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Dams, Water Reforms, and Endangered Species in the Klamath Basin

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In the Klamaths, winters are mild enough and summers moist enough for species to grow together that are elsewhere segregated by elevation or latitude. Several species that once grew throughout the West now survive only in the Klamaths.

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More than any other wild region I've known, the Klamaths have a venerable quality which is not synonymous with "pristine," "unspoiled," or other adjectives commonly applied to natural areas.

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. . . [T]hese adjectives imply something of the smoothness and plumpness of youth, whereas the Klamaths are marked by the wrinkles and leanness of great age. Although their peaks and high plateaus have been marked by glaciers, they are at heart preglacial mountains, with elements of flora and fauna that reach back farther into the past than any place west of the Mississippi River. The Klamaths seem so old, in fact, that I'd call them a grandparent of the Sierra and Cascades instead of a sibling.[1]

The Klamath Basin has long been a forgotten basin. It is geographically isolated, divided by many state and regional boundaries, and always presumed to be in someone else's jurisdiction and thus is someone else's problem. Yet historically it was the third largest producer of salmon in the United States, behind only the Columbia River Basin and the California Central Valley Basin.[2]

The indigenous peoples of the Klamath Basin have always had a salmon-dependent economy, as did European settlers in the region until recent times. Before European development, the Klamath was estimated to have produced between 660,000 and 1.1 million returning adult salmonids annually, with an average of 880,000.[3] Today, however, so much of the salmon-carrying ca-

[1] DAVID RAINS WALLACE, THE KLAMATH KNOT 6-14 (2d ed., Univ. of Cal. Press 2003).

[2] Institute of Fisheries Res., Estimates of Pre-Development Klamath River Salmon Run Size 2 (1998) (unpublished manuscript, on file with author).

[3] *Id.* at 2 tbl.2.

pacity of the Klamath Basin has been destroyed by misplaced development and loss of habitat that adult salmonid returns now average only about 9.7% of historic numbers, including supplemental hatchery fish, with natural spawners at only about 6.9% of historic numbers.[4] Some stocks, such as coho salmon and spring-run Chinook, are down to less than 2% of their historic abundance.[5] Harvest of all Klamath-origin salmonid stocks[6] now has to be carefully constrained to avoid impacts on these very weak stocks, at great economic cost.[7]

Salmonid production in the Klamath Basin has also been heavily impacted by almost every conceivable habitat problem, from massive clearcut logging in the past, to pollution from mining operations past and present, widespread water diversions in the upper Basin and many of its tributaries, and dams built since 1917 with no fish passage that also create huge water quality problems.[8] These combined impacts currently threaten to drive wild salmonids in the Basin to extinction. Some salmonid species, such as chum salmon, were once common to the Basin but are now presumed extinct. Other once-common fish species, such as green sturgeon, are also seriously depressed for similar reasons.[9] Literally dozens of agencies have partial jurisdiction over the Klamath, but none have any real control over all the factors leading to its ecological decline.

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[4] OFFICE OF ENERGY PROJECTS, FED. ENERGY REGULATORY COMM'N, PUBL'N NO. FERC/EIS-0201D, DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR HYDROPOWER LICENSE, KLAMATH HYDROELECTRIC PROJECT FERC PROJECT NO. 2082-027, at 3-179 tbl.3-47 (2006) [hereinafter KLAMATH HYDROELECTRIC PROJECT DEIS], *available at* http://elibrary-backup.ferc.gov/idmws/File_list.asp?document_id=4441449.

[5] *See* NW. FISHERIES SCI. CTR. & SW. FISHERIES SCI. CTR., U.S. DEP'T OF COMMERCE, PUBL'N NO. NMFS-NWFSC-66, UPDATED STATUS OF FEDERALLY LISTED ESUs OF WEST COAST SALMON AND STEELHEAD 340 tbl.72 (Thomas P. Good et al. eds., 2005), *available at* http://www.nwr.noaa.gov/Publications/Biological-Status-Reviews/upload/SR2005-allspecies.pdf.

[6] The various distinct salmonid species referred to—Chinook, coho, chum, and steelhead—all members of the genus *Oncorhynchus*, are loosely called salmon but are also collectively referred to as salmonids throughout this Article.

[7] *See infra* Part II.

[8] *See infra* Part I.C.3.

[9] *See* Threatened Status for the Southern DPS of North American Green Sturgeon, 71 Fed. Reg. 17,757 (Apr. 7, 2006) (to be codified at 50 C.F.R. pt. 223).

I

THE IMPACT OF THE ENDANGERED SPECIES ACT ON WATER LAW IN THE KLAMATH BASIN

In the arid Klamath Basin, where water is the limiting factor for so many species as well as for most human development, water conflicts are nothing new. However, the recent overlay of federal Endangered Species Act (ESA) water requirements atop often-conflicting state water laws creates new sources of friction.

Widespread water over-appropriation and short-sighted water mismanagement has been the rule rather than the exception in the Klamath Basin. In fact, the Basin is a prototype of everything gone wrong with western water law and policy. Today, however, it is also a laboratory for potential solutions.

Major water reforms are needed in the Basin, where limited water resources have long been over-appropriated, and getting more so every year.[10] A major symptom of this widespread water over-appropriation has been the emergence of federal listings under the ESA for species of both resident and anadromous fish. These ESA listings are now driving much-needed, but long-delayed, water reforms. As a result, in recent years the Klamath Basin has become the congressional poster child for everything that is wrong or right, depending on one's political point of view, with both the ESA itself and with western water law and policy generally.

This Article is an overview of some of the major water conflicts in the Klamath Basin, how these conflicts are being shaped by the ESA, and how these important policy issues and conflicts are being dealt with by the federal court system, the George W. Bush administration, and Congress. It is hoped that the lessons to be learned from the Klamath Basin can help foster similar reforms elsewhere.

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[10] Editorial, *Willing Sellers*, OREGONIAN (Portland), Aug. 12, 2001, at F4. Both ESA-listed species and tribal water rights are legally prior to state-issued water rights for irrigation. *See* Klamath Water Users Ass'n v. Patterson, 204 F.3d 1206, 1213 (9th Cir. 1996). Yet neither the water needs of ESA-listed species nor tribal water rights are set aside or deducted from the "available water" for purposes of reviewing water permit applications for irrigation in Oregon or California, both of which obtain water from the Basin. Thus, under obsolete state water rights laws that do not take fish and wildlife needs or tribal treaty rights into account, already-serious water shortfalls are still being constantly exacerbated.

A. "Water, water, every where, Nor any drop to drink"[11]

There is no question that most West Coast salmonids are in an extinction crisis. Salmonid streams in the Northwest and northern California have lost about 80% of their productive capacity as a direct result of various well-known causes of watershed destruction, including over-diversion of river water.[12] This represents an annual loss of many billions of fishing-dependent dollars and tens of thousands of jobs from the West Coast salmon economy as well as the loss of a primary West Coast food source and export.[13]

According to a landmark 1991 comprehensive scientific status assessment by the American Fisheries Society, at least 106 major populations of salmon and steelhead on the West Coast are already extinct, and an estimated 214 additional salmon runs are now at varying degrees of risk of extinction in the near future: 101 at high-risk of extinction, 58 at moderate-risk of extinction, and another 55 of special concern.[14]

In response to the American Fisheries Society and numerous citizen petitions for protection, many of the most depressed salmonid populations are now federally listed under the ESA, and thus protected against many federal actions that might deplete their numbers or destroy their habitat. At present there are 26 separate and evolutionarily distinct stocks of salmonids in California, Oregon, and Washington protected under the ESA.[15]

In the vast majority of these declines, and in most every salmonid ESA listing, sheer lack of water has been identified as a

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[11] SAMUEL TAYLOR COLERIDGE, THE RIME OF THE ANCIENT MARINER 35 (Paul H. Fry ed., Bedford/St. Martin's 1999) (1817).

[12] OR. BUSINESS COUNCIL, A NEW VISION FOR PACIFIC SALMON 1 (1996), *available at* http://orbusinesscouncil.org/docs/newvision.pdf; Willa Nehlsen et al., *Pacific Salmon at the Crossroads: Stocks at Risk from California, Oregon, Idaho, and Washington*, FISHERIES, Mar./Apr. 1991, at 4.

[13] Salmon losses in the Columbia River alone have an economic impact estimated at $500 million annually, resulting in the loss of more than 25,000 family-wage jobs. 1 INST. FOR FISHERIES RES., THE COST OF DOING NOTHING: THE ECONOMIC BURDEN OF SALMON DECLINES IN THE COLUMBIA RIVER BASIN 2 (1996).

[14] Nehlsen, *supra* note 12, at 11 tbl.1, 16. **R**

[15] For a current compilation of West Coast salmonid ESA listings, see Northwest Regional Office, Endangered Species Status of West Coast Salmon & Steelhead, http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/upload/1pgr06-06.pdf (last visited May 4, 2007).

major contributing factor.[16] The water resources of the majority of West Coast basins are now over-appropriated during some part of each year.[17] In other words, there are now more legal water withdrawals allowed from most West Coast river systems than there is water available without seriously jeopardizing fish and wildlife.

To underscore this point, a recent survey of salmon problems commissioned by the legislatures of California and Oregon concluded that, "Diversion of water is potentially one of the most serious factors adversely affecting salmon in western Oregon and northern California."[18] Thus the fate of West Coast salmonids is inextricably linked to rapidly diminishing in-river flows throughout the arid West. Recovery of many of those species is going to be difficult, if not impossible, without major water reforms in over-appropriated rivers such as the Klamath.

B. The ESA in Operation in the Klamath

There have been several efforts to bring special ESA protections to the Klamath Basin to prevent further fish extinctions. Coho salmon, once a very important anadromous species in the Basin, is now listed as threatened with extinction under both the federal ESA and the California Endangered Species Act.[19] Two

[16] *See, e.g.*, Threatened Status for Central California Coho Salmon Evolutionary Significant Unit, 61 Fed. Reg. 56,138, 56,141 (Oct. 31, 1996) (identifying "dewatering" of river habitat as a factor in the decline of coho salmon).

[17] Holly Doremus, *Water, Population Growth, and Endangered Species in the West*, 72 U. COL. L. REV. 361, 377 (2001); *see also* 1 E. GEORGE ROBISON, OR. WATER RES. DEP'T, WATER AVAILABILITY FOR OREGON'S RIVERS AND STREAMS 13 tbl.2 (1991) (summary of water availability in Oregon showing that of 169 statewide sites, 110, or 65%, had water availability shortfalls at least one month out of the year). More recent maps of water availability in Oregon developed by WaterWatch of Oregon show even greater over-appropriation.

[18] 8 DANIEL BOTKIN ET AL., STATUS AND FUTURE OF SALMON OF WATERN OREGON AND NOTHERN CALIFORNIA: FINDINGS AND OPTIONS 101 (1995).

[19] *See* Endangered and Threatened Listing for 16 ESUs of West Coast Salmon, 70 Fed. Reg. 37,160 (June 28, 2005) (to be codified at 50 C.F.R. pts. 223, 224); CAL. DEP'T OF FISH & GAME, THE STATUS OF RARE, THREATENED, AND ENDANGERED PLANTS AND ANIMALS OF CALIFORNIA 2000-2004, at 68-71 (2005), *available at* http://www.dfg.ca.gov/hcpb/species/t_e_spp/Final%20Reportpaginated.pdf. Several distinct populations of northern California coho salmon, including those in the Klamath, were also separately listed under the California Endangered Species Act on March 30, 2005, by the California Fish and Game Commission. 10-Z Cal. Regulatory Notice Reg. 327 (Feb. 28, 2005) (codified at CAL. CODE REGS. tit. 14, § 670.5(b)(2)(E) (2006)). Chum salmon, once common and closely related to coho, are now extinct in the Klamath Basin. ORTLAY W. JOHNSON ET AL., NW. FISHERIES SCI. CTR., U.S. Dep't of Commerce, PUBL'N NO. NMFS/NWFSC-32, STATUS RE-

other resident fish-species dependent on upper-Basin aquatic habitats and culturally and economically important to the Klamath Tribes—the Lost River sucker, known to the Klamath Tribes as the "c'waam," and the shortnose sucker, the "qapdo"—have been ESA-listed since 1988.[20]

Once a species qualifies for ESA listing, fish and wildlife agencies have three major tools to prevent the extinction—take prohibitions, consultation requirements and protection of critical habitat. All three are in operation in the Klamath Basin.

1. Section 9 Take Prohibitions

Section 9 of the ESA, the legal prohibition against "take" of an ESA-listed species, represents the real teeth of the Act.[21] What constitutes a prohibited take is defined broadly, and includes actions "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[22] "Harm" is also broadly defined in the ESA, and means "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."[23]

The Supreme Court has ruled that significant modification or degradation of protected species' habitat is appropriately included in the definition of harm, and that Congress intended this provision be interpreted broadly.[24]

The first salmonid water-related action that was barred by the courts as an illegal take under the ESA was the sucking of Sacra-

VIEW OF CHUM SALMON FROM WASHINGTON, OREGON, AND CALIFORNIA 164 (1997), *available at* http://www.nwr.noaa.gov/Publications/Biological-Status-Reviews/upload/SR1997-chum.pdf.

[20] Determination of Endangered Status for the Shortnose Sucker and Lost River Sucker, 53 Fed. Reg. 27,130 (July 18, 1988) (codified at 50 C.F.R. pt. 17). Originally called mullet, the term "suckers" has been used in recent years and is now the accepted taxonomical term. An abundant recreational and commercial sucker fishery as well as an important subsistence fishery for the Klamath Tribes once existed in Upper Klamath Lake. Today there are no harvests, and the Klamath Tribes are allowed only one fish per year for ceremonial purposes. Laurence M. Cruz, *Drought, Government Policies Bring Klamath Area to Crisis*, STATESMAN J. (Salem, Or.), Sept. 24, 2001, at 1C.

[21] Endangered Species Act, 16 U.S.C. § 1538 (2006).

[22] *Id.* § 1532(19).

[23] 50 C.F.R. § 17.3 (2006).

[24] Babbitt v. Sweet Home Chapter of Comtys. for a Great Oregon, 515 U.S. 687, 699-701 (1995).

mento River winter-run Chinook into massive pumps for irrigation water diversions.[25] Most early salmonid ESA-take cases were of this type, where physical entrainment led directly to observed mortality. In *Glenn-Colusa Irrigation District*, the remedy was an injunction preventing pumping through an unscreened water diversion at times when ESA-listed winter-run Chinook might be affected, followed by a diversion-point fish screen.[26]

More recently though, a number of Biological Opinions (Bi-Ops) issued under the section 7 consultation provisions of the ESA, particularly in the Klamath, have ruled that reducing water flows too far can also create jeopardy for salmonids.[27] The definition of jeopardy is thus now much broader and more biologically based than just finding dead fish. Both the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries)[28] have defined jeopardy to include actions "that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[29]

The clearest instance in which a court upheld water diversions alone as constituting a prohibited take is a Klamath Basin case challenging the legitimacy of ESA-required irrigation reductions for irrigation water users of the federal Bureau of Reclamation's Klamath Irrigation Project (Project) during the near-record 2001 drought.[30] Because of a court order, the Bureau of Reclamation

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[25] United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. 1126, 1135 (E.D. Cal. 1992).

[26] *Id.* These winter-run Chinook were the first salmonid stock to be listed under the ESA. Following an emergency listing, they were permanently listed in 1990. At the time they were listed, their numbers were down to 189 individuals, reduced from prior populations in the several hundreds of thousands. Endangered Status for the Sacramento River Winter-Run Chinook, 55 Fed. Reg. 46,515 (Nov. 5, 1990).

[27] *See, e.g.*, NAT'L MARINE FISHERIES SERV., BIOLOGICAL OPINION: KLAMATH PROJECT OPERATION 49 (2002) [hereinafter 2002 KLAMATH PROJECT BIOP], *available at* http://www.usbr.gov/mp/mp150/envdocs/kbao/KpopBO2002finalMay31.pdf.

[28] National Marine Fisheries Service (NMFS) is an agency of the National Ocean and Atmospheric Administration (NOAA). NMFS has now changed its name to NOAA Fisheries. *See* Nat'l Marine Fisheries Serv. v. Nat'l Wildlife Fed'n, 254 F. Supp. 2d 1196, 1199 n.2 (D. Or. 2003). For ease, this Article adopts the name change and refers to the agency as NOAA Fisheries throughout, even for reference to historical agency actions that occurred before the change.

[29] *See* 50 C.F.R. § 402.02 (2006).

[30] That year's drought was the worst in 72 years in the already arid upper Klamath Basin. In the average year, there is approximately only thirteen inches of rainfall per year at Klamath Falls, Or. AGRIC. EXPERIMENTAL STATION, OR. STATE UNIV.,

was required to consult with the Services[31] under section 7 of the ESA on its 2001 water plan, and in light of the severe drought conditions, the Bureau's initial irrigation plan, which proposed more-or-less normal year irrigation allotments, was rejected.[32] The Services then required the Bureau to make a number of changes in its 2001 Project water plan, including sharply reducing Project water deliveries to keep more water in-river for threatened coho salmon and in Upper Klamath Lake for resident sucker fish.

The Project-dependent irrigators sued to overturn those 2001 BiOps in *Kandra v. United States*, asserting, among other arguments, that ESA-driven water restrictions on the Project were so egregious that they were inconsistent with the primary mission of the Project and thus illegal.[33] The court rejected all these arguments, and ruled that the water-scarcity mitigation measures

RESEARCH IN THE KLAMATH BASIN, 2002 REPORT 1 (2002) *available at* http://oregonstate.edu/dept/kes/report02.htm. Rainfall at Klamath Falls for 2001 was only 10.03 inches. *Id.* at 4 tbl.1. However, much of that rainfall came too late in the irrigation year for most crop uses. Hydrological data for the Upper Klamath Basin (Hydrological Unit 18010206) can be obtained from the U.S. Geological Survey's National Water Information System (NWIS), http://waterdata.usgs.gov/or/nwis/nwis (last visited May 6, 2007).

[31] The USFWS and the NOAA Fisheries both administer the ESA, the former for terrestrial and inland species, the latter for anadromous salmonids. Collectively the ESA refers to them as "the Services," and for consistency the same nomenclature is used herein.

[32] During 2000, ignoring its ESA obligations, the Bureau of Reclamation had simply refused to consult under section 7 on the impacts of its Klamath Project's 2000 Annual Operations Plan, resulting in a lawsuit. On April 3, 2001, the Bureau was ordered to consult with the Services on its 2001 Annual Operations Plan, and also enjoined the Bureau from any further water deliveries to its contract irrigators until it did so. Pac. Coast Fed'n of Fishermen's Ass'ns. v. U.S. Bureau of Reclamation, 138 F. Supp. 2d 1228, 1250 (N.D. Cal. 2001). That consultation was speedily completed and two 2001 BiOps were issued a few days later which, for the first time, were based on flow needs for lower river coho salmon developed in the Hardy Flow Study and on minimum lake level needs for endangered suckers. Both BiOps rejected the initial "irrigation as usual" water plan proposed by the Bureau of Reclamation as presenting too high a risk of extinction. Pac. Coast Fed'n of Fishermen's Ass'ns. v. U.S. Bureau of Reclamation, No. C02-02006-SBA, 2003 U.S. Dist. LEXIS 13745, at *13-*14 (N.D. Cal. July 14, 2003), *rev'd on other grounds*, 426 F.3d 1082 (9th Cir. 2005). The rejection effectively shifted priorities for water allocation in the upper Basin to prevention of fish extinctions and away from maximizing fulfillment of irrigation demands for the first time in the ninety years of the Project's existence.

[33] Kandra v. United States, 145 F. Supp. 2d 1192, 1207 (D. Or. 2001).

which protected ESA-listed fish could be required of the Bureau and were consistent with the ESA.[34]

The Services also have been experimenting with "4(d) Rules" under 16 U.S.C § 1533(d) to specify what, specifically, "take" is not.[35] This rather open-ended section allows the adoption of protective regulations to provide for the conservation of the species. These 4(d) Rules are now used by NOAA Fisheries to promote certain types of restoration efforts as safe-harbor incentives to states and landowners to make these efforts by relieving them in advance of ESA take liability, and a number of such take limitations or exemptions have now been adopted.[36]

2. Section 7 Consultations

Section 7 of the ESA is another important tool, which requires all federal agencies to ensure that actions they carry out, fund, or authorize are not likely to jeopardize the continued existence of any listed species or adversely modify its designated critical habitat.[37] However, unlike section 9, section 7 consultation obligations only apply to federal "agency actions."[38]

Under section 7, a federal agency proposing a project must formally consult with the relevant wildlife trustee agency and re-

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[34] *Id.* at 1211. Many myths about the actual seriousness of the 2001 Project water curtailments and resulting economic losses still persist in the upper Basin. Ultimately, however, thanks to timely summer rains supplemented by groundwater, the Project still received about 67% of a normal year's allocation. Many Project farmers not directly connected to Upper Klamath Lake received full water allocations for that year from Gerber Reservoir and Clear Lake, where irrigation flows were unaffected. Crop losses were estimated at approximately $30 million, most of which was compensated by the state and federal governments. *See* William K. Jaeger, *What Really Happened in 2001?*, *in* WATER ALLOCATION IN THE KLAMATH RECLAMATION PROJECT, 2001, at 265, 275-76 (William S. Braunworth, Jr. et al. eds., 2002), *available at* http://extension.oregonstate.edu/catalog/html/sr/sr1037/report.pdf.

[35] A "4(d) Rule" is a rule adopted pursuant to section 4(d) of the Act to provide for "safe-harbor" mitigation measures that would avoid jeopardy. *See* Endangered Species Act of 1973 § 4(d), 16 U.S.C. § 1533(d) (2006). A full discussion of this provision is outside the scope of this Article.

[36] *See, e.g.*, Final Rule Governing Take of 14 Threatened Salmon and Steelhead Evolutionary Units, 65 Fed. Reg. 42,422 (July 10, 2000) (4(d) Rule provisions). However, the process of giving out free passes under the ESA can potentially be abused. Inevitably, NOAA Fisheries would be subjected to intense political pressure by the states to sign off on 4(d) Rules for state forestry, agricultural, and other land- and water-use practices, even when those practices clearly harm rather than help listed salmonids.

[37] 16 U.S.C. § 1536(a)(2).

[38] Federal "agency action" is broadly defined as "any action authorized, funded, or carried out by" a federal agency. *Id.*

ceive a formal written BiOp as to whether the project as proposed would cause jeopardy.[39] If jeopardy is found, the Service must then propose "recommended and prudent alternatives" (RPAs) that can be undertaken to avoid that jeopardy.[40] Compliance with the RPAs largely shields the action agency from ESA liability.[41] Noncompliance can be challenged in third-party citizen-suit actions, with injunctive relief as a potential remedy.[42]

However, the range and scope of RPAs are limited to actions

> that can be implemented in a manner consistent with the intended purpose of the action, that can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction, that [are] economically and technologically feasible, and that the Director believes would avoid the likelihood of jeopardizing the continued existence of listed species or resulting in the destruction or adverse modification of critical habitat.[43]

In reality, what is consistent with the intended purpose of the proposed action and what may be feasible often become intensive bargaining issues between federal agencies, a negotiating process subject to political interference and abuse.

Much of the current litigation regarding RPAs is about certainty. Courts are hesitant to allow an agency to rely on future or planned actions, or the voluntary actions of others—all of which are inherently uncertain—as a tradeoff for the certainty of extinction if those measures do not work as hoped.[44]

National Wildlife Federation v. National Marine Fisheries Services invalidated the Columbia River Salmon Recovery BiOp because it relied heavily on speculative future actions and measures

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[39] *Id.* § 1536(a)-(b).

[40] *Id.* § 1536(b)(3)(A).

[41] It is true that the agency "may not rely solely on a . . . biological opinion to establish conclusively its compliance with its substantive obligations under section 7(a)(2). . . . [I]ts decision to rely on a . . . biological opinion must not have been arbitrary or capricious." Pyramid Lake Paiute Tribe of Indians v. U.S. Dep't of the Navy, 898 F.2d 1410, 1415 (9th Cir. 1990) (emphasis omitted). Still, "courts have accorded substantial weight to a sound biological opinion in determining an agency's compliance with [section] 7(a)(2)." Romero-Barcelo v. Brown, 643 F.2d 835, 857 (1st Cir. 1981), *rev'd sub. nom. on other grounds*, Weinberger v. Romero-Barcelo, 456 U.S. 305 (1982).

[42] 16 U.S.C. § 1540(g)(1).

[43] 50 C.F.R. § 402.02 (2006).

[44] *See, e.g.*, Or. Natural Res. Council v. Daley, 6 F. Supp. 2d 1139 (D. Or. 1998) (invalidating a NOAA Fisheries decision, in lieu of listing the Oregon Coast coho ESU, to rely on a largely voluntary and untested state recovery effort to protect the species).

by non-federal entities over which there was no federal control.[45] In *Pacific Coast Federation of Fishermen's Associations v. U.S. Bureau of Reclamation*, the court partially invalidated the 2002–12 10-year NOAA Fisheries BiOp on Lower Klamath River flow regimes for ESA-listed coho salmon because it relied on speculative future, and largely voluntary, actions of entities outside of federal control for more than 43% of the water required to prevent jeopardy.[46] Because RPAs are all too often more the result of political compromises rather than based on biology, more litigation can be expected in this area.

The consultation process in section 7 of the ESA directly affects any relicensing of the Klamath Hydroelectric Project. Since Federal Energy Regulatory Commission (FERC) dam relicensing constitutes a federal action, FERC must eventually consult with the Services to ascertain the impact of any proposed relicensing of the Klamath dams.[47] This is especially important regarding impacts to lower-river coho, which have been negatively impacted by Iron Gate Dam and its warm-water reservoir in a wide variety of ways. These impacts include elevated temperatures, deprivation of the river of important spawning and rearing gravel, and the promotion of poor in-river environmental conditions that encourage a wide variety of fish pathogens directly responsible for many coho and other salmonid losses in the lower river.[48]

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[45] Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv., 254 F. Supp. 2d 1196, 1214 (D. Or. 2003).

[46] Pac. Coast Fed'n of Fishermen's Ass'ns. v. U.S. Bureau of Reclamation, No. C02-02006-SBA, 2003 U.S. Dist. LEXIS 13745, at *50 (N.D. Cal. July 14, 2003), *rev'd on other grounds*, 426 F.3d 1082 (9th Cir. 2005).

[47] It is less clear, however, that the typically automatic one-year extension by FERC of any existing license pending a relicensing decision requires ESA section 7 consultation. FERC takes the position that the extensions are purely administrative, rather than formal federal decisional actions. The ESA, however, makes no such clear distinction. The Hoopa Valley Tribe of California has formally demanded such a section 7 consultation in an effort to secure interim license extension protection measures for ESA-listed coho pending the final outcome of those Klamath FERC proceedings, which could take years. Letter from Thomas P. Schlosser, Attorney, Morisset, Schlosser, Jozwiak & McGaw to Magalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n 1 (Jan. 31, 2007), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11241422.

[48] Glen Spain & Zeke Grader, *Taking Down Klamath Dams—Restoring Fisheries*, FISHERMEN'S NEWS, Nov. 2006, *available at* http://www.pcffa.org/fn-nov06.htm.

3. State Recovery Actions and the PECE Policy

When the mitigation actions are based upon a state recovery plan or state enforcement, then future follow-through becomes more problematical. The ESA, in section 4(b)(1)(A), directs the relevant Secretary to make a determination as to whether a species is threatened or endangered after conducting a status review based on the best scientific and commercial data, and after taking into account efforts by the state and foreign governments to protect a species either by predator control, protection of habitat and food supply, or "other conservation practices."[49]

The application of this provision to West Coast salmon listings is interesting. In early 1997, the State of Oregon tried to cut a special deal with NOAA Fisheries to not list the seriously depressed Oregon Coast coho population, based entirely on the then-recently adopted state Oregon Coastal Salmon Restoration Initiative, renamed the Oregon Plan for Salmon and Watersheds but commonly referred to as the Oregon Plan. The Oregon Plan, adopted in early 1997, is a laudable but ambitious statewide salmon and steelhead habitat-restoration plan that relies heavily on proposed *future* voluntary actions of landowners and proposed *future* agency actions to restore damaged salmon and steelhead habitat, but which proposed no changes in Oregon's existing (and relatively weak) environmental and land-use laws.[50] With the Oregon Plan in place, NOAA Fisheries and the State of Oregon entered into a Memorandum of Agreement for the implementation of the Oregon Plan as an alternative to an ESA listing for Oregon Coast coho. However, among other provisions, that Memorandum of Agreement provided for termination by either party upon thirty days' notice.[51] On that basis, NOAA Fisheries then determined that the Oregon Coast coho population, while seriously depressed, "[did] not warrant listing as a

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[49] 16 U.S.C. § 1533(b)(1)(A) (2006).

[50] *See* Oregon Plan for Salmon and Watersheds, About the Oregon Plan, http://www.oregon.gov/OPSW/about_us.shtml#What_is_the_Oregon_Plan_for_Salmon_and_Watersheds (last visited May 4, 2007). Another weakness of the Oregon Plan is that weak state environmental protections still allow continued losses of riparian habitat, working directly against voluntary Oregon Plan restoration efforts, often within the same watersheds. Still another is that it does not apply to federal lands, which comprise about one-third of all coho habitat in the State of Oregon. THE WILDERNESS SOC'Y, PACIFIC SALMON AND FEDERAL LANDS 55 fig. 17 (1993).

[51] Memorandum of Agreement between the State of Oregon and the National Marine Fisheries Service 9 (Apr. 28, 1997) (on file with author).

threatened or endangered species" in light of the pre-existing state-based restoration plan—the Oregon Plan—that would accomplish the same goals.[52]

Many salmon conservation groups, though strong supporters of the Oregon Plan in principle, were dissatisfied with this result because they believed an ESA "safety net" was necessary to protect salmon habitat in case the Oregon Plan failed to deliver needed restoration. Also, without an ESA listing, adverse impacts from logging, grazing, and other impactive land-use practices could not be controlled either on federal or private lands. Thus the Oregon Natural Resources Council (now renamed Oregon Wild) and many other organizations, including the Pacific Coast Federation of Fishermen's Associations (PCFFA), sued to overturn NOAA Fisheries' non-listing decision. In *Oregon Natural Resources Council v. Daley*, the court noted:

> It is incongruous for the NMFS to defer listing a species as "threatened" because the agency is hoping for a significant alteration in the conditions or practices presently threatening the long-term viability of the species. . . . At most, the [Oregon Plan] may prevent the Oregon Coast ESU from actually reaching the "endangered" level and may ultimately allow the NMFS to delist the species once recovery efforts are far enough along.[53]

The court also took particular exception to using a voluntary state-restoration initiative in lieu of far more lasting protections under the ESA because the Memorandum of Agreement for implementation was terminable at will by either party on 30 days' notice.[54]

The court in *Oregon Natural Resources Council* also ruled that the agency cannot rely on either speculative, future or unenforceable (i.e., strictly voluntary) efforts of this sort, either regulatory or non-regulatory, to deny a listing, because the complete lack of enforcement mechanisms precludes any real assurances for the

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[52] Threatened Status for Southern Oregon/Northern California Coho, 62 Fed. Reg. 24,588, 24,607-08 (May 6, 1997).

[53] Or. Natural Res. Council v. Daley, 6 F. Supp. 2d 1139, 1152 (D. Or. 1998).

[54] *Id.* at 1158-59. Shortly after the court reversed NOAA Fisheries' non-listing decision, Oregon Governor John Kitzhaber cancelled the agreement with NOAA Fisheries, just as the court had feared. The cancellation was, however, followed by an effort to shore up the Oregon Plan. The Governor later made the Oregon Plan binding on state agencies. Or. Exec. Order No. EO-99-01 (Jan. 8, 1999), *reprinted in* 38 OR. BULL., Feb. 1, 1999, at 4. The debate over whether to list or delist the Oregon Coast coho population continues.

protection of the species.[55] As a result, the Oregon Coast coho was listed on August 10, 1998.[56] Its subsequent delisting is currently being challenged.

In response to this ruling, and at the specific urging of Oregon Governor John Kitzhaber, who feared that the *Oregon Natural Resources Council* ruling and subsequent ESA-listing might undercut voluntary habitat-restoration efforts generally, NOAA Fisheries reviewed its policy on how to treat state-based recovery efforts for purposes of future listing decisions. Thus, in March 2003, NOAA Fisheries and USFWS announced the final joint policy, dubbed the Policy on Evaluating Conservation Efforts (PECE), to "establish a set of consistent standards for evaluating certain formalized conservation efforts at the time of a listing decision and to ensure with a high level of certainty that formalized conservation efforts will be implemented and effective."[57] PECE also explored under what circumstances the Services could rely on state conservation efforts in making a decision to *not* list an otherwise eligible species, or to list a species as threatened instead of endangered.[58]

This new PECE policy, though untested, has potentially far-reaching consequences. For instance, it will likely be the basis for Oregon's future efforts to avoid relisting Oregon Coast coho (and to delist other stocks) in deference to the Oregon Plan, as well as other Bush administration efforts to delegate future ESA salmonid-recovery programs to the states. Washington and California are also both working on state salmonid recovery plans of their own, which could be brought under the PECE exemptions

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[55] *Or. Natural Res. Council*, 6 F. Supp. 2d at 1155.

[56] Threatened Status for the Oregon Coast Coho Salmon, 63 Fed. Reg. 42,587 (Aug. 10, 1998). The Oregon Coast coho was much later judicially delisted as a result of *Alsea Valley Alliance*, an unrelated case involving the treatment of hatchery fish under the ESA. Alsea Valley Alliance v. Evans, 161 F. Supp. 2d 1154 (D. Or. 2001), *appeal dismissed for lack of jurisdiction*, 358 F.3d 1181 (9th Cir. 2004). Withdrawal of Proposals to List Oregon Coast Coho, 71 Fed. Reg. 3033, 3033-34 (Jan. 19, 2006). A pending case, challenges NOAA Fisheries' decision to not relist that stock and seeks relisting. Complaint at 2, Trout Unlimited v. Lohn, No. 06-01493-ST (D. Or. June 26, 2006). The judicial delisting of Oregon Coast coho has been much criticized. *See, e.g.*, Brian J. Perron, *Just Another Goldfish Down the Toilet? The Fate of Pacific Salmon After* Alsea Valley *and the De Facto Recission of the 4(d) Rule*, 33 ENVTL. L. 547, 582 (2003).

[57] Policy for Evaluation of Conservation Efforts When Making Listing Decisions, 68 Fed. Reg. 15,100, 15,106 (Mar. 28, 2003).

[58] *Id.* at 15,110-15.

to void some existing or warranted future salmonid listings.[59] However, all these state recovery plans are flawed in various ways, including doing little to curtail major sources of habitat loss from destructive industrial logging practices currently legal under weak state forestry laws.[60]

4. Critical Habitat Designations

The ESA's third powerful tool is the designation of critical habitat, required either with the listing decision or, if "not then determinable," within one year thereafter "to the maximum extent prudent."[61] Conservation of critical habitat has always been one of the Act's primary purposes.[62] However, critical habitat has still only been designated for a minority of the total species currently listed, and failure to designate critical habitat is also a frequent source of ESA litigation.[63]

Biologically, protecting species requires protecting their habitat. Two recent studies have shown that ESA-listed species with designated critical habitats are far more likely to recover than species without.[64] Measures to avoid "adverse modification

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[59] *See* WASH. REV. CODE. ANN. § 77.85.005-.230 (West 2007); *see also supra* note 19 and accompanying text. **R**

[60] Forestry practices in all three states have been assessed independently by scientists and found to be insufficient to prevent further salmonid extinctions. *See* INDEP. MULTIDISCIPLINARY SCI. TEAM, TECHNICAL REPORT 1999-1, RECOVERY OF WILD SALMONIDS IN WESTERN OREGON FORESTS: OREGON FOREST PRACTICES ACT RULES AND MEASURES IN THE OREGON PLAN FOR SALMON AND WATERSHEDS 39-40 (1999), *available at* http://www.fsl.orst.edu/imst/reports/1999-1.pdf; FRANK LIGON ET AL., REPORT OF THE SCIENTIFIC REVIEW PANEL ON CALIFORNIA FOREST PRACTICE RULES AND SALMONID HABITAT 15 (1999), *available at* http://resources.ca.gov/SRP_Rept.pdf; Am. Fisheries Soc'y & Soc'y for Ecological Restoration, Review of the 29 April 1999 "Forests and Fish Report" and of Associated "Draft Emergency Forest Practice Rules" 2 (2000) (on file with author).

[61] 16 U.S.C. § 1533(b)(6)(C)(ii) (2006).

[62] *See id.* §§ 1531(b), 1532(3), 1536(a)(2).

[63] *See* Ctr. for Biological Diversity v. Norton, 304 F. Supp. 2d 1174, 1181 (D. Ariz. 2003); Press Release, U.S. Dep't of the Interior, Endangered Species Act "Broken"—Flood of Litigation over Critical Habitat Hinders Species Conservation (May 28, 2003), *available at* http://www.fws.gov/endangered/criticalhabitat/ch_pressrelease.pdf.

[64] *See* U.S. GEN. ACCOUNTING OFFICE, PUBL'N NO. GAO-03-803, ENDANGERED SPECIES: FISH AND WILDLIFE SERVICE USES BEST AVAILABLE SCIENCE TO MAKE LISTING DECISIONS, BUT ADDITIONAL GUIDANCE NEEDED FOR CRITICAL HABITAT DESIGNATIONS (2003), *available at* http://www.gao.gov/new.items/d03803.pdf; Martin F.J. Taylor et al., *The Effectiveness of the Endangered Species Act: A Quantitative Analysis*, 55 BIOSCIENCE 360, 362, 363 fig.3 (2005).

of critical habitat" are also frequently included in the RPAs recommended in BiOps.[65]

However, the past two presidential administrations have considered initial habitat designations to be duplicative with recovery plans,[66] and Congress has systematically slowed the designation process through inadequate funding.[67] The current Bush administration also has significantly downsized existing critical-habitat designations, including nineteen for West Coast salmonids, in friendly settlements of industry-brought lawsuits.[68] The Bush administration also has greatly curtailed the ESA listing process itself, with the fewest species listed of any President.[69]

The Bush administration also has favored bills in Congress that would eliminate the mandatory initial critical-habitat designation process entirely and instead make it part of the recovery plan.[70]

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[65] *See* 5 C.F.R. § 402.02 (2006).

[66] Ctr. for Biological Diversity v. Norton, 240 F. Supp. 2d 1090, 1103 (D. Ariz. 2003).

[67] Robert L. Fischman, *Predictions and Prescriptions for the Endangered Species Act*, 34 ENVTL. L. 451, 471-72 (2004).

[68] *See, e.g.*, Nat'l Ass'n of Homebuilders v. Evans, No. 00-CV-2799, 2002 WL 1205743, at *1 (D.D.C. Apr. 30, 2002) (approving consent decree to rescind critical habitat). The consent decree approved in *Evans* rescinded critical habitat for twenty of the twenty-seven then-listed populations of salmonids on the West Coast. Designation of Critical Habitat for Seven ESUs of Pacific Salmon and Steelhead, 69 Fed. Reg. 71,880, 71,885 (Dec. 10, 2004). The PCFFA and a coalition of environmental groups brought suit, alleging that NOAA Fisheries had failed to promptly designate critical habitat in lieu of the designations rescinded in *Evans*. The Agency entered into a consent decree in which it agreed to a schedule for designating critical habitat. *Id.* The Agency published critical-habitat designations for nineteen of the twenty salmonid species in 2005. Designation of Critical Habitat for Seven ESUs of Pacific Salmon and Steelhead in California, 70 Fed. Reg. 52,488 (Sept. 2, 2005). One population, the Oregon Coast coho, had been judicially delisted in the interim, making critical-habitat designations moot for that population. *See supra* note 56. For additional information regarding efforts by the administration to cut back on critical salmon-habitat designations, see Earthjustice, Bush Administration Attacks Endangered Species Act, http://www.earthjustice.org/library/policy_factsheets/CHFact Sheet.pdf (information sheet) (last visited Apr. 10, 2007). Critical habitat for Klamath coho salmon, part of the Southern Oregon/Northern California Coho (SONCC) ESU, was designated some time ago and has not been challenged. R

[69] Janet Wilson & Julie Cart, *Species Act Changes in the Works*, L.A. TIMES, Mar. 28, 2007, at A17.

[70] During the 109th Congress, the administration supported Representative Richard Pombo's Threatened and Endangered Species Recovery Act of 2005. Rep. Pombo's bill passed in the House on September 29, 2005. Felicity Barringer, *House Votes for New Limits on Endangered Species Act*, N.Y. TIMES, Sept. 30, 2005, at A24. The bill failed to gain Senate approval. Had the bill become law, it would have completely eliminated authority of the Secretaries to designate critical habitat

Unfortunately, there is no deadline for the adoption of recovery plans under the ESA.[71] None of the listed salmonid populations have recovery plans and it may be many years before those plans are adopted, so delaying designation of critical habitat until the recovery-planning stage would likely doom many populations to little or no habitat protection indefinitely.[72]

5. Which Prevails: The ESA or State Water Law?

Water projects tend to harm ESA-listed species by blocking their habitat or by dewatering or dramatically changing the river systems they depend on for survival. The survival of an aquatic species usually depends on the amount of water flowing through its river system. Other survival factors, such as water temperature, dissolved oxygen, and water quality are also hydrologically related to water flows.[73] The Klamath Basin is no exception to this general rule of physics.

There is no such thing as federal water law. Traditionally, water allocation has been regulated by states. Since the Klamath Basin spans two states, both Oregon and California laws apply in various places. Sometimes those laws conflict, and instream water needs for fish and wildlife, until recently, were not recognized as a legitimate beneficial use of state waters.[74]

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prior to adoption of a recovery plan. *See* Threatened and Endangered Species Recovery Act of 2005, H.R. 3824, 109th Cong. § 5 (as passed by House, Sept. 29, 2005).

[71] *See* 16 U.S.C. § 1533(f)(1) (2006).

[72] Some salmonid populations have been listed since 1988, but still have no recovery plans. For current information about NOAA Fisheries' salmon recovery-planning process, see Northwest. Regional Office, ESA Recovery Plans, http://www.nwr.noaa.gov/Salmon-Recovery-Planning/ESA-Recovery-Plans/Index.cfm (last visited Apr. 10, 2007).

[73] For instance, when a river's net flows are reduced, the smaller volume of water passing more slowly through the system tends to absorb more sunlight, getting much hotter much faster and staying hot longer. Reservoirs behind dams also tend to absorb sunlight as well as concentrate nutrients, resulting in water-quality deterioration. The capacity of water to retain the dissolved oxygen fish need to survive is also inversely proportional to temperature, which means the hotter the water, the less dissolved oxygen it can retain. Warmer water also encourages fish pathogens and warm-water predators of salmonids. All these factors can combine to make western rivers unsuitable for salmonids, which are evolved for cold, well-oxygenated water conditions generally lower than 20°C (68°F).

[74] Instream water rights intended to retain water in-river for fish and wildlife needs have been recognized as a legitimate beneficial use in California by statute since at least 1933 in California Fish and Game Code § 525 and its successor, Fish and Game Code § 5937. CAL. FISH & GAME CODE § 5937 (West 2007). Similar legislation was not enacted in Oregon until 1987. *See* OR. REV. STAT. § 537.332 (2005).

However, there are a number of relatively new western state water laws that do protect instream water for aquatic species to some degree.[75] Unfortunately, many of these state programs are flawed, underfunded, or rarely enforced.[76] Since many basins are already over-appropriated, instream water rights (which are always junior in time to pre-existing senior water rights) are virtually meaningless.

However, when the ESA constrains water supplies to conserve a listed species, these federally imposed constraints often conflict with state water-allocation laws, leading to federal preemption. The legal boundaries between the ESA and state water law are still in flux. There is considerable litigation on these issues, particularly in the Klamath Basin.

Significantly, the ESA itself does not defer to state water-rights law and contains only the vague statement that it is "the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species."[77] It is therefore unlikely that a deference to state water laws will ever be interpolated into the ESA. The stronger deference to state water law in the Clean Water Act (CWA) has not been enough to eliminate federal obligations to provide water for ESA-listed species.[78] Thus, in considering the same problem under the ESA, the court in *Glenn-Colusa Irrigation District* held:

> This provision does not require, however, that state water rights should prevail over the restrictions set forth in the Act. Such an interpretation would render the Act a nullity. The Act provides no exemption from compliance to persons possessing state water rights, and thus the District's state water

[75] *See* CAL. FISH & GAME CODE § 5937; CAL. WATER CODE §§ 1243, 1257, 1707 (West 2007); OR. REV. STAT. § 537.332; WASH. REV. CODE ANN. §§ 90.22.010, 90.54.020(3)(a) (West 2007).

[76] Jack Sterne, *Instream Rights & Invisible Hands: Prospects for Private Instream Water Rights in the Northwest*, 27 ENVTL. L. 207, 215-20 (1997); *see generally* Jesse A. Boyd, Student Writing, *Hip Deep: A Survey of Instream Flow Law from the Rocky Mountains to the Pacific Ocean*, 43 NAT. RES. 1151 (2003) (providing a survey of Western instream-flow law). As of 1995, Oregon had a backlog of close to 1000 instream water rights applications but had granted only thirty-six. BOTKIN ET AL., *supra* note 18, at 102.

[77] *See* 16 U.S.C. § 1531(c)(2) (2006).

[78] *See* Riverside Irrigation Dist. v. Andrews, 758 F.2d 508, 513 (10th Cir. 1985).

> rights do not provide it with a special privilege to ignore the Endangered Species Act.[79]

In another important West Coast water case also arising from the California Central Valley, *Carson-Truckee Water Conservancy District v. Watt*, the Secretary of the Interior ordered changes in operations at a federal reservoir to benefit an ESA-listed fish far downstream, an action challenged by water users. The court ruled that the Department of the Interior (DOI) was "required to give the [endangered species] priority over all other purposes" of the project but that any water "not required under the [ESA]" must be stored for the water users.[80] On appeal, the Ninth Circuit expanded the ruling to hold that not only could the Bureau of Reclamation use water necessary to prevent jeopardy, but it could also, absent specific contractual water obligations, devote whatever water resources it had within its discretion toward lower-river endangered-species protections.[81] However, that case did not answer whether the ESA would supersede specific water contracts, because no such contracts were at issue.

In a later Ninth Circuit case, *O'Neill v. United States*, among other issues the court considered the issue of conflict more squarely, and ruled that the federal government was relieved from federal water-contract obligations to the extent that the water was required to prevent jeopardy to the ESA-listed winter-run Chinook.[82] The Ninth Circuit later expanded on this view in an important Klamath Basin water case over ESA-listed coho, ruling that even though federal water contracts based on state water laws may have existed prior to the ESA, subsequent ESA legislation requiring changes in water-contract allocations to meet listed-species' survival needs prevails over those prior irrigation contracts.[83] Specifically that court said:

> It is well settled that contractual arrangements can be altered by subsequent Congressional legislation. The ESA was enacted in 1973 to "halt and reverse the trend toward species extinction, whatever the cost." Even in circumstances where the ESA was passed well after the agreement, the legislation

[79] United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. 1126, 1134 (E.D. Cal. 1992).

[80] Carson-Truckee Water Conservancy Dist. v. Watt, 549 F. Supp. 704, 710 (D. Nev. 1982).

[81] Carson-Truckee Water Conservancy Dist. v. Clark, 741 F.2d 257 (9th Cir. 1984).

[82] O'Neill v. United States, 50 F.3d 677, 689 (9th Cir. 1995).

[83] Klamath Water Users Protective Ass'n v. Patterson, 204 F.3d 1206, 1213 (9th Cir. 1999).

> still applies as long as the federal agency retains some measure of control over the activity. Therefore, when an agency, such as Reclamation, decides to take action, the ESA generally applies to the contract.
>
> Because Reclamation retains authority to manage the Dam, and because it remains the owner in fee simple of the Dam, it has responsibilities under the ESA as a federal agency. *These responsibilities include taking control of the Dam when necessary to meet the requirements of the ESA, requirements that override the water rights of the Irrigators*.[84]

The court also noted that tribal treaty obligations, which in the Klamath include rights to sufficient water retained in the river and lakes to protect subsistence fisheries, also supersede the contractual rights of irrigators:

> Similar to its duties under the ESA, the United States, as a trustee for the Tribes, has a responsibility to protect their rights and resources. . . .
>
> . . . Because Reclamation maintains control of the Dam, it has a responsibility to divert the water and resources needed to fulfill the Tribes' rights, rights that take precedence over any alleged rights of the Irrigators.[85]

It appears that at least in the Ninth Circuit both ESA-related water needs for listed species and tribal water rights take precedence over federal water contracts supported by state water law. This precedent was later applied in the Klamath Basin in the well-known case *Kandra v. United States*. In *Kandra*, the district court rejected Project irrigators' arguments that minimum river-flow mitigation measures that curtailed irrigation deliveries to benefit ESA-listed fish could not be implemented because they were inconsistent with the primary irrigation mission of the Project.[86]

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[84] *Id.* (emphasis added) (internal citations omitted).

[85] *Id.* at 1213-14. The issue of tribal water rights in the Klamath Basin is a complex one outside the scope of this Article. However, each of the four major tribes in the Klamath Basin (the Klamath Tribes in the Upper Basin, and the Yurok, Hoopa, and Karuk in the Lower Basin) have a basis, either by treaty, federal statute, or by implication from federal trust obligations, to require the federal government to provide sufficient water in the river to maintain subsistence tribal fisheries. In addition, the Upper Basin Klamath Tribes have the most senior water right in the Basin, dating from "time immemorial," which has not yet been adjudicated as to amount. United States v. Adair, 723 F.2d 1394, 1414-15 (9th Cir. 1983). A comprehensive and complex Oregon water-rights adjudication process has been ongoing in the Upper Basin for more than two decades. Reed D. Benson, *Giving Suckers (and Salmon) an Even Break: Klamath Water Basin and the Endangered Species Act*, 15 TUL. ENVTL. L.J. 197, 210 (2002).

[86] Kandra v. United States, 145 F. Supp.2d 1192, 1207 (D. Or. 2001).

In a 1995 Memorandum specifically addressing Project operations, the Regional Solicitor's Office of the DOI expressed the same view with respect to tribal water rights:

> Reclamation has an obligation to deliver water to the project water users . . . subject to the availability of water. . . . Water would not be available, for example, due to drought, a need to forego diversions to satisfy prior existing rights, or compliance with other federal laws such as the Endangered Species Act.[87]

These cases and opinions do not answer the question of what might happen if *specific legislation* gives the Bureau *no discretion* over irrigation-water deliveries. The ESA consultation requirements of section 7 may apply only to discretionary actions. This is the reason the Bureau has asserted repeatedly that providing water for ESA-listed species is a discretionary act that would be inconsistent with its statutory (i.e., nondiscretionary) mission to maximize irrigation-water deliveries.[88] However, in *Pacific Coast Federation of Fishermen's Associations* (PCFFA I), the Bureau had been enjoined for ignoring its section 7 consultation obligation for the Project.[89] The Bureau was ordered to re-consult with

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[87] Memorandum from Regional Solicitor, Pac. Sw. Region, U.S. Dep't of the Interior to Regional Director, Mid-Pac. Region, Bureau of Reclamation 7 (July 25, 1995) (on file with author) (internal citations omitted); *see also* Memorandum from the Regional Solicitor, Pac. Sw. Region, U.S. Dep't of the Interior & Regional Solicitor, Pac. Nw. Region, U.S. Dep't of the Interior to the Regional Director, U.S. Fish & Wildlife Serv. et al. 2 (Jan. 9, 1997) (on file with author) (confirming the opinion contained in the July 25, 1995 memorandum).

[88] KLAMATH BASIN AREA OFFICE, U.S. DEP'T OF THE INTERIOR, FINAL BIOLOGICAL ASSESSMENT ON THE EFFECTS OF PROPOSED ACTIONS RELATED TO KLAMATH PROJECT OPERATION (APRIL 1, 2002–MARCH 31, 2003) ON FEDERALLY-LISTED THREATENED AND ENDANGERED SPECIES 4 (2002), *available at* http://www.usbr.gov/mp/kbao/docs/Final_Biological_Assessment_02-25-02.pdf ("Reclamation has an obligation to deliver water to the Project water users in accordance with the Project water rights and contracts. . . ."); *id.* at 8 ("Whether undertaken as section 7(a)(1) conservation activities or as RPAs . . . any Reclamation action for endangered species purposes must be within the agency's existing authority. . . . Reclamation's failure to take an action that is conceivably within its authorities cannot be determined to be a cause of 'jeopardy.'"). This position is contrary to existing case law. *See* Klamath Water Users Protective Ass'n v. Patterson, 204 F.3d 1206, 1213 (9th Cir. 1996).

[89] Pac. Coast Fed'n of Fishermen's Ass'ns. v. U.S. Bureau of Reclamation, 138 F. Supp. 2d 1228, 1248-49 (N.D. Cal. 2001). This was the first of two major Klamath water cases brought by the PCFFA against the Bureau for its refusal to consult under section 7 for 2000, during which it operated the Project without a NOAA Fisheries BiOp.

the Services, and was enjoined from making further water deliveries to the Project until it prepared the 2001 BiOp.[90]

The federal courts would likely take a dim view of Bureau efforts to completely and unilaterally exempt itself from ESA section 7 consultation requirements,[91] particularly since the Bureau maintains wide discretion over both the amounts and timing of whatever water it delivers.

Another problem with the Bureau's ESA consultation theory is that even if it were true that it lacked legal discretion to meet ESA water requirements, although section 7 might no longer apply, the ESA's section 9 take prohibitions most certainly still would, thus exposing the federal government (and potentially its irrigation clients) to considerable ESA liability.

In addition, since ESA and tribal trust water obligations are on a similar par, and both are prior in right to irrigation contract deliveries under *Klamath Water Users*, the government would have to claim an equivalent lack of discretion to meet tribal trust water needs. This would expose the government to massive tribal lawsuits for breach of its fiduciary duties as trustee. Thus, the Bureau's position that it lacks legal discretion to comply with non-irrigation water obligations under either the ESA or tribal trust obligations is wholly untenable. In the Ninth Circuit, the Bureau clearly has both ESA and tribal trust obligations it cannot ignore, and *Klamath Water Users* and *O'Neill* remain controlling case law.[92]

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[90] *Id.* at 1249-50.

[91] *See id.* at 1243.

[92] A similar issue arose recently in the Tenth Circuit case *Rio Grande Silvery Minnow v. Keys*. There a three-judge panel adopted *Patterson*, holding that the Bureau did indeed have discretion to modify federal irrigation contracts when needed to supply water for the survival of the ESA-listed silvery minnow. 333 F.3d 1109, 1157 (10th Cir. 2003), *vacated*, 355 F.3d 1215 (10th Cir. 2004). The ruling provoked a political firestorm in New Mexico, and ultimately resulted in a rare congressional override of the ESA that forbade such water diversions for at least two years. Energy & Water Development Appropriations Act, 2004, Pub. L. No. 108-137, § 208, 117 Stat. 1827, 1849 (2003). Oddly enough, after all the controversy, the Bureau never had to exercise that authority. The issue was legally moot and the prior ruling was later vacated. *Keys*, 355 F.3d at 1222. The Ninth Circuit remains the only circuit that has clearly delineated the relationship between ESA water needs and irrigation water contracts. The law is still unsettled in most other areas of the country.

6. ESA Liability of Non-Federal Governmental Entities

All the above cases involved a federal nexus (i.e., water operations by the Bureau, even though the Bureau's actions were in part based on state water laws). Whether *non*-federal governmental agencies can become liable under the ESA for a take that it authorizes or condones is still an open question in the Ninth Circuit. However, a growing line of cases, derived from the landmark case *Strahan v. Coxe*,[93] strongly implies that they can. Furthermore, at least one case in the Ninth Circuit, *Palila v. Hawaii Department of Land & Water Resources*, found indirect state take liability by holding a Hawaii state agency liable for maintaining herds of sheep and goats to the detriment of Hawaii's ESA-listed palila bird.[94]

The implications flowing from the *Strahan* line of cases (i.e., holding state agencies liable for take under section 9 of the ESA) were recently tested in *Pacific Rivers Council v. Brown*.[95] The plaintiffs in that case (which included the PCFFA) alleged that the State Forester and the Oregon Board of Forestry authorized logging operations on high-risk, landslide-prone slopes that caused landslides in spawning and rearing streams. The plaintiffs claimed these landslides caused silt build-up in streams and destroyed critical habitat, and thereby resulted in a substantial take of ESA-listed Oregon coho salmon.[96]

The district court ruled on summary judgment that the *Strahan* theory of liability would apply to the Board of Forestry and to the State Forester.[97] However, the case never went to trial because, shortly thereafter, the Oregon Coast coho was judicially delisted in *Alsea Valley Alliance* on different grounds.[98] That

[93] Strahan v. Coxe, 127 F.3d. 155 (1st Cir. 1997); *see also* Loggerhead Turtle v. County Council of Volusia County, 148 F.3d 1231, 1253 (11th Cir. 1998) (following *Strahan* in finding similar ESA take liability for a non-federal government entity); United States v. Town of Plymouth, 6 F. Supp. 2d 81, 90 (D. Mass. 1998) (same).

[94] *See* Palila v. Haw. Dep't. of Land & Water Res., 649 F. Supp. 1070, 1082-83 (D. Haw. 1986).

[95] Pac. Rivers Council v. Brown, No. CV-02-243-BR, 2004 WL 2091471 (D. Or. Sept. 17, 2004).

[96] First Amended Complaint at 17-20, Pac. Rivers Council v. Brown, No. CV-02-243-BR, 2004 WL 2091471 (D. Or. Sept. 17, 2004), 2003 WL 24058050.

[97] Pac. Rivers Council v. Brown, No. CV-02-243-BR (D. Or. Dec. 23, 2002) (order denying defendant's motion to dismiss).

[98] *See supra* note 56. **R**

population has not yet been relisted.[99] In fear of *Strahan* liability, the Oregon legislature has also since changed state law, at the request of Oregon's Board of Forestry and Attorney General, to eliminate all discretionary authority by the State Forester to approve or disapprove logging plans.[100]

Pacific Rivers Council was then dismissed as moot and the question of whether *Strahan*-type liability applies to state agencies in the Ninth Circuit remains unclear.[101]

Local and regional governmental entities, such as local water districts, also face similar ESA liability but would not have available the state's defense of sovereign immunity under the Eleventh Amendment.[102] Where there are ESA-listed fish involved, the threat of such ESA take liability can become a powerful tool for securing needed water reforms. For instance, an ESA section 9 take suit was filed by NOAA Fisheries against the Grants Pass Irrigation District in 1998, alleging a take caused by the District's Savage Rapids Dam on the Rogue River.[103] Poor fish passage at that dam has nearly destroyed a salmonid fishery with a value

[99] When NOAA Fisheries re-listed numerous salmonid populations after making policy changes required by the *Alsea Valley Alliance* court, NOAA Fisheries did not re-list the Oregon Coast coho, in part because of another deal worked out with the State of Oregon. Once again the agency relied on the proposed future measures under the Oregon Plan (this time under the new PECE policy), but also relying on an internal Oregon "viability analysis" that has been much criticized by biologists as simply de facto defining a severely depressed population as viable. *See* Withdrawal of Proposals to List and Designate Critical Habitat for the Oregon Coast Coho ESU, 71 Fed. Reg. 3033, 3035-36 (Jan. 19, 2006). That second non-listing decision has since been challenged in *Trout Unlimited v. Lohn*. *See supra* note 56. The end result of the non-listing decision for the Oregon Coast coho, as feared by conservationists, is that some land-use activities (particularly federal-lands logging) that would not have gone forward under the prior Oregon Coast coho ESA listing are now going forward anyway, severely undercutting other landowner efforts under the Oregon Plan to restore this depressed stock. R

[100] *See* OR. REV. STAT. § 527.674 (2005). Thus, Oregon law no longer permits State Forester or Board of Forestry pre-approvals of most logging plans. *Id.* This is clearly a weakening of Oregon's already relatively weak controls over forestry impacts to salmonid-bearing streams, adopted specifically to avoid *Strahan*.

[101] While affirmative actions by an agency creating take might be liable under *Strahan*, it is far less certain that there would be such liability for an agency's failure to exercise its discretionary regulatory authority to *prevent* take under section 9 of the ESA that it had reason to know would occur. These are all fertile areas for litigation.

[102] Sovereign immunity is a judicial doctrine that prevents a government from being sued without its consent, in this case a state entity being sued in federal courts. 9 WEST'S ENCYCLOPEDIA OF AMERICAN LAW 313 (1998).

[103] *See* Complaint, United States v. Grants Pass Irrigation Dist., No. 98-3034-HO (D. Or. Aug. 27, 2001).

estimated by the Bureau in 1995 at $5 million per year to the local economy.[104] The legal risk of ESA liability for those ongoing actions was a compelling threat to the District that ultimately resulted in settlement of the case, which in turn will soon lead to the decommissioning and removal of the ninety-year-old Savage Rapids Dam and restoration of salmon passage through that portion of the Rogue River.[105]

The ESA would also apply to private water users whose otherwise legal water diversions result in a take under the ESA. But, because of the difficulty of such litigation against private parties, fears of such lawsuits have been far more pervasive than actual lawsuits. Nevertheless, the ESA provides for a third-party citizen suit right of action to enjoin any person (including, but not limited to, the government) from violating the ESA or any of its regulations.[106]

Citizen take suits against private landowners (as opposed to government agencies) are apparently rare as well as difficult to win. The only systematic effort to use this tool known to the author has been by the Idaho-based Western Watersheds Project. In October 2000, the group sent more than fifty letters to various Idaho ranchers notifying them of its intent to sue them under the ESA citizen-suit provisions, claiming that these ranchers' water diversions were harming salmon, steelhead, and bull trout habitat in violation of the ESA by trapping fish in ditches, blocking migration, and completely dewatering parts of some streams.[107]

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[104] A 1995 report estimated that removal of Savage Rapids Dam would result in "[s]almon and steelhead escapement at Savage Rapids is estimated to increase about 22 percent." BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, DRAFT ENVIRONMENTAL IMPACT ASSESSMENT FOR FISH PASSAGE IMPROVEMENTS OF SAVAGE RAPIDS DAM 45-46 (2005), *available at* http://www.usbr.gov/pn/programs/ea/oregon/savage/draftea_SRD.pdf. Such an increase would represent an additional $5 million in fisheries value to the local sport- and commercial-fishing economy. Eric Gorski, *New Task Force Will Study Savage Rapids Dam*, OREGONIAN (Portland), Aug. 11, 1995, at B2.

[105] *State Approves Grant to Remove Dam*, OREGONIAN (Portland), Jan. 14, 2002, at B7.

[106] 16 U.S.C. § 1540(g) (2006).

[107] *IWP and CIHD File First ESA Lawsuits Against Ranchers Over Water Diversions in Upper Salmon River Watershed*, WATERSHEDS MESSENGER (Western Watersheds Project, Hailey, Idaho), Winter 2001, at 3, *available at* http://www.westernwatersheds.org/watmess/watmess_2001/winter_2001.pdf. Only a few of these lawsuits were ultimately filed.

7. Takings v. Takings: When Are ESA Water Protections Compensable?

In accordance with *Klamath Water Users* and *O'Neill*, the ESA, at least in the Ninth Circuit, clearly prevails over pre-existing water rights and water contracts wherever there is a direct conflict. Thus the Bureau must withhold water from irrigation even in the face of valid, pre-existing water rights and water-delivery contracts, whenever required to do so to prevent jeopardy of ESA-protected species. This outcome has been much criticized by water-right holders as an infringement of private property rights. But in this context the ESA does not so much prevent the exercise of private property rights as it protects public property rights: the fish and wildlife resources held in common in public trust for the good of society as a whole. Since the *Codex Justinianus* was adopted in 529, private property rights have been bounded and superseded by public trust obligations.[108] The ESA is simply one embodiment of the long-standing legal principle that there is no absolute right to destroy public property, any more than there is an absolute right to use one's own property in ways that destroy the property rights of others.

Nevertheless, the dynamic tension between the prohibitions against takings of private property for public benefit embodied in the Fifth Amendment, and taking by individuals under the ESA by actions threatening extinction of public property embodied in fish and wildlife resources, presents fertile ground for lawsuits pitting public interests against private interests.

a. The Tulare Lake Basin Water Storage District *Takings Case Precedent*

In December 2003, the Court of Federal Claims for the first time awarded monetary damages to federal water-contract irrigators who claimed that diversion of a portion of their anticipated irrigation water in 1992–94 was a taking of private property (i.e., water rights) under the Fifth Amendment. The water was diverted by the Bureau to meet the survival needs of endangered winter-run Chinook and delta smelt, and to keep these ESA-listed fish from being sucked into pumps and irrigation canals where large numbers were dying. In a ruling that will have a

[108] *See* J. INST. 2.1.2 (reprinted in 2 S.P. SCOTT, THE CIVIL LAW 35 (AMS 1973) (1932)).

chilling effect on the enforcement of future federal water-protection measures for species listed under the ESA, the court in *Tulare Lake Basin Water Storage District* ruled that nearly $14 million in damages plus interest (more than $26 million total) was due to the farmers for the lost water.[109]

The large 2003 damages award, however, was not unexpected. In the earlier, merits phase of the case, the court said, "The federal government is certainly free to preserve the fish; it must simply pay for the water it takes to do so."[110] That ruling has been criticized as far too broad,[111] and also was apparently decided without reference to Ninth Circuit cases such as *O'Neill, Klamath Water Users*, and *Kandra*, none of which are cited in the ruling.

Thus, *Tulare* also represents a growing schism between the Ninth Circuit and the Court of Federal Claims over how to reconcile the ESA and the Fifth Amendment in federal irrigation water-contract disputes. However, *Tulare* is likely also limited to the specific facts of that case, which included unusual provisions in the federal irrigation contracts at issue containing specific volume promises of water to be provided.[112] Most other federal water contracts, and in particular those within the Klamath Project, do not have these types of specific allocation provisions.

b. Klamath Irrigation District v. United States *Takings Claim Rejected*

The first big test of the *Tulare* decision's applicability came in a similar Klamath Basin case, *Klamath Irrigation District v. United States*, before a different judge.[113] In that case, Project farmers initially claimed up to $1 billion in damages resulting from an

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[109] Tulare Lake Basin Water Storage Dist. v. United States, 59 Fed. Cl. 246, 266 (2003). The United States eventually settled the case for $16.7 million. Bettina Boxall, *U.S. to Pay $16 Million in Water Rights Case*, L.A. TIMES, Dec. 22, 2004, at B1.

[110] Tulare Lake Basin Water Storage Dist. v. United States, 49 Fed. Cl. 313, 324 (2001).

[111] *See, e.g.*, Melinda Harm Benson, *The* Tulare *Case: Water Rights, the Endangered Species Act, and the Fifth Amendment*, 32 ENVTL. L. 551, 551 (2002); Cori S. Parobek, Note, *Of Farmers' Takes and Fishes' Takings: Fifth Amendment Compensation Claims When the Endangered Species Act and Western Water Rights Collide*, 27 HARV. ENVTL. L. REV. 177, 212-16 (2003).

[112] *See Tulare Lake Basin Water Storage Dist.*, 49 Fed. Cl. at 320-21 (distinguishing *O'Neill*).

[113] *Klamath Irrigation District* was argued before Judge Francis M. Allegra. In a very rare event, the PCFFA, even though not a government contractee, was nevertheless allowed to intervene based on its real economic interests in fisheries protection that resulted from the 2001 water decision.

alleged unconstitutional reallocation of Project irrigation water to meet basic survival needs of lower Klamath River ESA-listed coho as a result of the 2001 BiOps and near-record drought.[114]

The year 2001 was the first time in more than ninety years, including through numerous prior droughts, that irrigation water to the Project was ordered curtailed to protect ESA-listed fish.[115] This decision, made early in the Bush administration, was made inevitable by both minimum lake-level water needs of ESA-listed resident sucker fish in Upper Klamath Lake and in-river minimum flow needs of ESA-listed coho in the Lower Klamath below Iron Gate Dam, coupled with serious drought.[116] Naturally it caused a political firestorm in the upper Basin among the several hundred Project-dependent irrigators whose water deliveries were curtailed or delayed.[117]

The first threshold issue raised in *Klamath Irrigation District* was whether irrigators receiving water from the Project had a compensable water right.[118] However, it was ruled early on that the Bureau, and not its client-irrigators, holds all water rights of

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114 Michael Milstein, *Lawsuit Against Government Will Seek Up to $1 Billion in Klamath Basin Fight*, OREGONIAN (Portland), Aug. 25, 2001, at D1. The plaintiffs later reduced their damages claim. Klamath Irrigation Dist. v. United States, 75 Fed. Cl. 677, 682 (2007).

115 Michael Milstein, *Klamath Farms Left Without Water*, OREGONIAN (Portland), Apr. 7, 2001, at A1. In years prior to 2001, Klamath Project irrigators actually got more water during drought years than during normal rainfall years, on the theory that irrigation demand was greater with less soil moisture from rainfall, exacerbating drought shortfalls to the lower river. Prior to the ESA listings of these fish, the only constraints on flows below Iron Gate Dam and into the salmon-bearing lower river were minimum flow requirements of the PacifiCorp FERC license for its in-river Klamath Hydroelectric Project power dams which, since the Bureau of Reclamation ultimately controls upper-river flows but is not bound by PacifiCorp's FERC license requirements, were often ignored by the Bureau when irrigation needs could not otherwise be met.

116 *Id.*

117 Upper Klamath Basin protest rallies and symbolic acts of civil disobedience to turn on irrigation deliveries ensued, with much publicity aimed at the water curtailments as abuses of the ESA. The 2001 Klamath irrigation cutoffs are still cited by some members of Congress as one reason the ESA should be substantially amended to exclude impacts on federal water projects, and several such bills were introduced in Congress. *See supra* note 70. However, only Project deliveries from Upper Klamath Lake were affected in 2001. The effects of these curtailments were not uniform, with few instances of total water cutoffs that season. For a thorough and objective analysis of the events of 2001 in the upper Klamath Basin, see Jaeger, *supra* note 34, at 265-82. R R

118 A legal prerequisite for any Fifth Amendment claim based on a taking of a property right is that such a property right actually exists. Karuk Tribe of California v. Ammon, 209 F.3d 1366, 1374 (Fed. Cir. 2000).

the Project, with the rights of its client-irrigators created only by contract and not by formal water rights.[119] On that basis, Judge Allegra sharply disagreed with applying the prior *Tulare* ruling and found no compensable property right in water held by either the irrigation districts or the plaintiff-irrigators, ruling that their only remedy was in contract law.[120]

The court also noted that these separate irrigator contract claims are unlikely to prevail because, unlike in *Tulare*, the Klamath Project contracts, like most federal irrigation-delivery contracts, do not provide guarantees of any specific water amount, but only whatever amounts are available after meeting other prior obligations, which can include prior ESA-related water allocations for fish and wildlife.[121] Judge Allegra also took sharp exception to *Tulare* itself, commenting that *Tulare* was "wrong on some counts" and should be limited to the very different and unique facts in that case.[122]

Additionally, Klamath Project farmers would have a tough time showing any actual damages, as most of the estimated $36.5 million in actual crop losses have since been mitigated by various federal disaster- and drought-relief programs.[123]

On March 16, 2007, the last of the remaining contract claims in *Klamath Irrigation District* were indeed dismissed as predicted,[124] and as of this writing plaintiffs are likely to appeal. If so, the opposing rulings of *Tulare* and *Klamath Irrigation District* may eventually be reconciled by the Supreme Court.[125]

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[119] Klamath Irrigation Dist. v. United States, 67 Fed. Cl. 504, 523-31 (2005). That Project irrigators hold only contract rights was later confirmed by the Oregon Klamath Basin Adjudication. Interim Order at 16, *In re* Adjudication of Relative Rights of the Klamath River, No. 003 (Or. Water Res. Dep't Jan. 12, 2006).

[120] *Klamath Irrigation Dist.*, 67 Fed. Cl. at 540.

[121] *Id.* at 535-36, 538.

[122] *Id*. at 537-38.

[123] Jaeger, *supra* note 34, at 265-83. The $36.5 million figure represents the median between a high estimate of $46 million and a low estimate of $27 million. **R**

[124] Klamath Irrigation Dist. v. United States, 75 Fed. Cl. 677 (2007).

[125] The government did not appeal *Tulare*, for fear of setting a broader precedent.

C. Shuffling Toward Recovery: Unresolved Salmon and ESA Water Dilemmas

Above all, the ESA mandates efforts at species recovery. NOAA Fisheries is now working to chart out that recovery path for the listed salmonid runs of the West Coast.[126]

Recent congressional action gives the development of a recovery plan for Klamath Basin coho great urgency. The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act, signed by the President on January 12, 2007, provides for a special recovery plan for Klamath coho salmon that must be completed and submitted to Congress within six months of the signing of that Act, followed by annual reports to Congress on the progress of recovery plan implementation starting two years after signing.[127]

Unfortunately, the ESA gives little practical guidance as to how recovery plans must be constructed or what they must contain, and provides no deadlines for producing such plans.[128]

Creating the Technical Review Teams and determining what biological criteria need to be met in each recovery plan is a monumental task requiring resolution of a number of still-unresolved scientific and policy questions. Federal funding is usually grossly insufficient to create or implement such plans, and weak state environmental laws and lack of state funding to implement such plans remain serious barriers to delegation of recovery efforts to the states.

Some of the unresolved problems and issues that impact future recovery planning both in the Klamath and elsewhere include those below.

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126 None of the populations of West Coast salmonids currently ESA-listed have ESA recovery plans, though some are under development. For a summary of current NOAA Fisheries West Coast salmonid recovery plan efforts see Northwest Regional Office, ESA Salmon Recovery Plans, http://www.nwr.noaa.gov/Salmon-Recovery-Planning/ESA-Recovery-Plans/Index.cfm (last visited May 4, 2007).

127 Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, sec. 113, § 315(d), 120 Stat. 3575, 3602 (codified at 16 U.S.C.A. § 460ss note (West 2007)).

128 The ESA recovery planning process is governed by the sketchy provisions of 16 U.S.C. § 1533(f), but no definition of the word "recovery" appears in the Act's definitions contained in 16 U.S.C. § 1532.

1. Hatchery Impacts on Wild Fish

Biologists are increasingly documenting negative impacts on wild salmonid populations caused by poorly planned or poorly managed hatcheries.[129] Oregon's Native Fish Conservation Policy goes partway toward mitigating those impacts, as does the recent NOAA Fisheries ESA requirement of hatchery genetic conservation plans.[130] Nevertheless, biologists are increasingly of the opinion that hatchery stocks should not be considered an adequate replacement for healthy, viable populations of wild salmonids.[131]

In September 2001, however, *Alsea Valley Alliance* resulted in an unprecedented judicial delisting of the entire Oregon Coast coho population.[132] *Alsea Valley Alliance* was based on assertions that there is no legal difference under the ESA between hatchery-origin and wild salmonids, and that because they are "genetically and biologically identical," they should be considered identical and lumped together by NOAA Fisheries in making ESA listing decisions.[133] Proponents of this theory, mostly landowners and irrigation districts, hope that since any number of hatchery fish could be produced at will with enough hatcheries, lumping them all as part of the same population would lead to widespread delisting of wild populations—and thus a widespread elimination of ESA-driven habitat protections and water reforms.[134]

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129 *See* JIM LICHATOWICH, SALMON WITHOUT RIVERS 207-21 (1999).

130 OR. ADMIN. R. 635-007-0502 to 635-007-0509 (2007).

131 There is considerable scientific evidence that the reproductive success of hatchery fish is far less than that of wild salmonids. *E.g.*, Hitoshi Araki et al., *Reproductive Success of Captive-Bred Steelhead Trout in the Wild: Evaluation of Three Hatchery Programs in the Hood River*, 21 CONSERVATION BIOLOGY 181, 186 (2007) (showing distinct survival deficits in hatchery as opposed to wild steelhead).

132 *See* Alsea Valley Alliance v. Evans, 161 F. Supp. 2d 1154 (D. Or. 2001), *appeal dismissed for lack of jurisdiction*, 358 F.3d 1181 (9th Cir. 2004). *Alsea Valley Alliance* has since spawned numerous look-alike cases. One such case, *California State Grange v. Evans*, resulted in a victory for the plaintiffs. However, unlike in *Alsea Valley Alliance*, no judicial delisting was ordered. Instead, the court deferred to NOAA Fisheries' efforts to correct the analysis flaw on which the *Alsea Valley Alliance* case was based. *See* Cal. State Grange v. Evans, No. 02-6044-HO (D. Or. Jan. 20, 2005); Dan Bacher, Editorial, *Klamath Basin Farmers Win Technical Victory But Coho Listing Stays*, FISH SNIFFER, Feb. 14, 2005, http://www.fishsniffer.com/dbachere/050214klamath.html.

133 *Alsea Valley Alliance*, 161 F. Supp. 2d at 1159.

134 This is an ESA deregulation strategy first pioneered in 2001 by long-time Northwest timber company attorney Mark Rutzick, who represented the timber industry in many ESA-related cases, then joined the Bush administration in 2003 as

In June 2005, however, NOAA Fisheries adopted a revised policy for assessing the biological impact of hatchery components intermingled with wild runs, and in almost every instance concluded that the prior listings were warranted regardless of hatchery impacts.[135] NOAA Fisheries also acknowledges in that policy that hatchery runs can, and in some cases have, worked to the detriment of wild run survival in various ways.[136]

Nevertheless, the *Alsea Valley Alliance* delisting precedent has now become the hope of every agricultural and industry group seeking to delist salmonid populations entirely.[137]

2. When Is a Rebound Sufficient to Delist?

Listing was intended to lead to recovery, but because annual salmon runs have considerable natural variation it is unclear how large and how sustained higher returns need to be to qualify as a recovery sufficient to delist. Recent higher salmon returns in several rivers appear to be due almost entirely to unusually favorable ocean-survival conditions, not to any recent efforts made to restore damaged salmonid habitat. Chinook, for instance, typically have a four- to five-year life cycle, so harvestable adult returns this year are mostly from juveniles that hatched or went out to sea in 2003 through 2004, well before many of the measures of the Oregon Salmon Plan or other state-based resto-

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one of its top salmon-policy advisors. Timothy Egan, *Shift on Salmon Reignites Fight on Species Law*, N.Y. TIMES, May 9, 2004, § 1, at 1; *see also* JAMES BUCHAL, THE GREAT SALMON HOAX 131-51 (1998) (discussing hatcheries as a potential avenue in avoiding salmon extinction); Press Release, James L. Buchal, NMFS Releases Anti-Hatchery, Anti-Law Policy (Aug. 6, 2002), http://www.buchal.com/salmon/news/nf67.htm ("[I]f one takes account of hatchery fish in assessing extinction risk, there are no endangered salmon in the Pacific Northwest.").

135 Policy on Consideration of Hatchery-Origin Fish in ESA Listing Determinations for Pacific Salmon and Steelhead, 70 Fed. Reg. 37,204 (June 28, 2005). In September 2005, NOAA Fisheries relisted most of the previously delisted salmonids after considering hatchery impacts. *See* Designation of Critical Habitat for 12 ESUs of West Coast Salmon and Steelhead in Washington, Oregon, and Idaho, 70 Fed. Reg. 52,360 (Sept. 2, 2005).

136 Policy on Consideration of Hatchery-Origin Fish in ESA Listing Determinations for Pacific Salmon and Steelhead, 70 Fed. Reg. at 37,205.

137 In 2006, industry filed a major action seeking to delist sixteen distinct salmonid populations, including the Klamath coho. Alsea Valley Alliance v. Lautenbacker, No. 06-6093-HO (D. Or. filed May 1, 2006). This case is known as *Alsea II*. On August 11, 2006, the PCFFA and various other salmon conservation groups were granted intervenor status. Klamath coho are part of the larger Southern Oregon/Northern California Coho, which the plaintiffs seek to have delisted. The case has been briefed and argued and a decision on this case is now pending as of this writing.

ration efforts really were up and running.[138] Positive effects of habitat restoration take many years—possibly several salmon generations—to fully materialize. Also, by perspective, even the best recent salmon returns are still only a very small fraction of historic run sizes, with many of the factors that led to their ESA listing in the first place still in operation.[139]

Additionally, recovery as defined under the ESA is simply a large enough and viable enough population to no longer need ESA protections to prevent extinction.[140] This is a much lower standard than populations sufficiently robust and diverse to allow commercial fishing. Harvestable surpluses—not just delisting—is the ultimate goal of commercial and sport fishing interests and of tribal governments.

3. Should the States Take Over Recovery Efforts?

Although it sounds good in principle that states, not the federal government, should be the primary salmon recovery leaders in restoring their own resources, practical problems with the concept of states taking over salmon protections are numerous. Weak state laws led to many of the very impacts on salmon that originally led to their listing, particularly watershed-scale impacts from industrial-scale forestry and agriculture.[141] The respective California and Oregon forestry rules, for instance, are far less protective of riparian salmon habitat than recommended by

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138 A few pre-mature salmon, called "jacks," return early as three-year-olds, but are usually too small for harvest. These jack counts are the statistical basis for predictions of the peak returns as four-year-olds.

139 Wild fall Chinook in the Klamath Basin, for instance, are typically now only about 4%-7% of their historic abundance, with fisheries managers unable even to make the 35,000 spawner floor, when pre-development populations averaged an estimated 880,000 adults. *See supra* notes 2-3 and accompanying text. **R**

140 The ESA does not define the term recovery, but instead uses the term conserve, defined as "all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this [Act] are no longer necessary." 16 U.S.C. § 1532(3) (2006); *see also id.* § 1533(f)(1) (defining "recovery plans" in terms of "conservation").

141 *See* NAT'L MARINE FISHERIES SERV., FACTORS FOR DECLINE 14-15 (1996), *available at* http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Reports-and-Publications/upload/stlhd-ffd.pdf; *see also* NAT'L MARINE FISHERIES SERV., FACTORS CONTRIBUTING TO THE DECLINE OF WEST COAST CHINOOK SALMON 5-8 (1998), *available at* http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Reports-and-Publications/upload/chnk-ffd.pdf (identifying a variety of factors, including forestry and agriculture, in salmon decline).

NOAA Fisheries or the Independent Multi-disciplinary Science Team (IMST) that oversees the Oregon Salmon Plan.[142]

NOAA Fisheries has long been heavily critical of Oregon's Forest Practices Act and its accompanying rules, noting in several past documents how industrial logging controls in Oregon fail to meet minimum environmental protection standards needed to protect ESA-listed salmonids and to promote their recovery.[143]

The IMST, in assessing the protectiveness of the Oregon Forest Practices Act rules found that:

> [C]urrent rules for riparian protection, large wood management, sedimentation, and fish passage are not adequate to reserve depressed stocks of wild salmonids. . . . While these are important as an initial step in accomplishing the mission of the Oregon Plan, they are not sufficient for the recovery of critical habitat for wild salmonids.[144]

Furthermore, timber industry-written provisions recently inserted into the Oregon Forest Practices Act actively inhibit additional efforts to protect damaged riparian areas in Oregon's timberlands.[145] And unlike in California, logging operations are still categorically exempt from all of Oregon's water-quality and pollution-control laws,[146] even though their adverse impact on water quality is well documented.

Likewise, Oregon exerts relatively weak regulatory control over agriculturally generated sediment and chemical pollution, even though many Oregon streams are listed as water-quality limited under section 303(d) of the CWA primarily because of

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[142] *See supra* note 60 and accompanying text. **R**

[143] *See, e.g.*, NAT'L MARINE FISHERIES SERV., COASTAL COHO HABITAT FACTORS FOR DECLINE AND PROTECTIVE EFFORTS IN OREGON 34-39 (1997); Memorandum from Rowan Baker, Nat'l Marine Fisheries Serv., to Dan Avery (Jan. 2, 1997) (on file with author) (critiquing the Oregon Forest Practice Rules); Letter from Dan Opalski, Dir., Or. Operations Office, Envtl. Prot. Agency et al., to Dick Pedersen, Manager, Dep't of Envtl. Quality & Ted Lorensen, Forest Practices Program Dir., Dep't of Forestry 2 (Feb. 28, 2001) (on file with author) (noting that, in spite of the Oregon Forest Practice Rules, there have been water quality impairments due to forest management activities). Oregon's forestry rules have since been weakened further. *See supra* note 100 and accompanying text. **R**

[144] INDEP. MULTIDISCIPLINARY SCI. TEAM, *supra* note 60, at 2. **R**

[145] *See* OR. REV. STAT. § 527.714(5) (2005). That provision delineates stringent administrative requirements and findings of fact for adopting any new forestry protective measures, providing numerous opportunities for timber industry litigation to challenge any new protections.

[146] OR. REV. STAT. § 527.770.

agricultural impacts.[147] In spite of widespread water-quality impacts, agricultural practices in Oregon, like logging, are also largely exempt, and state law requires a high burden of proof to be met for any enforcement action.[148]

Oregon's agricultural water-quality improvement plans (often referred to as SB 1010 Plans) are also mostly based on voluntary, not mandatory, actions and are generally very weak.[149] Additionally, Oregon's lax water laws have allowed many of its rivers to become over-appropriated for large parts of each year, primarily because of water diversions for agricultural use.[150] A perfect example of this type of institutionalized water over-appropriation is in the Klamath Basin.

Finally, state-based species recovery plans can address salmon habitat problems only on non-federal lands.[151] Yet a large percentage of still-viable salmonid habitat exists only on federal lands, particularly in the sparsely settled Klamath Basin, with some sub-basins (such as the Salmon River sub-basin) more than 90% federally owned. Furthermore, these federal lands are generally in upper watersheds that are heavily forested, less urbanized, and in less-disturbed condition than privately owned lands containing similar salmonid habitat.[152] Federal ESA protections on these federal lands are critical to maintaining their biological integrity and to the eventual recovery of listed salmonid stocks.[153]

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147 *See* Or. Dep't of Envtl. Quality, Water Quality Assessment Database, http://www.deq.state.or.us/wq/assessment/rpt0406/search.asp (last visited May 4, 2007).

148 *See* OR. REV. STAT. § 568.912(3); *see also* OR. ADMIN. R. 340-041-0028(12)(f) (2007) (exempting agriculture on state and private lands). Agricultural water-quality-management plans are enforced not by the Oregon Department of Environmental Quality, but by the Oregon Department of Agriculture. OR. ADMIN. R. 340-041-0028(12)(f). The latter agency is far more inclined toward ignoring agricultural violations.

149 *See* S.B. 1010, 67th Or. Legis. Ass'y (1993) (codified at OR. REV. STAT. §§ 568.900-.933). The bill was originally written by the Oregon Farm Bureau as part of its political effort to head off more stringent CWA and state water-pollution regulations of agriculture.

150 *See* ROBISON, *supra* note 17, at 13 tbl.2. Agriculture is by far the single largest water user in the state. Michael R. Moore et al., *Water Allocation in the American West: Endangered Fish Versus Irrigated Agriculture*, 36 NAT. RESOURCES J. 319, 350 tbl.1 (1996). **R**

151 *See supra* note 50. **R**

152 *See* THE WILDERNESS SOC'Y, *supra* note 50, at 55-62. **R**

153 *See id.* at xv-xvii. Recent efforts by the Bush administration to eliminate important federal salmon-protection rules under the Northwest Forest Plan's Aquatic Conservation Strategy and other federal laws demonstrate the need to maintain con-

Agribusiness, forestry, real estate developers, and other regional business-industry groups that profit from developing salmonid habitat are also pushing for state control over salmon-recovery efforts, often as a way to avoid federal ESA constraints on their land practices and water diversions.[154] One main reason is that state legislatures are often far more vulnerable to industry lobbying than the federal government, and efforts by regulated industries to roll back major state environmental laws and curtail enforcement of watershed protections have often been successful.[155] It is not surprising that these industries have also joined efforts to roll back salmonid ESA listings through the courts.[156]

4. HCP Adaptive Management v. "No Surprises"

Since Bruce Babbitt's 1992 policy pushing Habitat Conservation Plans (HCPs) by offering landowners with approved HCPs

tinued ESA-listing protections for depressed salmonid runs even when their habitat lies solely on federal lands. *See* Clarification of Provisions Relating to the Aquatic Conservation Strategy in the 1994 Record of Decision for the Northwest Forest Plan, 69 Fed. Reg. 22,486 (Apr. 26, 2004). The administration's efforts to accelerate commercial logging by simply eliminating salmon-habitat protections under the Northwest Forest Plan was challenged in *Pacific Coast Federation of Fishermen's Ass'ns. v. National Marine Fisheries Service*. These attempts were recently invalidated. Pac. Coast Fed'n of Fishermen's Ass'ns. v. Nat'l Marine Fisheries Serv., No. 04-1299-RSM, 2007 WL 1031717 (W.D. Wash. Mar. 30, 2007).

154 With the possible exception of California, few states have statutory protections for endangered species as protective as the federal ESA. William Snape III et al., *Protecting Ecosystems Under the Endangered Species Act: The Sonoran Desert Example*, 41 WASHBURN L.J. 14, 40 (2001); *see also* Christopher A. Amato & Robert Rosenthal, *Endangered Species Protection in New York After* State v. Sour Mountain Realty, Inc., 10 N.Y.U. ENVTL. L.J. 117, 130-38 (2001) (discussing weaknesses in several states' endangered species laws).

155 For example, in Oregon, the timber industry has successfully lobbied to weaken state forestry protections, including categorical exclusions for logging impacts from Oregon's water quality laws. *See supra* note 145 and accompanying text. **R**
In Washington State, agribusiness and developers recently supported Senate Bill 5248, which imposes a four-and-a-half year moratorium on future riparian protections and designations of critical areas along streams—often necessary tools for salmon restoration in many damaged watersheds, but ones threatening to agriculture and developers. *See* S.B. 5248, 60th Leg., 2007 Reg. Sess. (Wash. 2007). Governor Christine Gregoire signed the bill on May 8, 2007.

156 The ongoing *Alsea II* litigation provides one such example. Industry plaintiffs include: the Building Industry Association of Washington, the Coalition for Idaho Water, Idaho Water Users Association, Idaho Farm Bureau Federation, Washington Farm Bureau, Washington Association of Realtors, Central Coast Forest Association, California State Grange, Oregon State Grange, Pioneer Irrigation District. Complaint at 3-25, Alsea Valley Alliance v. Lautenbacher, No. 06-6093-HO (D. Or. May 1, 2006). These groups seek the delisting of sixteen distinct salmonid populations. *See supra* note 137. **R**

"no surprises" and similar safe-harbor blanket protections from future ESA enforcement, the number of HCPs has mushroomed. There are now at least 499 approved HCPs nationwide, most of them in the western United States, exempting more than 39 million acres with many more in planning and development.[157]

HCP standards have improved, but many reflect only what the landowner was willing to provide, not necessarily what the listed species needed, and scientists have found that many HCPs are seriously deficient just on the science and biology alone.[158] Unfortunately, there is also no statutory requirement that HCPs, which are little more than incidental-take permits under section 10, actually contribute toward species recovery, only that they avoid jeopardy.[159] Not surprisingly, this area is the subject of litigation.[160]

5. Economics-Based v. Science-Based ESA Decision-Making

There are very few places in law in which science trumps economics, even within the ESA, but the section 4 listing process is one of those few. Economic considerations do come into play in ESA critical-habitat designations, in the recovery planning process, and nearly everywhere else in the Act. But the listing decision itself must be made "solely on the basis of the best scientific and commercial data available."[161]

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[157] *See* U.S. Fish & Wildlife Serv., Habitat Conservation Plans and Agreements Database, http://ecos.fws.gov/conserv_plans/public.jsp (follow "Nationwide" hyperlink under Habitat Conservation Plan; select "Regional (Summary) Report button) (last visited May 4, 2007); *see also* Marcilynn A. Burke, *Klamath Farmers and Cappuccino Cowboys: The Rhetoric of the Endangered Species Act and Why It (Still) Matters*, 14 DUKE ENVTL. L. & POL'Y F. 441, 451 n.54 (2004).

[158] *See, e.g.*, NAT'L CTR. FOR ECOLOGICAL ANALYSIS & SYNTHESIS & AM. INST. OF BIOLOGICAL SCIENCES, USING SCIENCE IN HABITAT CONSERVATION PLANS 2 (1999), *available at* http://www.aibs.org/bookstore/resources/hcp-1999-01-14.pdf (noting that HCPs are often inadequate under scientific standards more rigorous than those found in the HCPs); Lisa Stiffler, *Toad's Fate in Landowner's Hands*, SEATTLE POST-INTELLIGENCER, May 3, 2005, at A11 (explaining that under inadequate, but approved HCPs, the endangered Houston toad's survival is dependent on voluntary landowner actions).

[159] *See* 16 U.S.C. § 1539 (2006).

[160] *See* Spirit of the Sage Council v. Norton, 294 F. Supp. 2d 67 (D.D.C. 2003) (invalidating some of the current USFWS HCP procedural requirements), *vacated*, 411 F.3d 225 (2005). In response, the USFWS withdrew parts of its "no surprises" HCP policy for reconsideration. Withdrawal of Regulations Governing Incidental Take Permit Revocation, 69 Fed. Reg. 29,669, 26,669 (May 25, 2004).

[161] 16 U.S.C. § 1533(b)(1)(A). The primary arguments involving economics and the ESA are now about the extent and costs of designating critical habitat. The Act

Anti-ESA activists often speciously claim that the ESA is economically devastating, but in fact there is absolutely no evidence that the ESA seriously impacts state or regional economies, and every reason to think that it does not. For instance, a comprehensive study by the MIT Project on Environmental Politics and Policy looked at the statistical relationship between the number of species listed in each state as compared to that state's economic performance over the period of 1975-90. That study concluded that the Endangered Species Act has had no measurable economic impact on state economic performance. Controlling for differences in state area and extractive industry dependence, the study instead found that states with the highest numbers of listed species also enjoyed the highest economic growth rates and the largest increases in economic growth rates:

> The one and a half decades of state data examined in this paper strongly contradict the assertion that the Endangered Species Act has had harmful effects on state economies. Protections offered to threatened animals and plants do not impose a measurable economic burden on development activity at the state level. In fact the evidence points to the converse.
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> . . . In fact, for every tale about a project, business, or property owner allegedly harmed by the efforts to protect some plant or animal species there are over one thousand stories of virtual "non-interference." In reviewing the record of 18,211 endangered species consultations by the Fish and Wildlife Service/National Marine Fisheries covering the period 1987-1991 the General Accounting Office found that only 11% (2050) resulted in the issuance of formal biological opinions. The other 89% were handled informally—that is to say the projects proceeded on schedule and without interference. Of the 2050 formal opinions issued a mere 181—less than 10%—concluded that the proposed projects were likely to pose a threat to an endangered plant or animal. And most of these

requires the designation of critical habitat "on the basis of the best scientific data available *and after taking into consideration the economic impact* . . . and any other relevant impact, of specifying any particular area as critical habitat." *Id.* § 1533(b)(2) (emphasis added). Recent cases brought by land-development and homebuilder groups have resulted in courts tossing out existing critical-habitat designations for many salmonid listings on economic-analysis grounds, and sweetheart settlement agreements by the Bush administration have now sharply curtailed redesignated critical habitat areas. *See, e.g.*, Designation of Critical Habitat for Seven ESUs of Pacific Salmon and Steelhead in California, 70 Fed. Reg. 52,488 (Sept. 2, 2005) (substantially contracting previous critical habitat designation); Designation of Critical Habitat for Twelve ESUs of West Coast Salmon in Washington, Oregon, and Idaho, 70 Fed. Reg. 52,630 (Sept. 2, 2005) (same).

> 181 projects were completed, albeit with some modification in design or construction. In short, more than 99% of the projects reviewed under the Endangered Species Act eventually proceeded unhindered or with marginal additional time and economic costs. Given the political and economic screening that occurs in listings cases it is not surprising that no measurable negative economic effects are detectable.[162]

D. A Tale of Two Water Crises

The main impact of the ESA in the Klamath Basin has been to curtail excessive water diversions by the Klamath Irrigation Project and to force the region to finally grapple with problems of massive water over-appropriation. However, Upper Klamath Basin agricultural interests still cite "devastating" economic losses from the Project water curtailments of 2001 as a reason why the ESA should be repealed or its impacts on the Project (and by analogy other federal water projects) substantially curtailed.

The facts do not support these arguments. For instance, during the massive drought of 2001, Project water would have been significantly curtailed anyway and crop losses would still have occurred. There was simply not enough water to meet all irrigation demands because of the drought. What apparently rankled Project irrigators the most, however, is that during 2001, water allocations were provided as a first priority for instream minimum flows to the river and minimum levels in Upper Klamath Lake to protect ESA-listed fish from extinction, something that had never happened before.[163]

Ultimately, during 2001, upper Basin irrigators dependent on the federal irrigation Project got about 67% of a normal water year's water allocation from a combination of late July flows from Upper Klamath Lake (due to a fortuitous July rainfall) and at least 100,000 acre-feet of emergency groundwater augmentation. Parts of the Project that received water from Clear Lake or Gerber Reservoir rather than Upper Klamath Lake received full allotments. Other irrigators received emergency payments for the use of their water by the Bureau. While some serious crop losses did occur, total crop losses were later found to be far less

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[162] Stephen M. Moyer, *Endangered Species Listings and State Economic Performance* 15-16 (Mass. Inst. of Tech., Project on Envtl. Politics and Policy, Working Paper No. 4, 1995).

[163] *See supra* notes 83-84, 116-17 and accompanying text. **R**

than the hyper-inflated figures touted by "Bucket Brigade" activists and anti-ESA forces.[164]

It should also be kept in mind that non-Project farmers receiving no water from the Project irrigation system suffered no water losses and no crop losses other than those typical of any other dry year. Most non-Project farmers either already practice dryland farming and ranching, or have access to groundwater pumping at all times. Only a relatively few Upper Basin irrigators dependent on the Project—and then only a few hundred out of about 1200—had serious crop loss problems during 2001.[165]

Additionally, there were economic gains from the reallocation of water to the Klamath River during 2001 that are never acknowledged. Tens of millions of dollars in West Coast ocean salmon fisheries losses, and possibly another major fish kill, may well have been averted. Large numbers of juvenile fall Chinook salmon that out-migrated during early 2001 with higher flows contributed to a relative healthy ocean escapement as harvestable adults in late 2004, helping to make 2004 a relatively good salmon harvest season.[166] Had the limited water available in 2001 been allocated instead to upper Basin irrigation, as it had always been in past droughts, then water levels in the river would likely have been even lower during 2001 than those that triggered two massive fish kills in 2002, resulting in huge economic losses for salmon-dependent fishing communities over 700 miles of California and Oregon coastline.

The second recent water crisis to hit the Basin was caused in 2002 by Bureau actions, largely politically driven and to appease

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164 Klamath Basin Coalition, The Truth About Klamath Project Irrigation Water Deliveries in 2001, http://www.klamathbasin.info/2001waterfacts.pdf (last visited Apr. 14, 2007); *see supra* note 34 and accompanying text. R

165 The impact of the 2001 Project water curtailments hit some hard, but the impact was by no means uniform. Many hundreds of farmers within the Klamath Project (i.e., those dependent on water from Gerber Reservoir or Clear Lake) got full water deliveries during 2001 from those sources. Others took water directly through one or another of the approximately seventy small diversion intakes from Keno Reservoir and were also not affected. Still others (mostly in and around Tule Lake) had access to emergency groundwater pumps paid for and installed by the State of California, and suffered little water loss. Only those irrigators completely dependent on water from Upper Klamath Lake through the A-Canal and with no access to groundwater suffered major water shortages during 2001.

166 Since fall Chinook salmon typically have a four-year lifecycle, those eggs laid in fall 2000 would have hatched and out-migrated as juveniles in spring 2001 during a period of ESA-protected flows, returning as adults primarily during 2004 where they contributed to harvests.

Upper Basin irrigators, that left too little water for fish in the Klamath River. After the 2001 drought, the Bureau was under heavy political pressure in 2002 to resume full deliveries of water to the Project. The Bureau proposed 2002 operations that would deliver a more or less normal year's water allotment to its contract irrigators and water districts. NOAA Fisheries was also under similar pressure from Bush administration appointees to accept the Bureau's proposal in its BiOp, which it did that year in spite of continuing drought as well as warnings by NOAA Fisheries scientists and others that stripping the river of that much water would expose the lower river fish to high risk of a major fish kill.[167]

As a direct result of excessive Bureau irrigation-water diversions, there were indeed two large fish kills in the lower Klamath River during 2002—a large juvenile kill in spring of 2002, and the more infamous adult fish kill in September in which more than 68,000 otherwise-healthy adult spawners died in the lower river before they could swim upstream and spawn.[168] The economic impacts of the back-to-back salmon kills in the Klamath River in 2002, which represented a huge loss of salmon productivity, were anticipated to be economically devastating—and were, as discussed below.[169]

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[167] *See* Deposition of NOAA Fisheries Biologist Michael S. Kelly at 32-84, Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, No. 02-2006-SBA, 2006 WL 798920 (N.D. Cal. Mar. 27, 2006). In its 2002 Biological Assessment the Bureau proposed 2002 in-river water levels below Iron Gate Dam that were at near-record low flows. NOAA Fisheries' Technical Review Team objected to these levels as posing unacceptable risks to ESA-listed coho salmon. Under pressure from the Bush administration, however, political appointees within NOAA Fisheries later overruled the agency's own scientists and approved a NOAA Fisheries 2002-12 Coho BiOp based on the Bureau's dangerously low flow proposals. *See* Posting of Mike Kelly to The Undercover Activist Blog, http://peer.org/wordpress/?p=112 (Apr. 26, 2007). The head of the Agency's Coho Technical Review Team, Michael Kelly, later sought whistleblower protection against retaliation by NOAA Fisheries for his statements critical of its 2002 decision to override the team's recommendation. *See* Press Release, Pub. Employees for Envtl. Responsibility, Whistleblower Testifies Against Agency in Klamath Fish Kill (Mar. 19, 2003), http://www.peer.org/news/news_id.php?row_id=231. Kelly's claim was denied, however, and he is no longer with NOAA Fisheries.

[168] *See* CAL. DEP'T OF FISH & GAME, FINAL ANALYSIS OF CONTRIBUTING FACTORS, at III (2004), *available at* http://www.pcffa.org/KlamFishKillFactorsDFGReport.pdf. The 34,000 figure sometimes still cited represents a conservative initial estimate, based on a flawed counting methodology. In the final report, the estimated losses were twice as high (i.e., about 68,000). *Id.*

[169] *See infra* notes 192-97 and accompanying text.

In the end, the main impact of the ESA on the Klamath Basin has probably been to force the agencies most responsible for water over-allocation in the Basin to, however reluctantly, reallocate that water in light of a need to protect *all* interests, including both lower- and upper-Basin fish and wildlife needs, and not just irrigation. What the combined double-whammy water and fish crises of 2001 and 2002 told us more than anything is that the past status quo in the Basin is no longer biologically or economically sustainable, that water over-allocation is a reality that has to be dealt with, and that past irrigation-biased water-allocation practices simply needed to change.

II

GRAPPLING WITH ROTATING WATER CRISES: WATER OVER-ALLOCATION AND FISH-KILLING DAMS

Much of the Upper Klamath Basin is naturally arid, all of it is drought-prone, and water availability is always an issue. What the back-to-back water crises of 2001 and 2002 also made clear is that the Basin's limited surface-water supply is, in many locations, over-appropriated for human uses at the expense of fish survival, based on archaic water laws that fail to take instream fish needs into account.

One source of the conflict is that most of the water rights in the Upper Basin in Oregon have never been legally adjudicated, so there is no enforcement by Oregon state agencies against illegal use (or even a recognition that any use can *be* illegal unless rights are adjudicated), and little monitoring or measuring of total consumption. A painfully tedious adjudication process has been ongoing for more than twenty-five years, with several more years to run.[170]

A huge problem in the adjudication process is meeting tribal water rights held by the Klamath Tribes of Oregon. Federal courts have ruled that the Tribes' treaty-based water rights are senior to all others in the Basin.[171] In spite of favorable federal rulings, however, the Oregon Water Resources Department (OWRD) has taken the legal position that these most senior (but unadjudicated) tribal water rights are still inchoate, and thus has

[170] *See supra* note 85. For more information on the Oregon Klamath Basin water right adjudication process, see Water Resources Department, Klamath Basin Adjudication, http://www.oregon.gov/OWRD/ADJ/index.shtml (last visited May 5, 2007). R

[171] *See* United States v. Adair, 723 F.2d 1394, 1413-14 (9th Cir. 1983).

not set aside any water to satisfy them.[172] Nevertheless, the OWRD still issues water permits within the Upper Klamath Basin, based on a water-availability analysis that ignores potentially huge tribal-water obligations it will almost certainly be forced to satisfy in the near future.

Furthermore, while the OWRD "considers" the impacts of the ESA in the Basin, it still does not set aside any water or curtail any existing water rights for meeting legally senior ESA water obligations, even though these conflicting ESA water needs technically supersede state water-rights.[173] Ignoring these two obvious future water needs, the OWRD instead continues to give out Klamath Basin water rights that cannot be fulfilled, thus exacerbating future water over-allocation problems throughout the Basin.[174]

Something similar occurs in California, again based on obsolete water-allocation policies that do not take ecological needs into account. Unlike in Oregon, groundwater permitting is decentralized in California and under the jurisdiction of each county.[175] Also, there is no requirement for any cumulative-impacts analysis across county lines when (as is typical) an aquifer

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[172] Personal knowledge of the author, based on communications with Bob Hunter, Staff Attorney for WaterWatch of Oregon, Medford Field Office.

[173] *See generally* Letter from Bob Hunter, Staff Attorney, WaterWatch of Oregon, to Phil Ward, Dir., Water Res. Comm'n (Oct. 18, 2005) (on file with author) (addressing several major concerns with existing OWRD allocation policy). In considering new water permit applications OAR 690-033-220 and OAR 690-033-0330 require only consideration of ESA-listed species' essential habitat as defined by OAR 635-415-0005(4), but do not themselves require set-asides of any instream water to meet these species' needs.

[174] The Oregon Water Resources Commission has the authority under ORS 536.410 to withdraw the Upper Klamath Basin from further appropriation, but refuses to do so in spite of considerable evidence that the Basin is already over-appropriated. WaterWatch of Oregon, the PCFFA, and other organizations have twice formally petitioned the Commission to close the Upper Basin to further water appropriation until the adjudication process is final and groundwater studies intended to determine whether the Upper Basin aquifers are being overdrawn have been completed. *See* Petition for Withdrawal Klamath Basin Waters from Further Adjudication, WaterWatch of Oregon v. Or. Water Res. Comm'n (Or. Water Res. Comm'n filed July 1, 2005); Petition for Withdrawal or Emergency Rulemaking, *In re* Withdrawal or Immediate Closure of the Basin Waters (Or. Water Res. Comm'n filed May 28, 2001).

[175] In California, planning of city and county water supplies are to be addressed by local city and county general plans. CAL. WATER CODE § 10910 (West 2007). Well permits and permitting standards are also the responsibility of cities and counties. CAL. WATER CODE §§ 13801(c), 13803.

spans two or more counties.[176] As a result, important Klamath tributaries such as the Scott and Shasta rivers are increasingly dewatered every year by diverting groundwater inflows that once fed them. Large parts of these important Klamath River tributaries now go dry most years.[177] Some local restoration efforts are aimed at trying to recapture or purchase this lost instream water to return it to the river, even while state and county agencies work at cross-purposes to give more away.[178]

In both upper and lower sub-basins, instream shortfalls are being supplemented through widespread aquifer drawdowns by groundwater pumping.[179] However, there is growing evidence that drawdowns now exceed the ability of these aquifers to recharge–-where such studies have been done at all. Aquifers augment stream flows through springs, so drawing down aquifers to meet stream shortfalls can exacerbate the effects in the endless, expensive, no-win, vicious cycle of pumping the same water around in circles.[180]

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176 For example, Siskiyou County, Cal., and Klamath County, Or., are thought to be hydrologically connected through groundwater flows, and Siskiyou County's aquifer system may overlap with other California counties. However, Siskiyou County has never done a sustainable draw study of its aquifer system, but nevertheless continues to issue well permits in spite of mounting evidence of groundwater overappropriation.

177 *See* Letter from Vivian Helliwell, Pac. Coast Fed'n of Fishermen's Ass'ns & Inst. for Fisheries Res., to Song Her, Clerk, Cal. Water Res. Bd. (Oct. 29, 2006), http://www.pcffa.org/ShastaTMDLStateBd10-29-06.pdf. ESA-listed coho salmon are particularly dependent on small tributary habitats like the Scott and Shasta for over-wintering.

178 The California Department of Fish and Game has in recent years purchased water from local ranchers and farmers along the Scott River to augment dangerously low summer flows in that coho-bearing river system, while at the same time Siskiyou County continues to issue nearby groundwater well permits that deplete the very aquifers that feed Scott River instream flows. *See* Letter from Glen Spain, Pac. Coast Fed'n of Fishermen's Ass'ns & Inst. of Fisheries Res. et al., to Tam Doduc, Chair, State Water Res. Control Bd. 10-14, 12 tbl.1 (June 12, 2006) (on file with author).

179 A significant example is the "water bank" program of the Bureau, under which Upper Klamath Basin groundwater is purchased in large volume to augment Klamath River instream flows to replace water diverted by the Project, at a cost of several million dollars annually. For more details, see 2006 Water Bank, http://www.usbr.gov/mp/kbao/pilot_water_bank/2006_water_bank.html (last visited Apr. 15, 2007).

180 Recent studies conducted by the U.S. Geological Survey, for instance, have concluded that at least 60% of the inflow to Upper Klamath Lake, which directly feeds the Klamath River, derives directly from groundwater rather than surface water stream-flow. MARSHALL W. GANNETT ET AL., U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, GROUNDWATER HYDROLOGY OF THE UPPER KLA-

Lower Klamath Basin tribes (the Yurok, Karuk, and Hoopa) also have protected interests in the waters of the Klamath River sufficient to protect their tribal rights to abundant fisheries.[181]

For many years, a series of major fishery closures have been mandated by federal law on the basis of weak-stock management of Klamath salmon. The biological principle of weak-stock management is now embodied in the Pacific Coast Salmon Plan adopted by the Pacific Fishery Management Council (PFMC) and the Secretary of Commerce, pursuant to the Magnuson-Stevens Sustainable Fisheries Act.[182] Under Amendment 14 of that plan, wherever weak Klamath stocks intermingle in the ocean with healthy stocks, fishing opportunities on all of them must be constrained on the basis of the potential impacts on these weakest Klamath stocks. The weakest Klamath stock thus becomes the "weakest link" limiting factor on *all other* ocean salmon harvests, not only within the Klamath Management Zone (KMZ), but also far north (nearly to the Columbia River) and far south (to at least Monterey, California) of KMZ waters in ocean areas where Klamath stocks might migrate to any significant degree.[183]

In the Klamath, the "minimum spawner floor" (i.e., the number of fish that must be able to return to their spawning grounds to maximize stream productivity for the next generation), is currently 35,000 for Klamath fall Chinook.[184] If the Klamath fall Chinook stocks become too weak to meet that minimum spawner floor, then weak-stock management principles require that all ocean fishing that potentially impacts that weak stock within

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MATH BASIN, OREGON AND CALIFORNIA 37 (2007), *available at* http://pubs.usgs.gov/sir/2007/5050. However, in recent years that same groundwater aquifer has also been heavily tapped by the Bureau to supplement lowered flows in the Klamath River, indirectly reducing inflows to Upper Klamath Lake, and thus ultimately reducing net inflows to the Klamath River that same program is trying to replace.

181 *See* Parravano v. Babbitt, 70 F.3d 539, 545-46 (9th Cir. 1995).

182 PAC. FISHERIES MGMT. COUNCIL, PACIFIC COAST SALMON PLAN 1 (2003), *available at* http://www.pcouncil.org/salmon/salfmp/fmpthrua14.pdf. The Magnuson-Stevens Fishery Conservation and Management Act provides for federal management of fisheries in federal waters between 3 and 200 miles from the shore. *Id.* The PFMC is one of several regional fishery advisory councils established under the Act to advise the Secretary of Commerce on the management of federal fisheries.

183 *See id.* at 3-3 to -7. Amendment 15, intended to provide some additional flexibility to the minimum spawner floor of 35,000, is currently under consideration by the Secretary of Commerce as of the date of this writing. *See* Amendment 15, 72 Fed. Reg. 27,276 (May 15, 2007).

184 *See id.* at 3-3.

mixed-stock ocean fisheries must end.[185] There is currently no directed commercial fishery on Klamath coho salmon.[186]

The Klamath fall Chinook has frequently been the weakest of these West Coast stocks. As more Klamath River salmonid habitat has been lost or biologically compromised over the decades—through combinations of river and tributary dewatering, impacts of the Klamath Hydroelectric Project dams, and other factors—more Klamath stocks have declined.[187] Thus, once-abundant fisheries within the ocean region where most Klamath-origin fish migrate—the KMZ—have suffered major closures in what would otherwise have been relatively abundant salmon fisheries, at great economic and social cost to fishing-dependent communities.[188] Economic secondary-effects of Klamath fisheries declines cause additional job losses and economic suffering up and down the coastline which,[189] had Basin salmon been properly protected in the first place, would be unnecessary.

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185 This was the basis of major ocean salmon fishery closures during 2005, 2006, and somewhat similar but slightly less restrictive closures in 2007. In Monterey, Cal., for example, one Klamath-origin fall Chinook might be caught for every sixty to seventy fall Chinook from other areas, which means that Klamath-driven weak stock management closures there would cost fishermen between sixty to seventy harvestable fish for every single Klamath fish avoided.

186 Because of their weak-stock status, there has been no directed fishery on Klamath coho for many years, since well before any ESA listings. Because these fish are now ESA-listed, every effort is made to avoid even incidental take of Klamath coho. Since Chinook and coho have very different life-cycle and migration patterns, it is possible to avoid nearly all Klamath coho impacts in ocean commercial fisheries.

187 Ocean escapements to the Klamath (i.e., the number of salmon from the Klamath returning as mature adults) for 2006 were only about 30,000 despite widespread ocean-salmon fishery closures imposed as emergency conservation measures during that season. Peter Sleeth, *Forecast Points to Better Season for Fishermen*, OREGONIAN (Portland), Feb. 16, 2007, at D1. The minimum spawner floor of 35,000 is only 4% of estimated pre-development ocean escapements of 880,000. *See supra* note 3 and accompanying text. R

188 The KMZ is the ocean area from Horse Mountain (near Fort Bragg, Cal.) to Humbug Mountain (near Florence, Or.), extending 200 miles offshore and including all U.S. territorial waters in between. This region is specially managed by the PFMC. The fishing ports within the Zone include Fort Bragg, Cal., Eureka, Cal., Crescent City, Cal., and Brookings, Or. These ports were once the nation's most productive salmon fishing ports outside of Alaska. However, annual average salmon landings over 2001–04 to ports within the KMZ have plummeted by between 82% for Brookings to 97% losses for Eureka, as compared to annual average salmon landings during 1976–80. PAC. FISHERIES MGMT. COUNCIL, REVIEW OF 2005 OCEAN SALMON FISHERIES 88 tbl.IV-6, 89 tbl.IV-7 (2006), *available at* http://pcouncil.org/salmon/salsafe05/salsafe05.pdf.

189 *See* Peter Sleeth, *Lawmakers Fight Plan to Halt Salmon Fishing*, OREGONIAN (Portland), Mar. 11, 2006, at B1.

In the Klamath in 2005 and 2006, adult spawner returns were far below past ten-year averages, and in 2006 also were well below the 35,000 minimum spawner floor, in spite of relatively good ocean conditions and larger than normal runs in nearly every other neighboring river system. This deep dip in only the Klamath largely reflects spawning productivity losses from the massive Klamath River adult fish kill of September 2002, in which as many as 68,000 adult salmon (mostly fall Chinook but also hundreds of ESA-listed coho) died before they could spawn because of low-water conditions.

Flows to the lower river at Iron Gate Dam are entirely controlled by the Bureau, which first subtracts water for its Klamath Irrigation Project upstream of the dams. During the 2002 drought year, irrigators at the Project were provided normal-year, full-water deliveries in spite of continuing drought. The decision was apparently driven primarily by election-year politics, not science.[190]

In fact, NOAA Fisheries' own Technical Review Team scientists urged the agency to not sign off on the BiOp proposed by the Bureau, claiming that the extremely low flows provided to the lower river in the Bureau's plan exposed fish in the lower river to unjustifiable risks of a major fish-kill. NOAA Fisheries signed off anyway.[191] The result of this betrayal of science was that the Klamath suffered the worst adult-salmon fish-kill in U.S. history.[192]

The loss of this much productivity in one year was inevitably devastating to later ocean-salmon fisheries. As the PFMC noted, "The fish kill will likely make it impossible to meet the escapement goal this year, and the loss of the reproductive potential of these fish will result in diminished returns three, four and five years into the future."[193] This is precisely what has happened.[194]

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[190] *See* Tom Hamburger, *Oregon Water Saga Illuminates Rove's Methods With Agencies*, WALL ST. J., July 30, 2003, at A4.

[191] *See supra* note 159 and accompanying text.

[192] *See supra* note 168 and accompanying text. **R**

[193] *See* Letter from Hans Radtke, Chairman, Pac. Fishery Mgmt. Council, to Gale Norton, Sec'y, U.S. Dep't of the Interior, & Donald Evans, Sec'y, U.S. Dep't of Commerce 2 (Dec. 4, 2002), http://www.pcffa.org/PFMCKlamathletter12-02.pdf. Other factors, including serious water-quality problems and the spread of fish pathogens triggered by the Klamath Hydroelectric Project dams since 2002, have also likely contributed to poor rebounds from these devastating losses, exacerbating the escapement declines of 2005 and 2006, and predicted for 2007. *See* CAL. FISH & GAME, *supra* note 168, at III. **R**

During 2006, the northern California and Oregon ocean-salmon fisheries suffered a greater than 90% closure from a normal season. The total economic costs to the fishing industry of these 2006 Klamath-driven closures is expected to top $100 million in 2006 alone.[195] The Secretary of Commerce as well as the Governors of Oregon and California declared economic emergencies in spring 2006 to seek disaster assistance for closed ports and out-of-work commercial fishermen.[196] Two bills to compensate coastal communities for these economic losses have been filed in the 110th Congress.[197]

The back-to-back water and fisheries crises reflect the fact that rotating water-and-fisheries crises and declining ecosystem integrity are now the rule rather than the exception in the Klamath

194 Preliminary estimates of ocean escapement for Klamath fall Chinook for 2007 are currently 60,000. Sleeth, *supra* note 187. This is more than enough to meet the 35,000 spawner floor requirements but still far short of a normal season's return rates, just as was predicted by the PFMC. *See supra* text accompanying note 193. The 2007 ocean commercial-salmon season will thus be a little less restrictive, but otherwise resemble, that of 2005, during which the industry suffered about a 60% closure as compared to a normal season. The 2008 fishing season, with the effects of the 2002 fish kill finally behind us, is predicted to be much more like an average to above-average season. R R

195 Direct fishing-industry losses to Oregon and California were at first considerably underestimated, but have since been estimated at $60.4 million cumulatively by the two states, and this is the amount that has been requested from Congress. Indirect and induced secondary losses to allied businesses such as processors and shippers, and to the economic chain of commerce, are not accounted for in these numbers, nor are potential future losses from loss of wild salmon markets to farm fish which may take years to recover. The number $100 million in losses for closures suffered in 2006 is thus a reasonable, even a conservative, estimate of total economic losses. *See* Glen Spain & Zeke Grader, *Can't Fish Salmon? Federal Klamath Water Policies Are to Blame*, FISHERMEN'S NEWS, Apr. 2005, *available at* http://www.pcffa.org/fn-apr05.htm.

196 *See* Press Release, U.S. Dep't of Commerce, Declaration Concerning the Klamath River Fall Chinook Salmon Fishery (Aug. 10, 2006), *available at* http://www.commerce.gov/opa/press/Secretary_Gutierrez/2006_Releases/August/Klamath.pdf. *See also* Cal. Proclamation: California Salmon Runs (June 6, 2006), *available at* http://www.governor.ca.gov/govsite/pdf/press_release_2006/StateofEmergency_CA_Salmon_Runs_6-6-06.pdf; Or. Exec. Order No. EO-06-06 (Apr. 24, 2006), *reprinted in* OR. BULL., June 1, 2006, at 4. Governor Kulongoksi declared a state of emergency in Clatsop County in a later executive order. Or. Exec. Order No. EO-06-07 (Apr. 26, 2006), *reprinted in* OR. BULL., June 1, 2006, at 5.

197 *See* Pacific Salmon Emergency Disaster Assistance Act of 2007, H.R. 234, 110th Cong. (2007); *see also* Pacific Salmon Emergency Disaster Assistance Act of 2007, S. 145, 110th Cong. (2007) (a companion bill to House Bill 234). There are also disaster relief funds tied to various supplemental appropriations bills, one of which was vetoed in May 2007. However, as of this writing, no federal Klamath fishery disaster assistance had yet been appropriated by Congress.

Basin, and also demonstrate how these crises adversely affect nearly every community and stakeholder in the upper and lower sub-basins. The practices of the past that encourage these types of rotating crises clearly are not sustainable. Driven by these crises, several hopeful efforts to correct these problems, though late to start, are gaining momentum.

A. An On-Going Water Adjudication Process á la **Bleak House**

One of the legal contexts, as noted by the court in *Klamath Irrigation District*, was the long-standing Oregon water-rights adjudication process still ongoing in the Upper Klamath Basin. A large number of pre-1909 water-rights claims in the upper Basin have never been adjudicated; there are thousands of conflicting claims, and contests for every claim, all under consideration by the OWRD.[198] All of this creates a regulatory and enforcement nightmare for the OWRD. As a result of all these claims, the OWRD takes the position that it cannot enforce water rights nor curtail possible over-drafts in most of the unadjudicated upper areas.[199]

The Basin water-right adjudication process began in 1975 and preliminary decisions are not expected to be submitted to the Klamath County Circuit Court until at least December 2009—a deadline date that has slipped numerous times before and is likely to do so again.[200] Entire legal careers have been created as a result of this adjudication process and, like in Charles Dickens' *Bleak House,*[201] about the legal case that would never end, many of the original claimants (and some of the attorneys) have since died or retired.

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[198] The OWRD lists 730 separate Upper Basin water-right claims under adjudication, with 5660 separate contests currently filed. Or. Water Res. Dep't, Current Statistics, http://www1.wrd.state.or.us/files/Publications/klamath-adj/Status_of_the_Adjudication.pdf (last visited Apr. 17, 2007).

[199] Agency non-enforcement in the midst of the legal uncertainties is understandable but has been much criticized by water-conservation organizations such as WaterWatch of Oregon, which has documented several instances of excessive water use in the Upper Basin. Personal knowledge of the author based on communication with Lisa Brown, Attorney, WaterWatch of Oregon.

[200] Personal knowledge of the author based on communication with Phillip C. Ward, Director, Oregon Water Resources Department.

[201] CHARLES DICKENS, BLEAK HOUSE (Norman Page ed., Penguin Books 1971) (1853).

However, there has been one significant interim ruling worthy of note. In January 2006, an administrative law judge issued an Interim Order that the Project water users do not, in general, have any legal water rights at all, but instead have rights only insofar as they have contract water-delivery rights with the Bureau.[202] The Interim Order independently confirms *Klamath Irrigation District*'s holding that there is no compensable property right vested in the Project irrigators for water in the system.[203]

B. Steps Toward Decommissioning the Klamath Dams

[T]he increasing loss of fish habitat, to pollution, unwise development and other human activities, is the single largest long-term threat to the future viability of the marine fisheries of the United States. . . . Protection of habitat is the cheapest investment the nation can make to sustain productive fisheries.[204]

Some portions of the current Klamath Hydroelectric Project, now owned by PacifiCorp, began in 1895, but hydroelectric development began in earnest with the construction in 1918 of the first Copco Dam, which was built without fish passage of any sort. Power dams and related structures were added over the decades,[205] and today there are four main dams: Iron Gate (the lowest in the river system), Copco Nos. 1 and 2, and J.C. Boyles. There are also a non-power flow-regulatory structure, Keno Dam, and several small components—Fall Creek Dam, and the East Side and West Side Powerhouses at Link River Dam—bringing the total to eight structures. Link River Dam is a very small, irrigation-diversion dam hydrologically above the PacifiCorp dams and is owned by the Bureau.[206]

The entire set of dams has a combined, licensed, maximum-installed capacity for generation of a mere 161 megawatts,

[202] Interim Order at 16, *In re* Adjudication of Relative Rights of the Klamath River, No. 003 (Or. Water Res. Dep't Jan. 12, 2006).

[203] *See supra* notes 113-20 and accompanying text. R

[204] Ken Hinman & Carl Safina, *Summary and Recommendations*, *in* STEMMING THE TIDE OF COASTAL FISH HABITAT LOSS 245, 245-48 (Richard H. Stroud ed., 1992).

[205] 1 PACIFICORP, KLAMATH FINAL LICENSE APPLICATION §§ C2.2-8.1, at 2-1 to 8-1 (2004) [hereinafter KLAMATH FINAL LICENSE APPLICATION], *available at* http://www.pacificorp.com/Article/Article28613.html.

[206] *Id.* § A2.1, at 2-1. The Eastside and Westside power plants are attached to Link River Dam but are very old and very small and PacifiCorp intends to decommission them as part of any new license. The other PacifiCorp structures are all lower down in the river system.

though in fact various operational limitations, seasonal-flow restrictions, and ramping-rate restrictions mean that it has historically generated only about half that, or about 82 megawatts for an annual production average.[207] To put the size of this project into perspective, the combined power-generation capacity of this entire complex is only a very small fraction of the power-generation capacity of a single modern, thermal-turbine power plant.[208] The entire actual generation of the Klamath dams now amounts to less than 2% of PacifiCorp's total generation of 8460 megawatts.[209] This number would be reduced by at least another estimated 23% with the addition of proposed fish ladders and reduced ramping-rates as specified in federal agency prescriptions.[210]

The dams provide no irrigation-water diversions per se, since all water diversions for the Project are located well above the power dams, at the Link River Dam A-Canal intake in Upper Klamath Lake.[211] What few water-diversion points exist from within the Klamath Hydroelectric Project area include only about seventy small water diversions from the lake and reservoir above Keno Dam, a non-power regulatory dam which PacifiCorp

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[207] The entire Klamath Hydroelectric Project generates an annual average of 716,820 megawatt-hours (MWh), which amounts to a continuous capacity of only 81.94 megawatts. KLAMATH HYDROELECTRIC PROJECT DEIS, *supra* note 4, at xxvii. **R**

[208] PacifiCorp operates ten thermal-electric units that generate electricity from coal, geothermal, or natural-gas resources. The company is also part owner of six thermal plants. Together, these plants generate 9133 megawatts of electricity, which account for more than 83% of PacifiCorp's generation capabilities. On average, these thermal plants generate 571 megawatts of electricity each, compared to the eighty-eight megawatts average-generation capacity of the Klamath Hydroelectric Project dams. PacifiCorp, Thermal Generation, http://www.pacificorp.com/Navigation/Navigation591.html (last visited May 5, 2007).

[209] KLAMATH HYDROELECTRIC PROJECT DEIS, *supra* note 4, § 1.2, at 1-3. **R**

[210] M. CUBED, CAL. ENERGY COMM'N, PUBL'N NO. CEC-700-2006-010, ECONOMIC MODELING OF RELICENSING AND DECOMMISSIONING OPTIONS FOR THE KLAMATH BASIN HYDROELECTRIC PROJECT 2 (2006), *available at* http://www.energy.ca.gov/2006publications/CEC-700-2006-010/CEC-700-2006-010.PDF; *see also* Letter from B.B. Blevins, Executive Dir., Cal. Energy Comm'n, to Magalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n 3 (Dec. 1, 2006), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11197393 ("Klamath Project generation would be reduced 23 percent to an average annual level of 562,790 MWh.").

[211] The intake for the Klamath Irrigation Project is at the A-canal, adjacent to Link River Dam, which is a small diversion dam owned by the Bureau. *See supra* text accompanying note 206. **R**

has specifically excluded from its Final License Application.[212] In any event, Keno Dam is unlikely to be removed. There has been no request that Keno Dam be removed (only for it to have fish passage) and none of these water diversions would be affected by the decommissioning of the rest of the Project.[213]

Unlike much larger rivers such as the Snake, there is no river transportation through the dams, and the flood-control capacity of the entire system is very small—less than two days of flow at maximum storage.[214] Power production was the designed purpose of the system, not flood control.

Like all privately owned power dams, the Klamath Hydroelectric Project operates pursuant to a power license from the Federal Energy Regulatory Commission (FERC). The Klamath Project's FERC license includes all its dams and structures, including the non-power Keno Dam, and was last reissued in 1956 for a term of fifty years.[215]

Despite promises of fish passage dating back to 1916, none of these dams have fish passage for lower river salmonids.[216] This would no longer be permitted under current environmental stan-

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[212] 1 KLAMATH FINAL LICENSE APPLICATION, *supra* note 206, §§ A2.1-.2, at 2-1 to -2. **R**

[213] *See* KLAMATH HYDROELECTRIC PROJECT DEIS, *supra* note 4, §§ 2.1.1.2, 2.2.1.2, at 2-5, 2-17. See also *id.* §§ 5.2.19 and 5.4.1 at 5-54 to -55, 5-58 to -59 for references to Keno Dam fish passage. **R**

[214] 1 KLAMATH FINAL LICENSE APPLICATION, *supra* note 206, § B2.4, at 2-7 ("Because the Project reservoirs provide little active storage, [Upper Klamath Lake] provides the only meaningful storage in the basin to ameliorate high flow events."). **R**

[215] The Klamath Hydroelectric Project's fifty-year FERC license expired in the spring of 2006. Michael Milstein, *Klamath Farmers Take on New Threat*, OREGONIAN (Portland), Jan. 21, 2005, at A1. The license is now being extended annually by FERC under the same terms and conditions while relicensing is pending.

[216] In August of 1916, J. McKee, Vice-President of the California-Oregon Power Company, the original owners of the dams, wrote to the Bureau of Indian Affairs:

> We note that complaints have reached your office through the Klamath Indian Reservation that the run of salmon in the Klamath River has been interfered with by a dam which our company has under construction upon the Klamath River. In reply we beg to say that we expect that the said dam will be completed by the end of the present year, 1916. Ample provision has been made in the plans for the dam for a fish ladder which will permit unobstructed passage of fish up the Klamath River.

Nevertheless, when the dam was finally completed in 1918, the promises to the Klamath Tribes for fish passage facilities had been ignored. *See* LANE & LANE ASS'N, BUREAU OF INDIAN AFFAIRS, U.S. DEP'T OF THE INTERIOR, THE COPCO DAMS AND THE FISHERIES OF THE KLAMATH TRIBE 150-51 (1981) (on file with author).

dards for most new licenses, and some sort of fish passage will now be required as FERC considers PacifiCorp's application.[217]

Estimates are that these dams block salmonid access to as much as 570 stream-miles of once-occupied and productive salmon habitat, which today could produce between 149,734 to 438,023 additional adult fish each year.[218] But first the fish have to be able to get there.

There are hopeful signs and a number of reports, studies, and agency documents that may lead to an ultimate decision by either PacifiCorp or FERC to decommission all or most of these Klamath Hydroelectric Project dams, including the following.

1. Strong Stands on Fish Passage, Recommendations for Decommissioning

In March 2006, as a result of years of work and analysis, NOAA Fisheries, as the foremost federal salmon-manager, formally recommended full Klamath Hydroelectric Project dam removal to FERC as the biologically best option to revive the Klamath's failing salmon runs. NOAA Fisheries stated:

> The Licensee shall develop and implement a plan to remove the lower four Project dams (Iron Gate, Copco 2, Copco 1, and J.C. Boyle dams), restore the riverine corridor, and bring upstream and downstream fish passage facilities at Keno dam into compliance with NMFS guidelines and criteria within ten years of license issuance, expiration or surrender.[219]

Under its justification, NOAA Fisheries went on to add:

> While NMFS is prescribing preliminary fishways under its authority in Federal Power Act section 18, NMFS believes that within this relicensing process the best alternative to contribute to restoration of all fish species of concern in the Klamath watershed is the decommissioning and subsequent removal of the four lower Project dams (Iron Gate, Copco 1 & 2, and J.C. Boyle), combined with improvements in fish passage at Keno

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217 *See* Federal Power Act § 18, 16 U.S.C. § 811 (2006). There is a provision for applicant appeals and the right to propose alternatives to agency-proposed fish passage. *Id.* However, PacifiCorp's appeals and alternative prescription have been rejected. *See* discussion *infra* Part II.B.2.

218 C. W. Huntington, Aquatic Biologist, to Larry Dunsmoor, Biologist, Klamath Tribes, Preliminary Estimates of the Recent and Historic Potential for Anadromous Fish Production Above Iron Gate Dam 3, 12 (Apr. 5, 2004) (on file with author).

219 NAT'L MARINE FISHERIES SERV. & U.S. FISH & WILDLIFE SERV., PRELIMINARY FISH PRESCRIPTIONS C-5 (2006) [hereinafter COMMERCE PRELIMINARY FISH PRESCRIPTIONS], *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10985726.

> Dam. The dam removal alternative is a superior alternative from a fish passage, water quality, and habitat restoration standpoint. . . . Implementing this dam decommissioning and dam removal alternative would go a long way toward resolving decades of degradation where Klamath River salmon stocks are concerned.[220]

Full four-dam removal was also recommended by Oregon and California state agencies, all the Klamath Basin tribes, several members of Congress, many NGO organizations, and the Humboldt County Board of Supervisors.[221] Of particular note, even the PFMC, which manages all ocean salmon fisheries in federal waters under the Magnuson-Stevens Act,[222] formally endorsed Klamath Hydroelectric Project decommissioning and removal as its recommended option for restoring damaged fisheries. The PFMC noted that:

> The value of ocean fisheries is high when Klamath natural Chinook are abundant, but can be much lower when Klamath fish constrain the catch of other healthy stocks. The Council estimates that between 1970 and 2004, the average annual personal income impacts of the recreational and commercial ocean salmon fishery in the area where Klamath fish are found amounted to $92 million. The constraints on the fishery in 2006 caused by the need to protect Klamath River natural fall chinook are expected to reduce the value of this fishery to less than $33 million. In contrast, the Klamath hydropower project produces 163 megawatts with an annual net economic value of $16.3 million. NMFS notes that the "generating capacity provided through continued Project operations is nominal . . . relative to the watershed level of benefits to aquatic resources and regional and national priorities for restoring anadromous salmonids.
>
> . . . .
>
> The Council believes the proposed relicensing of this project will have substantial adverse impacts on [essential fish habitat] in the Klamath River. The project causes harm to salmon habitat; to the health of fish stocks; to commercial, recreational, and tribal fisheries; and to fishing communities along the Oregon and California coasts and in the Klamath River basin. Consequently, the Council recommends that FERC order the immediate decommissioning and removal of the four

220 *Id.*

221 *See, e.g.*, Letter from Eleven Members of the House of Representatives to Joseph T. Kelliher, Chairman, Fed. Energy Regulatory Comm'n (May 2, 2006) (on file with author); Letter from Mike Reed, President, Or. Chapter, Am. Fisheries Soc'y, to Magalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n (Nov. 21, 2006) (on file with author).

222 16 U.S.C. § 1801(a)(ii) (2006).

> lower Klamath River dam structures and full restoration of habitat affected by the dams and reservoirs.[223]

Unfortunately, NOAA Fisheries, state agencies, tribes, PFMC and NGOs cannot compel FERC decommissioning, but can only recommend it.[224] Nevertheless, these recommendations will have a great deal of persuasive power. FERC should also consider the damage these dams have done to other, potentially more valuable, economic sectors such as the fishing industry.

However, NOAA Fisheries and USFWS *can* compel construction of fish passage facilities for salmon, which none of these dams currently possess.[225] NOAA Fisheries therefore joined with the USFWS to require stringent, volitional, fish-passage requirements in these dams as a condition of any license renewal as a backup option to full decommissioning.[226] The Bureau of Land Management (BLM) also has some limited prescriptive authority, but only over the wild-and-scenic designated portions of the river at and below J.C. Boyle Dam.[227] BLM authority is thus restricted to ramping-rate and flow issues at J.C. Boyle Dam that would impact recreational uses of the river and river resources just downstream on BLM-managed lands.

In fact, the estimated costs of retrofitting these nearly obsolete dams to modern fish-passage standards could easily exceed their net power-production value to the company. If this is the case, and PacifiCorp still refuses to decommission them, it is unlikely that the public utility commissions (PUCs) of any of the six states in which PacifiCorp operates would approve passing these costs on to customers—not when dam removal would have been a far cheaper option with respect to consumers.[228] Any effort by PacifiCorp to recover the costs from customers of its poor choice

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[223] Letter from Donald K. Hansen, Chairman, Pac. Fishery Mgmt. Council, to Magalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n 4-5 (Apr. 24, 2006), *available at* http://www.pcouncil.org/habitat/habdocs/FERC_Klamath_M_Salas.pdf.

[224] *See* 16 U.S.C. §§ 797(e), 811, 823d.

[225] *Id.* § 811.

[226] *See* COMMERCE PRELIMINARY PRESCRIPTIONS, *supra* note 219; *see also* U.S. DEP'T OF THE INTERIOR, COMMENTS, PRELIMINARY RECOMMENDATIONS, TERMS AND CONDITIONS, AND PRESCRIPTIONS FOR FISHWAYS 2 (2006), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10986202. **R**

[227] *See* 16 U.S.C. § 797(e) (authorizing BLM to impose conditions "necessary for the adequate protection and utilization" of BLM lands).

[228] PacifiCorp (also doing business as Pacific Power and Rocky Mountain Power) operates in California, Oregon, Washington, Idaho, Wyoming, and Utah, serving roughly 1.6 million customers. PacifiCorp, PacifiCorp Facts, http://www.pacificorp.com/Navigation/Navigation3877.html (last visited May 5, 2007).

to retain Klamath Dams in the face of cheaper and more effective options would be hotly contested.

In late January 2007, NOAA Fisheries, the USFWS and the BLM all filed final prescriptions under the Federal Power Act.[229] These final prescriptions were nearly identical to all prior preliminary prescriptions and recommendations filed in March 2006, with only minor changes. All three agencies soundly rejected PacifiCorp's proposed "trap and haul" alternative as less protective of the resource than full fish-passage and less likely to result in successful reintroduction of anadromous fish back into the upper Basin.[230] These filings make it inevitable that FERC will ultimately be required to adopt the agencies' volitional fish-passage requirements in any final new FERC license.

2. Favorable Rulings in the Energy Policy Act Appeals

Until 2005, the power of NOAA Fisheries and the USFWS to require fish passage in a FERC relicensings was absolute. If a federal agency required fish passage, it was an automatic condition of any future FERC license and binding on FERC, even if FERC disagreed.[231]

The hydropower industry, which is facing thousands of dam relicensings in the next two decades, detests this mandatory conditioning authority, and finally succeeded in reducing that authority in 2005 under the Federal Power Act, via amendments to the Energy Policy Act.[232]

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[229] BUREAU OF LAND MGMT., WILD AND SCENIC RIVERS ACT SECTION 7 DETERMINATION FOR THE UPPER KLAMATH WILD AND SCENIC REACH (2007) [hereinafter BLM WILD AND SCENIC RIVERS ACT DETERMINATION], *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11239992; U.S. DEP'T OF COMMERCE, KLAMATH MODIFIED FISHWAY PRESCRIPTIONS AND ALTERNATIVES ANALYSIS (2007) [hereinafter COMMERCE'S MODIFIED FISHWAY PRESCRIPTIONS], *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11238826; U.S. DEP'T OF THE INTERIOR, MODIFIED TERMS AND CONDITIONS, AND PRESCRIPTIONS FOR FISHWAYS (2007) [hereinafter INTERIOR MODIFIED TERMS AND CONDITIONS], *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11239696.

[230] This is the legal standard that must now be met under the Energy Policy Act alternative-conditions parallel-regulations at 43 C.F.R. § 45.73 (Interior) and 50 C.F.R. § 211.73 (Commerce). Final Prescriptions were filed in January 2007. *See* BLM WILD AND SCENIC RIVERS ACT DETERMINATION, *supra* note 229; COMMERCE'S MODIFIED FISHWAY PRESCRIPTIONS, *supra* note 229; INTERIOR MODIFIED TERMS AND CONDITIONS, *supra* note 229. R R R

[231] *See* 16 U.S.C. § 811 (2000).

[232] *See* Energy Policy Act of 2005, Pub. L. No. 109-58, § 241(c), 119 Stat. 594, 674 (codified in scattered sections of 16 U.S.C.).

The Energy Policy Act of 2005 provided for an intermediate trial-type, fact-finding hearing and appeals process, on a very stringent ninety-day timeline, for all fish-passage conditions that a license applicant disputes.[233] This provision was retroactively applied to the Klamath under newly adopted rules.[234]

In the first test of this new appeals procedure, PacifiCorp formally appealed the fish-passage conditions on numerous grounds.[235] Many tribal, conservation, and fishing industry groups intervened in these expedited proceedings to defend the conditions.[236]

After three months of intensive preparation coordinated between the conservation and fishing groups, the tribes, and the state and federal agencies, the administrative appeal went to a week-long trial in August 2006. Opposed was PacifiCorp as well as Siskiyou County, the County being concerned about the impact of dam removal on property owners surrounding Copco Lake and the impact on whitewater-rafting businesses.[237] At stake was whether "volitional fish passage" would be imposed by the federal agencies, or whether the "trap-and-haul" alternative proposed by PacifiCorp that would leave the dams in place would prevail.[238]

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233 *Id.*

234 These new rules are now at 43 C.F.R. pt. 43 (Interior) and 50 C.F.R. pt. 211 (Commerce).

235 *See* Letter from Beth S. Ginsberg, Stoel Rives LLP, to Chief, Habitat Prot. Div., Office of Habitat Conservation, Nat'l Marine Fisheries Serv. (Apr. 27, 2006), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11016462 (addressing PacifiCorp's submission of documents related to a challenge to fish-passage conditions).

236 Both the PCFFA and the IFR were also intervenors in that case. *Id.*

237 Siskiyou County was separately represented as a plaintiff-intervenor primarily to challenge BLM Issue 19 regarding the impact of changed J.C. Boyle peaking reach flows and how that would affect whitewater rafting and flyfishing, but otherwise played only a minor role. *See, e.g.*, Comments and Recommendations of Siskiyou County at 2, *In re* PacifiCorp License Renewal (Fed. Energy Regulatory Comm'n Mar. 29, 2006), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10985968. On November 15, 2006, the U.S. Coast Guard, which held hearings on the matter, posted the full administrative record on the FERC eLibrary website under both Docket Nos. P-2082-027 and P-2082-000. The FERC eLibrary site may be accessed at http://www.ferc.gov.

238 PacifiCorp simultaneously filed its Energy Policy Act administrative appeal of the Service's volitional fish-passage Preliminary Prescriptions and its own Alternative Prescriptions on CD with FERC on April 28, 2006. *See* Letter from Anne K. Dailey, Troutman Sanders LLP, to Magalie Roman Salas, Sec'y, Fed. Energy Regulatory Comm'n (Apr. 28, 2006), http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11016462; Letter from Beth S. Ginsberg to Habitat Prot. Div. Chief,

On September 27, 2006, the administrative law judge ruled in favor of the federal and state agency positions on every major issue, including all issues directly relevant to fish passage. The agencies lost on only a few minor points, mostly dealing with impacts on whitewater rafting.[239] This decision was a vindication of the agencies' prescriptions, and seriously undercut PacifiCorp's efforts to substitute a more primitive trap-and-haul fish-passage program.

3. A Very Favorable Sediment Study

Whenever any dam is breached, there are always concerns about trapped sediments washing downstream. There had been speculation that there might be serious problems with either the volumes of sediments trapped behind the dams, or the toxic nature of these sediments, that could make dam decommissioning prohibitively expensive or dangerous.[240] PacifiCorp, however, refused to conduct the necessary studies to determine whether this was a problem or not as part of its relicensing application process, and for several months this issue was at an impasse.[241]

However, in September 2006 the California Coastal Conservancy released a comprehensive sediment study with results favorable to decommissioning the dams. This study found (1)

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supra note 235. Had the Energy Policy Act appeal of PacifiCorp ultimately prevailed, PacifiCorp's Alternative Prescription (i.e., "trap-and-haul") would have been the alternative likely adopted by FERC. **R**

[239] *See In re* Klamath Hydroelectric Project 85-87, No. 2006-NMFS-0001 (NOAA Fisheries Sept. 27, 2006), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11146718.

[240] *See, e.g.*, KLAMATH HYDROELECTRIC PROJECT DEIS, *supra* note 4, § 5.2.21, at 5-58 ("However, if sediments in Copco or Iron Gate reservoirs are found to be contaminated to the extent that release of the sediments to downstream areas could not reasonably occur, the costs for dredging and upland disposal of contaminated sediments could be exorbitant . . . ."). **R**

[241] PacifiCorp took the position that since it was not proposing dam decommissioning, it had no obligation to conduct sediment or other studies potentially leading up to decommissioning. This position was disputed by the agencies, which uniformly took the position that a complete study record for all options was needed for alternatives analysis as part of the NEPA process and repeatedly asked for these additional studies. *See* OR. DEP'T OF ENVTL. QUALITY, PRELIMINARY COMMENTS ON THE FINAL LICENSE APPLICATION passim (2003), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10127009; Letter from William D. Bettenberg, Dir., Office of Policy Analysis, Dep't of the Interior, to Magalie R. Salas, Sec'y, Fed. Energy Regulatory Comm'n & Toby Freeman & Todd Olsen, PacifiCorp passim (Apr. 26, 2004), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10127494.

there are no significant toxic contamination problems in sediments trapped behind the dams; and (2) the amount and position of retained sediment would not become a significant problem with decommissioning and removal but would largely wash through the river system within a single season without significantly jeopardizing downriver ecosystems and salmon runs.[242] There are also a number of mitigation measures in terms of increasing Project flow-through levels and flow timing available to limit sediment surges to a short duration and to minimize adverse impacts of the sediment surge on the lower river.[243] The river is also so spawning-sediment starved for at least fifty miles below Iron Gate Dam that there would be a net benefit for salmon over the long run, above and beyond that from opening up blocked habitat areas.[244]

This means that decommissioning of the major dams in the Klamath hydropower system would be relatively easier and far less expensive than originally thought, and overcomes a major PacifiCorp objection to dam removal.

4. The Draft Environmental Impact Statement Concludes Dam Removal Is Feasible

In September 2006, FERC published its long-awaited draft environmental impact statement (DEIS) analyzing the various options for relicensing. One of the four options under consideration is partial dam removal.[245] This is a rarity in FERC DEIS documents and shows that serious consideration is being given to dam removal in some form. The removal option analyzed includes the total removal of the two largest and worst dams in the system—Iron Gate and Copco No. 1.[246] The re-

[242] Letter from Samuel Schuchat, Executive Officer, Cal. Coastal Conservancy, to Magalie Roman Salas, Sec'y, Fed. Regulatory Comm'n 1 (Sept. 22, 2006), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11142980; *see also* Memorandum from Yantao Cui, Hydraulic Engineer, Stillwater Engineering, to Dennis Gathard, Gathard Engineering Consulting (Sept. 13, 2006), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11142984 (recommending the removal of coffer dam one year after the process that would release sediment).

[243] Memorandum from Yantao Cui, *supra* note 242. **R**

[244] On sediment starvation of lower river below Iron Gate Dam, see KLAMATH HYDROELECTRIC PROJECT DEIS, *supra* note 4, § 3.3, at 3-5 to -23. **R**

[245] *Id.* § 4.6, at 4-4 to -7.

[246] *Id.* These two dams have by far the largest reservoirs and therefore are the source of most of the water-quality problems created by the Project as a whole.

moval would, according to FERC's own analysis, correct many of the serious water-quality problems within the system, many of which jeopardize the health of the Klamath's salmon runs far downstream.[247] FERC also concluded that the two-dam removal option it analyzed was far cheaper than retaining these two dams with full, volitional fish-passage.[248]

That DEIS is flawed, however, in several ways, including: (1) failure to analyze the full decommissioning and removal (the four-dam removal) option; (2) failure to take into account the rulings issued by an administrative law judge two days after the DEIS was released; and (3) failure to factor in the Coastal Conservancy sediment study, also released shortly after the DEIS was issued. These and numerous other flaws have prompted many calls for the DEIS to be withdrawn, rewritten, and reissued in light of this important new information. The formal comment period on the DEIS closed December 1, 2006. A final EIS is due out after April 30, 2007, though these deadlines often slip.[249]

5. Probable Strong State Water Quality Certification Requirements

In order to get a FERC license, every project must be certified under section 401(c) of the CWA by the affected states as meeting state water-quality requirements.[250] Thus, FERC is bound by whatever mitigation measures are required by the states to meet state water-quality standards. This state water-quality certification process is the states' only mandatory conditioning authority under the Federal Power Act.

The ability of the Klamath River below the dams to support salmon is severely constrained by high water temperatures, poor water quality, poor dissolved-oxygen levels, excessive ammonia, toxic and other algae blooms, nutrient concentrations in the warm-water reservoirs, and related fish parasites and diseases that thrive in such conditions. All these conditions can be traced to, or are exacerbated by, the Klamath dams.[251] Most of both of the upper and lower parts of the river are listed under the CWA

247 *See id.* § 3.3.2.2.2, at 3-150 to -153.

248 *Id.* § 4.0, at 4-2 tbl.4-3.

249 A final EIS is generally issued within ninety days of the filing of the final agency prescriptions. These prescriptions were filed January 30, 2007.

250 Clean Water Act, 33 U.S.C. § 1341(a)(1) (2006).

251 *See* KLAMATH HYDROELECTRIC PROJECT DEIS, *supra* note 4, § 3.3.2, at 3-58 to -155. R

section 303(d) as water-quality impaired for a host of these and other limiting factors.[252]

In recent years there has been increasing concern with the spread of highly toxic blue-green algae throughout the dams' reservoirs. In particular, a nasty little species known as *Microcystis aeruginosa*[253]—a poisonous blue-green algal cyanobacterium that creates a potent human liver toxin, microcystin—is now pervasive throughout Iron Gate, Copco, and Keno reservoirs, though all but unknown above those reservoirs. Even small exposures to the toxin microcystin can lead to serious liver damage in humans.[254] This potent liver toxin also bioaccumulates in fish, creating serious health concerns for recreational and tribal fishermen, fish populations, commercial fishermen, and ultimately consumers.[255]

During July and August 2006, water samples were taken at several locations in the Iron Gate and Copco reservoirs that found *Microcystis aeruginosa* everywhere sampled at levels of serious public health concern.[256] At one location in Copco reservoir, the levels of the toxic algae observed exceeded the World Health Organization's moderate-risk-exposure standard by more than 3900 times.[257] According to the researchers conducting these studies, these levels are "among the highest recorded in the world."[258] This toxic blue-green algae species thrives in the nutrient-rich warm waters of reservoirs behind the dams, but was not found to

[252] *See supra* note 147. As a result of this impaired waters classification, a number of Klamath TMDL development processes are now ongoing. *See infra* note 312. **R**

[253] *See* KLAMATH HYDROELECTRIC PROJECT DEIS, *supra* note 4, § 3.3.2.1, at 3-117. **R**

[254] Microcystin can cause a wide variety of human health problems, including severe liver damage and death. *See* Maria G. Antoniou et al., *Cyanotoxins: New Generation of Water Contaminants*, 131 J. ENVTL. ENGINEERING 1239, 1239 (2005); S. Pichardo et al., *Toxic Effects Produced by Microcystins From a Natural Cyanobacterial Bloom and a* Microcystis aeruginosa *Isolated Strain on the Fish Cell Lines RTG-2 and PLHC-1*, 51 ARCHIVES OF ENVTL. CONTAMINATION & TOXICOLOGY 86, 86-87 (2006).

[255] *See* V.F. Magalhães et al., *Microcystins (Cyanobacteria Hepatotoxins) Bioaccumulation in Fish and Crustaceans from Sepetiba Bay (Brasil, R.J.)*, 42 TOXICON 289, 289-90 (2003).

[256] Memorandum from Jacob Kann of Aquatic Ecosystem Sciences on Cyanobacteria Results from July 13th and 27th, 2006, at 1 (Aug. 8, 2006) (on file with author) [hereinafter August 8th Memorandum]; Memorandum from Jacob Kann of Aquatic Ecosystem Sciences on Cyanobacteria Results from August 7th-8th, 2006, at 1 (Aug. 21, 2006) (on file with author) [hereinafter August 21st Memorandum].

[257] August 21st Memorandum, *supra* note 256, at 2 & tbl.1. **R**

[258] *Id.* at 2.

any significant degree anywhere above the Keno Reservoir.[259] The microcystin toxins from these algae blooms, however, wash downstream, and have already been observed accumulating in the livers of some lower river Chinook salmon.[260]

PacifiCorp applied in March 2006 to both Oregon and California for CWA state section 401(c) water-quality certifications. The deadline for state agency action on that application would ordinarily have been March 2007, one year from the original application date. However, the state agencies have noted a number of serious flaws in the applications, including lack of monitoring data on *Microcystis aeruginosa* and its related toxin microcystin. In lieu of outright denial, however, PacifiCorp's original certification application was withdrawn on February 28, 2007, and later resubmitted that same day and in the same form, technically restarting the one-year decision clock.[261] However, by letter dated February 26, 2007, the California Water Board has now required considerable additional water-quality monitoring data and information for the new application, or it will ultimately be denied.[262] This reiterative process could happen several times, and each withdrawal and re-submittal pushes state 401(c) certification-decision deadlines into the future by another year.

6. California Energy Commission Study Concludes the Klamath Dams Are Not Cost Effective

In December 2006, the California Energy Commission (CEC) released what is likely to be an influential economic analysis of

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259 *Id.*

260 Yurok Tribe Biologists, Address at the Fish Health Conference (Jan. 31, 2007). For more information on this unpublished study, contact the Yurok Tribe of California, Department of Natural Resources, 15900 Hwy. 101 North, Klamath, Cal. 95548, (707) 482-1350. As a result of these concerns, on May 2, 2007, a group of lower river tribal members and coastal commercial salmon fishermen filed a private nuisance and unlawful business practices suit against PacifiCorp to force cleanup of the toxic algae problems at the dams. *See* Complaint, McConnell v. PacifiCorp, No. 07-2382-WHA (N.D. Cal. filed May 2, 2007).

261 *See* Letter from Elizabeth Lawson, Cal. Water Res. Control Eng'r, State Water Res. Control Bd., to Cory Scott, Project Manager, PacifiCorp Energy (Mar. 20, 2007), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11316001. A similar withdrawal and re-submittal was done in Oregon.

262 Letter from Elizabeth Lawson, Water Res. Control Eng'r, Cal. Water Res. Control Bd., to Cory Scott, Project Manager, PacifiCorp Energy 11 (Feb. 26, 2007), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11289671. A similar letter was issued by Oregon DEQ but not filed on the FERC web site as of this writing. It is available from Oregon DEQ.

the dams.[263] The CEC Report shows that even under future fuel and power costs estimated by PacifiCorp itself, four-dam decommissioning in the Klamath would still be about $101 million cheaper than retaining the dams and retrofitting them to modern fish-passage standards.[264]

This means that if PacifiCorp retains these dams, it faces a high risk of operating them at a loss as well as a potential refusal by the state public utility commissions to allow these costs to be passed to customers.[265] If PacifiCorp cannot pass on the costs, the company's shareholders would have to pony up these costs. This creates a stronger economic incentive for PacifiCorp to simply order the dams decommissioned.[266]

7. Decoupling the Dams from Irrigation Power Rates

Since 1917, a select group of federal Klamath Irrigation Project irrigators, as well as a few now located outside the Project, have enjoyed long-term power contracts tied to the Klamath Hydroelectric Project that provided highly subsidized irrigation power prices fixed at 1917 rates, which today are only about one-twelfth

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263 CAL. ENERGY COMM'N, ECONOMIC MODELING OF RELICENSING AND DECOMMISSIONING OPTIONS FOR THE KLAMATH BASIN HYDROELECTRIC PROJECT (2006) [hereinafter CEC REPORT], *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11197393.

264 *Id.* at 6. PacifiCorp has since filed a rebuttal to the CEC Report with FERC. *See* DANIEL G. HANSEN ET AL., CHRISTENSEN ASSOCS. ENERGY CONSULTING, EVALUATION OF THE KLAMATH PROJECT ALTERNATIVES ANALYSIS MODEL (2007), *available at* http://elibrary.ferc.gov/idmws/common/ opennat.asp?fileID=11284928; Letter from Cory Scott, Project Manager, PacifiCorp Energy, to Philis Posey, Acting Sec'y, Fed. Energy Regulatory Comm'n (Mar. 12, 2007), *available at* http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11284927; *see also* Letter from B.B. Blevins, Executive Dir., Cal. Energy Comm'n, to Philis Posey, Acting Sec'y, Fed. Energy Regulatory Comm'n (Apr. 19, 2007), *available at* http://www.energy.ca.gov/2007publications/CEC-700-2007-004/CEC-700-2007-004-REV1.PDF (responding to criticisms made in the PacifiCorp rebuttal).

265 Since a power-plant license is considered a system-wide benefit, these costs would ordinarily be passed on to customers, but PacifiCorp would need consent from the PUCs of all six states in which it does business in order to effect rate hikes.

266 It should be noted, however, that decommissioning a dam is not the same thing as removal of the structures from a river and restoring the river to its original condition. There have been instances of dams decommissioned (i.e., they cease functioning as power producers) but then being more or less abandoned and never removed. In the Klamath, the dams would have to be both decommissioned and removed in order to fully restore the river. FERC would retain jurisdiction over a decommissioned dam through a non-power FERC license.

to one-seventeenth the power rates paid by all other similarly situated irrigators.[267]

These power rates, originally set in 1917 at then-market power rates when the dams were first licensed, were never adjusted for inflation, so over the years the gap between what all other similarly situated irrigators were paying for irrigation power and what these select few were paying continued to grow. By 2007 this subsidy had grown to about $10 million per year, a sum underwritten by all other PacifiCorp customers.[268] These customers included farmers not receiving the subsidy who were forced to compete with subsidized Klamath Project farmers in the same markets, selling the same types of crops, at a distinct economic disadvantage.[269] Project subsidized rates were also well below the costs to PacifiCorp of creating and delivering this power, which meant that PacifiCorp lost considerable money on the transaction every year.[270] Until recently, this direct connection between the existence of the Klamath Hydroelectric Power Project and subsidies to the local irrigation power rates tied these two interests directly together.

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267 *See* Editorial, *No More Cut-Rate Power*, REG.-GUARD (Eugene, Or.), Apr. 17, 2006, at A10. The Project spans the Oregon-California border, and the standard power rate tariffs for each state are slightly different, hence the spread. Also, location within the Project and power usage create slight rate variations from user to user.

268 PUC staff noted in testimony "The cost for PacifiCorp's system of transmission, distribution, and generation facilities to serve the Klamath Basin irrigators far exceeds the rates of the historical contracts. . . . The deficit in revenue required between what Klamath irrigators would pay under [current rates] and the rates in the historical contracts is being covered by PacifiCorp's other Oregon customers. This represents an annual transfer-of-wealth from PacifiCorp's Oregon customers to Klamath Basin irrigators of $7.7 million . . . ." Opening Testimony of William A. McNamee 17-18, *In re* Pacific Power & Light, No. UE-170 (Or. Pub. Utils. Comm'n Jan. 17, 2006), *available at* http://edocs.puc.state.or.us/efdocs/HTB/ue170htb92827.pdf; *see* Rebuttal Testimony of William A. McNamee 16-17, *In re* Pacific Power & Light, No. UE-170 (Or. Pub. Utils. Comm'n Feb. 6, 2006), *available at* http://edocs.puc.state.or.us/efdocs/HTB/ue170htb104512.pdf; *see also* Direct Testimony of James V. McCarthy 10-13, 17-18, *In re* Pacific Power & Light, No. UE-170 (Or. Pub. Utils. Comm'n Jan. 17, 2006), *available at* http://edocs.puc.state.or.us/efdocs/HTB/ue170htb143017.pdf (showing approximately $10 million/year annual subsidy when all factors are considered). The Oregon Public Utilities Commission (OPUC) rate case in which Klamath Irrigation Project irrigation rates were adjusted from 1917-era rates is OPUC Docket No. UE-170. The entire administrative record of this case is available by docket number at http://apps.puc.state.or.us/edockets/search.asp and can be accessed by searching for Docket No. UE-170.

269 Direct Testimony of James V. McCarthy, *supra* note 268, at 13. R

270 *See supra* notes 268-69. R

But in April 2006, the fifty-year term of the last extension of these long-term power contracts finally ended.[271] As these contracts were coming to a close, Klamath Water Users Association (KWUA), the Off-Project Water Users Association, and the DOI sought to have these rates, no longer provided by any contract, extended in both Oregon and California through their respective state PUCs.[272]

Much has changed in the utilities arena since 1917 when these contracts were first signed. For one thing, the West Coast is now covered by a consolidated power grid and it is no longer possible to trace Project power specifically back to the Klamath dams as in 1917. Also, under modernized state laws these 1917 long-term power contracts are now almost certainly illegal as discriminatory rates under both Oregon[273] and California law.[274]

As a consequence, both state public utilities commissions rejected irrigators' claims that these unique subsidies were justified by any difference in operations or power usage by the irrigators. As a consequence, in April 2006, the Oregon PUC ordered these previously subsidized rates to move to market rates over a seven-year transition period.[275] A December 2006 decision, issued by the California PUC, has similarly denied all KWUA and DOI claims to continued power subsidies and continued their move to market rates over a four-year transition period.[276] While litigation over these power rates subsidies is not quite over,[277] these

[271] *In re* Pac. Power & Light, Or. Pub. Utilities Comm'n Order No. 06-172, at 1 (Apr. 12, 2006), *available at* http://apps.puc.state.or.us/orders/2006ords/06-172.pdf.

[272] *See* Motion to Strike Testimony at 2-4, *In re* PacifiCorp Proposed Rate Increase, Investigation No. 06-02-002 (Cal. Pub. Utilities Comm'n July 19, 2006), *available at* http://www.cpuc.ca.gov/EFILE/MOTION/58199.pdf; *In re* Pac. Power & Light, Or. Pub. Utilities Comm'n Order No. 06-172, at 2.

[273] *See* OR. REV. STAT. § 757.325 (2005).

[274] *See* CAL. PUB. UTIL. CODE § 453(a), (c) (West 2007).

[275] *In re* Pac. Power & Light, Or. Pub. Utilities Comm'n Order No. 06-172, at 1. The seven-year transition period was required pursuant to Oregon Senate Bill 81, adopted in 2005 to provide this gradual ramping of rates to standard tariffs. *See id.* at 1, 16, 18.

[276] *In re* PacifiCorp, No. U-901-E (Cal. Pub. Util. Comm'n Dec. 14, 2006), *available at* http://www.cpuc.ca.gov/word_pdf/FINAL_DECISION/63020.pdf.

[277] The Off-Project Water Users Association has since filed suit against PacifiCorp in Oregon, seeking judicial restoration of 1917 contract power rates on the theory that since their 1917 contract carried no specific termination date, these rates could never be terminated or changed. *See* Klamath Off-Project Water Users Ass'n v. PacifiCorp, Civil No. 06-04877 (Cir. Ct. Klamath County, Or., filed Nov. 29, 2006). However, the PUC has asserted authority to terminate this contract after the "reasonable" term of fifty years (its last term of renewal) at the same time as the

rulings effectively de-couple the Project from any economic stake in the Hydroelectric Project's continued existence.

Meanwhile, on a separate track, the DOI and KWUA have tried to claim that because their long-term power contracts were timed to run in parallel with the fifty-year FERC license, they were in fact a license condition that should be extended automatically with every subsequent one-year temporary extension of the dams' FERC license.[278] FERC, however, vetoed that idea and noted that these power rates were all provided pursuant to a long-term power contract, not a license condition, and that this power contract expired by its own terms in April 2006.[279] A later petition for rehearing was filed by KWUA, which represents Project-dependent irrigators and water districts, but was also denied.[280] KWUA then appealed the latter adverse ruling directly to the D.C. Circuit, where it is now being briefed.[281]

This appeal is likely to fail, for several reasons. First, the power rates were clearly provided for in a contract that has now expired, not in the FERC license itself. The more fundamental and more interesting reason it is likely to fail, however, is that with very few exceptions, none of which are relevant here, the Federal Power Act gives jurisdiction to FERC only over rates for *wholesale* power sold in interstate commerce, while leaving authority to set *retail* power rates strictly to the states. For instance, the Federal Power Act states:

> It is declared that the business of transmitting and selling electric energy for ultimate distribution to the public is affected with a public interest, and that Federal regulation of matters relating to generation . . . of that part of such business which consists of the transmission of electric energy in *interstate* commerce and the sale of such energy *at wholesale in interstate* commerce is necessary in the public interest, *such Federal reg-*

other contract and the Klamath Hydroelectric Project fifty-year license itself. This suit is unlikely to prevail against the PUC decision and Oregon's bar against discriminatory rates of this sort. *See* OR. REV. STAT § 757.325.

278 Order Denying Petition for Declaratory Order, *In re* PacifiCorp Project Nos. 2082-039 & 2082-040, at 1 (Fed. Energy Regulatory Comm'n Jan. 20, 2006), *available at* http://www.ferc.gov/whats-new/comm-meet/011906/H-1.pdf.

279 *Id.*

280 Order Denying Rehearing, *In re* PacifiCorp Project No. 2082-041, at 1 (Fed. Energy Regulatory Comm'n Apr. 20, 2006), *available at* http://www.ferc.gov/whats-new/comm-meet/042006/H-5.pdf.

281 Klamath Water Users Ass'n v. Fed. Energy Regulatory Comm'n, No. 06-1212 (D.C. Cir. filed June 19, 2006). Intervenors included PacifiCorp, the Pacific Coast Federation of Fishermen's Associations and the Hoopa Valley Tribe of California.

> *ulation, however, to extend only to those matters which are not subject to regulation by the States*.[282]

The Supreme Court also made this jurisdictional division clear in *Federal Power Commission v. Conway Corp.*, in which the Court ruled that "[t]he Commission has no power to prescribe the rates for retail sales of power companies."[283] In order for FERC to reinstate highly preferential power rates of the sort asked for by the KWUA, it would have to preempt all state PUC authority over these types of intra-state retail rates, and impose a state rate that is patently discriminatory under California and Oregon state law.[284]

In any event, unless the KWUA or other Upper Klamath Basin irrigation interests ultimately prevail, they no longer have any real economic interest in the fight over whether the Klamath dams are ultimately decommissioned and removed. This eliminates a potential major hurdle in the process of Klamath River restoration.

8. Hope for a Negotiated FERC Settlement

FERC's authority to deny a new license (in effect ordering decommissioning) when circumstances warrant, though used rarely, is nevertheless well rooted in its existing authority. FERC itself noted:

> After examining the legislative history and the relevant statutory provisions, the Commission concludes that it has the legal authority to deny a new license at the time of relicensing if it determines that, even with ample use of its conditioning authority, no license can be fashioned that will comport with the statutory standard under section 10(a) of the Federal Power Act (the Act) and other applicable law.[285]
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> . . . .
>
> . . . The Commission has concluded that it has the power to take steps necessary to assure that the public interest is suita-

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[282] 16 U.S.C. § 824(a) (2006) (emphasis added).

[283] Fed. Power Comm'n v. Conway Corp., 426 U.S. 271, 276 (1976); *see also* N. States Power Co. v. Fed. Energy Regulatory Comm'n, 176 F.3d 1090, 1093-96 (8th Cir. 1999) ("FERC acknowledges that it cannot permissibly affect state regulation of retail rates and practices. . . . Congress has drawn a 'bright line' between state and federal regulation.").

[284] *See* CAL. PUB. UTIL. CODE § 453(a), (c) (West 2007); OR. REV. STAT. § 757.325 (2005).

[285] Policy Statement Regarding Project Decommissioning at Relicensing, 60 Fed. Reg. 339, 340 (Jan. 4, 1995).

> bly protected, including, in the rare case, requiring removal of the project dam.[286]
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> . . . .
>
> . . . Given this history, it is the Commission's view that, in those cases where, even with ample use of its conditioning authority, a license still cannot be fashioned that will comport with the statutory standard under section 10(a), the Commission has the power to deny a license.[287]
>
> . . . .
>
> The possibility that a project may have to shut down is not a legitimate basis for the Commission to ignore its obligations to impose necessary environmental conditions.[288]

Most importantly, FERC has clearly stated that economic viability of a project is not the most important factor in a decision to relicense, but only one of many to consider. License conditions do not become unreasonable simply because a marginal project can no longer be economically viable under such conditions.[289] It is FERC's job to protect the public interest, not to guarantee profits for license applicants:

> There is no merit to the suggestion by some industry commentators that a condition in a power license is *per se* unreasonable if, as a result of imposing the condition, the project is no longer economically viable. The statute calls for a balancing of various development and nondevelopment interests, and those commenters' position would elevate power and other development interests far above the environmental concerns. It would mean that severe environmental damage would have to be accepted in order to protect even a very marginal hydropower project. The Commission does not read the Federal Power Act to compel such a result. As the Court of Appeals for the Seventh Circuit recently observed: "[T]here can be no guarantee of profitability of water power projects under the Federal Power Act; profitability is at risk from a number of variable factors, and values other than profitability require appropriate consideration."[290]

Nevertheless, what may be accomplished though the regular FERC process is quite limited. In the past, the authority of FERC to order dams decommissioned has been ambiguous and has almost never been used without a prior settlement agreement

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286 *Id.*

287 *Id.* at 343.

288 *Id.*

289 *Id.* at 340.

290 *Id.* at 343 & n.31 (citing Wis. Pub. Serv. Corp. v. Fed. Energy Regulatory Comm'n, 32 F.3d 1165, 1168 (7th Cir. 1994)).

consented to by the applicant company.[291] Should the FERC ever assert this authority unilaterally, the hydropower industry would surely challenge it with years of litigation.

Mindful that the FERC was created to license dams and is loath to decommission any against the wishes of the applicant, confidential multi-stakeholder settlement negotiations have been ongoing for over two years that parties believe still give the best hope of achieving a more inclusive settlement, incorporating both dam decommissioning as well as meaningful river restoration.[292] Agency support for decommissioning helps enormously in these negotiations. However, the FERC process alone cannot deal with the other water and habitat-restoration issues plaguing the Klamath Basin that could be incorporated in a broader settlement.

C. Correcting Long-Term Klamath Water Problems

Diversion of water is potentially one of the most serious factors adversely affecting salmon in western Oregon and northern California.[293]

The other major Klamath Basin problem is widespread overappropriation of its limited water resources. There are more legally allowed diversions of water from the Klamath River than can be met and still support healthy populations of salmonids.

Efforts to restore more balance and fairness to existing water allocations so that fishing communities and commercially valuable fisheries may survive, and to work toward a sustainable rebalancing of the water demands of this drought-prone Basin, have been hard-fought battles. Most of these battles have been driven by various ESA listings for fish, although that battle is now shifting somewhat to the CWA. The major milestones of that long-running water battle are described below.

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[291] *See* Lee Emery, A Review of Non-Federal Hydropower Dams Removed Under FERC's Regulatory Authority (on file with author). Between 1963 and February 2001, according to FERC records, the agency dealt with 1009 dam relicenses and 597 exemptions, out of which only 11 projects were ultimately decommissioned—considerably less than 1% of the total. *Id.*

[292] Personal knowledge of the author. The PCFFA is a party to these negotiations.

[293] BOTKIN ET AL., *supra* note 18, at 101. **R**

1. 2002-12 Biological Opinion Water Flows Litigation Ruling

In July 2003, a federal district court in northern California ruled in favor of Klamath fishery interests in a major Klamath water-allocation case.[294] This case was brought following the massive fish-kill of 2002 that devastated the lower river and seriously damaged its fisheries for years to come.[295] The 2002 fish-kill was triggered by near-record low flows in the lower river allowed under the ten-year coho salmon BiOp, several provisions of which were invalidated by the court.[296]

In an important victory on appeal, the Ninth Circuit invalidated the remainder of the 2002-12 Coho BiOp as well, in particular a provision that allowed the gradual phase-in of much higher target flows necessary to prevent jeopardy until 2010—by which time, as the Ninth Circuit noted, the coho might well be extinct.[297] The Ninth Circuit then ordered the lower court to craft injunctive relief accordingly to establish target flows immediately.[298]

On remand, the district court imposed full minimum-target flows by injunction, per the Ninth Circuit's instructions, to last until a new ESA section 7 consultation can occur and a new Klamath River BiOp can be adopted for the impacts of the Project on lower river coho salmon—an event likely to occur by the spring of 2008.[299] These flows guarantee at least basic survival flows to the lower Klamath River to protect fragile fish runs as they recover from the impacts of the 2002 massive fish-kill. These additional flows will also help mitigate serious water-quality and disease problems exacerbated by the Klamath dams.

294 *See* Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, No. CO2-02006-SBA, 2003 U.S. Dist. LEXIS 13745 (N.D. Cal. July 14, 2003), *rev'd on other grounds*, 426 F.3d 1082 (9th Cir. 2005).

295 *See supra* notes 182-96 and accompanying text. R

296 *See supra* notes 45-46 and accompanying text. R

297 Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, 426 F.3d 1082, 1094-95 (9th Cir. 2005).

298 *Id.* at 1095.

299 Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, No. C02-2006-SBA, 2006 WL 798920, *8 (N.D. Cal. Mar. 27, 2006) This is the current schedule according to NOAA Fisheries Arcata, Cal. Field Office staff.

The injunction ordering minimum instream fish flows was again appealed to the Ninth Circuit, this time by KWUA as an intervenor.[300] NOAA Fisheries dismissed its initial appeal.

2. Determining What Water Fish Need: The Hardy Flow Study

In the meantime, in October 2006 a long-awaited final study of flow needs for salmon below Iron Gate Dam was released. This study, *Evaluation of Instream Flow Needs in the Lower Klamath Basin*, was released by Dr. Thomas B. Hardy and a team of scientists at the Institute for Natural Systems Engineering at Utah State University, and is thus referred to as the Hardy Flow Study.[301]

Efforts to scientifically determine how much water lower-river fish actually need to survive have been threatening to many water-user interests and agencies in the upper Basin. The Hardy Flow Study was first proposed in 1996 and finally commissioned and funded, against the efforts of Upper Klamath Basin efforts to block it from 1996 onward.[302] Bowing to political pressure to kill the study, funding was later delayed, and then cut off entirely, by Bush administration political appointees in 2002 and 2003, provoking a loud protest from Congress.[303] Funding was restored shortly thereafter, but a competing study was then commissioned

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[300] The KWUA appeal ultimately failed, and was rejected by the Ninth Circuit on March 26, 2007. Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, No. 06-16296, 2007 WL 901580 (9th Cir. Mar. 26, 2007).

[301] THOMAS B. HARDY ET AL., U.S. DEP'T OF THE INTERIOR, EVALUATION OF INSTREAM FLOW NEEDS IN THE LOWER KLAMATH RIVER (2006) [hereinafter HARDY FLOW STUDY], *available at* http://www.engineering.usu.edu/uwrl/inse/klamath/FinalReport/PhaseII_Final_Report_Revised_Oct_16_2006.pdf. The Hardy Flow Study represents the best current available science on the needs of fish in the lower Basin. The study was funded by the Bureau of Indian Affairs beginning in 1998.

[302] Personal knowledge of the author. The Hardy Flow Study research plan was originally proposed in 1996 by the Klamath Fishery Restoration Task Force, a Federal Advisory Committee Act (FACA) committee charged with lower Klamath River salmon habitat restoration on which the author sat for many years. After several votes over several meetings where the consensus necessary to approve the study was repeatedly blocked by Upper Klamath Basin representatives on the Task Force, the Task Force gridlock was over-ridden and federal agencies approved and later funded the study over their protests.

[303] Letter from Twelve Members of the House of Representatives to Gail Norton, Sec'y, U.S. Dep't of the Interior, & Donald Evans, Sec'y, U.S. Dep't of Commerce (Aug. 13, 2003) (on file with author); Letter from Dianne Feinstein, Senator, to Gale Norton, Sec'y, U.S. Dep't of the Interior, & Donald Evans, Sec'y, U.S. Dep't of Commerce (Aug. 13, 2003) (on file with author).

by the Bureau, presumably in hopes of securing different results.[304]

Finalized only in October 2006, the Hardy Flow Study has not yet been classified by the DOI as a final report, and Interior has ordered yet a third peer-review by a special scientific panel of the National Research Council, whose report on this, and the Bureau's competing flow study, is not due to be released until 2008—nearly ten years after the study was originally funded.[305]

Among other things, the Hardy Flow Study shows that salmonids in the lower river need nearly twice the amount of water the Bureau has been willing to provide during recent water years under the 2002-12 BiOp.[306]

3. The Bureau of Reclamation's "Undepleted Natural Flows" Study

The Bureau of Reclamation, which runs the Klamath Irrigation Project in the upper Basin, clearly did not like the implications of the independent Hardy Flow Study.

Therefore, in 2002 the Bureau commissioned its own counter-study, published as the *Undepleted Natural Flow of the Upper Klamath River: A Summary Report*, in an obvious effort to create it own analysis to rebut the Hardy Flow Study. Initial drafts of this study were sharply criticized by a number of scientists inside and outside the Basin and scientists from the tribes, and later had to be substantially rewritten in order to withstand peer review. It has now been finalized but is being used in the water debate by the Bureau primarily to forestall the full implementation of the Hardy Flow Study's flow recommendations for the lower river.[307]

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[304] BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, NATURAL FLOW OF THE UPPER KLAMATH RIVER (2005), *available at* http://www.usbr.gov/mp/kbao/docs/undepleted_klam_fnl_rpt.pdf.

[305] *See supra* note 303. R

[306] *Compare* HARDY FLOW STUDY, *supra* note 301, at 182 tbl.27, *and* 2002 KLAMATH PROJECT BIOP, *supra* note 27, at 33 tbl.5. The Hardy Flow Study not only highlights the depletion of water in the lower river but also the magnitude of over-appropriation of water resources in the basin, principally for agricultural uses. R R

[307] There has been written debate between the Bureau of Reclamation and Dr. Hardy's team over the legitimacy of the Bureau's derived flows numbers that are the basis for its study. *See* Letter from Pablo R. Arroyave, Area Manager, Klamath Basin Area Office, U.S. Dep't of the Interior, to Water Sci. & Technology Bd., The Nat'l Academy of Sci. (Sept. 27, 2006), *available at* http://www.engineering.usu.—edu/uwrl/inse/klamath/report.html; Dr. Thomas Hardy, Inst. for Natural Sys. Eng'g, Utah State Univ., to Pablo Arroyave, Area Manager, Klamath Basin Area Office, Bureau of Reclamation (Oct. 16, 2006), *available at* http://www.engineering.usu.edu/

4. Scientific Review of Fish Flows by the National Research Council

Having two entirely different, and in places conflicting, hydrological analyses of the flows of the Basin, each promulgated by agencies within the DOI with conflicting mandates themselves, clearly creates a number of serious problems for future Klamath water-policy decision-makers.

In an effort to reconcile the conflicts between the Bureau of Indian Affairs' Hardy Flow Study and the Bureau's study, in late 2005 former Secretary of the Interior Gail Norton ordered an independent scientific panel review of the two studies and their respective methodologies by the National Research Council.[308] The Council then formed the Committee on Hydrology, Ecology, and Fishes of the Klamath River Basin to assess the scientific basis for both hydrological studies and make recommendations for future policy. That final report is due mid-2007.[309]

5. The Impact of the Clean Water Act and TMDLs

The CWA has also had an increasing impact on the Klamath Basin, particularly through the requirement for the development of total maximum daily load (TMDL) pollutant standards throughout the Basin.[310] Most of the streams in the Klamath Basin are classed as water-quality-limited under the CWA for one or more water-quality parameters (e.g., temperature, sediment, ammonia, etc.).[311] A long-term process is now well underway to

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uwrl/inse/klamath/FinalReport/Response_to_BOR_Letter-tbh.pdf. In particular see the Bureau's criticism of the Hardy Flow Study based on its own flow study conclusions, and Dr. Hardy's rebuttal. The National Research Council's review will, however, add at least another eighteen months before it will be deemed a final document.

[308] The National Research Council is an independent scientific advisory division of the National Academies of Science, which frequently is asked by federal agencies or Congress to provide advice in scientific disputes. The Nat'l Academies, The National Research Council, http://www.nationalacademies.org/nrc/ (last visited May 5, 2007).

[309] For the National Research Council's Klamath Committee website, see the National Academies, Project Information, http://www8.nationalacademies.org/cp/projectview.aspx?key=216 (last visited May 5, 2007).

[310] *See* 33 U.S.C. § 1313 (2006) (containing requirements for adoption by states of TMDL standard for water-quality-limited streams). Section 401(c) of the Act grants states water certification authority over FERC licenses. *Id.* § 1341. Section 303 details the development process for TMDL standards to control pollutants. *Id.* § 1313.

[311] *See* State Water Res. Control Bd., Cal. Envtl. Prot. Agency, Proposed 2006 CWA Section 303(d) List of Water Quality Limited Segments, http://www.deq.state.

establish TMDL water-pollution standards for most of these factors throughout the Basin.[312] These TMDL programs are under court-ordered deadlines, which require TMDLs to be adopted for most northern California rivers by December 31, 2007.[313]

In addition to its CWA section 401(c) certification authority, California also has independent, state statutory authority over water quality, quite separate from the federal CWA, under the California Porter-Cologne Water Quality Control Act.[314] This independent state authority is just beginning to come into play in the Klamath Basin. For instance, in February 2007, a petition was filed with the California North Coast Regional Water Quality Control Board, asking it to assert independent state authority under Porter-Cologne to regulate discharges of toxic microcystin and the toxic blue-green algae *Microcystis aeruginosa*, as well as elevated water temperatures, low dissolved-oxygen levels, and elevated pH levels from Iron Gate Dam.[315] There is considerable scope for both California and Oregon to assert regulatory control over discharges into the Klamath River under their respective water pollution control statutes, which to date neither state has much used.

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or.us/wq/assessment/rpt0406.htm (last visited Apr. 19, 2007); Or. Dep't of Envtl. Quality, Water Quality Assessment Database, http://www.deq.state.or.us/wq/assessment/rpt0406/search.asp (last visited Apr. 14, 2007).

312 *See* N. Coast Reg'l Water Quality Control Bd., Klamath River TMDLs, http://www.waterboards.ca.gov/northcoast/programs/tmdl/klamath/klamath.html (providing information on the Klamath Basin TMDL development process and schedules for implementation) (last visited May 1, 2007). Though most of the Klamath Basin lies within California, comparable programs for the Oregon portions of the Klamath Basin are managed by the Oregon Department of Environmental Quality. Or. Dep't of Envtl. Quality, Water Quality: Total Maximum Daily Loads (TMDLs) Program, http://www.deq.state.or.us/wq/tmdls/klamath.htm (last visited Apr. 19, 2007).

313 Consent Decree at 8, Pac. Coast Fed'n of Fishermen's Ass'ns v. Marcus, No. 95-4474MHP (N.D. Cal. Feb. 18, 1997). An extension of these deadlines for the Klamath mainstem is under consideration by the plaintiffs.

314 Porter-Cologne Water Quality Control Act of 2006, CAL. WATER CODE §§ 13000-14958 (West 2007).

315 Petition at 2, *In re* Unauthorized Pollutant Discharges in the Klamath Basin, (Cal. Reg'l Water Quality Control Bd. Feb. 20, 2007), *available at* http://www.waterboards.ca.gov/northcoast/agenda/03_2007/pdf/paccorp/070227_Final_Petition_to_NC_RWQCB_re_PacifiCorp.pdf. The petition was denied by the Regional Board in May 2007 on purely jurisdictional grounds and will ultimately be decided by the State Water Board. The PCFFA and the IFR are both among the petitioners.

III

GOVERNING AN UNGOVERNABLE BASIN

One of the forces confounding efforts both to remove Klamath dams and to reallocate water more fairly is the fragmented political and geographic nature of the Basin itself.

The Basin is huge—nearly the size of New England—as well as sparsely settled. Roads are generally very poor, and travel from one part of the Basin to another for meetings is difficult and, during some parts of the year, impossible. Some lands, particularly tribal lands occupied by the Yurok Tribe of California, do not and have never had access to electricity.

The landscape is itself highly fragmented, with interspersed state, federal, tribal, and private lands all intermixed, split between two states with different and sometimes conflicting laws. The culture of the Basin is comprised of largely isolated, economically poor, rural communities with little communication between the upper and lower Basin.

No one agency is in charge of or able to assert authority over the Basin in such a way as to implement a comprehensive restoration plan. Instead there is a multitude of state, federal, and local agencies and local watershed-restoration groups. None have the authority, funds, or expertise to organize comprehensive restoration planning, and some have conflicting mandates or work at cross-purposes. Political and jurisdictional fragmentation exacerbates problems of communication created by cultural and geographic fragmentation and works against comprehensive restoration.

However, there have been recent efforts to come to grips with this political fragmentation. Among the quasi-governmental agencies that have been organized specifically for restoration purposes include the Klamath Fisheries Restoration Task Force,[316] Klamath Fisheries Management Council,[317] and Upper

316 The Task Force is organized under 16 U.S.C. § 460ss-3 but is wholly advisory and has jurisdiction only over salmon restoration efforts below Iron Gate Dam. 16 U.S.C. § 460ss-3(j) (2006). Its twenty-year congressional-funding authorization has lapsed as of 2006, in accordance with 16 U.S.C. § 460ss-5.

317 The Klamath Fisheries Management Council, which advises the PFMC, is separately organized under 16 U.S.C. § 460ss-2. It is also an advisory body, and only has jurisdiction over ocean fisheries within the Klamath Management Zone where Klamath-origin fish generally migrate. KLAMATH FISHERY MGMT. COUNCIL, LONG-TERM PLAN FOR MANAGEMENT OF HARVEST OF ANADROMOUS FISH POPULATIONS

Basin Working Group.[318] All were deliberately limited in scope to small portions of the Basin due to political resistance by other stakeholders at the time they were formed, and none have been fully effective.

The need to overcome this fragmentation and craft a comprehensive, Basin-wide restoration plan is widely recognized.[319] The most recent effort to form a Basin-wide, stakeholder-driven restoration and coordination mechanism has been the Conservation Implementation Program being pushed by the Bureau.[320] However, many are suspicious of the Program since it was originally proposed by the Bureau in the now-discredited 2002 BiOp as a recommended and prudent alternative, more to avoid making hard water-allocation decisions than to resolve them.[321] Since then, the concept has been slowly evolving but still remains solely within the Bureau. So far the Conservation Implementation Program has little stakeholder buy-in, no agreed-upon structure, and no membership, and has thus been almost entirely a paper exercise by the Bureau.

OF THE KLAMATH RIVER BASIN 16 (1992), *available at* http://www.fws.gov/yreka/kfmc-ltp-f.pdf.

318 The Upper Basin Working Group is also advisory, but is not organized under FACA. The Group was created by statute after former Senator Mark Hatfield added a special rider to an appropriations bill, in Division B, Title II, section 201 of H.R. 3610, Omnibus Consolidated Appropriations, 1997, Pub. L. No. 104-208, § 201, 110 Stat. 3009, 3009-532 to -534 (1996). The Working Group, however, is authorized to deal only with Upper Basin restoration issues, has no lower river representation, and has little or no contact with the Klamath Fisheries Restoration Task Force or the Klamath Fishery Management Council.

319 "The social and jurisdictional fabric of the Klamath Basin is characterized by fragmentation. . . . The essential institutional quality of the Klamath River system is a fragmentation of interests and authorities without compensating relationships for conflict resolution and cooperation." WATER ALLOCATION IN THE KLAMATH PROJECT, *supra* note 34, at 353-54. The isolated, rural nature of the Basin's communities, plus the conflicting institutional mandates of the many agencies that support these communities, have led some observers to characterize the Klamath as primarily driven by cultural conflicts. *See* Holly Doremus & A. Dan Tarlock, *Fish, Farms and the Clash of Cultures in the Klamath Basin*, 30 ECOLOGY L.Q. 279, 336-39 (2003). R

320 BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, CONSERVATION IMPLEMENTATION PROGRAM (2007), *available at* http://www.usbr.gov/mp/kbao/CIP/reports/CIP-ProgramDoc-Draft3.pdf.

321 2002 KLAMATH PROJECT BIOP, *supra* note 27, at 59-61. R

IV

HOPE FROM RENEWED POLITICAL ATTENTION

As a result of first the drought-driven irrigation water crisis in the upper Basin in 2001, then the federal agency overreaction which diverted so much water that it caused a massive fish-kill in 2002 resulting in widespread ocean-salmon-fishery closures, plus the ever-present threat of similar crises in the Klamath in the near future, there is renewed media interest in the Basin. Hopefully this attention will ultimately translate into renewed political will to finally solve its many problems.

Unfortunately, the history of follow-through on political promises for Klamath restoration has been poor. Since 1986, when the Klamath River Basin Fishery Resources Restoration Act[322] was adopted in response to major fisheries collapses in the early 1980s, the Klamath River Basin Fisheries Restoration Task Force has been grossly underfunded for the restoration problems it was designed to address, and much of the promised funding has never materialized.[323] In 2002, the cabinet-level Klamath Basin Federal Working Group was formed within the Bush administration to better coordinate federal Klamath restoration efforts and to create an overall plan within eighteen months. In the end, little was done and no plan was ever developed to show for it.[324] It has now quietly faded away.

Then in October 2004—just before the last presidential election—Bush administration cabinet officials enlisted the Governors of both California and Oregon and signed a Klamath River Watershed Coordination Agreement pledging, among other things, to establish a state and federal Klamath Basin Coordination Group to "implement an aggressive, coordinated approach to allocate existing resources to the extent possible toward short-term opportunities that will improve conditions in the basin."[325]

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322 Klamath River Basin Fishery Resources Restoration Act of 1986, Pub. L. No. 99-552, 100 Stat. 3080.

323 The Task Force was congressionally authorized to be funded at $1 million per year for twenty years. *See id.* § 6, 100 Stat. at 3085. However, the Task Force has actually received somewhat less than that. Given the scope of its restoration task, this funding level is less than 1/10 what was annually needed.

324 Press Release, Klamath Basin Federal Working Group, Klamath Working Group Holds First Meeting (Mar. 6, 2002), *available at* http://www.doi.gov/news/020308a.html.

325 State of California et al., Klamath River Watershed Agreement (Oct. 4, 2004), *available at* http://www.doi.gov/news/klamathagreement.pdf.

After the election was over, the Coordination Group never met and nothing changed.

In the meantime, much of the necessary federal funding for true Klamath restoration work, such as the twenty-year-long efforts of the Klamath Fisheries Restoration Task Force, has now disappeared. In some ways the Basin's federal restoration efforts are headed backward, not forward. Many productive, stakeholder-driven, and grassroots restoration efforts of the sort touted by the Bush administration were supported with Task Force funding, but will soon disappear without renewed federal support.

Nevertheless, there is renewed hope. The Governors of Oregon and California are planning a Klamath Basin Summit in the near future to try to address the needs of the Basin, including funding the ultimate removal of the Klamath Hydroelectric Project, and encouraging continuing settlement talks over broader water-allocation issues.[326] Only time, consistent funding, and follow-up will tell whether these efforts succeed.

V

CONCLUSION

Change in the over-appropriated Klamath Basin is long overdue. The Klamath represents a textbook example of all that is wrong with western water law and policy, including short-sighted water-allocation schemes that do not take ecological or tribal water needs into account, and that lead inevitably to widespread water over-appropriation and escalating conflicts over declining natural resources.

The Klamath is also an example of a once-productive salmon river system nearly destroyed by past hydropower dam development that did not take fisheries impacts into account, and has caused far more harm to those economies dependent upon healthy rivers, as well as to tribal subsistence economies, than any economic benefits the dams could ever provide. The now-annual rotating water conflicts and fishery crises in the Klamath seen for more than two decades are a clear symptom that the

[326] Originally planned for late 2006, the Klamath Basin Summit has since been postponed at the request of parties to the on-going settlement talks, but is still being planned for sometime in late 2007 or early 2008.

ecosystem of the Basin has been stretched to the breaking point and the ecological status quo is no longer sustainable.

The health of the economies and communities of the Basin are also inextricably linked to the health of its river. The warning signs of ESA listings for coho in the lower river, ESA listings of resident fish in the upper river, and the fortuitous termination of the fifty-year license for the Klamath Hydroelectric Power Project are at last forcing much-needed reforms. New political attention to these problems promises institutional support for these necessary transitions to help make them as painless as possible.

Economic stakeholders such as commercial fishermen and tribal interests that have long been ignored have found new legal tools in the ESA, CWA, and FERC relicensing process to promote much-needed watershed restoration and water reallocation. These reforms have a far better chance of leading to an economically and ecologically sustainable Klamath Basin than in the past. The lessons learned in the Klamath may also help resolve similar problems in other basins.