of their potential adverse impact on the whooping crane critical habitat.

WILDCAT

The proposed Wildcat irrigation project on the South Platte River in

55. NEPA requires federal agencies to prepare environmental impact statements (EISs) for all "major federal actions significantly affecting the quality of the human environment . . . ." 42 U.S.C. § 4332 (C) (1994). *See generally Aiken, supra* note 21, at 25-26.

56. Section 404 of the Clean Water Act, 33 U.S.C. § 1344 (1994), requires permits to be obtained from the Corps of Engineers (Corps) prior to the discharge of dredged or fill material into waters of the United States. *See generally Aiken, supra* note 21, at 27-29.

57. *Nebraska v. REA*, 12 Env't. Rep. Cas. (BNA) at 1159. Nebraska was joined by the National Audubon Society, the National Wildlife Federation, and the Nebraska Wildlife Federation. *Aiken, supra* note 21, at 34 n.152.

58. *Nebraska v. REA*, 12 Env't. Rep. Cas. (BNA) at 1161-71. *See Aiken, supra* note 21, at 34-35 nn.153-59. After the REA had rebuffed the FWS's request for interagency consultation, FWS issued a jeopardy opinion indicating that Grayrocks would jeopardize the continued existence of the whooping crane habitat by destroying or modifying its critical habitat, and indicated that further studies would be needed. *Nebraska v. REA*, 12 Env't. Rep. Cas. (BNA) at 1170. *See Aiken, supra* note 21, at 35 n.161.

59. *Nebraska v. REA*, 12 Env't. Rep. Cas. at 1180-81.

60. *Aiken, supra* note 21, at 40 nn.192-93.

eastern Colorado was stopped by denial of a Section 404 dredge and fill permit because of impacts on the downstream Platte critical habitat. The Riverside Irrigation District (District) sought to construct the 60 KAF Wildcat dam and reservoir on the South Platte under a general Section 404 permit.[61] The Corps denied the general permit, based on a 1982 FWS jeopardy opinion that the project would affect the Platte critical habitat in Nebraska. The District appealed, arguing that dam construction itself would not affect the critical habitat in Nebraska. The court denied this argument, ruling that indirect effects of reservoir construction, i.e., reduced streamflow, could also be taken into account in Section 404 proceedings.[62] These decisions have indefinitely delayed the project.[63]

NARROWS

The proposed Bureau of Reclamation Narrows Unit would have stored 1.1 MAF on the South Platte to irrigate 287,000 acres in eastern Colorado. A 1983 FWS jeopardy opinion concluded that reduced streamflows would harm the downstream critical habitat in Nebraska. The jeopardy opinion recommended 52 KAF mitigation flow releases, which were rejected by the Bureau.[64] The Bureau and FWS subsequently engaged in the 1984-93 state-federal Platte River Management Joint Study (an important precursor to the Cooperative Agreement) in an attempt to resolve the issue.[65]

NEBRASKA PROJECTS

Several Nebraska irrigation projects have been terminated due to the endangered species concerns, although the projects were challenged under state law rather than federal law. In 1975, Nebraska adopted state endangered species legislation patterned after the federal act, but because there is no Nebraska endangered species exemption process, the Nebraska act is to that extent more protective of endangered species than the federal ESA.[66] The Nebraska act is administered by the Nebraska Game and

61. Under 33 U.S.C. § 1344 (e) (1994), the Corps may issue general permits on a state, regional or national basis for any category of activities involving discharges of dredged or fill material if the activities are similar in nature, and will cause only minimal adverse environmental impacts both separately and cumulatively. Projects that qualify for a general permit do not need to apply for an individual Section 404 permit, which triggers NEPA and ESA review. *Id.*

62. Riverside Irr. Dist. v. Andrews, 568 F.Supp 583 (D.Colo. 1983), *aff'd* 758 F.2d 509 (10th Cir. 1985).

63. *Shoemaker*, *supra* note 3, at 288.

64. GALEN L. BUTERBAUGH, NARROWS UNIT BIOLOGICAL OPINION–WHOOPING CRANE 13-14 (Jan. 20, 1983). The FWS determined that the depletions at Overton, at the top of the critical habitat, would be reduced by 91.9 KAF per year. *Id.* at 2. Thus the FWS in its RPA required only fifty-seven percent replacement of total depletions. The FWS also recommended as a conservation measure that the Bureau share the expense of additional studies to determine the extent of habitat needs. *Id.* at 14.

65. *Id.* at 288-89; *Eisel & Aiken*, *supra* note 6, at 8-9.

66. NEB.REV.STAT. §§ 37-801 to 37-811 (1997). The Nebraska no-jeopardy provision provides that agencies insure that state actions "do not jeopardize the continued existence of such endangered or threatened species or result in the destruction or modification of habitat of such

Parks Commission (GPC).[67] State agencies, including the Nebraska Department of Water Resources (DWR), must consult with the GPC to determine whether their proposed state actions would jeopardize endangered or threatened species.[68] GPC jeopardy opinions and the inability of irrigation project sponsors to comply with endangered species requirements have sounded the death knell for several Platte water development projects.

LITTLE BLUE[69]

The Little Blue/Catherland irrigation project will hold a special place in the history of Nebraska water law, leading to the resolution of a decades-old controversy regarding transbasin diversion, and leading to a ruling that the DWR was subject to endangered species consultation requirements under the Nebraska endangered species act.

In 1980 the Nebraska Supreme Court ruled, in *Little Blue I,* that interbasin transfers of surface water were legal in Nebraska.[70] *Little Blue I* involved the Catherland project, which proposed to divert 125 KAF water from the Platte to irrigate 66,500 acres in the Blue River basin in south central Nebraska. *Little Blue I* overruled a 1936 decision prohibiting interbasin water transfers,[71] and ignited the race among Nebraska irrigation interests to obtain Platte appropriations for new irrigation projects.[72]

After *Little Blue I,* the DWR held additional hearings and issued the Catherland appropriations. In 1982, the Nebraska Supreme Court ruled in *Little Blue II* that the DWR was required to consult with the GPC to determine whether Catherland would jeopardize endangered species or their critical habitat before the director could issue a Catherland appropriation.[73]

After *Little Blue II,* the GPC evaluated the impact of Catherland on the Platte species. The GPC concluded in a 1983 jeopardy opinion that the project would irreparably harm endangered species and their critical

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species which is determined by the commission to be critical." *Id.* § 37-807 (3). The corresponding federal no-jeopardy language is less absolute: federal agencies must insure that agency action "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat . . . ." 16 U.S.C. § 1536 (a) (2) (1994). The Nebraska act prohibits taking of endangered or threatened species, NEB.REV.STAT. § 37-806 (8) (b) (1997), but does not authorize exemptions.

67. NEB.REV.STAT. §§ 37-805 and 37-808 (1997).

68. NEB. REV. STAT. § 37-807 (2) and (3) (1997); Little Blue NRD v. Lower Platte North NRD (Little Blue II), 210 Neb. 862, 317 N.W.2d 726 (1982). *See Aiken, supra* note 21, at 55-57.

69. The discussion of the *Little Blue* trilogy and their legal-political aftermath is taken from *Aiken, supra* note 21, at 53-69.

70. Little Blue NRD v. Lower Platte North NRD (Little Blue I), 206 Neb. 535, 294 N.W.2d 598 (1980). *See Aiken, supra* note 21, at 54-55.

71. Osterman v. Central Nebraska Public Power & Irr. Dist., 131 Neb. 356, 268 N.W. 334 (1936), *overruled by Little Blue I,* 206 Neb. 535. Regarding the transbasin diversion issue, *see* Jarret C. Oeltjen, Richard S. Harnsberger & Ralph J. Fischer, *Interbasin Transfers: Nebraska Law and Legend,* 51 NEB. L. REV. 87 (1971); RICHARD S. HARNSBERGER & NORMAN W. THORSON, NEBRASKA WATER LAW & ADMINISTRATION §§ 7.10-7.14 (Butterworth Legal Pub. 1984).

72. *Aiken, supra* note 21, at 55.

73. *Little Blue II,* 210 Neb. 862. *See Aiken, supra* note 21, at 55-57.

habitat unless project operation were modified.[74] The Catherland jeopardy opinion aroused a storm of controversy within the Nebraska water development community: the GPC had the apparent authority to in effect kill a water project based on adverse endangered species impacts. Nebraska Governor Bob Kerrey established his 1983 Water Independence Congress to deal inter alia with the water development impasse created by *Little Blue II* and the GPC jeopardy opinion.[75] The 1984 Unicameral enacted most of the Water Congress water policy recommendations, which included establishment of a new Water Management Board (WMB) to deal with development-environmental conflicts (although the Nebraska endangered species act was not affected). The WMB's short-lived authorities did not extend to existing water right applications such as Catherland, however, unless the project sponsor sought WMB review. As project sponsors elected to forego WMB review, the Catherland remained in the hands of the DWR.[76]

After the 1983 GPC jeopardy opinion, the DWR director held public hearings, taking additional testimony regarding the impact of Catherland on the Platte critical habitat. In 1986 the DWR director ruled that the project would not harm endangered species (despite the GPC jeopardy decision) and issued the project water rights. The 1986 DWR decision granting the Catherland appropriations despite the GPC jeopardy opinion was immediately appealed to the Nebraska Supreme Court. The case was argued in 1987 and reargued in 1988. The major legal issues included whether there was sufficient factual basis for the DWR director to determine that Catherland would not harm Platte River endangered species despite the GPC biological opinion to the contrary.[77]

The Nebraska Supreme Court did not reach the endangered species issue. Instead, the court ruled that an assignment of the water right application for the irrigation project from the Little Blue NRD to the Catherland reclamation district was illegal, ending the project.[78] The NRD was the original project sponsor back in the early 1970s. The project became politically controversial over the years for a variety of reasons, including costs, the fact that the project would not deliver water to the portion of the NRD with declining ground water supplies, and environmental concerns. Finally, the NRD board of directors voted not to pursue the project and assigned its water right application to the Catherland reclamation district to allow the district to pursue the project instead of the NRD. The DWR substituted the reclamation district for Little Blue as the party in interest over objection. The Nebraska Supreme ruled that unperfected appropria-

74. *See Aiken, supra* note 21, at 55.

75. *Id.* at 58-59.

76. *Id.* at 59-69.

77. *See* Eric Pearson & J. David Aiken, *Protecting Public Values in the Platte River*, 20 CREIGH. L. REV. 361 (1987).

78. *In re* Applications A-15145, A-15146, A-15147, and A-15148, 230 Neb. 580, 433 N.W.2d 161 (1988) (Little Blue III).

tion applications are not personal property.[79] The court stated that assignment of unperfected appropriation applications could result in collusion between applicants, were unfair to those who applied between the original application and its assignment, and were not in the public interest. The court further ruled that neither appropriation nor NRD statues authorized the transfer of unperfected appropriations.

The *Little Blue* litigation had a profound effect on Nebraska water law. Ironically, while *Little Blue I* opened the door to water development of the Platte by out-of-basin interests, *Little Blue II* slammed the door shut by ruling that Platte water rights applications were subject to endangered species interagency consultation and protection requirements, a door the court did not reopen in *Little Blue III*. Like the federal ESA water project litigation it parallels, *Little Blue* points to the need for a broader policy context for dealing with conflicts between water projects and endangered species. The WMB was designed to deal with those conflicts. Specifically the WMB was authorized to rescind newly authorized instream appropriations to provide sufficient unappropriated water for WMB-approved water projects,[80] and to force a water project compromise between water development and environmental interests.[81] However, the WMB was also constrained by the Nebraska ESA, which limited its ability to force project compromises when endangered species were involved. The WMB authorities were repealed in 1991.

PERKINS COUNTY CANAL

Appropriations applications for the "Perkins county canal" project purportedly authorized by Article VI of the 1923 South Platte river compact was dismissed by the DWR when the project sponsor, the Twin Platte Natural Resources District (NRD) failed to engage in endangered species consultation with the GPC.[82] The NRD contended that it was entitled to a legal determination from the DWR that it would have received a 1921 priority date based on the compact before spending the estimated $200,000 required for endangered species consultation. The Nebraska Supreme Court sustained the DWR Perkins county canal application dismissal in 1986.

79. Appropriations must be perfected, i.e. the appropriated water applied to a beneficial use, for the appropriation to take effect. Applications for appropriations which are incomplete, i.e. for which the appropriated water has not been applied to a beneficial use, are considered unperfected. C. PETER GOPLERUD III, THE PERMIT PROCESS AND COLORADO'S EXCEPTION § 14.03 (d), *reprinted in* ROBERT E. BECK, 2 WATERS AND WATER RIGHTS (Mitchie 1991).

80. NEB.REV.STAT. § 46-2,117 (1988), *repealed by* Laws 1991, LB 772 § 8. *See Aiken, supra* note 21 at 63-67.

81. NEB.REV.STAT. § 2-15,110 (1987), *repealed by* Laws 1991, LB 772, § 8. *See Aiken supra* note 21 at 59-61.

82. *In re* Applications A-15995 & A-16006, 223 Neb. 430, 390 N.W.2d 506, 511 (1986).

ENDERS

Applications for the proposed Enders irrigation project in southwestern Nebraska were denied by the DWR for failure to comply with state endangered species protection requirements. The Hitchcock & Red Willow and Frenchman Valley irrigation districts in southwestern Nebraska jointly sought an appropriation to divert 45,000 acre feet of water from the South Platte river for supplemental storage in the Enders reservoir in the Republican river basin near Imperial. The water would have supplemented reduced storage in Enders resulting from declining Republican river streamflows. The GPC issued a biological opinion concluding that the proposed diversion would jeopardize the continued existence of three Platte river endangered species: the whooping crane, bald eagle, and least tern. The irrigation districts did not present information to the DWR contesting the jeopardy opinion, and did not modify their diversion proposal to avoid jeopardy. The DWR denied the Enders diversion application based inter alia on the applicants' failure to show that the proposed diversion would not adversely impact endangered species or their critical habitat in the central Platte river region. The DWR decision was sustained by the Nebraska Supreme Court in 1988.[83]

PRAIRIE BEND I

On February 28, 1992 the Nebraska Supreme Court affirmed the Nebraska Department of Water Resources's dismissal of the Prairie Bend I project appropriation applications.[84] The Prairie Bend applications had the earliest priority date for any pending Platte River irrigation project, and along with the Landmark project discussed below, were the two projects that had the strongest backing and greatest likelihood of implementation. Prairie Bend I would have irrigated 70,000 acres from the 280 KAF Prairie Bend Reservoir. Prairie Bend would have been located in the middle of the central Platte River whooping crane critical habitat area. Project sponsors requested a change in its point of diversion from above the Central Nebraska Public Power & Irrigation District J-2 hydropower return to below the J-2 return.[85] The DWR denied the requested change in point of diversion, and ultimately dismissed the applications as not reflecting the original project proposal.[86] The Nebraska Supreme Court concluded that the DWR's action was not arbitrary or capricious.[87]

83. *In re* Application A-15738, 226 Neb. 146, 410 N.W.2d 101 (1987).

84. *In re* Applications A-14137, A-14138A, A-14138B, and A-14139, 240 Neb. 117, 480 N.W.2d 709 (1992).

85. *Id.* at 120, 480 N.W.2d at 711. Had this requested point of diversion been approved, less water would have been available for appropriation for the competing Landmark project, a junior downstream project proposing to irrigate land in the Blue River basin with Platte River water.

86. *Id.* at 121,123,127. 480 N.W.2d at 712, 713, 715.

87. *Id.* at 127-129, 480 N.W.2d at 715-16.

LANDMARK

Another Nebraska Platte River water project was denied project appropriations, in part due to wildlife habitat and endangered species constraints. On December 16, 1991, the DWR denied appropriation applications for the Landmark Project. Landmark was so named because it was the first Nebraska Platte River water project cosponsored by a major environmental organization, the Platte River Whooping Crane Trust. Landmark would have stored 270 KAF of water from the central Platte River and Big Blue River to irrigate land in the Blue river basin. The Blue basin is the oldest and one of the most intensive irrigated regions in Nebraska. Landmark would have supplied supplemental water to ground water irrigators facing a dwindling supply. One distinctive feature of Landmark is that its Platte river diversions would have been below the "most critical" endangered species critical habitat. All other proposed Nebraska Platte water project diversions were above the critical habitat region and thus would have had a direct negative impact on critical habitat maintenance. However, Landmark would still have caused significant endangered species and wildlife habitat degradation below project diversions. Under the NEB.REV.STAT. Section 37-435 (3) (1997) no jeopardy provision, no state action may harm endangered wildlife species or their critical habitat. The DWR determined that Landmark project sponsors had the burden of proving no jeopardy. While the DWR conceded that project sponsors had effectively cast doubt upon the technical bases for the Nebraska Game & Parks Commission's jeopardy opinion, this alone fell short of proving no jeopardy.[88] The DWR Landmark decision was confirmed by the Nebraska Supreme Court.[89]

PRAIRIE BEND II

Once the Prairie Bend appropriation application were dismissed, project sponsors reapplied for Prairie Bend II appropriations. Prairie Bend's appropriation applications were denied because the project would jeopardize endangered species, and the DWR's order was affirmed by the Nebraska Supreme Court.[90] Landmark and Prairie Bend were the two major competing Nebraska Platte river water project proposals with any significant possibility of success. Their demise will be recorded as the official end of the big dam era in Nebraska.[91]

TWO FORKS

In 1982 the Denver Water Board and forty-one municipal water supply

88. *In re* Application A-16027, 495 N.W.2d 23, 29 (Neb. 1993).
89. *Id.* at 29-35, *modified by* In re Application A-16027, 499 N.W.2d 548 (Neb. 1993).
90. Central Platte Nat. Res. Dist. v. City of Fremont, 250 Neb. 252, 549 N.W.2d 112 (1996).
91. Interestingly the Central Platte Natural Resources District (CPNRD), who promoted the Prairie Bend projects, has acquired instream appropriations for the critical habitat. Central Platte Nat. Res. Dist. v. State of Wyoming, 245 Neb. 439, 513 N.W.2d 847 (1994).

entities signed the Metropolitan Agreement, and a further 1984 South Platte Agreement to pursue the Two Forks project. Two Forks project was a proposed 1.1 MAF feet reservoir on the South Platte River. Operation of Two Forks was estimated to increase the annual firm yield to the Denver water system by 98 KAF, enough to meet the anticipated demand for the Denver metropolitan area for 33 years.

The Two Forks Section 404 permit application was filed April 4, 1986. In March 1988 the Corps issued its final EIS (FEIS). On May 26, 1988 EPA submitted comments on the FEIS indicating that EPA felt Two Forks was the most environmentally damaging of the alternatives considered. On March 15, 1989 the Corps filed a notice of intent to issue the Section 404 permit for Two Forks. EPA then indicated its intent to veto the Section 404 permit under Section 404 (c) of the Clean Water Act. EPA issued a proposed determination to veto the Two Forks Section 404 permit on August 29, 1989, and vetoed the permit on November 23, 1990, based on unacceptable adverse effects on fisheries and recreational areas and the availability of less environmentally damaging practicable alternatives to Two Forks. The EPA Two Forks veto was sustained by the federal district court in 1996.[92]

Deer Creek

Deer Creek was the first Platte water project for which the FWS did not require water in an RPA; instead the FWS determined that habitat purchase and management would adequately offset streamflow depletions resulting from project operation. Deer Creek is a proposed 65.8 KAF reservoir located on Deer Creek, tributary to the North Platte River in Wyoming. Water would be stored in Deer Creek to provide a dry-year supplemental supply for the city of Casper. Deer Creek would have a relatively junior storage priority, and would be allowed to store water only when other senior reservoirs have filled.[93] The FWS estimated the likely annual depletion effect of Deer Creek as 9600 AF.[94]

The FWS biological opinion recognized the unique institutional problems that attach to the North Platte River (the *Nebraska v. Wyoming* Supreme Court litigation), which led it to requiring habitat acquisition rather than water releases.[95] So the FWS required Deer Creek sponsors to

92. Alameda Water & Sanitation Dist v. Reilly, 930 F.Supp 486 (D. Colo. 1996).

93. Letter to Col Steven G. West, District Engineer, Omaha District, U.S. Army Corps of Engineers from Galen Buterbaugh, Regional Director, U.S. Fish & Wildlife Service at 2-3 (July 20, 1987) (hereinafter Deer Creek Biological Opinion). The FWS assumed that Deer Creek would be senior to the Inland Lakes; the U.S. Supreme Court subsequently confirmed the earlier priority dates for the Inland Lakes, which makes the likely stream depletion effect of Deer Creek even more remote in that Deer Creek would be junior to the Inland Lakes. *Nebraska v. Wyoming I*, 113 S.Ct. at 1696-97.

94. *Deer Creek Biological Opinion*, *supra* note 93, at 3.

95. The authors write:

> In formulating its biological opinion, the great distances and number of existing reservoirs between the Deer Creek project and Platte River habitats led the Service to con-

acquire twenty-four acres in the critical habitat area, fifty percent of which would be wet meadows adjacent to the river; and to provide funding to clear the land and manage the habitat for the life of the Deer Creek project.[96] Project sponsors agreed to these conditions.[97]

FOREST SERVICE SPECIAL USE PERMITS[98]

Several communities in eastern Colorado depend in part for their water supply on impoundments and diversions from U.S. Forest Service land. Prior to Platte River endangered species concerns, municipalities had receive special use permits (SUPs) from the Forest Service for their water impoundments and diversions. Endangered species concerns arose in 1991, however, and Section 7 consultation was initiated between the Forest Service and the FWS. In its 1994 biological opinion the FWS developed a formula for determining how much habitat should be acquired to mitigate the effects of downstream depletions from relatively small diversions pursuant to the SUPs.[99] Essentially, replacement water and habitat mitigation requirements are based on the project's proportionate share of total water depletions (i.e. shortfalls from the FWS's target flows for endangered species) and habitat acres needed.[100]

The pattern of the FWS biological opinions in the Platte River cases follows two tracks: for major water projects with significant downstream depletions, replacement of habitat water depletions would be required, but for small projects with a smaller downstream depletion effect, habitat purchases (principally land and purchased water rights) would be allowed in lieu of downstream water deliveries. The latter would be preferred by my most project developers as land can be acquired and restored much more economically; delivering water from the Colorado and/or Wyoming

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> clude that implementation of the conservation measures described herein would offset the small effects of the Deer Creek project more effectively than flow alternatives. Additionally, there are legal and institutional problems which would have had to be overcome for implementation of any flow alternative. The Service believes that the effects of Deer Creek can be most effectively offset by land management practices which restore Platte River vegetated islands, and riparian woodlands to unvegetated islands and wet meadows. Since the Service evaluates the effects of each project it consults on and determines on a case-by-case basis what measures are needed to offset project impacts, use of these conservation measures are not precedence for future consultations. The Service fully recognizes the importance of flows to the Platte River habitat but in its biological judgment believes that the impacts of the Deer Creek project can be most effectively offset by a nonflow alternative.

Id. at 38-39.

96. *Id.* at 39.

97. *Id.* Implementation of Deer Creek has been complicated by the *Nebraska v. Wyoming* litigation.

98. This discussion of the bypass issue is taken from *Eisel & Aiken, supra* note 21, at 45-50.

99. Letter to Elizabeth Estill, Regional Forester, Rocky Mountain Region, U.S. Forest Service from Terry Terrell, Deputy Regional Director, U.S. Fish & Wildlife Service 2-3 (Dec. 1, 1994).

100. *Id.* at 2-3. Average annual flow shortfalls were estimated at 417 KAF and habitat acres needed were estimated to be 29,000 acres. *Id.* at 3. Water delivery costs were estimated at $5.50/AF, while acquiring and restoring habitat costs were estimated to be $2500/acre. *Id.* at 4.

state lines to the critical habitat reach may turn out to be a more difficult proposition.

V. KINGSLEY FERC RELICENSING

While the ESA had stopped were slowed the development of over a dozen Platte river water projects, the ESA had not been used to restrict the water use of existing Platte river appropriators to protect endangered species. This changed with the FERC relicensing of Kingsley dam. Initially, the power districts operating Kingsley dam fought the ESA restrictions on project operation. After a legal setback requiring interim water releases for habitat mainteance, the State of Nebraska entered the relicensing negotiations, and proposed the "environmental account." This broke the negotiating log jam, and provided Nebraska's water contribution to what would become the Platte river Cooperative Agreement.[101]

Central Nebraska Public Power and Irrigation District (CNPPID) and the Nebraska Public Power District (NPPD) cooperatively operate the Kingsley dam-Lake McConaughy system as a hydroelectric generation and irrigation water supply project.[102] Water stored behind Kingsley Dam in the 1.7 MAF Lake McConaughy near Ogallala is used for hydroelectricity production throughout the year. Central has installed three hydro facilities to generate power off water routed through Central's canal system. During the irrigation season some water is diverted from hydropower production for irrigation purposes. Significantly, project power returns enter the Platte river just above the endangered species critical habitat.[103] Approximately one-third of the average annual inflow into McConaughy is diverted for surface irrigation of over 200,000 acres.[104] An estimated 300,000 additional acres are irrigated from a ground water mound resulting from project operations (canal leakage and seepage from gravity irrigation).[105] McConaughy

101. FERC prepared three EISs, the first draft EIS in 1992, Federal Energy Regulatory Comm'n, DRAFT ENVIRONMENTAL IMPACT STATEMENT, KINGSLEY DAM (FERC Proj. No. 1417) & NORTH PLATTE / KEYSTONE DIVERSION DAM (FERC Proj. No. 1835) PROJECTS, NEBRASKA (FERC / FEIS - 0063) (Jan. 1992) (hereinafter DRAFT ENVIRONMENTAL IMPACT STATEMENT); a revised draft EIS in 1994 to evaluate the state of Nebraska's environmental account proposal, Federal Energy Regulatory Comm'n, REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT, KINGSLEY DAM (FERC Proj. No. 1417) & NORTH PLATTE / KEYSTONE DIVERSION DAM (FERC Proj. No. 1835) PROJECTS, NEBRASKA (FERC / FEIS - 0063) (April 1994) (hereinafter REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT); and FINAL ENVIRONMENTAL IMPACT STATEMENT, *supra* note 8.

102. NPPD and CNPPID generate approximately 450 gigawatt-hours per year and provide 116 megawatts of peaking generating capacity. FINAL ENVIRONMENTAL IMPACT STATEMENT, *supra* note 8, at 1-6.

103. *Id.* at 2-2 to 2-8, 3-65 to 3-69. Ogallala, just downstream from McConaughy, is 195 miles from Grand Island, where Platte river flows are guaged. The J-2 Johnson power plant return near Lexington is approximately seventy-eight miles upstream of Grand Island, which is approximately in the middle of the critical habitat.

104. *Id.* at 3-57 and 3-65. Approximately 350-500 cfs of canal maintenance flows are required off-season in the NPPD supply canal and 1,000 cfs in the Central main supply canal to prevent ice blockage. *Id.* at 2-6 to 2-7.

105. *Id.* at 3-65. Gravity irrigation refers to irrigation water being run down rows to irrigate the field. Unless surge valves or other water management techniques are used, the upper end of the rows become water logged in the effort to adequately water the lower end of the field. Within

is managed as a fishery resource in cooperation with the GPC.[106] Lake McConaughy is a significant recreational resource with 600,000-720,000 annual visitors, seventy-four percent of which are out-of-state.[107]

Kingsley dam and Lake McConaughy were constructed as Works Progress Administration projects during the Great Depression of the 1930s.[108] The two fifty-year federal hydropower licenses for Kingsley expired June 29 and July 30, 1987. Federal hydropower permit holders must apply for a new FERC license three years before their existing license expires.[109] Central and NPPD filed two days before the 1987 deadline. FERC subsequently determined that the districts's relicensing application was deficient in not adequately dealing with wildlife habitat maintenance and enhancement.[110] Central and NPPD subsequently requested that FERC allow them to delay submitting amended applications meeting these objections until after the Platte River Management Joint Study (Joint Study) conducted by the FWS and the Bureau had been completed.[111] FERC ruled in January 1986 that the districts would have until 120 days after the completion of the Joint Study to correct the deficiencies in their Kingsley relicensing application.

Another fifteen months passed (April 1987), the Joint Study was not completed, and the original Kingsley hydropower licenses were about to expire.[112] When this occurs in hydropower project relicensing proceedings, FERC is required by 16 U.S.C. Section 808 (a) (1994) to issue annual operating licenses "under the terms and conditions of the original license" to applicants for new licenses until relicensing proceedings have been completed. Thus, annual operating licenses were required from FERC for Kingsley pending submission of an amended application and the completion of relicensing proceedings. This requirement for obtaining annual operating permits gave the Whooping Crane Trust the opportunity to request

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the CNPPID service area, gravity irrigation with siphon tubes without reuse pits is forty-five percent efficient, gravity irrigation with gated pipe and reuse pits are fifty percent efficient, and sprinkler systems are eighty percent efficient. *Id.* at 4-25. Overall CNPPID irrigation efficiency is sixty-two to sixty-eight percent, and system delivery efficiency (i.e. how much water diverted from reservoirs is actually delivered to irrigators) is fifty percent. *Id.* An estimated 600 KAF leakage from unlined canals contribute to ground water recharge. *Id.* at 3-16. CNPPID has established rights to its ground water mound under Nebraska incidental ground water recharge statutes. *In re* Application U-2, 226 Neb. 594, 413 N.W.2d 290 (1987). The ground water mounds are projected to decline under baseline (i.e. no change) conditions. DRAFT ENVIRONMENTAL IMPACT STATEMENT, *supra* note 101, at 4-4 to 4-6.

106. FINAL ENVIRONMENTAL IMPACT STATEMENT, *supra* note 8, at 2-7.

107. *Id.* at 1-8 to 1-9.

108. *Aiken*, *supra* note 21, at 19.

109. 18 C.F.R. § 16.3(a) (1997). *See* FEDERAL ENVIRONMENTAL IMPACT STATEMENT, *supra* note 8, at 1-1 to 1-2.

110. Platte River Whooping Crane Trust v. Fed. Energy Reg. Comm'n, 876 F.2d 109, 111 (D.C. Cir. 1989).

111. *Id.* at 111. The purpose of the Joint Study was to develop information on habitat maintenance requirements for the Central Platte critical habitat. This information was to be used, among other things, in planning and evaluating the impacts of new Platte River irrigation projects. *Id.*

112. *Id.* at 111-112.

that environmental conditions be established for those annual operating licenses.[113]

INTERIM HABITAT RELEASES

The Trust requested FERC to conduct administrative hearings to determine whether interim habitat maintenance requirements should be included in the annual operating license granted for Kingsley. The Trust did not specify what streamflow conditions it sought but rather merely requested FERC to hold administrative hearings on what habitat mitigation conditions might be established. FERC refused the Trust's request on two grounds: (1) that it was not authorized to establish new conditions in annual licenses, and that such conditions were appropriate only in the new fifty-year license, and (2) that there was insufficient information (pending completion of the Joint Study) upon which to base interim habitat maintenance requirements.[114] FERC did acknowledge the slow pace of completing the Joint Study. Consequently, FERC ordered Central and NPPD to submit their amended application May 5, 1990 (whether the Joint Study was completed or not), at which time relicensing proceedings would begin. FERC also issued annual operating licenses for Kingsley until May 5, 1990, but with no habitat mitigation conditions.[115]

The federal District of Columbia Circuit Court of Appeals reversed FERC's decision not to consider imposing habitat mitigation requirements on the annual Kingsley operating licenses. The court ruled that FERC's refusal to even consider imposing interim environmental conditions on annual licenses was arbitrary and capricious. The court's decision returned the FERC order granting the Kingsley annual licenses back to FERC for reconsideration of interim habitat maintenance requirements.[116]

Pursuant to the May 18, 1989 federal court order, FERC considered whether to impose instream flow requirements on the interim Central and NPPD hydropower operations licenses. NPPD's hydropower license reserved to the federal government the right to establish new operating conditions, while Central's license authorized new conditions only with Central's consent. Thus FERC could subject NPPD to interim instream flow requirements but not Central (unless Central consented). On February 14, 1990 FERC required NPPD to meet interim instream flow requirements at Grand Island, based on monthly storage in McConaughy.[117] FERC requested that Central cooperate in meeting the requested flows, which Central subsequently refused to do. Seventy KAF was released by NPPD under the FERC February 14, 1990 interim instream flow requirements. When NPPD had used up over half of its 125 KAF McConaughy

113. *Id.* at 112.
114. *Id.*
115. *Id.*
116. *Id.* at 113-19.
117. Neb. Dep't of Water Res, Channels at 1 (Spring 1990).

storage to meet the interim instream flow requirements for the 1990 crane spring migration, NPPD received a temporary stay from FERC May 10, 1990 and an indefinite stay May 30, 1990.[118] No interim releases were subsequently sought by the Trust which did not appeal the stay. CNPPID consequently agreed to interim flow releases, and after several years of delay relicensing proceedings began to move more expeditiously.[119]

The interim flow releases broke the back of CNPPID, who had taken the most hard line approach on the relicensing proceeding. The State of Nebraska and Governor Benjamin E. Nelson personally intervened and took a much more active role in relicensing proceedings. The State of Nebraska organized a wide range of Nebraska water interests to negotiate the Nebraska Plan, which became the foundation for the subsequent Platte Cooperative Agreement.

DRAFT EIS (DEIS)

FERC published the DEIS January 1992.[120] The DEIS analyzed different alternatives. For our purposes, the most convenient way to contrast the alternatives is by how much stored water they allocate to habitat flows. The baseline assumed 0 KAF for habitat flows, the districts' proposal was 11 KAF, the FERC staff alternative was 106 KAF, the GPC alternative, 126 KAF; and the Whooping Crane Trust alternative, 160 KAF.[121] The water to fund the habitat flows would come principally from improving irrigation efficiency (estimated gain of up to 50 KAF)[122] and improving system delivery efficiency (estimated savings of up to 40 KAF).[123] The FERC staff recommended adoption of the FERC staff alternative.[124]

The districts' meager 11 KAF proposal reflects the hard-line approach taken by CNPPID and to a lesser extent NPPD on relicensing. The districts of course were seeking to protect their irrigation and power operations from disruption caused by endangered species flow requirements. However, given the 1982 *Carson-Truckee* ruling (and the 1985 Supreme Court decision to allow the lower court decisions to stand), as well as the 1978 *TVA v. Hill* decision, further ESA defiance seemed futile, a conclusion which cooler heads within Nebraska had already reached.[125]

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118. Neb. Dep't of Water Res., Channels at 1 (Summer 1990).

119. FINAL ENVIRONMENTAL IMPACT STATEMENT, *supra* note 8 at 1-1 to 1-3.

120. DRAFT ENVIRONMENTAL IMPACT STATEMENT, *supra* note 101.

121. *Id.* at 2-14, Table 2-4. Unfortunately, neither the Revised Draft Environmental Impact Statement nor the Final Environmental Impact Statement calculated the amount of water needed to implement the different relicensing alternatives.

122. *Id.* at 4-36 to 4-39.

123. *Id.* at 4-44. Other options were considered as well, including increased storage and reduced canal maintenance releases. *See id.* at 4-33 to 4-54.

124. *Id.* at 5-32 to 5-33.

125. Governor's Benjamin E. Nelson's June 12, 1992 letter to FERC Secretary Lois Cashell at 1 (commenting on the DEIS) refers to two previous failed attempts to mediate the relicensing controversies within the Nebraska water community, which reflects the level of controversy involved.

ENVIRONMENTAL ACCOUNT

The real breakthrough in the relicensing proceedings was the state of Nebraska's proposal to create an environmental account (EA). One of the relicensing issues was how to allocate water among endangered and threatened species. Whooping crane need flows during the spring (March-April) and fall (October-November) migrations; lease terns need flows the most during July and August; while the bald eagles need winter flows (December-February).[126] One management challenge, then, was how to decide which species got the water when there was insufficient water for all species. The staff alternative, for example, had target flows for seven time periods through the year with flow amounts varying based on the amount of five levels of water storage in McConaughy.[127] Flow targets would vary month to month, based on changing McConaughy water storage amounts, rather than being based on changing habitat needs.

The EA/Nebraska Plan addressed this concern by creating the EA as a water storage account in McConaughy to be controlled by the GPC.[128] The GPC would decide how to "spend" the water in the EA; i.e., which species would receive how much water, each year. The districts would make annual water "deposits" (up to 100 KAF annually) in the EA, with the amount deposited depending primarily on inflows. An advantage of this approach is that the GPC could monitor species recovery and allocate water from the EA based on a species recovery or lack thereof.

The best way to describe how the EA would operate is to quote the FERC description of the EA in its Revised Draft Environmental Impact Statement (RDEIS):

> Releases from the EA would supplement base flows. The amount initially allocated to the account would be based upon the combined total of the [McConaughy] reservoir level as of October 1 and the expected inflows from that date through March 31 of the next year.[129] . . . The actual amount allocated is determined by using the following formula:
>
> EA = 9 KAF + .13 (combined total KAF minus 1,200 KAF) not to exceed 100 KAF.
>
> As of April 1 of each year, actual inflows would be compared to projected inflows and the account would be adjusted using the above formula. For example, if the combined total of reservoir level and *projected* inflows was 1.5 MAF, the EA would have been allocated 48 KAF. If the *actual* inflows exceeded projected inflows by 40 KAF,

126. Comments of the State of Nebraska, E. Benjamin Nelson, Governor, on the Draft Environmental Impact Statement for Project Numbers 1417 & 1835 2-3 (June 12, 1992) (hereinafter Nebraska DEIS comments); DRAFT ENVIRONMENTAL IMPACT STATEMENT, *supra* note 101, at 4-21 to 4-25. The remaining endangered and threatened species are less dependent on river flows for habitat. *Id.* at 4-25 to 4-26.

127. *Id.* at 2-11.

128. Nebraska DEIS comments, *supra* note 126, at 5-9.

129. This would give the EA manager some planning time to develop the following year's operations.

> the account would be adjusted April 1 by adding 5.2 KAF (13 percent of 40 KAF) to whatever was in the account at that time. If the actual inflows fell short of the projected inflows by the same amount, the 5.2 KAF would be subtracted.
>
> Additionally, to encourage the wisest possible use of water in the EA, any water remaining in the EA at the end of September would be carried over into the next water year subject to the provision that the EA never exceed 100 KAF. Thus, if the EA contained 40 KAF at the end of September and the new allocation was 50 KAF, the account would start the new water year with 90 KAF. However, with the same carryover amount and a new allocation of 70 KAF, the account would be limited to 100 KAF.[130]

The State of Nebraska's comments on the DEIS make the case for the improved flexibility that would be afforded by the EA:

> Furthermore, in the real world, water delivery schedules are subject to change. Irrigators can, if not daily, at least on a weekly basis, change their water requests to meet the needs of crops without wasting water. The needs of the species may not be the same from year-to-year, yet a preset operating plan based on tiers would not change. For example, if water is short, it might make sense to cut back releases for a population that may not have had adequate production for several years. Or, if a species left an area for the year there would be no reason to maintain high flows designed to maximize habitat for that species. Thus the FERC tiered approach is driven by the calendar, not by the real need of the species.[131]

The EA had a political dimension as well as a resource management dimension. The proposing of the EA by Nebraska Governor Benjamin E. Nelson signaled to FERC, Interior, and others that the State of Nebraska was vigorously involved in promoting a solution to the relicensing impasse that characterized the relicensing effort's first several years. Essentially the state of Nebraska took over leadership of the relicensing effort from CNPPID and NPPD.

FERC published its revised DEIS in April 1994.[132] The RDEIS evaluated the EA proposal, as well as proposals from environmental interests. The FERC staff recommended implementation of the modified EA in the DEIS.[133]

COOPERATIVE AGREEMENT

While Nebraska interests, led by Governor Nelson, worked to salvage the relicensing proceedings, they also sought to broaden the scope of water

130. REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT, *supra* note 101, at 2-19 to 2-20 (emphasis in original).

131. Nebraska DEIS comments, *supra* note 126, at 4-5.

132. REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT, *supra* note 101.

133. *Id.* at 5-33 to 5-38. FERC staff modifications to the Nebraska Plan included inter alia an irrigation water conservation program, restrictions on expanded water service contracts, and a variety of land habitat conservation measures. *Id.* at xxv-xxvii, 2-21 to 2-31.

resource projects contributing to the recovery of Platte River endangered species to include Colorado and Wyoming, where the South Platte and North Platte rivers originate. As noted earlier, of the 1,927,000 acres irrigated with surface water within the Platte basin, Colorado has 1,083,000 acres or fifty-six percent; Wyoming has 238,000 acres or twelve percent, and Nebraska has 608,000 acres or thirty-two percent.[134] Of the 7.1 MAF stored in large reservoirs in the three states, 1.6 MAF or twenty-three percent is stored in Colorado, 3.5 MAF or forty-nine percent is stored in Wyoming, and 2 MAF or twenty-eight percent is stored in Nebraska.[135] It certainly seemed unfair to Nebraska water interests that they should bear what they perceived to be the brunt of Platte River endangered species protection without appropriate contributions from Colorado and Wyoming. Colorado was having endangered species concerns with the Forest Service SUPs[136] as well as with potential irrigation projects,[137] while the threat of FWS Section 7 consultation on the Bureau projects in Wyoming had eastern Wyoming (and western Nebraska) irrigators nervous. Ultimately, all three states were persuaded that it was in their mutual interest to cooperate, and the Nebraska Plan's EA approach became the foundation for the Platte River Cooperative Agreement. The three states signed a memorandum of agreement in June 1994, and the Cooperative Agreement itself was signed July 1, 1997.[138] Subsequently, in its July 1998 FEIS, the FERC staff recommended implementation of the Cooperative Agreement's basin-wide recovery plan.[139]

VI. COOPERATIVE AGREEMENT

The Platte Cooperative Agreement is the latest in a series of negotiated basinwide settlements dealing with water right and habitat issues. The best known of these basinwide settlements is the CALFED Bay-Delta program, dealing with water right-habitat issues in the San Francisco Bay region.[140] The confluence of the Sacramento and San Joaquin Rivers (the Delta) provides forty percent of California's drinking water supplies, provides irrigation water for more than four million acres, and provides critical habitat for more than 120 fish and wildlife species.[141] Declining fish populations in the Sacramento-San Joaquin Rivers Delta resulted in unsuccessful state efforts to develop a water quality plan to protect fish and wildlife.

134. *Eisel & Aiken*, *supra* note 6, figure 2.

135. *Id.* However, well over sixty percent of the water stored in the major Wyoming reservoirs is stored for use in Nebraska. FINAL ENVIRONMENTAL IMPACT STATEMENT, *supra* note 8, at 3-5.

136. *See supra* text accompanying notes 99-101.

137. *See supra* text accompanying notes 62-66.

138. *Eisel & Aiken*, *supra* note 6, at 9-11.

139. FINAL ENVIRONMENTAL IMPACT STATEMENT, *supra* note 8, at ES-3 to ES-4, 5-26 to 5-34. A brief discussion of the developments between the 1994 MOA and the 1997 Cooperative Agreement is found in *Eisel & Aiken*, *supra* note 6, at 9-15.

140. WESTERN WATER POLICY REVIEW ADVISORY COMMISSION, WATER IN THE WEST: CHALLENGE FOR THE NEXT CENTURY 2-36 to 2-37 and 3-40 to 3-44 (June 1998).

141. *Id.* at 3-42.

Ultimately a joint state-federal partnership (CALFED) evolved to deal with Delta habitat issues. Alternatives were evaluated in phase I, a preferred alternative will be selected and evaluated under NEPA in phase II, and will be implemented in phase III.[142] Between 400 KAF-1.1 MAF of water will be provided for habitat purposes.[143] If additional water is needed for species recovery it must be acquired on a willing seller basis with federal funds.[144]

Features of the CALFED Delta agreement that foreshadowed development of the Platte Cooperative Agreement include (1) ESA mandates that persuaded irrigators and states to put water on the negotiating table, (2) a long-term process to acquire needed habitat water that includes "adaptive management"[145] to see how species respond to improved habitat, and (3) regulatory certainty to provide "no surprises," i.e., no additional water requirements should additional endangered species issues emerge in the Delta.[146] Significantly, the lead federal negotiator for the CALFED Delta agreement was also the lead federal negotiator for the Platte Cooperative Agreement.[147]

The "Cooperative Agreement for Platte River Research and Other Efforts Relating to Endangered Species Habitats Along the Central Platte River, Nebraska," (Cooperative Agreement), was signed by the Governors of Nebraska, Colorado and Wyoming and Department of Interior Secretary Bruce Babbit on July 1, 1997.[148] The Cooperative Agreement establishes a multistate-federal cooperative effort to develop a basin-wide program (Program) to protect Platte River endangered species from the effects of water development and use.[149] The purposes of the Cooperative Agreement are:

A. implementation of research, analysis and other measures that will benefit the target species and their associated habitats . . . ;
B. implementation of efforts to acquire, restore, and manage land or

142. *Id.* at 3-42 to 3-43.
143. *Id.* at 3-42.
144. *Id.*
145. "Adaptive management" is defined as:
> [A] response to scientific uncertainty, i.e. how much is needed for an endangered specie to recover. "Adaptive planning and management involve a decisionmaking process based on trial, monitoring, and feedback. Rather than developing a fixed goal and an inflexible plan to achieve the goal, adaptive management recognizes the imperfect knowledge of interdependencies existing within and among natural and social systems, which requires plans to be modified as technical knowledge improves. . . ."

Id. at 3-28.
146. *Id.* at 3-42 to 3-43.
147. The lead federal CALFED negotiator was Betsy Rieke, then Assistant Secretary of the Interior for Water and Science. *Id.* at 3-43. Ms. Rieke was also the lead federal negotiator on the Cooperative Agreement for most of the negotiations. Interview with James R. Cook, Legal counsel, Nebraska Natural Resources Commission (March 12, 1999). Mr. Cook was Nebraska's lead negotiator on the Platte Cooperative Agreement.
148. The Cooperative Agreement and its appendices and attachments are available at www.platteriver.org/ library. Additional information regarding implementation of the Cooperative Agreement may be found at www.usbr.gov/platte.
149. *Cooperative Agreement*, *supra* note 148, ¶ I.D.

interests in land so as to provide and improve associated habitats for the target species . . . ;

C. development and implementation of certain water management, conservation and supply measures . . . ;

D. development of a basin-wide program ("Program") to be implemented following evaluation of the Proposed Alternative, . . . and a range of reasonable alternatives in compliance with [NEPA] . . . and the ESA, the intent of which is to (1) secure defined benefits for the target species and their associated habitats to assist in their conservation and recovery through a basin-wide cooperative approach that can be agreed to by the three states and [DOI] . . .; (2) serve as the reasonable and prudent alternative to offset the effects of existing and new water related activities in the Platte River Basin that, in the absence of such a Program, would be found by the FWS to be likely to jeopardize the continued existence of the target species or adversely modify designated critical habitat; (3) help prevent the need to list more basin associated species pursuant to the ESA; and (4) mitigate new water related activities in a state in a manner that will not increase the mitigation responsibilities of other signatory states, with the intent that mitigation will be implemented in the state where the activity occurs . . . ; and

E. establishment of a governance structure that will ensure appropriate state government and stakeholder involvement in the completion of NEPA compliance tasks, in the implementation of research and other projects beneficial to the target species and their associated habitats, and in the development of a Program.[150]

For our purposes, the most significant purposes are ¶¶ D (2) and D (4): the Program establishes a framework within which Basin water users know what habitat mitigation requirements must be met to qualify as a RPA under the ESA in order to continue existing water uses or to initiate new water uses.

The three states pledge by 2010-2013 to provide 130-150 KAF of water for habitat,[151] to implement mitigation requirements for post-Cooperative Agreement water users[152] (including the regulation of hydrologically con-

150. *Id.* ¶ I.

151. *Cooperative Agreement*, *supra* note 148, Attachment III: Proposed Platte River Recovery Implementation Program, ¶ III.A.3.b (1) (hereinafter Recovery Program). This assumes no slippage in the Cooperative Agreement timetable. The Cooperative Agreement was signed July 1, 1997; ESA and NEPA approval of the Program is supposed to be obtained within 3 years. *Cooperative Agreement*, *supra* note 148, ¶ III. If the NEPA and ESA approvals are obtained, a new agreement implementing the approved Program will be executed. *Id.* ¶ X.B. The Cooperative Agreement, then, is a bridge to official Program implementation, which all the parties anticipate will occur. If a new agreement implementing the Program is signed July 1, 2000, the first increment (or program stage) will continue until 2010-2013. If NEPA and ESA approvals for the Program take longer to obtain, the beginning (and ending) of the first increment would be adjusted accordingly. The end of the first increment is significant because at that point the states and DOI must determine whether a second increment (and additional habitat water) is needed for the recovery of the target species. *Recovery Program*, ¶ III.A.3.c.

152. *Cooperative Agreement*, *supra* note 148, ¶ I.D (4).

nected wells),[153] and to monitor species habitat requirements as the species respond to improved habitat conditions.[154] If the first increment of 130-150 KAF is determined to be insufficient for species recovery, additional water increments will be negotiated.[155] If the non-federal parties fulfil their obligations under the Cooperative Agreement, they will be deemed to be in ESA compliance.[156] NEPA and ESA regulatory compliance and review will occur within the first three years.[157] Upon successful NEPA and ESA review, the Program will be implemented by Interior and the states.[158] If a party withdraws from the Program, or if the Program otherwise fails, Interior will implement Section 7 consultation for all water activities in the basin affecting the critical habitat.[159]

NEW WATER

The first increment of 130-150 KAF is composed of 70 KAF from Nebraska, Wyoming and Colorado water projects,[160] with the remaining 60-80 KAF to be provided from water conservation/supply projects.[161] Nebraska, Colorado and Wyoming have all agreed to modify existing water projects or initiate new water projects to supply additional water for habitat. CNPPID and NPPD will establish the EA in Lake McConaughy for use by the FWS to meet protected species habitat water needs. CNPPID and NPPD will annually deposit ten percent of the October-April inflows into McConaughy up to 100 KAF in the EA.[162] The FWS will determine how much water should be released from the EA for habitat purposes.[163] Wyoming has agreed to increase the height of the Pathfinder Dam on the North Platte river and to dedicate 34 KAF of the 54 KAF increased storage to the EA.[164] Colorado has agreed to implement the

153. *Cooperative Agreement*, supra note 148, Attachment I: Milestones for the Cooperative Agreement, ¶ W14-1 (hereinafter Milestones).

154. *Recovery Program*, *supra* note 151, ¶ III.B. Other important non-water related aspects of the Cooperative Agreement include habitat acquisition, governance, and financing. *Id.* ¶ III.C.; *Cooperative Agreement*, *supra* note 148, ¶ IX; *Recovery Program*, *supra* note 151, Appendix B: Contributions of the States and the Department of the Interior [DOI] During the First Increment. The total Program cost through the first increment is $75 million, with DOI contributing $37.5 million, Nebraska and Colorado each contributing $15 million and Wyoming contributing $7.5 million. Program contributions are both cash and cash equivalents. *Id.* Table 1.

155. *Recovery Program, supra* note 151, ¶ III.A.3.c.

156. *Id.* ¶ IV.

157. *Id.* ¶ III.

158. *Cooperative Agreement*, *supra* note 148, ¶ I.D.

159. *Id.* ¶ VIII.C. *See also* ¶ VIII.A regarding which water activities or projects would be subject to Section 7 consultation. The biggest threat to Program implementation is a complicating court decision in the pending *Nebraska v. Wyoming* litigation. *See id.* ¶ II.

160. *Recovery Program*, *supra* note 151, ¶ III.D.1.

161. *Id.* ¶ III.D.2.

162. *Cooperative Agreement*, *supra* note 148, Appendix A, Water Component, Tab 1A: An Environmental Account for Storage Reservoirs on the Platte River System in Nebraska, II.B.1.a (3) (hereinafter Environmental Account). The 100 KAF annual contribution limit may be exceeded under certain circumstances: when the reservoir fills and the EA is at less than 100 KAF, CNPPID and NPPD will contribute enough water to increase the EA to 100 KAF. *Id.*

163. *Id.* ¶ I.A.12. *See id.* ¶ II.C regarding EA operations.

164. *Cooperative Agreement*, *supra* note 148, Appendix A, Water Component, Tab 2A: Wyoming's Pathfinder Modification Project, ¶ I.B (hereinafter Pathfinder Modification).

Tamarack ground water recharge project to increase summer flows in the South Platte by 10 KAF.[165] Collectively these three projects are estimated to yield an annual average of 60-70 KAF of increased water flow for habitat.[166]

PROGRAM WATER CONSERVATION/SUPPLY

Under the Cooperative Agreement, funding will be provided to implement other voluntary water conservation/supply projects to increase habitat flows by at least 60 KAF annually to achieve the first increment goal of 130-150 KAF increased habitat flows per year.[167] Voluntary water conservation/supply projects to be considered include:

- modification of surface water project storage and delivery systems;
- improvement of on-farm irrigation efficiency;
- incremental water pricing and conservation credits for agricultural and municipal users;
- education and information programs;
- incentives for municipal conservation by individual water users;
- reduction or retirement of consumptive water uses on a willing-buyer, willing-seller
- asis with compensation to local governments (typically counties) for third party and external adverse impacts;
- dry year leasing of water rights from consumptive uses;
- conjunctive management of ground and surface water achieving sustainable ground water use;
- identification of demonstration projects;
- additional surface and/or ground water reregulation opportunities involving reductions in diversions or pumping; and
- incentives to hydropower producers to provide habitat water.

The intent here is inter alia to provide Program funding to buy or lease water rights from willing sellers (including individual appropriators), and to pay for water system improvements that result in increased flows for habitat.

DEPLETION MITIGATION WATER REQUIREMENTS

New surface and ground water uses begun after July 1, 1997 are subject to water depletion mitigation requirements.[168] The Cooperative Agreement leaves it to each state to determine how depletions will be mitigated.[169] Thus, if a Program is implemented, states will need to determine

165. *Cooperative Agreement*, *supra* note 148, Appendix A, Water Component, Tab 3A: Colorado's Tamarack Plan, ¶ I (hereinafter Tamarack).

166. *Recovery Program*, *supra* note 151, ¶ III.D.1.a. Variable inflows into McConaughy and river losses when new water moves downstream to the critical habitat area would account for much of the shrinkage of the water saved upstream and the increased habitat flows downstream.

167. *Cooperative Agreement*, *supra* note 148, Attachment II: Water Conservation/Supply Component, ¶¶ I, II (hereinafter cited as Water Conservation/Supply).

168. *Cooperative Agreement*, *supra* note 148, ¶ I.D(4).

169. *Cooperative Agreement*, *supra* note 148, Appendix A, Water Component, Tab 1B: Ne-

whether they are going to require depletions to be replaced by the individual water users or water projects causing those depletions, or whether the state will mitigate those depletions collectively, e.g., through purchasing water rights to compensate for stream depletions.[170]

WATER ACCOUNTING/TRACKING SYSTEM

Under the Cooperative Agreement, the states must develop a water depletion tracking and accounting system that will identify current flow levels, what water use activities are depleting flows from current levels, and the extent to which Program water activities are increasing habitat flows.[171] This system will be crucial to monitoring Program compliance and progress.

HABITAT FLOW PROTECTION

Each state must protect habitat flows from being intercepted and diverted by intervening appropriators before the habitat flows reach the habitat area. Wyoming and Colorado must protect their habitat flows to the Nebraska state line, and Nebraska thence downstream to the central Platte critical habitat area. Nebraska must also protect the habitat releases from the EA downstream to the habitat area.[172] These requirements apply to all appropriators, not just those junior to the Cooperative Agreement.

FIRST INCREMENT HABITAT FLOW GOALS

One contentious issue is how much water is needed to adequately protect Platte river endangered species. The states and the FWS disagree on the quantity of water needed: the FWS has determined that 417 KAF is needed and the states believe that figure is too high.[173] As a compromise the states and FWS in the Cooperative Agreement agreed to the 130-150 KAF quantity as the amount of water to be provided by the three states for habitat purposes during the first increment. Studies during the first increment would be conducted to determine if this were sufficient water to allow the threatened and endangered species to recover. If more water were needed, that water would need to be provided in a second increment. The

braska's Plan for Future Depletions, ¶ II, Tab 2B: Wyoming's Plan for Future Depletions, ¶ II, Tab 3B: Colorado's Plan for Future Depletions, ¶ I.

170. The Cooperative Agreement suggests an approach where individual water users are subject to mitigation requirements under ESA Section 7. For annual depletions of more than twenty-five AF, the FWS recommends replacing the depletion 100% outside the irrigation season and at a time of shortage for the species. *Cooperative Agreement*, *supra* note 148, ¶ VIII.A.3.a. For annual depletions of up to twenty-five AF, the FWS would allow the water user to contribution financially to land acquisition and restoration. Id. ¶ VIII.A.3.b. However, the states are not bound to this approach.

171. *Milestones*, *supra* note 153, ¶ W14-1.

172. *Id.* ¶¶ W3-1, W5-1, W13-1.

173. "The states have not agreed that these target flows are biologically or hydrologically necessary to benefit or recover the target species." *Recovery Program*, *supra* note 151, ¶ III.A.3.b.n3.

three states and the federal government would need to negotiate a new agreement regarding any second increment. But so long as the Cooperative Agreement and Program, respectively, are in force, the first increment's 130-150 KAF is the amount of water that must be provided for habitat flows and no more. This removes the much of uncertainty over Platte valley water uses and projects which has existed during the last twenty years.

Effects of Program Failure

If the Cooperative Agreement fails, the FWS would have the legal authority under the ESA to impose requirements much more stringent than those likely to be imposed under the Cooperative Agreement/Recovery Program. Two possible changes include (1) an increase in the amount of habitat flows required, and (2) imposition of replacement water requirements on individual surface and ground water uses senior to the Cooperative Agreement.

Increased Habitat Flows

The FWS has indicated that it believes it will take 417 KAF to adequately protect Platte river threatened and endangered species; considerably more than the 130-150 KAF in the first increment. If the Cooperative Agreement fails, the FWS could through Section 7 consultation and Section 10 endangered species takings prosecutions for water users not subject to Section 7 consultation requirements, double or triple the Program depletion mitigation requirements. This could mean that CNPPID and NPPD's annual water contributions to the EA be increased 200-300 percent. Similar requirements could be imposed on South Platte water projects (including municipal SUPs) in Colorado, and the Bureau of Reclamation projects on the North Platte river in Wyoming. Individual irrigators (ground and surface) could also be individually subjected to increased depletion mitigation requirements. From the irrigators' perspective, this is truly a worst-case scenario.

Senior Replacement Water Requirements

Under the Recovery Program, mitigation of past depletions is accomplished by the EA, Pathfinder Modification, and Tamarack projects plus the water conservation/supply program. If the Cooperative Agreement/ Recovery Program fails, FWS could impose replacement water requirements on all Platte valley water surface and ground water users, not simply the users junior to the Cooperative Agreement. This would affect private surface water irrigators, ground water irrigators using tributary ground water, and the cities and industries whose depletions are mitigated under the Recovery Program through the EA, Pathfinder Modification and Tamarack projects and the water conservation/supply program. These water

users could required either to replace their streamflow depletions by returning water to the stream at the water users' expense, or in the alternative to discontinue their water uses.

CONCLUSION

The Cooperative Agreement (and Program) provide a framework within which existing water uses are protected and new uses may be developed so long as Program requirements (including replacement water requirements) are satisfied. Water users receive assurance that if they meet Program requirements their water uses will not be subject to further disruption under the ESA. Environmental interests (including the FWS) receive substantial water and habitat contributions towards the recovery of Platte river endangered species. Program failure removes all these assurances. The next section considers some of the changes in water administration needed in all three states to implement the Recovery Program.

VII. IMPLEMENTATION CHALLENGES

The state water administration posed by the Cooperative Agreement broadly include (1) those needed to implement the water conservation options, (2) those needed to provide new water in the Tamarack, Pathfinder Modification and EA, (3) those needed to protect new water and conserved water deliveries to the habitat areas, and (4) mitigation requirements for new uses junior to the Cooperative Agreement. The broad water rights issues involved in these activities include (1) rights to use saved or conserved water, (2) water marketing, (3) conjunctive use of ground and surface water, and (4) dealing with surface-ground water interference conflicts. While none of the three Cooperative Agreement states water laws deal successfully with all four of these topics, there are legal models both within the basin and within the West generally that can guide Nebraska, Colorado and Wyoming policy makers in dealing with the water policy challenges posed by the Cooperative Agreement.

RIGHTS TO USE SAVED WATER

A majority of the voluntary Program water conservation/supply options that will be used to provide 60-80 KAF of the new habitat water under the Cooperative Agreement involve conserving or saving water used for irrigation, municipal or power purposes and using the saved water for habitat flows.[174] The best example of this option is the transfer between the Imperial Irrigation District (IID) and the Metropolitan Water District (MWD), in which MWD pays to line IID canals and for other structural and nonstructural conservation measures. In exchange, IID reduces its withdrawals of imported Colorado river water, which is diverted by MWD

174. *See supra* text accompanying note 167 regarding the water conservation options.

instead.[175] WMD will receive approximately 106 KAF for $121 million or approximately $114/AF.[176]

Somewhat surprisingly, allowing saved water to be used for habitat flows may pose the largest policy challenge in all three states in that neither Wyoming, Colorado, nor Nebraska have legislation authorizing saved water to be applied to a new use. The legal issue involved is the appurtenancy doctrine. Several western courts have ruled that conserved water may not be applied to a new use but rather is available for appropriation. If the water saver wishes to use his saved water he may do so but only with a new appropriation and a correspondingly junior priority date.[177] The leading case is *Salt River Valley Water Users Ass'n v. Kovacovich*:[178] the defendant lined his irrigation canal and sought to use the saved water to irrigate additional land. The court ruled that the appropriation was tied to the land originally irrigated, and that additional land could not be irrigated without a new appropriation (and junior priority date). Consequently, any intervening appropriators would have seniority over the water saver's new appropriation to use the saved water on new land. This of course reduces the incentives for appropriators to invest in water saving technology if the water savings inure to the benefit of other water users.

The appurtenancy doctrine's effect of discouraging water conservation has been roundly criticized,[179] and statutes to encourage water conservation have been adopted in California,[180] Montana[181] and Oregon,[182] although with little apparent success beyond the IID-MWD transfer.[183] Colorado[184] and Nebraska[185] legislators have rejected similar legislative proposals. One of the difficulties associated with selling saved water is that these transfers often involve an increase in consumptive use, which reduces return flows. For example, an irrigator irrigates 100 acres of land with 300 AF of water, with consumptive use of 180 AF (1.8 AF per irrigated acre) and return flows of 120 AF. If the irrigator increases his irrigation efficiencies such that he irrigates 125 acres with his 300 AF, his consumptive use has increased from 180 AF to 225 AF, and his return flows have been re-

175. NATIONAL RESEARCH COUNCIL, WATER TRANSFERS IN THE WEST: EFFICIENCY, EQUITY, AND THE ENVIRONMENT 234-48 (1992).

176. *Id.* at 242.

177. *See generally* TARLOCK, *supra* note 7 at § 5.05 [5].

178. 3 Ariz.App. 28, 411 P.2d 201 (1966).

179. Michael A. Gheleta, Note, *Water Use Efficiency and Appropriation in Colorado: Salvaging Incentives for Maximum Beneficial Use*, 58 COLO. L. REV. 657 (1988); Mark Honhart, Note, *Carrots for Conservation: Oregon's Water Conservation Statute Offers Incentives to Invest in Efficiency*, 66 U. COLO. L. REV. 827 (1995); George W. Pring & Karen A. Tomb, *License to Waste: Legal Barriers to Conservation and Efficient Use of Water in the West*, 25 ROCKY MTN. MIN. L. INST. 25-1 (1979).

180. CAL. WATER CODE § 1011 (1995). *See Honhart, supra* note 180 at 833-35.

181. MONT. CODE ANN. § 85-1-101 (1993). *See Honhart, supra* note 180, at 835-36.

182. OREG. REV. STAT. ANN. §§ 537.455-.500 (1993). *See Honhart, supra* note 180, at 843-53.

183. *See Honhart, supra* note 180, at 832-36 and 843-53.

184. *Id.* at 836-42.

185. Incentives for conserving water were proposed in NEBRASKA NATURAL RESOURCES COMMISSION, POLICY ISSUE STUDY ON WATER USE EFFICIENCY (April 1985), but legislative proposals based on the study recommendations were not adopted by the Nebraska Unicameral.

duced from 120 AF to 75 AF. Clearly downstream appropriators have been harmed.[186] In many "water conservation" situations downstream appropriators will lose return flows that they have appropriated, which may explain why western states have been slow to adopt such water conservation legislation. In many cases the amount of water that may be truly conserved without depriving downstream appropriators of their return flows may be so small as to make the water conservation policy change probably not worth the effort.[187] If Program water conservation/supply investigations suggest that there may be significant net gains through structural and nonstructural water conservation measures without harming downstream water users, those showings may persuade state legislators to adopt water conservation statutes. In the absence of such affirmative showings, experience suggests that adopting water conservation statutes is not likely to occur.

WATER MARKETING

A better water management prospect for increasing water available for Program purposes is water marketing: purchasing an appropriation and converting it to a new use. Most western states authorize marketing so long as return flows are maintained to protect downstream appropriators. Typically appropriators will be allowed to sell their consumptive use in a water marketing transaction, with an administrative determination of the respective quantities of consumptive use and return flow.[188] Irrigation appropriations are often purchased by municipalities who convert the irrigation water use to municipal use. Transfers are less expensive than constructing new reservoirs, and are perceived as the environmentally friendly way to augment water supplies when unappropriated supplies are scarce. Water marketing is opposed by those concerned that selling irrigation appropriations over time will reduce local irrigation and the associated economic infrastructure, with correspondingly negative impacts for agricultural communities.[189] Despite this concerns, water marketing is probably the most realistic water management option available for obtaining new water for habitat flows.

Water marketing is legal in Colorado,[190] and the state enjoys a robust water market. Water marketing is more limited in Wyoming: natural flow

186. Unless there are no downstream appropriators, or the return flows would not have reached the stream until after the irrigation season has ended and there are no downstream non-irrigation appropriators.

187. A 1973 Bureau of Reclamation study suggests that the amount of water "irretrievably lost" in irrigation (the best measure of water conservation opportunities) is twelve percent. U.S. BUREAU OF RECLAMATION, SHUT OFF THE WATER–THE ROOT ZONE IS FULL: A STUDY OF IRRIGATION WATER USE (1973) (cited in *Honhart, supra* note 180, at 841, n.83).

188. *See generally* TARLOCK, *supra* note 7, at § 5.17; Lawrence J. MacDonnell, *Transferring Water Uses in the West*, 43 OKLA. L. REV. 119 (1990); *See also* NATIONAL RESEARCH COUNCIL, *supra* note 176.

189. *Id.* at 38-52.

190. COLO. REV. STAT. § 37-92-302 (1) (b) (1998).

appropriations can be transferred from an inferior (i.e., lower preference) use to a superior (i.e., higher preference) use,[191] although stored water may be sold for any purpose.[192] Significantly, however, for Program water supply purposes, the state may purchase appropriations for instream flows on a willing-seller basis.[193] Thus water marketing is available in both Colorado and Wyoming to meet Program habitat flow objectives.

However, water marketing is virtually non-existent in Nebraska. Surface appropriations may be transferred within the same river basin for the same purpose of use.[194] Ground water may be transferred off the overlying land for public water supply,[195] industrial,[196] or agricultural or ground water remediation purposes,[197] but not for instream flow purposes.[198] Clearly a major public policy challenge in Nebraska will be to find a way to authorize water marketing that allows for transfers but protects the rights of downstream users and agricultural communities.[199]

CONJUNCTIVE USE OF GROUND AND SURFACE WATER

Another Program water conservation/supply opportunity is the conjunctive use of surface and ground water. While this is an elusive concept, a brief description may clarify what is generally meant.[200] Los Angeles suburbs (and Los Angeles itself) have the option to use imported Colorado river water, to pump ground water, or (in some cases) to use both. Under the California ground water doctrine of correlative rights, the courts have recognized the rights of municipalities recharging ground water supplies to control the use of recharged ground water.[201] Essentially, communities can withdraw their "safe yield" amount for no charge, but must pay the Orange County Water District (OCWD) for amounts pumped in excess of the safe

191. WYO. STAT. ANN. § 41-3-102 (Michie 1997).

192. *See id.* § 41-3-320. Additional legal complications are involved in transferring rights to use water from Bureau projects. *See generally* TARLOCK, *supra* note 7, at § 5.17 [6].

193. WYO. STAT. ANN. §§ 41-3-1007 and 41-3-1009 (Michie 1997).

194. NEB.REV.STAT. §§ 46-290 to 46-294 (1997).

195. *See id.* §§ 46-638 to 46-650.

196. *See id.* §§ 46-675 to 46-690.

197. *See id.* § 46-691.

198. However there is little to prevent one from purchasing land bordering the Platte river, installing a well and pumping the water into the river. While natural resource districts (NRDs) may regulate ground water uses to control ground water depletion, *see id.* §§ 46-656.01 to 46-656.67, to the author's knowledge none of the Platte basin NRDs have adopted ground water controls that would include this option, referred to as bypass pumping in Colorado. David L. Harrison & Gustave Sandstrom Jr., *The Groundwater-Surface Water Conflict and Recent Colorado Water Legislation*, 43 U.COLO.L.REV. 1, 37-48 (1971).

199. Three bills dealing with water marketing issues have been introduced in the 1999 Nebraska Unicameral. LB338 would create a water bank, LB671 would authorize water leasing from irrigation districts, and LB672 would authorize water leasing from individual irrigators. The text and status of the bills is available at http://www.unicam.state.ne.us/index.htm .

200. This discussion of the Orange County Water District conjunctive use program is taken from NATIONAL WATER COMMISSION, WATER POLICIES FOR THE FUTURE 234-36 (1973), and J. David Aiken, *Nebraska Ground Water Law and Administration*, 59 NEB.L.REV. 917, 934-35 (1980).

201. City of Los Angeles v. City of Glendale, 23 Cal.2d 68, 142 P.2d 289 (1943); City of Los Angeles v. City of San Fernando, 14 Cal.3d 199, 537 P.2d 1250 (1975). *See* Victor Gleason, *Water Projects Go Underground*, 5 ECOL.L.Q. 625 (1976).

yield amount. The OCWD sets the price for pumping recharged ground water. What the OCWD attempts to do is to equalize the costs of using the more expensive Colorado river surface water and the cheaper ground water through its ground water pricing policy. Some users must take one hundred percent surface water which is more expensive; others take one hundred percent ground water which is much cheaper. The OCWD then uses its "basin equity assessment" (or ground water pumping surcharge) to make the cost of using cheaper ground water and more expensive imported surface water the same. The OCWD decides each year (depending on how much imported Colorado river water is available, among other things) the proportion of ground water use and surface water use. For example, assume the OCWD determines that water use for the upcoming year should be sixty percent ground water and forty-percent Colorado river water. Surface water costs $14/AF more than ground water. If Pumper A takes 6 KAF AF of ground water and 4 KAF of surface water, Pumper A is not required to pay the ground water pumping surcharge because it followed the desired 60/40 ratio. If Pumper B takes its entire 10 KAF in ground water and take no surface water, then Pumper B must pay a 4,000 x $14 = $56,000 surcharge for the 4 KAF of imported surface water Pumper B did not use. If Pumper C takes all 10 KAF in surface water and no ground water, Pumper C receives an $84,000 rebate from OCWD for taking all surface water, the $84,000 coming from communities like Pumper B who pump more than sixty percent ground water. The use of the basin equity assessment reduces the incentives to overuse the cheaper ground water and under-use the more expensive imported surface water.

OCWD can vary the desired proportions of surface and ground water use, depending on the amount of Colorado River supply, among other things. In years when ample imported surface water is available, the split might be sixty percent surface water and forty percent ground water, conserving ground water supplies. In dry years when there is less imported surface water available, the split might be seventy percent ground water and thirty percent surface water because that is all the surface water that is available for use. So the ground water aquifer gets pumped down that year.

In the Program water conservation/supply context, conjunctive water use might involve providing financial and/or legal incentives for surface water irrigators to use ground water instead of surface water, making the surface water available for habitat flows. Colorado[202] and Wyoming[203] both authorize changes in points of diversion from surface water to ground water without loss of priority; Nebraska does not.[204] Nebraska does how-

202. COLO. REV. STAT. §§ 37-92-102 (1) and 37-92-301 (3) (1998). *See* William A Hillhouse II, *Integrating Ground and Surface Water Use in an Appropriation State*, 20 ROCKY MTN. MIN. L. INST. 691, 707-09 (1975).

203. WYO STAT. ANN. § 41-3-916 (Michie 1997).

204. Nebraska follows prior appropriation for surface water allocation, but common law regarding ground water allocation. *See* HARNSBERGER & THORSON, *supra* note 71, ch. 3, 5.

ever recognize legal rights in incidental ground water recharge,[205] and allows surface appropriators who rely on incidental ground water recharge wells for part of their supply to avoid surface water appropriation cancellation proceedings.[206] If conjunctive use opportunities that would help accomplish Program objectives exist within any of the three states, presumably state legislators would be receptive to making any needed policy changes.

SURFACE-GROUND WATER INTERFERENCE

Probably the most complex policy issue confronting Nebraska, Colorado and Wyoming deals with managing the stream depletion effect of wells. Wells pumping ground water that is hydrologically connected to a stream may reduce streamflow, although the time between the well pumping and the associated streamflow reduction may be days, weeks, months or years.[207] The stream depletion effect of tributary wells is of concern regarding Program implementation because (1) wells may intercept Program water moving downstream to the critical habitat reach, and (2) wells junior to the Cooperative Agreement will be required to compensate the stream for depletions that harm habitat flows.

COLORADO TRIBUTARY GROUND WATER

Most western states apply prior appropriation to both surface water and ground water,[208] although Nebraska does not.[209] However, only Colorado has successfully integrated the administration of appropriations of streamflow and tributary ground water.[210] Several features of Colorado water law allow junior ground water appropriators to continue their water

205. NEB. REV. STAT. §§ 46-295 and 46-2,106 (1998).

206. *See id.* § 46-229.04 (4). The underground water storage statutes were adopted to allow surface water irrigation districts who had lost customers (and the associated irrigated acres) to wells to claim the acres irrigated from recharged wells as district irrigated acreage in order to prevent cancellation of that portion of the appropriation where the land was being irrigated from wells. The author helped draft this legislation.

207. The lag between ground water withdrawal and the resulting streamflow depletion is discussed at *Harrison & Sandstrom*, *supra* note 199, at 18; and in Douglas L. Grant, *The Complexities of Managing Hydrologically Connected Surface Water and Groundwater Under the Appropriation Doctrine*, 22 LAND & WATER L. REV. 63, 74-80 (1987). In Colorado, ground water is considered to be tributary ground water if its withdrawal will impact streamflow within 100 years. COLO. REV. STAT. § 37-90-103 (10.5) (1998).

208. Citations are collected in *Grant*, *supra* note 208, at 64-65, nn. 5-9.

209. Western states that do not apply prior appropriation to ground water typically treat hydrologically connected ground water as being legally part of the stream under either the subflow doctrine or the underground stream doctrine. *Aiken*, *supra* note 201, at 936-39. However, the Nebraska Supreme Court rejected the underground stream doctrine to avoid having to characterize a municipal diversion of tributary ground water from the Platte to the Papio river basins as a then-illegal transbasin diversion of surface water. Metropolitan Util. Dist. v. Merritt Beach Co., 140 N.W.2d 626 (1966). *See Aiken*, *supra* note 201, at 952-55. Ironically the court finally in 1980 reversed its transbasin diversion prohibition in *Little Blue I*. *See Aiken*, *supra* note 21, at 54-55. Had the court been willing to do so in 1966, the subflow doctrine or the underground stream doctrine might be part of Nebraska water jurisprudence.

210. *See generally* Lawrence J. MacDonnell, *Colorado's Law of "Underground Water:" A Look at the South Platte Basin and Beyond*, 59 U. COLO. L. REV. 579 (1988).

use despite potential interference with the rights of senior surface appropriators. Surface appropriators are able to change their point of diversion to a well, in effect allowing the appropriator to transfer his priority date to the well (which probably represents the more reliable supply).[211] Junior ground water appropriators may supply substitute water to senior surface appropriators to avoid priority calls.[212] This is typically done through plans of augmentation in which junior ground water appropriators individually or collectively increase surface water supplies by purchasing and retiring senior surface rights, releasing stored water to satisfy priority calls,[213] allowing ground water to run off into the stream (bypass pumping), or by pumping directly into a senior appropriator's canal.[214] Finally, Colorado recognizes the futile call doctrine in that a junior ground water appropriator need not stop pumping in response to a priority call if the increased streamflow would benefit the senior surface appropriator in a timely fashion.[215] Consequently, it wouldn't take substantial legal changes (if any are needed) to authorize Colorado water administrators to shut down tributary wells junior to the Cooperative Agreement unless the junior ground water appropriators implement an approved augmentation plan, or to similarly regulate tributary wells that interfere with movement of Program water. The general regulatory authorities are in place and are time-tested; it is merely a question of extending those authorities (if an extension is needed) to deal with specific Program water issues.

In Wyoming both surface and ground water are subject to appropriation.[216] In addition, interrelated surface and ground water supplies may be administered through an integrated priority schedule.[217] However, the integrated administration of surface and tributary ground water appropriations is not as advanced as in Colorado. Nonetheless Wyoming has the basic legal authorities needed to deal with the important tributary ground water issues, and it would be a relatively small step to extend those authorities (if needed) to deal with specific Program water issues.

The situation in Nebraska is more complex. While surface water is subject to appropriation,[218] ground water rights are overlying rights,[219] subject to statutory preferences[220] and NRD ground water regulations.[221] Re-

211. COLO.REV.STAT. §§ 37-92-102 (1) and 37-92-301 (3) (1998).
212. *Id.* §§ 37-80-120 and 37-92-501.
213. Appropriation disputes are resolved on the basis of priority: first in time is first in right. When the senior appropriator (with the earlier priority date) is not receiving his water, he will make a priority call (or river call). This means the state engineer will issue closing orders to upstream junior appropriators until enough water is available to meet the senior's call. *Id.*
214. *Harrison & Sandstrom*, *supra* note 199, at 37-48; *MacDonnell*, *supra* note 210.
215. COLO.REV.STAT. §§ 37-92-501 (1), 37-92-502, and 37-92-102 (2) (d) (1998). *See Hillhouse*, *supra* note 204, at 706-07.
216. WYO.STAT.ANN. §§ 41-3-101, 41-3-910, 41-3-905, 41-3-930, and 41-3-936 (Michie 1997).
217. *See id.* § 41-3-936.
218. NEB.REV.STAT. Ch. 46, art. 2 (1997).
219. Bamford v. Upper Republican NRD, 512 N.W.2d 642 (1994), *cert. denied*, 115 S.Ct. 201 (1994).
220. NEB.REV.STAT. § 46-613 (1997); Prather v. Eisenmann, 261 N.W.2d 766 (1978).
221. NEB.REV.STAT. §§ 46-656.01 to 46-656.67 (1997). Regarding NRD regulations *see Aiken*,

cently the Unicameral has begun to deal with integrating the rights of surface appropriations and tributary wells. Induced ground water recharge statutes allow public water suppliers to obtain surface appropriations for wells inducing ground water recharge from streamflow.[222] Since 1993 irrigation wells located within fifty feet of a stream are regulated as surface appropriations.[223] More significantly, NRDs may regulate ground water development and use interfering with streamflow.[224] The Nebraska Department of Water Resources (DWR) may regulate ground water development and use interfering with streamflow in violation interstate compacts, decrees or agreements if NRDs have not acted or have acted inadequately.[225] No NRD or DWR regulations have been established pursuant to these authorities, but conceivably they would authorize the types of tributary ground water regulation and augmentation activities that have been implemented on the South Platte in Colorado. Nebraska has the clearest legal authority to deal with tributary ground water issues associated with Program water activities, but the least administrative experience in implementing those authorities.[226]

CONCLUSION

All three states have the basic legal authorities they need to implement Cooperative Agreement requirements, or need only a modest extension or fine tuning of existing authorities to do so. Nebraska needs water marketing legislation to get it more flexibility in pursuing Program water conservation/supply options. Nebraska also needs to develop an administrative system for dealing with tributary ground water issues. That system is likely to be a combination of NRD and DWR programs that will evolve with Program implementation. Certainly the Colorado tributary ground water model is one that Nebraska water managers should take a special interest in, as it provides the richest and most varied approach for dealing with tributary ground water issues. All three states need new legal authority dealing with the reuse of saved or conserved water, should Program studies indicate that transfers of saved water can be made without injury to other water users. In short, there are no major state law obstacles to suc-

supra note 201, at 957-67. Ground water users are also subject to incidental state regulations such as well registration (NEB.REV.STAT. §§ 46-602 to 46-606), well spacing (NEB.REV.STAT. §§ 46-608 to 46-612, 46-661 to 46-665) and well abandonment (NEB.REV.STAT. § 46-602 (2)). *See generally Aiken, supra* note 201, at 976-983. The state role in ground water regulation in Nebraska is small relative to most western states.

222. NEB.REV.STAT. §§ 46-233, 46-235, 46-235.01 to 46-235.04 (1997).

223. *Id.* §§ 46-636 to 46-637.

224. *Id.* § 46-656.28. For the background of this legislation, *see* Stephen D. Mossman, *Whiskey is for Drinkin' but Water is for Fightin' About: A First-Hand Account of Nebraska's Integrated Management of Ground and Surface Water Debate and the Passage of L.B.108*, 30 CREIGHT. L.REV. 67 (1996).

225. NEB.REV.STAT. §§ 46-656.50 to 46-656.61 (1997).

226. The DWR also has authority to protect water being conducted in a stream from inter alia out of state sources for withdrawal or instream flows. *Id.* § 46-252. Again, this authority has not been implemented vis a vis tributary wells.

cessful implementation of the Cooperative Agreement's Recovery Program beyond the legal fine tuning one would expect in dealing with such an important program with its wide-ranging implications. Certainly there are sufficient reasons for water user and policy makers to want to make the Cooperative Agreement a success, and there are ample water management from around the West to suggest that the Program can be successful in maintaining important water uses and protecting endangered species. If the cooperative spirit that has marked the development of the Cooperative Agreement can be maintained, the Platte River Recovery Program may develop into a national model of interstate and federal water management cooperation.