

September 1993

Of Razorbacks and Reservoirs: The Endangered Species Act's Protection of Endangered Colorado River Basin Fish

James H. Bolin Jr.

Follow this and additional works at: <https://digitalcommons.pace.edu/pelr>

Recommended Citation

James H. Bolin Jr., *Of Razorbacks and Reservoirs: The Endangered Species Act's Protection of Endangered Colorado River Basin Fish*, 11 Pace Envtl. L. Rev. 35 (1993)

DOI: <https://doi.org/10.58948/0738-6206.1453>

Available at: <https://digitalcommons.pace.edu/pelr/vol11/iss1/4>

This Article is brought to you for free and open access by the School of Law at DigitalCommons@Pace. It has been accepted for inclusion in Pace Environmental Law Review by an authorized administrator of DigitalCommons@Pace. For more information, please contact dheller2@law.pace.edu.

**Of Razorbacks and Reservoirs: The
Endangered Species Act's Protection
of Endangered Colorado River
Basin Fish**

JAMES H. BOLIN, JR.*

The Endangered Species Act (ESA) was first enacted in 1973 and will be before Congress for reauthorization again in 1994. This article examines the plight of four endangered species of Colorado River Basin fish and the effectiveness of the ESA in protecting these species. The author proposes that the ESA could and should act as a means to ensure that protection of endangered species is an integral part of planning and development rather than a mere remedial afterthought. By doing this, the ESA would force creative, effective solutions and begin to dislodge an environmentally unsound system of western water law.

* Law Clerk to Hon. Harry T. Edwards, United States Court of Appeals, District of Columbia Circuit, 1993-94. J.D. Yale, 1993; A.B. University of Chicago, 1988. This article was written during an externship at the Denver office of the Sierra Club Legal Defense Fund in the fall of 1992. Thanks to Lori Potter and Drew Caputo of that office for their advice and assistance. Thanks also to Professor Carol Rose, of Yale Law School, who served as my faculty advisor for this article, and to Catherine Stempien for her comments and support.

The last word in ignorance is the man who says of an animal or plant: "What good is it?" If the land mechanism as a whole is good, then every part of it is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.

Aldo Leopold¹

I. Introduction — Endangered Fish and Western Water Development

In 1962 the United States Bureau of Reclamation began filling Flaming Gorge Reservoir, a 160 square kilometer impoundment of the Green River along the Utah - Wyoming Border.² Flaming Gorge was to be stocked with rainbow trout, one of the region's most popular sport fish. In order to insure that the rainbows had a head start on the "rough" or "trash" fish native to the river, officials of the Wyoming and Utah fish and game departments decided to eliminate unwanted species such as the razorback sucker and bonytail chub. At 8:00 a.m. on September 4th, fifty-five drip stations began releasing rotenone, a plant-derived poison, along 715 kilometers of the Green River and its tributaries. The three day operation required "more than a hundred people, numerous vehicles, airboats, a helicopter, and a remarkable amount of logistic preparation and support."³ Subsequently, in 1963, the Flaming Gorge Reservoir was stocked with rainbow trout and kokanee salmon. The razorback sucker and bonytail

1. ALDO LEOPOLD, A SAND COUNTY ALMANAC 190 (1970).

2. This account of the Green River poisoning relies on the reports in Paul B. Holden, *Ghosts of the Green River: Impacts of Green River Poisoning on Management of Native Fishes*, in *BATTLE AGAINST EXTINCTION: NATIVE FISH MANAGEMENT IN THE AMERICAN WEST* 43 (W. L. Minckley & James E. Deacon, eds., 1991) [hereinafter *BATTLE AGAINST EXTINCTION*]; and Richard S. Wydoski & John Hamill, *Evolution of a Cooperative Recovery Program for Endangered Fishes in the Upper Colorado River Basin*, in *BATTLE AGAINST EXTINCTION*, *supra*, at 123.

3. Holden, *supra* note 2, at 49.

chub are now federally protected endangered species, and could be extinct in the wild by the end of the decade.

The 1962 Green River poisoning, however, did not cause the endangerment of the razorback or bonytail. In fact, the ecological changes wrought by the Flaming Gorge dam were ultimately more of a factor in the reduction of native fish populations.⁴ It was the alteration of riverine environments by the Flaming Gorge dam and tens of structures like it in the Colorado River Basin that have brought four indigenous fish species to the brink of extinction. The Green River poisoning is, however, a startling and appropriate symbol of attitudes that had prevailed — and sometimes still prevail — toward water “development,” not just in the basin, but all over the West. “Trash” fish and other “useless” species simply did not figure into wildlife managers’ decision making. In fact, during the 1960s many fishery biologists could not or would not even identify non-game species captured in their sampling operations.⁵

Today four species of endemic Colorado River Basin fish are listed as endangered: the Colorado squawfish (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), bonytail chub (*Gila elegans*), and razorback sucker (*Xyrauchen texanus*).⁶ These species once were common in the Colorado River system from Wyoming to northwestern Mexico, but today are reduced to a few remnant populations.⁷ One study reports, for example, that the bonytail is “functionally extinct; only a few rare individuals exist.”⁸ This author goes on to note that “[i]f it were not for the stark example provided by

4. Wydoski & Hamill, *supra* note 2, at 124.

5. Holden, *supra* note 2, at 46.

6. U.S. Fish and Wildlife Service, Final Biological Opinion on the Operation of Flaming Gorge Dam 3 (Nov. 25, 1992) [hereinafter Flaming Gorge Opinion].

7. Holden, *supra* note 2, at 46.

8. Holmes Rolston III, *Fishes in the Desert: Paradox and Responsibility*, in BATTLE AGAINST EXTINCTION, *supra* note 2, at 93, 104 (quoting R.J. Behnke and D.E. Benson, *Endangered and Threatened Fishes of the Upper Colorado River Basin*, COLO. ST. U. COOP. EXT. SERV. BULL., 1980 at 1, 20 (Vol. 503A)).

the passenger pigeon, such rapid disappearance of a species once so abundant would be almost beyond belief.”⁹

Despite their reputation as trash fish, both razorbacks and squawfish were eaten by Native Americans and early white settlers,¹⁰ and razorbacks were commercially fished and marketed in Arizona until the 1940s.¹¹ Today, however, none of the four species are valued by anglers,¹² although all of them can grow to be quite large. The squawfish, for example, the largest member of the minnow family in North America and the largest of the endangered river fish, reaches up to 1.8 meters in length and can weigh 36 kilograms.¹³ The other endangered river fish are slightly smaller. None of the four species are brightly colored or strikingly marked. They are neither majestic nor cuddly, and would be of little interest to makers of T-shirts or toys.

The decline of the river fish was caused by a complex and interconnected set of habitat changes wrought by the many dam and diversion projects in the Colorado River basin.¹⁴ Perhaps the most significant of these changes was the dams’ alteration of the natural hydrograph¹⁵ of the basin’s rivers. In their natural state, flows in western rivers peak in the spring with the melting of snow in the mountains and maintain a low and stable flow at other times of the year.¹⁶ Flows in dammed rivers, however, peak in the summer and winter months, when demand for electricity is highest, and flows at other times fluctuate much more widely than in free-flowing

9. *Id.*

10. W.L. Minckley et al., *Management Toward Recovery of the Razorback Sucker*, in *BATTLE AGAINST EXTINCTION*, *supra* note 2, at 303, 307-08; Harold M. Tyus, *Ecology and Management of the Colorado Squawfish*, in *BATTLE AGAINST EXTINCTION*, *supra* note 2, at 379.

11. Holden, *supra* note 2, at 44.

12. *Id.*

13. Tyus, *supra* note 10, at 379.

14. For a discussion of these changes see, e.g., Flaming Gorge Opinion, *supra* note 6 at 6-24; Wydoski & Hamill, *supra* note 2, at 124.

15. “A stream hydrograph shows the discharge of a river at a single location as a function of time.” CHARLES W. FETTER JR., *APPLIED HYDROGEOLOGY* 37 (1980).

16. Wydoski & Hamill, *supra* note 2, at 124.

river systems.¹⁷ In addition, the water released into the basin's rivers from its many reservoirs alters the rivers' natural temperature and sediment transport rates.¹⁸ The endangered river fishes' spawning, migration, and other behaviors are keyed to many distinct and poorly understood temperature, flow, and chemical clues related to the natural hydrograph.¹⁹ The alteration of the Colorado River Basin rivers' hydrographs has thus disrupted almost every phase of the fishes' life cycle.

The river fish have lost spawning and living habitat directly through the flooding of many river reaches to make reservoirs.²⁰ Dams and reservoirs also block fish migration routes, interfering with spawning and cutting off previously occupied habitats. Finally, non-native fishes that have been introduced accidentally or intentionally into the basin's waters — sixty-seven species as of 1989²¹ — prey on the endangered river fish and compete with them for food and habitat.²²

The destruction and alteration of riverine habitats caused by reclamation projects such as Flaming Gorge was a product of both conventional wisdom and western water law. Under the doctrine of "prior appropriation" that governs water use in the west, water left in natural watercourses is a wasted resource. Under this regime, water rights are granted according to the order in which appropriators put water to a "beneficial use," and are retained so long as that beneficial use continues.²³ The practice developed among miners who established a system of rough justice in which the first person who used water from a stream retained that right against subsequent users; a practice later extended to

17. Flaming Gorge Opinion, *supra* note 6, at 5.

18. Wydoski & Hamill, *supra* note 2, at 124.

19. See Flaming Gorge Opinion, *supra* note 6, at 8; 12-13 (squawfish); 17-18 (humpback); 19 (bonytail); 20-21 (razorback).

20. Wydoski & Hamill, *supra* note 2, at 126.

21. Rolston, *supra* note 8, at 105.

22. Wydoski & Hamill, *supra* note 2, at 124, 126.

23. See, e.g., Colorado River Water Conservation Dist. v. Colorado Water Conservation Bd., 594 P.2d 570, 572 (Colo. 1979).

agricultural uses.²⁴ The prior appropriation doctrine encouraged water users to divert as much water as they could possibly use as soon as they were capable of using it, in order to stake a claim to a resource that was essential in an arid land.²⁵ In contrast to the riparian system that developed in eastern states, western water users have historically been under no obligation to avoid impairing the rights of downstream users. Senior appropriators have the right to their entitlement of water, even if that entitlement completely dewateres a stream.²⁶

Western law, tradition and politics all stress consumptive uses of water. Historically, economic productivity in the west has depended on ranching, farming, and mining, which in turn depend on moving significant quantities of water out of rivers and streams.²⁷ The Colorado Basin is a maze of tunnels, ditches, aqueducts, and dams which enable the basin states, which receive less precipitation per kilometer than any other major watershed in the United States, to provide water for more than fifteen million people.²⁸

But these water projects, and the thinking behind them, were products of a different era. Both law and politics have gradually come to recognize that so-called "instream uses" of water can be as or even more valuable than consumptive uses.²⁹ Western economies are turning away from mining and agriculture toward tourism and recreation.³⁰ Several

24. Norman K. Johnson & Charles T. DuMars, *A Survey of the Evolution of Western Water Law in Response to Changing Economic and Public Interest Demands*, 29 NAT. RESOURCES J. 347, 349-51 (1989).

25. See *Arizona v. California*, 373 U.S. 546, 555 (1963); *Cappaert v. United States*, 426 U.S. 128, 140 (1976).

26. A. DAN TARLOCK, *LAW OF WATER RIGHTS AND RESOURCES* § 5.08[1], at 5-37 (1990).

27. See TARLOCK, *supra* note 26, § 5.02[1], at 5-5 (1990); Charles F. Wilkinson, *The Law of the American West: A Critical Bibliography of the Nonlegal Sources*, 85 MICH. L. REV. 953, 984 (1987).

28. Wydoski & Hamill, *supra* note 2, at 123.

29. See Steven J. Shupe, *Keeping the Waters Flowing: Stream Flow Protection Programs, Strategies and Issues in the West*, in *INSTREAM FLOW PROTECTION IN THE WEST* 1, 4 (1989).

30. See Brian Morris, *When Rivers Run Dry Under a Big Sky: Balancing Agricultural and Recreational Claims to Scarce Water Resources in Montana and the American West*, 11 STAN. ENVTL. L.J. 259, 260-61 (1992).

studies have suggested that water left instream for rafters and tourists to enjoy can offer far greater economic returns than traditional consumptive uses.³¹ In addition, as the West becomes more urbanized,³² cities and industries increasingly demand a greater share of the water that now goes to senior agricultural appropriators at heavily subsidized rates.³³ The wave of the future, no pun intended, is to reconsider and in some cases reallocate western water, a task that implicates environmental concerns, property rights, urban and regional planning, and more.

In the thick of the redesign of water law and policy in the Colorado River Basin, amid the computer models and market-based allocation schemes, will be four unglamorous fish: the razorback sucker, humpback chub, bonytail chub, and Colorado squawfish. The river fish are currently protected by the Endangered Species Act³⁴ (ESA), but have enjoyed far less than the full protection to which they are entitled under that statute. Between 1977 and 1981, the United States Fish and Wildlife Service (FWS) determined that the operation of every major existing and proposed water project in the basin jeopardized or would jeopardize the continued existence of the river fish,³⁵ but it has done little more than study the problem in the intervening decade, in direct contravention of the ESA. In 1987 FWS instituted its "Recovery Program for Endangered Fish Species in the Upper Colorado River Basin"³⁶ to mitigate the impacts of proposed water depletions on the river fish.³⁷ Despite the recovery program's pointed failure to attain even its own modest goals, FWS has not man-

31. See, e.g., Bonnie G. Colby, *The Economic Value of Instream Flows — Can Instream Values Compete in the Market for Water Rights?* in *INSTREAM FLOW PROTECTION IN THE WEST* 87, 91 (1989).

32. See Johnson & DuMars, *supra* note 24, at 356.

33. George A. Gould, *Transfer of Water Rights*, 29 NAT. RESOURCES J. 457, 471-73 (1989).

34. 16 U.S.C. §§ 1531-1544 (1988 & Supp. IV 1992).

35. Wydoski & Hamill, *supra* note 2, at 126.

36. *Id.* at 128.

37. *Id.*

dated further actions to protect the fish, again in violation of the ESA.³⁸

The plight of the river fish is a startling indicator of just how radically we have altered the ecology of the basin. Their recovery will require rethinking western water policy and generating creative solutions that provide intelligently for both people and fish. The possibilities are endless and fascinating — water marketing, mandatory conservation, and other schemes are in place or coming fast.³⁹ It is precisely this sort of innovative reevaluation of water policy that the West is lurching toward in the 1990s and beyond. Rather than dragging their collective feet, the Fish and Wildlife Service, the Bureau of Reclamation, the United States Army Corps of Engineers, and other federal agencies responsible for water projects in the basin should squarely assume their responsibilities under the Endangered Species Act.⁴⁰

II. An Overview of the ESA and its Application to the River Fish

When the ESA was enacted in 1973, few could have foreseen the power and reach the statute would come to have in subsequent years. In the watershed case of *Tennessee Valley Authority v. Hill* (*TVA v. Hill*),⁴¹ the Supreme Court held that

38. 16 U.S.C. § 1531(b), (c)(1) (1988).

39. For example, a recent Oregon statute, OR. REV. STAT. § 537.455(2) (1991), encourages conservation by permitting appropriators to sell or lease water they save, less a portion that reverts to the state for instream flow maintenance. Joseph L. Sax, *The Constitution, Property Rights and The Future of Water Law*, 61 U. COLO. L. REV. 257, 277 n.68 (1990). In addition, the Reclamation Projects Authorization and Adjustment Act of 1992 provides for some market sales of water from California's Central Valley Project. See Pub. L. No. 102-575, 106 Stat. 4600, 4709-14 (codified at 43 U.S.C. § 371 (1993)).

40. Under the ESA, 16 U.S.C. §§ 1531-1544 (1988 & Supp. IV 1992), these responsibilities include: the agency must consult with the Secretary about possible agency action, 16 U.S.C. § 1536(a)(3) (1988); the agency must confer with the Secretary regarding action that may jeopardize the existence of a listed species, 16 U.S.C. § 1536(a)(4) (1988); the agency may not commit any irreversible resources which would conflict with the implementation of a reasonable and prudent alternative, 16 U.S.C. § 1536(d) (1988); and prior to implementing a revised recovery plan, the agency must consider all information received during the public comment period, 16 U.S.C. § 1533(f)(5) (1988).

41. 437 U.S. 153 (1978).

the Act required enjoining the completion of Tellico dam, virtually complete at the time the suit was filed,⁴² to protect the habitat of the endangered snail darter, a three-inch long⁴³ fish with no commercial value. The Court held that the “language, history and structure” of the ESA “indicate[] beyond doubt that Congress intended endangered species to be afforded the highest of priorities.”⁴⁴ The opinion was — and is — highly controversial, but the ESA remained essentially intact after Congress reconsidered it in the wake of *TVA v. Hill*.⁴⁵ The 1978 amendments created a process by which species could be exempted from the ESA’s protection by the extraordinary action of a cabinet level committee. This group of ten, known as the “God Committee,” has, however, rarely been convened, and the ESA’s substantive protections have remained intact through several other rounds of amendments.

ESA section 4 authorizes the Secretary of the Interior, or the Secretary of Commerce in the cases of certain marine animals,⁴⁶ to list species as “threatened” or “endangered,” and so

42. *Id.* at 157-58. The dam was 50% complete at the time the Endangered Species Act became effective and some 70-80% complete when the snail darter was officially listed as an endangered species. *Id.* at 165.

43. *Id.* at 158.

44. *Id.* at 174.

45. The ESA is up for reauthorization again in 1994, but Congress is not likely to consider it until late that year. See William K. Stevens, *Battle Looms Over U.S. Policy on Species*, N.Y. TIMES, Nov. 16, 1993 at C1. It is predicted that the battle over reauthorization will be a bitter one, with environmentalists on one side arguing for a strengthening of the Act and property rights advocates on the other arguing for a weakening of the Act. *Id.* The environmentalists are likely to argue for the inclusion of a multi-species preventative focus, rather than the single species-by-species focus of the current Act. See H.R. 2043, 103rd Cong., 1st Sess. (1993) (Sponsored by Rep. Gerry E. Studds, D-MA). The property rights advocates are likely to argue for the inclusion of mandatory compensation for the loss in value of their property due to the enforcement of the Act. See H.R. 1490, 103rd Cong., 1st Sess. (1993) (Sponsored by Rep. W.J. Tauzin, D-LA). Property rights advocates hope that by requiring compensation to affected property owners, the government will be discouraged from enforcing the Act aggressively.

46. The Department of Commerce has jurisdiction under the ESA over marine animals, 16 U.S.C. § 1533(a)(2) (1988), and has delegated this responsibility to the National Marine Fisheries Service, 50 C.F.R. § 402.01(b) (1990), for the marine animal species listed in 50 C.F.R. §§ 222.23(a), 227.4 (1990).

to invoke the protections of the Act.⁴⁷ The section also directs the Secretary to designate "critical habitat,"⁴⁸ unless doing so would harm the species,⁴⁹ for instance, by alerting collectors to the location of an endangered plant. The ESA defines "critical habitat" as:

- (i) the specific areas within the geographical area occupied by the species, at the time it is listed . . . 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
- (ii) specific areas outside the geographical area occupied by the species at the time it is listed . . . upon a determination by the Secretary that such areas are essential for the conservation of the species.⁵⁰

In a rare concession to economic interests, the ESA explicitly authorizes the Secretary to weigh the benefits of designating an area as critical habitat against the benefits of excluding it, unless the area's exclusion would result in a species' extinction.⁵¹ The Secretary must make this consideration based on the "best scientific data available and after taking into consideration the economic impact, and any other relevant impact."⁵²

47. The Secretary's responsibilities under section 4 of the ESA, 16 U.S.C. § 1533 (1988), include: creating lists of endangered and threatened species, 16 U.S.C. § 1533(c)(1) (1988); publishing these lists, 16 U.S.C. § 1533(c)(1) (1988); reviewing these published lists, 16 U.S.C. § 1533(c)(2) (1988); issuing protective regulations for listed species, 16 U.S.C. § 1533(d) (1988); developing and implementing recovery plans for the conservation and survival of the endangered and threatened species, 16 U.S.C. § 1533(f) (1988); implementing a system to monitor all species which have recovered and have been removed from the list, 16 U.S.C. § 1533(g) (1988); and establishing and publishing agency guidelines to insure that the purposes of section 1533 are achieved, and under section 7 of the ESA, 16 U.S.C. § 1536 (1988), reviewing other programs and consulting with other agencies.

48. 16 U.S.C. § 1533(a)(3)(A) (1988).

49. 16 U.S.C. § 1533(b)(2) (1988).

50. 16 U.S.C. § 1532(5)(A) (1988).

51. 16 U.S.C. § 1533(b)(2) (1988).

52. 16 U.S.C. § 1533(b)(1)(B)(ii) (1988).

The ESA offers two types of protection to listed species, the section 7 "consultation" process,⁵³ and the section 9 "taking" prohibition.⁵⁴ Section 9 provides that it is unlawful for any actor, private or governmental, to "take" any listed species, defining that term as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct."⁵⁵ FWS regulations further define "harm" to include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."⁵⁶ Given that the term "take" is so expansively defined, it might seem at first that section 9's protection would be relatively clear. In application, however, the section is not a bright line rule, as it implicates the murky issues of causation that emerge when legal rules are applied to actual injuries. Damage to habitats is even less easily defined, especially in an ecosystem with as many users as the Colorado River Basin.⁵⁷

Section 7 is the heart of the ESA, and the source of most of its requirements. Its first subsection, 7(a)(1), requires that all federal agencies "shall . . . carry[] out programs for the conservation of endangered species and threatened species"⁵⁸ The ESA defines "conservation" to mean ". . . the use of *all methods and procedures* which are necessary to bring any endangered species to the point at which the measures provided pursuant to [the ESA] are no longer necessary."⁵⁹ Section 7(a)(1) thus can be read to require agencies to take affirmative steps to aid species' recovery, and some courts have so held.⁶⁰

53. 16 U.S.C. § 1536 (1988).

54. 16 U.S.C. § 1538 (1988).

55. 16 U.S.C. § 1532(19) (1988).

56. 50 C.F.R. § 17.3 (1992).

57. For further discussion, see *supra*, notes 14-26 and accompanying text.

58. 16 U.S.C. § 1536(a)(1) (1988).

59. 16 U.S.C. § 1532(3) (1988) (emphasis added).

60. For an authoritative discussion of section 7(a)(1) and the cases interpreting it, see James C. Kilbourne, *The Endangered Species Act Under the Microscope: A Closeup Look from a Litigator's Perspective*, 21 ENVTL. L. 499, 564-72 (1991); see also DANIEL J. ROHLF, *THE ENDANGERED SPECIES ACT: A GUIDE TO ITS PROTECTIONS AND IMPLEMENTATION* 92-100 (1989).

ESA section 7(a)(2) imposes a two-part requirement on "any action authorized, funded, or carried out by"⁶¹ any federal agency. Although section 7 applies only to federal actors, activities such as issuing permits to private persons often require section 7 review. For example, a "dredge and fill permit" under section 404 of the Clean Water Act⁶² is required for almost any water project, and the Corps of Engineers' issuance of section 404 permits is subject to section 7 review.⁶³ Section 7 requires that the federal agency "insure" that the action (1) is not "likely to jeopardize the continued existence of any endangered species" (the "*no jeopardy*" standard) or (2) "result in the destruction or adverse modification of [the critical] habitat of such species" (the "*no adverse modification*" standard).⁶⁴ The two standards tend to merge, as adverse modification of critical habitat may well jeopardize a species' survival. The "no adverse modification" standard, however, appears to require a lower threshold showing of harm to a species, as adverse modification is a section 7(a)(2) violation even when it does not threaten a species' survival.⁶⁵

The substantive requirements of section 7(a)(2) are implemented through "consultation" with FWS. Before undertaking any action which "may affect listed species or critical

61. 16 U.S.C. § 1536(a)(2) (1988).

62. 33 U.S.C. § 1344 (1988).

63. See *Riverside Irrigation Dist. v. Andrews*, 758 F.2d 508, 512 (10th Cir. 1985); *Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. (BNA) 1156, 1172-73 (D. Neb. 1978).

64. 16 U.S.C. § 1536(a)(2) (1988).

65. See *Colorado Wildlife Fed'n v. Turner*, No. 92-F-884, slip op. at 7 (D. Colo. Oct. 27, 1992) (ordering FWS to designate critical habitat for razorback sucker: "Only by defining the critical habitat can modifications be scrutinized under the standard set forth in 16 U.S.C. § 1536(a)(2)."); Memorandum from Acting Director, U.S. Fish and Wildlife Service 2-3 (July 11, 1991) ("thresholds for Section 7 'jeopardy' and [adverse modification] are different . . . in most cases, designation of critical habitat may provide greater conservation benefits to the species"). But cf. James Salzman, *Evolution and Application of Critical Habitat Under the Endangered Species Act*, 14 HARV. ENVTL. L. REV. 311, 324 (1990) (Although the thresholds are different, "when a court finds an adverse modification violation, it necessarily also finds a jeopardy violation." Therefore, in practice, "adverse modification has merged into jeopardy analysis, ceasing to be an independent protection.").

habitat,”⁶⁶ the “action agency” must consult with FWS as to whether the action will violate section 7(a)(2). FWS may also request consultation on its own initiative.⁶⁷ During the consultation process, the action agency must provide FWS with the “best scientific and commercial data available or which can be obtained during the consultation” concerning the action’s potential impacts on endangered species.⁶⁸ FWS then reviews this data and issues a “biological opinion,” or, if FWS concludes that it has insufficient data, it may request that consultation be extended. While consultation is ongoing, ESA section 7(d) mandates that neither the action agency nor any private permit applicant “shall . . . make any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures”⁶⁹

Biological opinions can come to one of three conclusions. If FWS issues a “no jeopardy” opinion, the project may proceed as planned. “Jeopardy” opinions come in two forms: a naked “jeopardy opinion” or a jeopardy opinion with “reasonable and prudent alternative” (RPA). If possible, FWS must formulate an RPA, containing modifications to the proposed action that will enable it to avoid a naked jeopardy opinion. If FWS is unable to come up with an RPA, then it simply issues a jeopardy opinion. The biological opinion may also include “conservation recommendations,” suggestions as to steps the action agency could take to reduce the impacts of the proposed action on endangered species. These conservation recommendations are, however, purely advisory and are not legally enforceable.

Finally, ESA sections 7(b)(4)⁷⁰ and 7(o)(2)⁷¹ allow FWS to authorize limited takings of protected species. When an action will result in takings that do not rise to the level of a

66. 50 C.F.R. § 402.14(a) (1992).

67. *Id.*

68. 50 C.F.R. § 402.14(d) (1992).

69. 16 U.S.C. § 1536(d) (1988).

70. 16 U.S.C. § 1536(b)(4) (1988).

71. 16 U.S.C. § 1536(o)(2) (1988).

section 7(a)(2) violation, the biological opinion may authorize a specified "incidental take." The incidental take authorization must set forth mandatory "reasonable and prudent measures" to minimize take, and if the action agency exceeds the permitted take, it is required to reinitiate section 7 consultation immediately.⁷² It is unclear whether FWS is required to authorize incidental takes so long as they do not violate section 7(a)(2), but ESA section 7(b)(4) notes the agency "shall provide" such authorization, suggesting that it does not have the discretion to refuse.⁷³

Four main rationales are usually advanced in support of protecting all species, even small and apparently "useless" ones such as the snail darter, from extinction.⁷⁴ First, it is often suggested that many species may have economic value that is presently unknown and that would be lost if they were permitted to become extinct. Proponents of this view point to potential medical uses such as the recent discovery of the possible cancer-fighting properties of taxol, found in yew trees in Pacific coast forests, or to the value of genetic material in other plants for breeding disease-resistant strains of crops. Critics of this view argue that we cannot know in advance which species may be useful or what their uses might be, and that we thus cannot justify the ESA in economic terms because the value of species preservation is unknown and un-

72. 50 C.F.R. § 402.14(i) (1992).

73. 16 U.S.C. 1536(b)(4); *see also*, 50 C.F.R. § 402.14(i)(1) (1992) (When an incidental take has occurred that does not violate the provisions of ESA section 7(a)(2) the agency must provide, with the biological opinion, a statement specifying facts such as: the impact of the taking on the species; the reasonable measures necessary to minimize such impact; and the procedures to be used in the taking); *see generally* Frederico Cheever, *An Introduction to the Prohibition Against Takings in Section 9 of the Endangered Species Act of 1973: Learning to Live with a Powerful Species Preservation Law*, 62 U. COLO. L. REV. 109, 165 (1991).

74. For a thorough discussion of the arguments for and against protection of Colorado River Basin species, *see* Rolston, *supra* note 8. For discussions of the arguments for and against species preservation generally, *see, e.g.*, ROHLF, *supra* note 60, at 12-17; Cheever, *supra* note 73, at 113-17; A. Dan Tarlock, *The Endangered Species Act and Western Water Rights*, 20 LAND & WATER L. REV. 1, 3-5 (1985), and the works cited by these authors.

knowable.⁷⁵ Indeed, Congress did not include economic value among its list of reasons to preserve endangered species.⁷⁶

A second justification for species preservation is the argument that we have an ethical obligation not to completely eliminate other life forms. Many, if not most, people in the United States have some sympathy for this view, at least so far as "glamorous megafauna" such as eagles and pandas are concerned.⁷⁷ While support for the furbish lousewort may fall short of that for the peregrine falcon, there is widespread support for species preservation, as is evidenced by the ESA's repeated reauthorization.

A third argument for preservation is that biodiversity is a good in itself, and that it is dangerous to remove any link in the biotic chain, lest we cause changes we cannot foresee. It is sometimes noted that the force of this argument is blunted by the fact that, by definition, few individuals of an endangered species remain, and thus their removal is unlikely to have widespread biological effects. This is particularly true in the case of isolated endemics such as the snail darter, which exist in only a few, limited habitats. However, it is also true that isolated species, such as Darwin's Galapagos finches, evolve under unique conditions and so can provide a unique and valuable resource for study.⁷⁸

The final and perhaps most persuasive argument for species preservation is closely related to the biodiversity rationale. Endangered species can be viewed as canaries in the

75. See, e.g., Tarlock, *supra* note 74, at 4.

76. 16 U.S.C. § 1531(a)(3) (1988).

77. See generally Charles C. Mann & Mark L. Plummer, *The Butterfly Problem*, THE ATLANTIC MONTHLY, Jan. 1992, at 47 (discussing the economic hardships caused by cancelling development projects because of possible danger to listed species); see also Julie B. Bloch, *Preserving Biological Diversity in the U.S.: The Case for Moving to an Ecosystems Approach to Protect the Nation's Biological Wealth*, 10 PACE ENVTL. L. REV. 175, 199 (1992) (discussing the shortcomings of single species patchwork protections).

78. The Colorado River Basin contains a higher percentage of endemic species — species found in no other habitat — than does any other North American river. See Rolston, *supra* note 8, at 94. These endemics are often characterized by unique adaptations. The humpback chub, for example, has the most pronounced stabilizing "nuchal hump" of any fish on this continent, to help it survive in fast-flowing waters. *Id.*

biotic coal mine, as indicators of the overall health of ecosystems and of the extent of their perturbation. By radically altering the environment, we run the risk of severe unintended consequences. Critics of this argument suggest that we do not need indicator species — miners now use electronic monitors rather than canaries⁷⁹ — but this argument presumes that we know of and fully understand all of the effects that need to be measured. As DDT's creep up the food chain demonstrated years ago,⁸⁰ we often cannot foresee the full environmental effects of our actions.⁸¹ We thus ignore the interconnection of living things at our peril.

The "indicator species" rationale⁸² undergirds the current and coming generation of litigation under the ESA. A brief but insightful article by J.B. Ruhl notes that the ESA has "evol[ed] through three distinct phases: (1) single-project focus; (2) regional growth regulation; and (3) natural resource management."⁸³ In the first phase, typified by *TVA v. Hill*,⁸⁴ litigation focused on the impacts of a single federal project, usually some form of construction, and sought to

79. *Id.*

80. See generally RACHEL CARSON, *SILENT SPRING* (1987).

81. Recent government studies regarding the persistence of DDT in the environment have indicated that it is, in fact, a serious ongoing problem. JOSEPH F. RINELLA ET AL., U.S. GEOLOGICAL SURVEY CIRCULAR 1090, *PERSISTENCE OF THE DDT PESTICIDE IN THE YAKIMA RIVER BASIN WASHINGTON* (1993). For example, in one recent study in the Yakima River Basin in Washington the U.S. Geological Survey found:

[T]hat chemical breakdown of T-DDT is slow because, despite the ban on the production and distribution of DDT in 1972, concentrations of T-DDT in the Yakima River near Kiona commonly exceeded the chronic-toxicity criterion for the protection of freshwater aquatic life between 1972 and 1990. *The contaminated agricultural soils could, therefore, provide a large and long term reservoir of T-DDT to streams and fish in the Yakima River Basin for decades to come.*

Id. at 21 (emphasis added).

82. For a general discussion of the indicator species rationale, see Jeb Boyt, Comment, *Struggling to Protect Ecosystems and Biodiversity Under NEPA and NFMA: The Ancient Forests of the Pacific Northwest*, 10 PACE ENVTL. L. REV. 1004 (1992).

83. J.B. Ruhl, *Phase Three of the ESA: Using Endangered Species Protection as a Natural Resource Management Tool*, 6 NAT. RESOURCES & ENV'T, 1992, 38, 38 (1992).

84. See *supra* notes 41-44 and accompanying discussion.

block or alter it. Ruhl suggests that phase two grew out of the 1982 amendments' authorization of "incidental take" permits for private actors in ESA section 10.⁸⁵ One of section 10's requirements is a "habitat conservation plan."⁸⁶ According to Ruhl, "the section 10 process has taken hold in states such as California, Texas, Nevada, and Florida in the form of huge regionalized extravaganzas covering tens of thousands of acres of prime undeveloped urban and suburban land."⁸⁷ Ruhl further contends that these habitat conservation plans have required developers to set aside "vast conservation tracts" and have limited growth on a region-wide scale, taking the ESA to new heights of controversy.⁸⁸

The third and current phase of ESA enforcement "is to extend ESA jurisdiction to control large-scale resource management decisions."⁸⁹ The watershed cases which ushered in this new era were the Sierra Club Legal Defense Fund's (SCLDF) efforts to restrict logging of old growth forest in order to protect the northern spotted owl.⁹⁰ The spotted owl is a classic "indicator species" in that it only nests in old growth,

85. 16 U.S.C. § 1539(a)(1)(B) (1988) describes the "incidental take" as a taking which is incidental to, and not the purpose of, conducting an otherwise lawful activity.

86. Under 16 U.S.C. § 1539(a)(2)(A):

No permit may be issued by the Secretary authorizing any taking referred to in paragraph (1)(B) [incidental taking] unless the applicant therefor submits to the Secretary a conservation plan that specifies—

- (i) the impact which will likely result from such taking;
- (ii) what steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps;
- (iii) what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and
- (iv) such other measures that the Secretary may require as being necessary or appropriate for purposes of the plan.

Id.

87. Ruhl, *supra* note 83, at 39.

88. *Id.*

89. *Id.*

90. See *Seattle Audubon Soc'y v. Moseley*, 798 F. Supp. 1484 (W.D. Wash. 1992) (granting injunctive relief); *Seattle Audubon Soc'y v. Moseley*, 798 F. Supp. 1473 (W.D. Wash. 1992) (granting partial summary judgment).

and its decline thus parallels the disappearance of such forests.⁹¹ The owl's critical habitat covers a significant portion of the Pacific Northwest, and its preservation will require major changes in the Forest Service's timber management practices, rather than merely halting a single construction project. A similar case, though on a smaller and less politically controversial scale, was SCLDF's successful suit on behalf of the red cockaded woodpecker (RCW) in Texas.⁹² The RCW, like the spotted owl, nests in old growth forest, and its protection required that the Forest Service alter its ongoing silvicultural practices by changing a program designed to control the pine beetle.⁹³

Further evidence of "phase three" ESA litigation is presented in *Sierra Club v. Lujan*,⁹⁴ recently decided in Texas. In *Lujan*, the plaintiffs sought to use the ESA to limit water use from the Edwards Aquifer, which supplies San Antonio, several military bases, and farmers and ranchers in Southwest Texas.⁹⁵ Two springs fed by the aquifer are the sole habitat for the endangered fountain darter and for several other endangered animals and plants.⁹⁶ The court ruled in favor of the plaintiffs, ordering the FWS to designate minimum flows necessary to protect the darter, the Texas blind salamander, and the Texas wild-rice.

The *Lujan* court also ordered the Texas Water Commission to develop a plan to prevent putting these species in jeopardy, and suggested that if the State legislature failed to act, the court would fashion relief by controlling withdrawals from Edwards Aquifer.⁹⁷ Such water regulation has, of course, historically been the province of the states. Realloca-

91. Boyt, *supra* note 82, at 1010. See generally Elizabeth A. Foley, *The Tarnishing of an Environmental Jewel: The Endangered Species Act and the Northern Spotted Owl*, 8 J. LAND USE & ENVTL. L. 253 (1992).

92. *Sierra Club v. Lyng*, 694 F. Supp. 1260 (E.D. Tex. 1988), *aff'd in part sub nom. Sierra Club v. Yuetter*, 926 F.2d 429 (5th Cir. 1991).

93. *Id.* at 1277-78.

94. No. MO-91-CA-069, 1993 U.S. Dist. LEXIS 3361 (W.D. Tex. Jan. 30, 1993).

95. *Id.* at *10, *77.

96. *Id.* at *13-14.

97. *Id.* at *92.

tion of water rights by a federal court, or even permitting FWS to set withdrawal limits which would bind a state water commission, would break new ground in enforcement of the ESA.

A final suit seeking to use the ESA to force the federal government to undertake regional resource planning is *Pacific Coast Fed'n of Fishermen's Ass'ns v. Lujan*,⁹⁸ which SCLDF filed in California Federal District Court in 1992. In that suit the plaintiffs alleged that the Bureau of Reclamation was in violation of the ESA section 7 Reasonable and Prudent Alternative⁹⁹ to which it had agreed in order to protect endangered runs of spawning chinook salmon. According to the plaintiffs, the Bureau failed on an almost constant basis to comply with its agreement to maintain daily average water temperatures of no more than fifty-six degrees Fahrenheit in the stretch of the Sacramento River below one of its dams. Because it released too much cool water from its reservoir in early spring in order to supply agricultural users, the Bureau was unable to maintain a low enough water temperature during the summer. Plaintiffs argued that the Bureau was required by the ESA to insure that it had sufficient cool water to meet its obligations to protect the salmon before it allocated water for other uses. The Bureau eventually agreed to alternative reservoir releases that would enable it to meet its temperature obligations for 1992, and so the suit was dismissed without prejudice. The settlement leaves several key questions unresolved, however. Chief among these is whether or not the ESA's requirements trump the Bureau of Reclamation's obligations to provide water for consumptive uses.¹⁰⁰

98. No. CIV-S-92 1492 LKK (E.D. Cal. 1992). This account of the suit is based on a telephone interview with Michael Sherwood of SCLDF's Seattle office, plaintiffs attorney (Nov. 4, 1992), and the briefs and letter of notice of intent to file citizen suit under ESA section 11, 16 U.S.C. § 1540(g) (1988), filed in the case.

99. 16 U.S.C. § 1536(b)(3)(A) (1988).

100. See *Carson-Truckee Water Conservancy Dist. v. Watt*, 549 F. Supp. 704, 710 (D. Nev. 1982) (holding that the Secretary of the Interior was required to utilize all of the water from Stampede reservoir for the benefit of an endangered fish, the cui-ui, in preference to the Washoe Act's requirement that the Secre-

The Colorado Basin fish present "phase three" ESA issues on the grandest scale to date. The Basin covers portions of six states,¹⁰¹ including some of the most rapidly growing areas in the country. The river fish are wide-ranging species with distinctive habitat needs for different phases of their life cycles. A sustainable squawfish population, for instance, "will occupy (and presumably require) hundreds of kilometers of river."¹⁰² The river fish, in sharp contrast to, say, the desert pupfish — whose entire habitat consisted of a single spring which is now Devil's Hole National Monument — cannot be protected merely by protecting a single river segment. Further, since hydrological systems are linked to one another, actions taken upstream will have inevitable repercussions downstream, both legal and ecological. If the requirements of the Endangered Species Act are to be met, FWS will be forced to do more than merely tinker with releases from a few reservoirs. At present the agency is ducking its responsibility.

tary sell water for purposes of cost-recovery). The appellate court held, however, that the Washoe Act imposed no such requirement, and held only that the Secretary was permitted by the ESA to *choose* to use all of the reservoir's water for conservation purposes, as he had done in that case. *Carson-Truckee Water Conservancy Dist. v. Watt*, 741 F.2d 257, 260-61, 262 n.5 (1984). See also Kilbourne, *supra* note 60, at 566-68. These questions may be further litigated in the pending suit, *Idaho Dep't of Fish and Game v. National Marine Fisheries Serv.*, Civ. 93-0345-S-HLR (D. Idaho filed Sept. 10, 1993), which involves a challenge to NMFS's biological opinion issued on May 26, 1993, concerning the operation of the Federal Columbia River Power Systems' impact on listed Snake River Salmon. The biological opinion called for the release of water stored in the Bureau of Reclamation reservoirs to assist the downstream migration of juvenile salmon. Pleadings have been filed through Nov. 9, 1993, as well as motions of transfer and motions of opposition. A motion for summary judgment was filed by the Attorney General's office on Oct. 18, 1993. Idaho is seeking a declaration from the court that the Federal Columbia River Power Systems' operation is a violation of the ESA. Telephone Interview with William S. Whelan, Deputy Attorney General, Natural Resources Division, Attorney General's Office of Idaho, in Boise, Idaho (Nov. 15, 1993).

101. RIVER BASINS OF THE UNITED STATES: THE COLORADO, U.S. Dept. of Interior/ U.S. Geological Survey, U.S.G.P.O. No. 1993-348-882 (1993). The basin includes parts of Wyoming, Colorado, Utah, New Mexico, Nevada, and California, as well as a portion of Mexico. *Id.*

102. James E. Deacon & W. L. Minckley, *Western Fishes and the Real World: The Enigma of "Endangered Species" Revisited*, in *BATTLE AGAINST EXTINCTION*, *supra* note 2, at 405, 408-09.

III. ESA Section 7 Consultations in the Colorado River Basin — Flaming Gorge Dam Reoperation

Section 7 consultations¹⁰³ for water projects in the river basin have consistently failed to comply with the ESA. The proposed reoperation of Flaming Gorge Dam is an instructive example of many of the respects in which FWS has, to date, failed to follow the dictates of the Act.

Although the archetypical ESA case involves a planned construction project such as a dam, highway or other structure, section 7's protections are not limited to large projects or new undertakings. Section 7 expressly applies to "any prospective agency action."¹⁰⁴ As the Supreme Court noted in *TVA v. Hill*:

One would be hard pressed to find a statutory provision whose terms are any plainer than those in § 7 This language admits of no exception. Nonetheless, petitioner urges, as do the dissenters, that the Act cannot reasonably be interpreted as applying to a federal project which was well under way when Congress passed the Endangered Species Act of 1973. To sustain that position, however, we would be forced to ignore the ordinary meaning of plain language.¹⁰⁵

As a lower court wrote two years later, "not only prospective actions, but all actions contemplated by an agency are subject to ESA scrutiny."¹⁰⁶ Given the ESA's expansive reach, section 7's requirements apply not only to new water projects,

103. 16 U.S.C. § 1536(a)(2) (1988) provides that:

Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species.

Id.

104. 16 U.S.C. § 1536(a)(3) (1988).

105. *TVA v. Hill*, 437 U.S. 153, 173 (1978).

106. *North Slope Borough v. Andrus*, 486 F. Supp. 332, 351 (D.D.C. 1980) (noting that Congress' 1978 and 1979 amendments to the ESA indicate that it approved of the Supreme Court's construction of the term "agency action").

but also to those built decades before the Act was passed. Professor Tarlock makes this point emphatically:

Project operators will argue that there is a distinction between new and existing [water] projects, but this distinction is irrelevant. . . . [T]he Act applies to existing projects as well as to new ones and any other conclusion would frustrate the purpose of the Endangered Species Act.¹⁰⁷

Thus, the full array of the ESA's requirements are effective against both new and existing federal projects in the basin.

In keeping with section 7's requirements, in 1980 FWS requested that the Bureau of Reclamation (BR) enter into section 7 consultations for its existing projects in the Colorado River Basin.¹⁰⁸ These consultations resulted in jeopardy opinions with an RPA requiring releases of water from existing reservoirs to protect endangered fish.¹⁰⁹ Consultations on *proposed* BR projects in the late 1970s and early 1980s also resulted in jeopardy opinions with RPAs requiring releases from existing reservoirs to offset depletions.¹¹⁰

There is one important exception to this pre-1981 consultation pattern: Flaming Gorge Dam. At approximately the same time that consultation began for Flaming Gorge, FWS issued jeopardy opinions for the proposed Strawberry Aqueduct and Collection System, and for the Upalco, Jensen, and Uinta Projects — all components of the Central Utah Project (CUP).¹¹¹ FWS also issued a jeopardy opinion for Flaming Gorge Dam itself. The RPA for each of these jeop-

107. Tarlock, *supra* note 74, at 27-28 (citations omitted).

108. Memorandum from Regional Director, Region 6, U.S. Fish and Wildlife Service, to Regional Director, Upper Colorado Region Water and Power Resources Service (Feb. 27, 1980).

109. Flaming Gorge Opinion, *supra* note 6, at 1; Wydoski & Hamill, *supra* note 2, at 126. See also Margot Zallen, *Evolution of ESA Consultations on Western Water Projects*, 2 NAT. RESOURCES & ENV'T, Fall 1986, 41, 41 (1986). It is unclear if these sources are referring only to consultations for new BR projects, or also to the consultations on existing ones which began in 1980. The author has found no documentation suggesting that the existing projects involved in the 1980 consultations participated in the RIP or rely on Flaming Gorge reoperation for an RPA.

110. Flaming Gorge Opinion, *supra* note 6, at 1.

111. *Id.*

ardy opinions was the reoperation of Flaming Gorge Dam for the benefit of endangered fish. In addition, in 1992 FWS issued jeopardy opinions for the Narrows Project and the Price-San Rafael Salinity Control Project which also rely on Flaming Gorge as an RPA.¹¹² Ironically, the dam which was the site of the 1962 Green River poisoning is now being proposed as the means to protect the river fish.¹¹³

Although the decision to use Flaming Gorge reoperation as an RPA for the CUP structures was made in the early 1980s, FWS did not issue the Final Flaming Gorge Biological Opinion until late November 25, 1992. During the intervening years, FWS studied the effects of Flaming Gorge's operation, evaluating "normal operation" from 1979-1984, and "constrained flows" from 1985-1991. The Strawberry Aqueduct and the Jensen Unit, for which Flaming Gorge's reoperation is an RPA, began operation several years ago while the Flaming Gorge studies were still in progress. It bears repeating that FWS found over *ten years ago* that all of these projects placed or, when complete, would place the river fishes' survival in jeopardy. The other two CUP projects for which Flaming Gorge reoperation is an RPA, the Uinta and Upalco units, have yet to begin construction.

The Biological Opinion for Flaming Gorge is a jeopardy opinion with a five-part RPA. The first of the RPA's two substantive components is reoperating the dam so that flow and temperature conditions in the Green River will more closely resemble the river's natural hydrograph. The RPA's second substantive requirement calls for legal protection of Green River Flows from the dam downstream to Lake Powell, noting that "development of a legal mechanism to ensure that the releases from Flaming Gorge Dam are delivered to and available for use by the endangered fish in occupied habitat . . . is necessary" if the Jensen, Uinta, Upalco, Narrows, and Price-San Rafael Projects are to comply with the ESA and the river fish are to recover.¹¹⁴ To this end, the RPA assumes

112. *Id.*

113. *Id.* at 9.

114. Flaming Gorge Opinion, *supra* note 6, at 32.

that agreements to protect instream flows will be reached with the states of Utah, Colorado, and Wyoming under the auspices of the Recovery Implementation Program, or "RIP."¹¹⁵ If such an agreement is not in place within two years of the promulgation of the Biological Opinion, FWS may request reinitiation of section 7 consultation. The other three of the RPA's five components mandate further studies intended to refine dam reoperation. While additional study of Flaming Gorge's effects will surely be beneficial, it will not help mitigate the *present* impacts of the projects for which reoperation is an RPA. Finally, the biological opinion does not authorize any incidental take of endangered river fish: "[s]hould any take occur, Reclamation must reinitiate formal consultation."¹¹⁶

FWS's actions during the Flaming Gorge consultation were and are in violation of several provisions of the ESA. First and most obviously, while consultation is ongoing ESA section 7(d) unequivocally forbids "any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures"¹¹⁷ FWS issued jeopardy opinions for Flaming Gorge and the two CUP Projects, Strawberry Aqueduct and the Jensen Unit, in the early 1980s. However, the RPA for these projects, Flaming Gorge reoperation, was still being formulated in 1992. During the decade in which FWS studied reoperation there was no assured RPA in place for any of the three projects. Indeed, until the parameters of reoperation were more clearly specified, there could be no assurance that the RPA would in fact preclude the section 7(a)(2)¹¹⁸ jeopardy that FWS had already found the projects posed. FWS apparently understood that consultation on Flaming Gorge reoperation was ongoing until a final biological opinion was in place. The 1987 RIP for the basin commits FWS to "make

115. For a further discussion of the Recovery Implementation Plan see *infra* notes 220-242 and accompanying text.

116. Flaming Gorge Opinion, *supra* note 6, at 35.

117. 16 U.S.C. § 1536(d) (1988).

118. 16 U.S.C. § 1536(a)(2) (1988).

every effort to *complete* Section 7 consultation on operation of Flaming Gorge during 1989.”¹¹⁹

ESA section 7 permits FWS and an agency taking action to agree to extend consultation almost indefinitely, so long as any private permit applicant involved in the process consents to the extension.¹²⁰ Thus, the more than ten-year-long consultation over Flaming Gorge, while startling, was not contrary to law. However, FWS and the BR used this drawn out consultation process as an excuse to continue business as usual, in direct contravention of section 7(d).¹²¹ When an agency action is proposed, the section 7 consultation process “give[s] the benefit of the doubt to the species” and places the burden squarely on the action agency to prove that its action will not jeopardize endangered species.¹²² So long as the Flaming Gorge consultation was ongoing, section 7(d) clearly applied to all of the projects which relied on it as an RPA.

It could be argued that biological opinions were in fact completed for Flaming Gorge and the CUP projects, and FWS then spent the next decade refining and revising the RPA portion of those opinions. Both the Act’s legislative history and ESA case law indicate that section 7 does permit FWS to issue a biological opinion based on “the best evidence that is available or [that] can be developed during consultation.”¹²³ However, these same sources hold that: “[s]hould such an opinion be issued, the action agency must continue research-

119. U.S. Fish and Wildlife Service, Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (1987), *quoted in* Flaming Gorge Opinion, *supra* note 6, at 2 (emphasis added).

120. 16 U.S.C. § 1536(b)(1)(A),(B) (1988).

121. *See supra* note 117 and accompanying text.

122. H.R. CONF. REP. NO. 96-697, 96th Cong., 1st Sess. 159, *reprinted in* 1979 U.S.C.C.A.N. 2557, 2576, *cited in* Village of False Pass v. Watt, 565 F. Supp. 1123, 1155 (D. Alaska 1983); *see also* Nebraska v. Rural Electrification Admin., [1979] 12 Env’t Rep. Cas. (BNA) 1156, 1171 (D. Neb. Oct. 2, 1978) (ESA “places the burden upon the agencies” to show their actions will not jeopardize species).

123. H.R. CONF. REP. NO. 96-697, 96th Cong., 1st Sess. 159, *reprinted in* 1979 U.S.C.C.A.N. 2557, 2576, *cited in* Village of False Pass v. Watt, 565 F. Supp. 1123, 1155 (D. Alaska 1983) *and* North Slope Borough v. Andrus, 486 F. Supp. 332, 352 (D.D.C. 1980), *aff’d in relevant part*, 642 F.2d 589 (D.C. Cir. 1980).

ing the effects of agency action on a species. *Consultation must also be continued* until a comprehensive biological opinion satisfying the mandate of section 7(b) is developed.”¹²⁴

The most thorough explication of section 7(d) is in *North Slope Borough v. Andrus*,¹²⁵ in which Alaskan native groups and environmental organizations sought to block the sale of federal oil leases in the Beaufort Sea to protect endangered gray and bowhead whales. The case was somewhat unusual in that the sales were controlled by the Outer Continental Shelf Lands Act which specifically permits the United States to withdraw previously sold oil leases in the event environmental or other problems arise in the course of exploration. *North Slope*, however, concerned only the sale of leases, not all of the activities surrounding oil exploration. The district court held that a letter from the National Marine and Fisheries Service (NMFS) to a Bureau of Land Management official regarding the sales was not enough to constitute a biological opinion, and that section 7 consultation had thus never been completed and section 7(d) therefore applied. The court noted, however, that inadequate information cannot provide the basis for a halt to all agency action, and proposed a three-part test for agency actions where consultation was based on incomplete information.¹²⁶ Although the government could not assure compliance with section 7(a)(2) until it completed an adequate biological opinion, it could pursue oil lease sales if “(1) there is a reasonable likelihood of ultimate compliance [with section 7(a)(2)], (2) there is no section 7(d) violation, and (3) the intermediate steps taken pursuant to the agency action comply with 7(a)(2).”¹²⁷ Explaining the first prong of its test, the court noted that: “A negative biological opinion, regardless of the stage of development, would constitute substantial evidence of non-compliance [with section 7(a)(2)].”¹²⁸

124. *North Slope*, 486 F. Supp. at 352 (emphasis added); accord H.R. CONF. REP. No. 96-697, 96th Cong., 1st Sess. 159, reprinted in 1979 U.S.C.C.A.N. 2557, 2576.

125. 486 F. Supp. at 354.

126. *North Slope*, 486 F. Supp. at 357.

127. *Id.* at 358.

128. *Id.*

North Slope held that there was not a jeopardy opinion for the oil lease sales and that the letter from NMFS to Interior, while not adequate as a biological opinion, did indicate that jeopardy was unlikely.¹²⁹

As for the second prong of the *North Slope* test, the district court wrote that:

Congress enacted section 7(d) to preclude the investments of large sums of money in any endeavor if (1) at the time of the investment there was a reasonable likelihood that the project, at any stage of development, would violate section 7(a)(2), and (2) that investment was not salvageable (i.e. it could not be applied to either an alternative approach to the original endeavor or to another project).¹³⁰

The court held (again) that the lease sales were not likely to violate section 7(a)(2), and that the only investments of resources proposed at the time of the suit were pre-exploration research activities which were valuable in their own right. Consequently, the second prong was satisfied.

The third prong of the *North Slope* test is a procedural standard. This component provides that the action agency must comply with the consultation requirements of section 7(a)(2).¹³¹ The *North Slope* court held that since there was *no* biological opinion, not even one based on adequate information, the Department of the Interior could not proceed with the lease sales.¹³²

On appeal, the D.C. Circuit noted that NMFS had regarded its letter concerning the lease sales as a biological opinion.¹³³ The court thus deferred to NMFS's judgment and held that the district court erred in ruling that the Department of the Interior was in violation of the consultation requirements of section 7(a)(2) for failing to obtain a biological opinion.¹³⁴ The appellate court, however, expressed no disap-

129. *Id.* at 351.

130. *Id.* at 356 (footnotes omitted).

131. *Id.* at 357.

132. 486 F. Supp. at 352, 353.

133. 642 F.2d 589, 609-10 (D.C. Cir. 1980).

134. *Id.* at 610.

proval of the lower court's analytic framework, and wrote that: "[g]iven the conceded 'incomplete information' on which the biological opinion is based, and the government's declared intention to prepare a new opinion . . . we reach no conclusion as to whether the section 1536(a) 'consultation' process is ongoing."¹³⁵

North Slope's analytical framework makes it clear that FWS violated section 7(a)(2) during the period in which it was preparing the Flaming Gorge biological opinion. FWS's biological opinions for Flaming Gorge and the four CUP projects issued in the early 1980s are certainly based on incomplete information, which *should preclude* any action by BR which would violate section 7(d) or be reasonably likely to violate section 7(a)(2). Contrary to the situation in *North Slope*, in which NMFS had concluded that Interior's lease sales were unlikely to jeopardize endangered whales, FWS issued jeopardy opinions over a decade ago on all three existing projects which rely on Flaming Gorge as an RPA. As the *North Slope* district court held, a jeopardy opinion is conclusive evidence that an agency's actions are likely to violate section 7(a)(2). Given that jeopardy opinions have already issued for the three projects, the operation of Flaming Gorge Dam, Strawberry Aqueduct, and the Jensen Unit without an RPA in place was a clear violation of section 7(a)(2)'s substantive prohibitions against jeopardizing the survival of endangered species.

FWS is also in violation of section 7(d). Again, section 7(d)'s ban on "irreversible" or "irretrievable" commitments of resources applies until a complete biological opinion is in place. Flaming Gorge reoperation is to serve as the RPA for all three projects, but has yet to be fully implemented. Indeed, "normal operation" — the very operation which led to FWS's jeopardy finding — continued until 1984. Nevertheless, BR went ahead with construction of Strawberry Aqueduct and the Jensen Unit, and has placed them in operation, even though the RPA for the project has yet to be imple-

135. *Id.* at 611, n.143.

mented.¹³⁶ Spending federal money on a construction project is the archetypical "irretrievable commitment" of resources section 7(d) is designed to prevent.¹³⁷

Further, it is eminently reasonable to argue that the "resources" referred to in section 7(d) need not be monetary. Water is also a resource, and a valuable one, particularly in the Colorado River Basin. However, Flaming Gorge Dam has continued normal or nearly-normal operation for more than a decade since it received a jeopardy opinion. Each year it has released the water it impounds, "irretrievably" and "irreversibly" committing it to uses other than protection of endangered fish.¹³⁸ The release of the impounded water also has had "the effect of foreclosing the . . . implementation" of an RPA, since the proposed RPA for the project was and is the release of that very water.¹³⁹

BR has also violated section 7 by continuing construction and/or operation of the CUP projects and operation of Flaming Gorge Dam before being reasonably certain that the RPA

136. Since Strawberry Aqueduct went on line, BR has reportedly slightly increased flows from Flaming Gorge Dam during the periods the Aqueduct is in operation. There is, however, no formal biological opinion indicating that these releases are adequate. Further, there is no proof that these releases benefit endangered fish rather than downstream appropriators. The Flaming Gorge draft biological opinion specifically notes that to compensate for depletions from Strawberry Aqueduct it is "critical" that BR obtain legal protection to insure that water from the dam remains instream in the Green River to a point below the confluence of the Duchesne River. U.S. Fish and Wildlife Service, Final Draft Biological Opinion for the Operation of Flaming Gorge, 34 (Feb. 11, 1992) [hereinafter Flaming Gorge Final Draft Opinion]. However, to date BR apparently has taken no steps to protect instream flows.

137. See *Nebraska v. Rural Electrification Admin.*, [1979] 12 Env't Rep. Cas. (BNA) 1156, 1172 (D. Neb. Oct. 2, 1978).

138. The plaintiffs in *Pacific Coast Federation of Fishermen's Ass'ns v. Lujan*, CIV-S-92-1492 LKK (E.D. Cal. 1992), offered a similar section 7(d) argument (discussed *supra* notes 98-100 and accompanying text).

139. The *North Slope* district court did suggest that commitment of resources for the sake of research would generally not violate section 7(d), 486 F. Supp. at 356, and BR argued that its releases from Flaming Gorge were part of a study designed to determine the endangered fishes' habitat requirements. *North Slope*, however, suggests that a necessary condition of the oil lease sales at issue in that case surviving section 7(d) scrutiny was the fact that they were not likely to jeopardize an endangered species' survival in violation of section 7(a)(2). *Id.* As the case held, a jeopardy opinion is conclusive evidence that a project is likely to violate section 7(a)(2). *Id.* at 358.

for the projects can in fact be implemented.¹⁴⁰ As was noted above, one of the two substantive elements of the Flaming Gorge biological opinion is the legal protection of the flows of the Green River south to Lake Powell. FWS noted in the final *draft* version of the Flaming Gorge opinion that this is a "critical ingredient" of the RPA since without it the BR cannot insure that releases from Flaming Gorge Dam are available for endangered species, or that they will offset depletions by the four CUP projects.¹⁴¹

The final biological opinion allows two years for the relevant parties — which include BR, the states of Utah, Colorado and Wyoming, private water-user groups and the Northern Ute Indian Tribe — to develop an agreement to protect instream flows for the river fish.¹⁴² During those two years BR is apparently not required to protect instream flows in any fashion. At the close of that period FWS may, but is not required to, reinstitute section 7 consultation.¹⁴³

The Flaming Gorge biological opinion's proposal is strikingly similar to the circumstances of *Sierra Club v. Marsh*,¹⁴⁴ in which the Ninth Circuit ruled that the Corps of Engineers was in violation of section 7.¹⁴⁵ In *Marsh*, the plaintiff environmental groups sought to enjoin the Corps of Engineers ongoing construction of a flood control and highway project.¹⁴⁶ FWS issued a jeopardy opinion for the project because of the presence of two endangered bird species in the area, but permitted it to go forward under an RPA that required, among other measures, that the Corps acquire and preserve 188 acres of nearby wetlands.¹⁴⁷ Because of delays in appropriating funds for the acquisition, the County of San Diego agreed to acquire the property and transfer it to a federal agency to be designated by the Corps, and a contract was

140. 16 U.S.C. § 1536(b)(3)(A),(B) (1988).

141. Flaming Gorge Final Draft Opinion, *supra* note 136, at 34; *see also* Flaming Gorge Opinion, *supra* note 6, at 32-33.

142. Flaming Gorge Opinion, *supra* note 6, at 33.

143. *Id.*

144. 816 F.2d 1376 (9th Cir. 1987).

145. *Id.* at 1389.

146. *Id.* at 1378.

147. *Id.* at 1379.

signed to that effect.¹⁴⁸ The County, however, failed to transfer the land, and went on to approve development near the wetlands and granted several easements to the developer, which reduced the value of the wetlands as habitat for the endangered birds.¹⁴⁹ FWS concluded that the Corps' failure to acquire the mitigation lands and the County's approval of new development near the habitat created a new danger that the Corps' project would violate section 7(a)(2). Consequently, FWS requested reconsultation. The Corps, however, refused to enter reconsultation, contending that it would ultimately prevail on its contract claim against the County and thus would be able to implement the RPA. The plaintiffs in *Marsh* alleged that the Corps had violated the ESA by refusing to reconsult, and sought to enjoin further construction until reconsultation was completed.¹⁵⁰

The *Marsh* court rejected the Corps' claim that the plaintiffs were required to show that it was more likely than not that the Corps would not be able to obtain the mitigation lands.¹⁵¹ The court wrote that "[a]t present construction is eliminating some of [the birds'] habitat. The [Corps] is allowing the project's adverse effects to accumulate without implementing the mitigation measures or making certain they will occur."¹⁵² Although the court noted that the Corps assured it that it would win its suit against the County, it held that:

the risk that the [Corps] might not prevail must be borne by the project, not by the endangered species [The Corps] is in violation of section 7(a)(2) by allowing, destruction or adverse modification of any part of the birds habitat without first insuring the acquisition and preservation of the mitigation lands.¹⁵³

148. *Id.* at 1380.

149. *Id.*

150. *Id.* at 1381.

151. *Id.* at 1385.

152. *Id.* at 1385.

153. *Id.* at 1386.

The court went on to parse the section 7(a) consultation regulations,¹⁵⁴ holding that the County's failure to transfer the lands constituted "new information" requiring reconsultation under 50 C.F.R. § 402.16(b), and that the section 7(a) duty to reconsult was thus mandatory.¹⁵⁵ *Marsh* thus enjoined construction in the area of the birds' habitat until the Corps' claim to the mitigation lands could be resolved and enjoined *all* construction until the Corps initiated reconsultation.¹⁵⁶ The court concluded by observing that the ESA "dictates that if an agency plans to mitigate its project's adverse effects on an endangered species by acquiring habitat and creating a refuge, it must insure the creation of that refuge before it permits destruction or adverse modification of other habitat."¹⁵⁷

In order to implement the RPA proposed in the Flaming Gorge biological opinion, BR must acquire, or at least *protect*, habitat — adequate flows to support endangered fish — just as surely as if it were required to purchase land. As was found improper in *Marsh*, to do so the agency must rely on the good will and cooperation of another government. However, BR lacks even the contractual assurances that were present in *Marsh*, and acquiring instream flows is an inherently far more uncertain undertaking than purchasing land. Further, in order for Flaming Gorge to succeed as an RPA, BR must resolve instream flow issues in several states and across a number of different water districts. It is also far from clear whether sufficient water is available for appropriation or purchase — the draft biological opinion hedged by noting that protection of Green River flows should be accomplished "to the extent of [the state governments'] jurisdiction and legal authorities and subject to existing valid water rights."¹⁵⁸

154. 16 U.S.C. § 1536(a) (1988).

155. *Marsh*, 816 F.2d at 1386-88.

156. *Id.* at 1389. *Marsh* also noted that until consultation was completed, the section 7(d) prohibition against irretrievable commitments of resources would apply, but did not elaborate on section 7(d)'s requirements. *Id.*

157. *Id.*

158. Flaming Gorge Final Draft Opinion, *supra* note 136, at 35.

The final biological opinion significantly weakened the strong language in the draft version concerning the pressing need to acquire instream flows, but this change was not due to any progress on that front. The draft required the states of Utah and Colorado to execute a Memorandum of Understanding addressing legal protection of flows under the auspices of the biological opinion itself.¹⁵⁹ However, the final version simply relies on the efforts of the RIP,¹⁶⁰ which has so far failed to protect instream flows despite approximately five years of trying to do so.¹⁶¹ In spite of these substantial remaining hurdles, depletions by the Strawberry Aqueduct have *already* begun to diminish the river fishes' available habitat, and Flaming Gorge operation continues apace. Absent a working RPA, the CUP projects addressed in the biological opinion and Flaming Gorge Dam have already been found to violate section 7(a)(2). Under the terms of the biological opinion, they will be permitted to continue to violate that subsection for up to two years before FWS will even consider requiring reconsultation.¹⁶²

Finally, the Flaming Gorge process is potentially in violation of ESA section 9.¹⁶³ The 1982 ESA amendments authorized "incidental take statements" under sections 7(b)(4) and 7(o)(2).¹⁶⁴ Under these provisions, as part of its biological opinion, FWS may authorize takings of listed species so long as the take will not violate section 7(a)(2). ESA section 7(b)(4) explicitly provides that incidental take may be authorized "*after consultation*."¹⁶⁵ Although no cases have considered the issue, it seems reasonable to suggest that incidental take permits can only be authorized after an adequate consultation has been completed. If takings are permitted before consultation concludes, FWS cannot insure that compliance with section 7(a)(2), mandated by section 7(b)(4), can be

159. *Id.*

160. *Id.* at 33.

161. For further discussion, see *supra* notes 114-116 and accompanying text.

162. Flaming Gorge Final Draft Opinion, *supra* note 136, at 33.

163. 16 U.S.C. § 1538 (1988).

164. 16 U.S.C. § 1536(b)(4), (o)(2) (1988).

165. 16 U.S.C. § 1536(b)(4) (1988).

achieved. Thus, any take by the two CUP projects or by Flaming Gorge during the decade since jeopardy opinions were issued should be deemed a violation of section 9. In any case, the Biological Opinion for Flaming Gorge authorizes no incidental take, and requires reconsultation should *any* take occur.¹⁶⁶ Therefore, if any taking of river fish can be shown even after the final opinion is in place, BR will be in violation of section 9.

The section 9 issue is significant chiefly because of the uncertainty surrounding the meaning of "take", particularly in a riverine environment.¹⁶⁷ The unresolved questions are analogous to the basic categories of tort law, but, in the case of endangered river fish, unraveling proximate cause, cause in fact, and other issues, as well as defining the scope of redressable injuries, is a daunting task. A thorough discussion of these matters is beyond the scope of this article, but some of the key questions bear mentioning here.¹⁶⁸ Since the endangered river fish are extremely rare, very wide ranging, and live underwater where they generally cannot be seen by humans, it is virtually impossible to point to dead members of the species as evidence of a taking. It should not, however, be necessary to bring dead fish to court or even to demonstrate population declines in order to win a section 9 claim.

Case law has long indicated that section 9 encompasses habitat modifications, including those with future effects,

166. Flaming Gorge Final Draft Opinion, *supra* note 136, at 35 (emphasis added).

167. Section 9 specifically prohibits any person subject to the jurisdiction of the United States from taking any listed, endangered species of fish or wildlife within the United States or the territorial sea of the United States, 16 U.S.C. § 1538(a)(1)(B) (1988), or from taking any such species upon the high seas, 16 U.S.C. § 1538(a)(1)(C) (1988), except as provided for in 16 U.S.C. § 1535 (g)(2) (1988) and 16 U.S.C. § 1539 (1988).

168. For an excellent and thorough analysis of section 9, see Cheever, *supra* note 73. For an analysis of section 9 in the context of water depletions, see Melissa K. Estes, Comment, *The Effect of the Federal Endangered Species Act on State Water Rights*, 22 ENVTL. L. 1027 (1992), arguing that depletions are section 9 takings. It has been argued that since stream flow depletion has been cited as a cause of the decline of the listed species any failure to augment flows, or a continuation of the depletion of flows, could amount to a prohibited "taking" of endangered species under section 9 of the ESA.

although a decision just issued by the D.C. Circuit has created a split among the circuits. In what is probably the best known pair of cases, *Palila v. Hawaii Department of Land and Natural Resources* (I and II),¹⁶⁹ the Ninth Circuit held that the presence of goats in the habitat of an endangered bird species constituted a section 9 taking because the goats ate the shoots of trees which, when mature, serve as food sources and nest sites for the birds.¹⁷⁰ This holding came in spite of the fact that plaintiffs could not show that the palila population had declined. The district court in that case was persuaded that the likelihood of future harm was sufficient to constitute a taking, and the Ninth Circuit affirmed that reasoning.¹⁷¹

Similarly, the Fifth Circuit held in *Sierra Club v. Yeutter*¹⁷² that the Forest Service's east Texas timber management practices constituted a section 9 "take" of red-cockaded woodpeckers, because the agency's policy of even-aged harvesting "resulted in significant habitat modification."¹⁷³ The court cited with approval FWS regulations defining the ESA term "take" as including habitat modifications that significantly "impair[] . . . 'essential behavioral patterns',"¹⁷⁴ and held that the Forest Service "took" woodpeckers because its timber cutting practices caused them to abandon the old growth trees in which they nested.

The scope of the section 9 taking prohibition recently became considerably less clear, however. In March of 1994, as this article went to press, a panel of the D.C. Circuit reversed its decision of seven months earlier, and held that section 9's

169. 649 F. Supp. 1070 (D. Haw. 1986), *aff'd*, 852 F.2d 1106 (9th Cir. 1988) [hereinafter *Palila II*]; 471 F. Supp. 985 (1979), *aff'd*, 639 F.2d 495 (9th Cir. 1981) [hereinafter *Palila I*].

170. See *Palila I*, 639 F.2d at 496. But cf., *National Wildlife Fed'n v. National Park Serv.*, 669 F. Supp. 384, 389-90 (D. Wyo. 1987) (rejecting argument that operation of campground would take grizzly bears on the ground that FWS found in biological opinion that plan would not result in takes and previous year's operation had caused no bear mortalities).

171. *Palila I*, 649 F. Supp. at 1073, 1075.

172. 926 F.2d 429 (5th Cir. 1991).

173. *Id.* at 438 (quoting *Sierra Club v. Lyng*, 694 F. Supp. 1260 (E.D. Tex. 1988)).

174. *Id.* at 438 (citing 50 C.F.R. § 17.3 (1989)).

taking prohibition does not encompass habitat modification. In *Sweet Home Chapter of Communities for a Great Oregon v. Babbitt*,¹⁷⁵ the court, without rebriefing or additional argument, reversed its earlier opinion of the same name. The original *Sweet Home* decision¹⁷⁶ rejected the argument that section 9 takings could occur only when there is an actual physical injury to a specific member of a protected species. That opinion upheld FWS's regulations defining the section 9 take prohibition as including habitat modification. This is the same regulation that the *Palila* and *Sierra Club v. Yeutter* cases looked to for their holdings. Thus, *Sweet Home I* aligned the D.C. Circuit squarely with the Ninth¹⁷⁷ and Fifth Circuits on this issue.

However, in an unusual turnabout, the *Sweet Home I* panel reversed its earlier decision after the appellants in that case petitioned for rehearing. At issue in *Sweet Home I* was FWS's definition of the word "harm," one of the terms used in the ESA to define "take."¹⁷⁸ As defined by FWS regulations, acts which "harm" endangered species include those which significantly modify its habitat.¹⁷⁹ *Sweet Home II* relied on the maxim *noscitur a sociis*, the principle that a word used in a statute is "known by the company it keeps," to reason that the terms Congress used in section 9 (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect), "contemplate the perpetrator's direct application of force against the animal taken The forbidden acts fit, in ordinary lan-

175. No. 92-5255, 1994 U.S. App. LEXIS 4341 (D.C. Cir. Mar. 11, 1994) [hereinafter *Sweet Home II*].

176. *Sweet Home Chapter of Communities for a Great Oregon v. Babbitt*, 1 F.3d 1 (D.C. Cir. 1993) [hereinafter *Sweet Home I*].

177. *Id.* at 11 (Mikva, C.J., concurring) (noting that the panel's decision accords with the Ninth Circuit's decision in *Palila II*).

178. The ESA defines "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19)(1989) (emphasis added).

179. The term "harm" includes "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." 50 C.F.R. § 17.3 (1992).

guage, the basic model 'A hit B.'¹⁸⁰ Two members of the panel concluded that habitat modification lacked this element of "direct force," and so was not contemplated by section 9.

The *Sweet Home II* majority relied in part on the Ninth Circuit's recent decision in *United States v. Hayashi*,¹⁸¹ which applied *noscitur a sociis* to interpret the "take" provision of the Marine Mammal Protection Act ("MMPA").¹⁸² *Hayashi* reversed the criminal conviction for taking a marine mammal of a fisherman who had fired two rifle shots into the water behind a group of porpoises which were feeding on tuna caught on the fisherman's lines.¹⁸³ The MMPA defines "take" to mean "to harass, hunt, capture, or kill" any marine mammal, or to attempt to engage in those activities.¹⁸⁴ A divided panel held that a "take" under the MMPA must "involve a sustained, direct, and significant intrusion" into the mammal's natural routine, and thus dismissed Hayashi's conviction on the ground that he was engaged in "isolated interference with *abnormal* marine mammal activity."¹⁸⁵ The opinion failed to explain, however, how the activities of a porpoise eating tuna that it came upon in the open ocean could possibly be regarded as "abnormal." The *Hayashi* majority's ruling was perhaps motivated, as the dissent to that decision suggested, by a sense that criminal prosecution for an act that posed little or no threat to the porpoises' safety was unreasonable.¹⁸⁶ It is difficult to imagine, however, how future courts are to decide whether a given defendant should be deemed to have shot at marine mammals with an intent to hit (or at least to harass) them, or whether a particular shot posed a sufficiently "significant" intrusion.

Whatever the merits of *Hayashi*, that decision offers no real support for the result reached in *Sweet Home II*.

180. *Sweet Home II* No. 92-5255, slip op. at 4-5, 1994 U.S. App. LEXIS 4341 at *4-5.

181. 5 F.3d 1278 (9th Cir. 1993).

182. 16 U.S.C. § 1372(a)(2)(A) (1988).

183. *Hayashi*, 5 F.3d at 1279.

184. 16 U.S.C. § 1362(13) (1988 & Supp. 1993).

185. *Hayashi*, 5 F.3d at 1282, 1283.

186. *Id.* at 1284 (Browning, J., dissenting).

Hayashi limited its holding to acts which do not cause *sustained* or *significant* intrusions. In fact, the opinion focuses on one-time acts that seek to divert animals from injuring humans or damaging property.¹⁸⁷ In contrast, FWS's definition of "harm" is already limited to "significant" habitat modifications that "significantly" impair a species' behavior. Firing a rifle in the vicinity of a porpoise to scare it away from a single meal is categorically different from, for example, altering its habitat so as to affect its breeding or feeding in the long term. *Hayashi* nowhere endorses the "A hit B" model employed by *Sweet Home II*, but rather focuses on the *significance* of the disruption caused to a protected animal's activities.¹⁸⁸ This reading of *Hayashi* is further supported by the fact that the Ninth Circuit has already held, in the *Palila* cases, that habitat modification is a taking under the ESA.

Sweet Home II's interpretation of section 9 is difficult to reconcile with the ESA's overriding concern with habitat modification. In *TVA v. Hill*, for example, the Supreme Court observed that when Congress enacted the ESA, it "started from the finding that the two major causes of extinction are hunting and destruction of natural habitat. Of these twin threats, Congress was informed that the greatest was *destruction of natural habitats*."¹⁸⁹ *Sweet Home II* reasoned that Congress intended to protect habitat by providing funds for land acquisition, rather than via section 9.¹⁹⁰ This conclusion rests, however, only on two statements from the floor debates on the original ESA.¹⁹¹ The opinion cites no other authority for the proposition that section 9 should be limited to banning hunting, trapping, and related activities, while leaving habitat protection, the primary threat to species' survival, to the vagaries of the appropriations process. A better reading of the grouped terms in section 9 — "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" —

187. *Id.* at 1283, n.15.

188. *Id.* at 1282.

189. 437 U.S. 153, 179 (1978)(internal quotation and brackets omitted, emphasis added).

190. No. 92-5255, slip op. at 6-7, 1994 U.S. App. LEXIS 4341 at *9.

191. *Id.* at 6-7, *12.

is that Congress intended to create an *exhaustive* list of acts that might injure protected species. The Senate Report on the ESA stated that: "'Take' is defined in . . . the broadest possible manner to include every conceivable way in which a person can 'take' or attempt to 'take' any fish or wildlife."¹⁹² To read section 9 in any other fashion renders much of the section surplusage: "killing" an animal necessarily "harms" and "wounds" it; "hunting" necessarily involves at least some element of "pursuit;" "trapping" is "capture" and possibly "collection;" and so forth. The interpretation adopted by the *Sweet Home II* majority requires that we assume that despite its concern with habitat destruction, Congress elected to permit private actors freely to engage in the very acts which presented the greatest threat to species' survival. From a common sense perspective, there can be no doubt that the destruction of a species' source of food or shelter causes "harm," as that word is ordinarily used, both to the species generally and to its individual members.

Sweet Home II also relied on the legislative history of the 1982 amendments to the ESA,¹⁹³ which added the incidental take provisions to the Act.¹⁹⁴ This analysis was based chiefly on the *absence* of specific statements endorsing the inclusion of habitat modification in section 9, as Congress nowhere explicitly disapproved of the practice. Indeed, as *Sweet Home II* recognized, both the regulatory definition of "harm" and the Ninth Circuit's decision in *Palila II* were brought to the attention of congressional committees considering the 1982 amendments, but Congress expressed no disagreement with either.¹⁹⁵ In fact, *Palila II* held that Congress' failure to modify FWS's interpretation of section 9 in 1982 indicated the legislature's satisfaction with the "take" definition.¹⁹⁶

A strong argument can be made that Congress intended to *ratify* FWS's interpretation of section 9 in 1982. The Con-

192. S. Rep. No. 307, 93d Cong., 1st Sess., (1973), *reprinted in* 1973 U.S.C.C.A.N. 2989, 2995 (quoted in *Palila II*, 852 F.2d at 1108).

193. No. 92-5255, slip op. at 8-13, 1994 U.S. App. LEXIS 4341 at *13-34.

194. 16 U.S.C. § 1539 (1988).

195. *Id.* at 12.

196. 852 F.2d 1106, 1109 n.6 (9th Cir. 1988).

ference Report on the 1982 amendments provides that the incidental take provisions are “modeled after a habitat conservation plan that has been developed by three Northern California cities, the county of San Mateo, and *private land-owners and developers . . .*.”¹⁹⁷ *Sweet Home II* dismissed this reference as evidence only of the “flexibility of the *relief*” Congress intended to offer by allowing incidental take permits.¹⁹⁸ This reading conflicts, however, with the very rationale underlying habitat conservation plans. Such plans seek, as their name implies, to preserve habitat — habitat that otherwise faces modification at the hands of, among others, private developers. As Congress was aware, given the FWS regulations in place at the time, the private entities who entered into the conservation plan cited in the 1982 Conference Report’s did so not simply because they were concerned that their bulldozers might run over a specific member of a protected species, but because they realized that alteration of habitat would “harm” endangered species, as FWS defined that term. In short, the Conference Report expressly approved of a remedial measure, habitat conservation plans, that grew out of FWS’s longstanding interpretation that section 9 encompassed habitat modification.

Sweet Home II presents a straightforward administrative law question governed by the framework established by the Supreme Court in *Chevron U.S.A., Inc. v. Natural Resources Defense Council*.¹⁹⁹ However, as Chief Judge Mikva observed in a highly persuasive dissent, although the *Sweet Home II* majority noted that it reviewed the statute pursuant to *Chevron*, the opinion never stated which prong of that case’s test it relied upon to reach its conclusion.²⁰⁰ As the dissent noted, if the majority relied upon *Chevron* step one, it must demonstrate that Congress has “directly spoken to the precise ques-

197. H.R. Conf. Rep. No. 97-835, 97th Cong., 2d Sess. (1982) 30-31, *reprinted in* 1982 U.S.C.C.A.N. 2871-72.

198. No. 92-5255, slip op. at 11, 1994 U.S. App. LEXIS 4341 at *19 (emphasis added).

199. 467 U.S. 837 (1984).

200. No. 92-5255, slip op. dissent at 2, 1994 U.S. App. LEXIS 4341 at *37 (Mikva, C.J., dissenting).

tion at issue': whether the word 'harm' includes" habitat modification.²⁰¹ However, the language of section 9 can scarcely be said to compel the result reached by the *Sweet Home II* majority. Indeed, the Ninth Circuit, in *Palila II*, concluded that the FWS's definition of "take" followed the "plain language" of section 9.²⁰² If, on the other hand, Congress has not directly addressed the scope of "harm," then *Chevron* requires that a reviewing court uphold FWS's interpretation so long as it is a "permissible" reading of the statute.²⁰³ It is now well-settled that *Chevron* step two review is not a demanding standard. Indeed, as Chief Judge Mikva observed, *Chevron* itself provides that a court "need not conclude that the agency construction was the only one it permissibly could have adopted . . . , or even the reading the court would have reached if the question initially had arisen in a judicial proceeding."²⁰⁴ Given that nothing in the ESA or its legislative history precludes FWS's reading, and that the inclusion of habitat modification "serves the overall purpose of the [ESA],"²⁰⁵ the section 9 regulations certainly appear to be a permissible interpretation of that Act.

Although there is now a square conflict between the D.C. Circuit and the Ninth and Fifth Circuits on the issue, the better reading of section 9 seems to be that given by the FWS in its regulations. Indeed, until *Sweet Home II* was decided, it had been settled for over a decade that section 9's prohibitions encompassed habitat modification. Given that Flaming Gorge Dam and the projects for which it serves as an RPA have, without question, significantly modified and continue to modify the river fishes' habitat — thereby impairing the fishes' spawning, feeding and other behaviors — it seems clear that FWS has long overlooked "takes" of river fish in violation of ESA section 9.

201. *Id.* at 2, *39 (citing *Chevron*, 467 U.S. at 842).

202. 852 F.2d at 1108.

203. *Chevron*, 467 U.S. at 843.

204. *Sweet Home II*, No. 92-5255, slip op. dissent at 2, 1994 U. S. App. LEXIS 4341 at *39-40 (Mikva, C.J., dissenting)(quoting *Chevron*, 467 U.S. at 843 n.11).

205. *Palila II*, 852 F.2d at 1108.

If a taking of river fish can be demonstrated, determining which parties are responsible presents a further quandary. In a system of thousands of miles of rivers with hundreds of diversions, impoundments, and depletions, it is extremely difficult to designate any one dam or water user as the cause of injury to a species. For example, in *Pyramid Lake Paiute Tribe v. United States Department of Navy*²⁰⁶ plaintiffs alleged that the Navy was taking cui-ui, an endangered trout species.²⁰⁷ The court noted that the Navy was one of many diverters of the Truckee River,²⁰⁸ and that its diversions had a relatively insignificant effect on the availability of water.²⁰⁹ *Pyramid Lake* thus held "[t]he evidence does not establish that any one year's diversions of Project water has actually caused the cui-ui's spawning problems. Moreover, the Tribe fails to distinguish the Navy from other users of Truckee River water."²¹⁰

Even when a taking occurs at a single, known water project, it can be difficult to determine who should actually be held responsible for the violation. In 1992, in *United States v. Glenn-Colusa Irrigation Dist.*,²¹¹ NMFS argued that an irrigation district's pumping was killing protected salmon.²¹² The defendant countered that it was actually a fish screen, installed by the California Fish and Game Department, against which salmon fry became pinned, that caused the taking.²¹³ The court found the case an easy one, finding the irrigation district was the cause of the undisputed death of salmon²¹⁴ and noting that "[i]t is irrelevant whether the taking is direct or indirect."²¹⁵ However, had the question of causation been between the irrigation district, which operated the pumping station, and its individual members, who

206. 898 F.2d 1410 (9th Cir. 1990).

207. *Id.* at 1412.

208. *Id.* at 1420.

209. *Id.* at 1419.

210. *Id.* at 1420.

211. 788 F. Supp. 1126 (E.D. Cal. 1992).

212. *Id.* at 1128.

213. *Id.* at 1130-32.

214. *Id.* at 1134.

215. *Id.* at 1133 n.13.

use the water it pumps, section 9 liability might have been far more difficult to determine. Complicating causation issues still further in the basin, irrigation runoff containing high levels of selenium may also contribute to the river fishes' plight.²¹⁶

Perhaps the most important causation issue in a riverine environment is the fact that water diversions and depletions upstream have effects hundreds of miles away. It is thus a thorny problem to decide when and how the chain of causation might be broken — when a given water use upstream can definitely be said to contribute to habitat damage downstream. In *Riverside Irrigation Dist. v. Andrews*,²¹⁷ the Tenth Circuit upheld the Corps of Engineers' refusal to exempt plaintiffs from the public hearing requirements for a section 404 Clean Water Act permit on the ground that impoundment of water in a dam in Colorado would encourage water use in that state which could adversely affect whooping crane habitat in Nebraska.²¹⁸

Flaming Gorge Dam, Strawberry Aqueduct, and the Jensen Unit are large projects for which jeopardy opinions have already issued.²¹⁹ Any harms they cause are surely not *de minimis* or speculative, and these harms occur in river reaches that are adjacent to the projects, not hundreds of miles away. Given that the three projects have operated for some time without an effective RPA in place and with no authorized incidental take, they should be deemed to be in violation of section 9. Proving section 9 takings, however, would likely be more difficult than establishing procedural violations of section 7(d). Successful litigation would require plaintiffs to convince a court in a water-hungry western state to extrapolate significantly (though logically) from current

216. Interview with Andrew Caputo, Sierra Club Legal Defense Fund, Denver, Colo. (Dec. 4, 1992). Mr. Caputo served as Plaintiff's attorney in *Colorado Wildlife Fed'n v. Turner*, No. 92-F-884 (D. Colo. Oct. 27, 1992).

217. 758 F.2d 508 (10th Cir. 1985), *aff'd* 568 F. Supp. 583 (D. Colo. 1983).

218. 758 F.2d at 514. See also *Nebraska v. Rural Electrification Admin.*, 12 Env't Rep. Cas. (BNA) 1156, 1171-73 (D. Neb. 1978) (ruling that the Corps of Engineers must consider Wyoming Dam's impact on the Nebraska whooping crane habitat before issuing a section 404 permit).

219. See *supra* notes 111-113 and accompanying text.

section 9 takings cases and would likely require a battle between expert witnesses as to the extent of harms caused to the river fish by water projects. Since a court would give substantial deference to FWS's view of the welfare of the fish and the state of their habitat, a section 9 claim could be a formidable battle, but it is certainly a winnable one.

IV. The Recovery Implementation Program

After a series of section 7²²⁰ consultations concerning the Colorado River Basin in the late 1970s and early 1980s in which FWS required an RPA of releases from existing reservoirs, the FWS reviewed the Windy Gap and Moon Lake projects in 1981. FWS found that these projects were not capable of guaranteeing reservoir releases to offset their depletions from the Colorado, Green and White Rivers.²²¹ In response, FWS developed an approach that came to be known as the "Windy Gap process": FWS agreed that section 7 jeopardy would be offset if a project would provide funds to be used in the conservation plan that FWS was developing for the basin. From 1981 to 1985 FWS issued thirty-three Windy Gap-type opinions for projects that could deplete up to 415,914 acre-feet of water per year. These consultations generated \$1.3 million for stocking, habitat improvement, studies, and other efforts. This process did not, however, apply to BR projects, which still relied on releases from reservoirs to avoid jeopardy.

The Windy Gap process proved controversial with environmentalists and water developers alike, and was discontinued in 1985. In 1984 FWS invited two regional directors of BR and representatives from the states of Colorado, Wyoming and Utah to a meeting which resulted in the six parties forming the Upper Colorado River Basin Coordinating Committee (UCRBCC). The UCRBCC then agreed to develop and implement a program of RPAs for the basin. In 1987, the

220. 16 U.S.C. § 1536 (1988).

221. This account of section 7 consultations in the basin prior to the implementation of the RIP is taken from Wydoski & Hamill, *supra* note 2, at 126-28 and Zallen, *supra* note 109.

UCRBCC produced the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin, known to all by the unfortunate acronym "RIP."²²² The RIP has served since 1988 as the RPA for new water projects in the region, applying to private actors via the Clean Water Act section 404 permitting process. The Program does not apply to new or existing BR dams, which continue to use RPAs of releases from BR reservoirs.²²³

The RIP is in fact very similar to the Windy Gap process. It permits projects to offset the impacts of their depletions by making a one-time contribution of ten dollars per acre-foot, adjusted for inflation, of a project's average annual depletion.²²⁴ FWS also may recommend other measures as part of a project's RPA in an effort to mitigate project impacts other than depletions, such as obstruction of migration routes.²²⁵ The funds raised through the RIP are used to fund FWS's recovery program, which includes studies, a captive breeding program, and other measures.

The RIP is also ostensibly intended to acquire instream flows via a "Water Acquisition Committee" made up of private water users, federal agencies, and the governments of the affected states.²²⁶ The Flaming Gorge Biological Opinion does not formally incorporate the RIP, but does note: "Ultimately, tributary inflows necessary to satisfy the flow requirements of the endangered fish in the Green River will also need to be legally protected. Protection of tributary flows will be pursued through the [RIP]"²²⁷ To date the RIP has, however, had remarkably little success in obtaining legal

222. Estes, *supra* note 168, at 1063.

223. Memorandum from Regional Solicitor, Rocky Mountain Region, U.S. Dept. of the Interior to Regional Director, U.S. Fish and Wildlife Service, Denver 2 (May 12, 1989) [hereinafter Solicitor's Memo].

224. Wydoski & Hamill, *supra* note 2, at 128. In the 1992 fiscal year, projects were required to pay \$11.50 per acre-foot. U.S. Fish and Wildlife Service, Section 7 Consultations Involving Water Depletions in the Upper Colorado River Drainage After Implementation of Recovery Implementation Program January 1988 (July 1, 1992).

225. Wydoski & Hamill, *supra* note 2, at 128.

226. Flaming Gorge Opinion, *supra* note 6, at 33.

227. Flaming Gorge Opinion, *supra* note 6, at 33.

protection of instream flows, which bolsters the argument made above that the Flaming Gorge RPA is far too uncertain of success to meet the standard of *Sierra Club v. Marsh*.²²⁸ Even the FWS has recognized this fact. A 1989 memorandum from the FWS Regional Solicitor noted that at that time, one and one half years after the RIP began, *no* instream flows for endangered fish had been legally protected under the program.²²⁹ The Solicitor went on to note that there was "significant uncertainty" that legal protection of instream flows which [FWS] determine[d] are biologically needed will be achieved under the Recovery Program in a timely fashion."²³⁰ FWS's own attorney concedes that this "significant uncertainty" runs afoul of the *Marsh* holding that it is "a violation of the ESA for [a] federal agency to wait until it is reasonably certain that the actions described in the reasonable and prudent alternative 'never come to pass' before taking action to be assured of a workable alternative."²³¹

Today, four years after the RIP began, "significant uncertainty" remains as to legal protection of flows. Since 1989 FWS has required large depletion projects to provide a backup measure in addition to the RIP by reserving water to provide flows for endangered fish in case legal protection of instream flows cannot be obtained.²³² In addition to problems acquiring instream flows, FWS has had difficulty implementing other phases of the RIP. In March, 1992, a number of captive razorback suckers were killed when a worker opened the wrong valve at the federal hatchery in Dexter, New Mexico.²³³ Given the holding in *Marsh* that the inability to implement an RPA constitutes new information requiring reconsultation, there seems to be ample evidence that FWS is required to reconsult on projects now relying on the RIP. Completed private projects which were subject to

228. 816 F.2d 1376 (9th Cir. 1987).

229. Solicitor's Memo, *supra* note 223, at 3.

230. *Id.* at 3.

231. *Id.* at 5 (citing *Sierra Club v. Marsh*, 816 F.2d 1376, 1388 (9th Cir. 1987)).

232. *Id.* at 3; Wydoski & Hamill, *supra* note 2, at 128.

233. *Endangered Fish Die at Hatchery*, ROCKY Mtn. NEWS, Apr. 7, 1992, at 8.

section 7 consultation only by virtue of the section 404 permit process may, however, not be candidates for reconsultation as federal involvement in the projects has ceased. These projects would in any event still be subject to section 9's taking prohibitions.

It is crucial to note that while the RIP funds FWS's conservation plan, the RIP itself is *not* a discretionary recovery program but rather is the means by which the projects that have contributed to it avoided section 7(a)(2) jeopardy findings and were permitted to proceed. One federal district court has suggested that FWS need not adhere to its own ESA section 4(f) "recovery plans,"²³⁴ provided it makes findings that the plan "would not reasonably promote conservation of the species."²³⁵ The RIP, however, was relied on in each of the consultations in which it has been used to avoid the ESA's absolute prohibition against federal projects that would jeopardize an endangered species, absent exemption by the "God Committee." As the Regional Solicitor concluded: "[s]ince the Recovery Program is relied on by [FWS] as a reasonable and prudent alternative, section 7 violations could occur if the alternative is not carried out on a timely basis."²³⁶

234. 16 U.S.C. § 1533(f) (1988).

235. *National Wildlife Federation v. National Park Serv.*, 669 F. Supp. 384, 388-89 (D. Wyo. 1987) (interpreting 16 U.S.C. § 1533(f)). The red cockaded woodpecker case, however, rested its holding that the Forest Service had violated sections 7 & 9 largely on the fact that the agency had not followed its own wildlife management handbook. *Sierra Club v. Lyng*, 694 F. Supp. 1260, 1264 (E.D. Tex. 1988), *aff'd in relevant part sub nom.* *Sierra Club v. Yuetter*, 926 F.2d 429 (5th Cir. 1991).

236. Solicitor's Memo, *supra* note 223, at 1 (for an explanatory discussion, see *id.* at 3). There are suggestions in ESA case law that a federal agency is not bound to implement an RPA if it can show that its actions will not result in jeopardy to endangered species under section 7(a)(2). See *Tribal Village of Akutan v. Hodel*, 869 F.2d 1185, 1193 (9th Cir. 1988) (Secretary of Interior did not fully adopt RPA for oil lease sale); *Sierra Club v. Marsh*, 816 F.2d 1376, 1386 (9th Cir. 1987) ("The ESA does not give FWS the power to order other agencies to comply with its requests . . ."). However, BR's settlement of the recent suit in California alleging sections 7 & 9 violations for its failure to comply with an RPA for operation of a dam does suggest that agencies are unwilling to deviate from RPAs. See *Pacific Coast Fed'n of Fishermen's Ass'ns v. Lujan*, CIV-S-92 1492 LKK (E.D. Cal.), discussed *supra* notes 98-100 and accompanying text.

Projects relying on the RIP may also be in violation of ESA section 9.²³⁷ Most of the projects for which the RIP is an RPA are privately owned. Non-federal entities can be permitted to make incidental takes under ESA section 10²³⁸ so long as the take meets the section 7(a)(2) jeopardy standard,²³⁹ but the authorization process is more cumbersome than the section 7(b)(4) permitting process²⁴⁰ for federal entities. Among other requirements, section 10 requires that FWS publish non-federal entities' applications for incidental take permits in the Federal Register and receive public comments.²⁴¹ An extensive search of the Federal Register reveals no applications for incidental take permits of endangered fish in the Colorado River Basin, and no known secondary sources indicate that section 10(a) permits²⁴² have been granted under the RIP. If this is in fact the case, then any take by projects using the RIP as an RPA would constitute a section 9 violation, as is described above in Section III.

V. ESA § 7 Requirements Imposed by the Designation of Critical Habitat for the Razorback Sucker

In October, 1992 the Colorado Federal District Court, in *Colorado Wildlife Federation v. Turner*, ordered FWS to designate critical habitat for the razorback sucker.²⁴³ The order required FWS to publish proposed critical habitat by the end of January, 1993, and then to proceed with a final designation as rapidly as the ESA permits. The decision should have ended a long season of foot-dragging by FWS and brought a great deal of section 7 consultation activity to the basin. The section 7 consultation regulations provide that reinitiation of formal consultation "is *required* and shall be requested by the federal agency or by [FWS]. . . if a new species is listed or critical habitat is designated that may be affected by the

237. 16 U.S.C. § 1538 (1988).

238. 16 U.S.C. § 1539 (1988).

239. See Cheever, *supra* note 73, at 169-70.

240. 16 U.S.C. § 1536(b)(4) (1988).

241. 16 U.S.C. § 1539(c) (1988).

242. 16 U.S.C. § 1539(a) (1988).

243. No. 92-F-884, slip op. at 8 (D. Colo. Oct. 27, 1992).

identified action.”²⁴⁴ The regulations do limit reconsultation to projects in which federal involvement or control remains,²⁴⁵ and so private projects which have already been granted section 404 permits could be exempted. Section 404 permits do, however, often contain reopener provisions that allow permit modification in the event new environmental impacts are discovered. In construing one such permit, the Nebraska Federal District Court held that “[t]he fact that a stretch [of river] that may be affected by the Project was not declared critical habitat until after issuance of the [section 404] permit does not alter the duties of the Corps [of Engineers] as to that habitat.”²⁴⁶

FWS complied with the first part of the district court’s order by issuing a notice of proposed critical habitat, not only for the razorback, but for all four of the endangered river fish, on January 29, 1993.²⁴⁷ The notice proposes to designate as critical habitat a total of 2,094 miles of river in or bordering on six states. However, advocates for the river fishes are not yet satisfied. FWS noted that its proposal was issued without a “Biological Support Document” or an economic analysis, both of which FWS contends it must complete before it can make the designation final. While it is true that the ESA requires the agency to make cost-benefit assessments when determining critical habitat,²⁴⁸ the entire thrust of the district court’s order in *Turner* was that the ESA plainly mandates that FWS designate critical habitat based on the best available data within two years of the initial proposal to list a species, rather than waiting until it is satisfied that it knows all there is to know.²⁴⁹

On September 21, 1993, Chief Judge Sherman Finesilver of the Federal District Court for the District of Colorado ruled from the bench that FWS must publish its final designation

244. 50 C.F.R. §§ 402.16, 402.16(d) (1992) (emphasis added).

245. 50 C.F.R. § 402.16 (1992).

246. *Nebraska v. Rural Electrification Admin.*, [1979] 12 Env’t Rep. Cas. (BNA) 1156, 1172 (D. Neb. Oct. 2, 1978).

247. Proposed Determination of Critical Habitat for the Colorado River Endangered Fishes, 58 Fed. Reg. 6578 (Jan. 29, 1993).

248. 16 U.S.C. § 1533(b)(2) (1988).

249. *Turner*, No. 92-F-884, slip op. at 8-9 (interpreting ESA § 4(b)(6)(C)(ii)).

of critical habitat by March 15, 1994.²⁵⁰ A final written order in this matter has yet to issue and the *Turner* plaintiffs continue to disagree as to what extent FWS must present its economic analysis for public comment before publication.²⁵¹ On November 12, 1993, FWS published a notice in the Federal Register extending the comment period for the proposed critical habitat until January 11, 1994.²⁵² This notice indicates that FWS will accept comments on both its Biological Support Document and its economic analysis, both of which FWS says are now available to the public.²⁵³

FWS's recalcitrance in designating critical habitat for the razorback is typical of its execution of the ESA in the basin — indeed, the first notice of intent to determine critical habitat for the squawfish and the humpback was published in 1975, nearly twenty years ago.²⁵⁴ Now that FWS faces a court-ordered deadline and has published a critical habitat proposal, perhaps the river fish will at last receive this vital component of the ESA's protection. However, FWS now faces a potential legal challenge from another quarter that could work to further delay the designation process. In April, 1993, several Colorado water districts gave notice of their intent to sue to force FWS to file an environmental impact statement relating to the critical habitat designation.²⁵⁵ At least one court has been receptive to just such a challenge.²⁵⁶

The designation of critical habitat for the river fish is a serious matter. As noted above, and as held by the *Turner*

250. Telephone Interview with Lori Potter, Managing Attorney, Sierra Club Legal Defense Fund, Denver, Colo. (Nov. 11, 1993). Ms. Potter was the Plaintiff's attorney in *Colorado Wildlife Fed'n v. Turner*, No. 92-F-884 (D. Colo. Oct. 27, 1992).

251. *Id.*

252. 58 Fed. Reg. 59,979 (1993).

253. *Id.* at 59,980.

254. Proposed Determination of Critical Habitat for the Colorado River Endangered Fishes, 58 Fed. Reg. 6578, 6581 (Jan. 29, 1993).

255. Letter of intent to file citizen suit under the Endangered Species Act for failure to abide by the National Environmental Policy Act, from Janice C. Sheftel, Durango, Colo., to Bruce Babbitt, Secretary of the Interior (April 1, 1993).

256. *Douglas County v. Lujan*, No. 91-6423-HO (D. Or. Dec. 22, 1992).

court,²⁵⁷ the designation of critical habitat provides a species with additional protections not provided by section 7(a)(2)'s jeopardy standard.²⁵⁸ Reconsultation would be required for projects that "may affect" the razorback's critical habitat and could result in protection not provided by current RPAs. Further, critical habitat designation could require reworking the RIP. At present the RIP applies only to the upper basin. The largest razorback population still in existence, however, is in the lower basin, in Lake Mojave.²⁵⁹

Finally, and potentially most importantly, FWS has indicated unofficially that its critical habitat determination for the razorback may include minimum streamflows.²⁶⁰ The proposed designation does not specifically mention minimum flows, but does note that one of the "primary constituent elements" of the fishes' habitat is "water of sufficient quality . . . that is delivered to a specific location in accordance with a hydrologic regime that is required for the particular life stage for each species."²⁶¹ There is precedent for including streamflows in habitat designations: critical habitat for the endangered Concho water snake includes specific minimum flows and continuous daily flows as constituent elements.²⁶² As the RIP's failure to legally protect flows indicates all too well, FWS needs to take affirmative steps to ensure adequate in-stream flows for the river fish. Including minimum flow recommendations in the fishes' critical habitat is logical — merely designating a stretch of river accomplishes nothing by itself — and may well force FWS to think seriously and creatively about ways to give endangered fish in the Colorado Basin the protection the ESA requires. State governments

257. No. 92-F-884, slip op. at 7.

258. 16 U.S.C. § 1536(a)(2) (1988).

259. Flaming Gorge Opinion, *supra* note 6, at 19; Plaintiff's Reply Brief on Motion for Summary Judgment at 5 n.6, Colorado Wildlife Fed'n v. Turner, No. 92-F-884.

260. Interview with Andrew Caputo, Sierra Club Legal Defense Fund, Denver, Colo. (Dec. 14, 1992). Mr. Caputo served as Plaintiff's attorney in Colorado Wildlife Fed'n v. Turner, No. 92-F-884 (D. Colo. Oct. 27, 1992).

261. Proposed Determination of Critical Habitat for the Colorado River Endangered Fishes, 58 Fed. Reg. 6578, 6582 (Jan. 29, 1993).

262. 50 C.F.R. § 17.95(c) (1992) (noted in Estes, *supra* note 168, at 1038).

and water rights holders are likely to protest the inclusion of minimum flows in critical habitat, but FWS should use the opportunity to promote new thinking and workable compromises.²⁶³ Such an approach would, at last, afford endangered fish the protection to which they are entitled by law, and would be a welcome change from the half measures FWS has taken for too long.

VI. Conclusion

Since 1977, FWS has issued well over one hundred jeopardy opinions for water projects in the Colorado River Basin.²⁶⁴ As is allowed by the ESA, these projects have been permitted to proceed under "reasonable and prudent alternatives"²⁶⁵ — reservoir releases, Flaming Gorge Dam reoperation, and the Recovery Implementation Plan. It is all too clear, however, that none of these RPAs is meeting even its own limited goals. FWS has generally sought to avoid the wrath of water appropriators and state governments — and thus to avoid creative, effective solutions — rather than to implement the ESA's mandate that endangered species be accorded the "highest of priorities."²⁶⁶

Fundamental changes in western water law are inevitable over the next decade.²⁶⁷ As water policies are re-thought and re-crafted, we have an unprecedented opportunity to undo at least some of the damage done to the Colorado River Basin's riverine environments. Moreover, we can make protection of endangered species an integral part of our planning rather than a mere afterthought in which we attempt to tweak an essentially environmentally unsound system of

263. 16 U.S.C. § 1531(c)(2) (1988) provides: "It is further declared to be the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." *Id.*

264. Solicitor's Memo, *supra* note 223, at 2.

265. 16 U.S.C. § 1536(b)(3)(A) (1988).

266. *TVA v. Hill*, 437 U.S. 153, 174 (1978).

267. See generally Mary A.M. Gindhart, *Time to Pay for Arizona's Thirst*, THE ARIZONA REPUBLIC, Aug. 2, 1993, Northwest Community at 2 (rewriting the section of the western water law pertaining to the Colorado River is a monumental task, that Betsy Rieke, the newly appointed Asst. Secretary for Water and Science of the Department of the Interior, has made her goal).

water law. The ESA can and should serve as a lever to begin to dislodge entrenched western water interests. It is, more importantly, the law of the land and should no longer be met with halfhearted compliance. The Fish and Wildlife Service and the Bureau of Reclamation have too long dodged their responsibilities to endangered Colorado River Basin fish. The razorback, squawfish, humpback and bonytail are entitled to the full protection of the Endangered Species Act.