

1-1-2005

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### Recommended Citation

James K. Hein, *The "Sound Science" Amendment to the Endangered Species Act: Why It Fails to Resolve the Klamath Basin Conflict*, 32 B.C. Env'tl. Aff. L. Rev. 207 (2005),  
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# THE “SOUND SCIENCE” AMENDMENT TO THE ENDANGERED SPECIES ACT: WHY IT FAILS TO RESOLVE THE KLAMATH BASIN CONFLICT

JAMES K. HEIN\*

**Abstract:** The conflict in the Klamath Basin has pitted irrigators against environmentalists, tribes, and fishermen in a dramatic battle over a scarce resource: water. A 2001 court order allocated water to endangered and threatened fish while irrigation ditches and farms went dry. The incident became the rallying cry among those seeking to amend the Endangered Species Act (ESA). Legislators proposed the Sound Science for Endangered Species Act Planning Act to require that all ESA decisions be based upon peer-reviewed, “sound” science. However, as this Note attempts to explain, the amendment would serve only to delay agency decisionmaking while providing more opportunities for litigation, prolonging rather than helping the embittered conflict in the Klamath Basin.

## INTRODUCTION

The Klamath Basin, straddling the Oregon-California border, was home to an epic battle over water during the drought of 2001.<sup>1</sup> Downstream fishermen and others successfully sued under the Endangered Species Act (ESA) of 1973 to halt federal irrigation deliveries to local farmers in order to protect three listed species, the Lost River sucker, the shortnose sucker, and the coho salmon.<sup>2</sup> The result was a dramatic battle that pitted irrigators and farmers against environmentalists, Na-

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\* Editor in Chief, BOSTON COLLEGE ENVIRONMENTAL AFFAIRS LAW REVIEW, 2004–05. B.A., Clark Honors College, University of Oregon, 2002. I would like to thank Mr. Pease, my high school English teacher, and Professor Bishop, my college mentor, without whose influence this Note would not have been possible.

<sup>1</sup> For an overview of the 2001 crisis and thoughtful suggestions as to the lessons to be learned, see Holly Doremus & A. Dan Tarlock, *Fish, Farms, and the Clash of Cultures in the Klamath Basin*, 30 *ECOLOGY L.Q.* 279 (2003); see also Reed D. Benson, *Giving Suckers (and Salmon) an Even Break: Klamath Basin Water and the Endangered Species Act*, 15 *TUL. ENVTL. L.J.* 197 (2002) (also providing background).

<sup>2</sup> *Pac. Coast Fed’n of Fishermen’s Ass’n v. U.S. Bureau of Reclamation*, 138 F. Supp. 2d 1228 (N.D. Cal. 2001).

tive Americans, and fishermen.<sup>3</sup> A conflict affecting a sparsely populated region, the crisis nevertheless generated immense national attention, reigniting long-standing debate over the merits of the ESA in general. Specifically, the decisions of 2001 directly led to the proposal of the Sound Science for Endangered Species Act Planning Act of 2002 (Sound Science Act).<sup>4</sup> This Note seeks to provide background to the Klamath Basin conflict and an analysis of the Sound Science Act's likely consequences there.

Part I provides the setting, describing the basin and identifying the key elements behind the controversy. Part II examines the Bureau of Reclamation's (Reclamation) consultations under the ESA with the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Services (NMFS). It then considers the events leading up to the 2001 court order that halted irrigation deliveries and left farms dry. Part III explores the developments of 2002 and 2003, in particular: the National Research Council reports on FWS and NMFS's science supporting the 2001 court order, Reclamation's policy adjustment for the Klamath Basin Project (Project) operations in 2002, and the ensuing fish-kill in September 2002. Throughout the first three Parts, the controversy surrounding scientific reports and conclusions is discussed.

Finally, Part IV evaluates the Sound Science Act, a proposed amendment to the ESA that attempts to resolve scientific controversies by instructing agencies to rely only upon "sound science" in making ESA determinations. After suggesting some of the Sound Science Act's likely consequences in the Klamath Basin, the Note concludes that the Sound Science Act likely will serve only to delay agency decisionmaking; give more influence to landowners, but not to other interested parties; contribute to the volume of the basin's litigation; and serve to validate parties' all-or-nothing approaches, at the expense of any real solution through cooperation.

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<sup>3</sup> See Doremus & Tarlock, *supra* note 1.

<sup>4</sup> H.R. 4840, 107th Cong. (2002). That bill later stalled in Congress; a new version was introduced in the House in 2003 and the Senate in 2004. S. 2009, 108th Cong. (2004); H.R. 1662, 108th Cong. (2003).

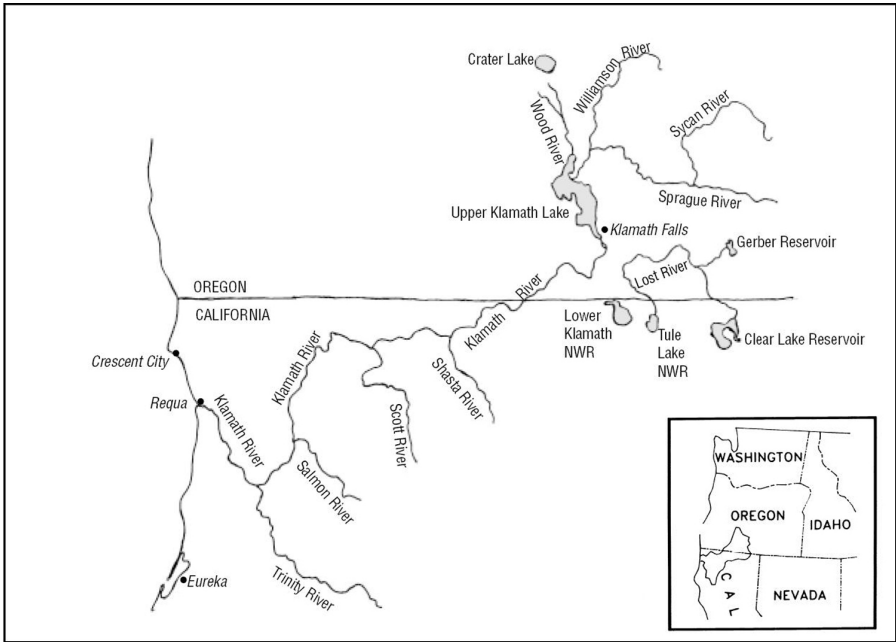


Figure 1: The Klamath Basin and Klamath River<sup>5</sup>

## I. BACKGROUND

### A. *The Klamath Basin*

The Iron Gate Dam, near the Oregon-California border, divides the Klamath Basin and Klamath River into upper and lower portions.<sup>6</sup> The Klamath River flows southwest to the dam from the high-elevation, dry Upper Klamath Basin in Oregon.<sup>7</sup> Past the dam, the Klamath continues southwest through temperate rainforest in California’s lower Klamath Basin before emptying into the Pacific Ocean.<sup>8</sup>

The largest body of water in the upper basin is Upper Klamath Lake, home to the Lost River and shortnose suckers.<sup>9</sup> Suckers lived

<sup>5</sup> Reprinted courtesy of the Oregon State University Extension Service.

<sup>6</sup> Ron Hathaway & Teresa Welch, *Background, in WATER ALLOCATION IN THE KLAMATH RECLAMATION PROJECT, 2001: AN ASSESSMENT OF NATURAL RESOURCE, ECONOMIC, SOCIAL, AND INSTITUTIONAL ISSUES WITH A FOCUS ON THE UPPER KLAMATH BASIN* 32 (William S. Braunworth, Jr. et al. eds., 2003) [hereinafter OSU REPORT], <http://eesc.oregonstate.edu/agcomwebfile/edmat/html/sr/sr1037/report.pdf>.

<sup>7</sup> *Id.* at 32 & fig.1.

<sup>8</sup> *Id.* at 32 fig.1, 34.

<sup>9</sup> Hathaway & Welch, *supra* note 6, at 32, 38–39.

throughout the lakes, streams, and tributaries in the upper basin before irrigation significantly reduced their habitat and populations during the last century.<sup>10</sup> Upper Klamath Lake also serves as the basin's primary storage facility for irrigation water.<sup>11</sup> Water released from the lake flows either into the A-Canal to irrigate farms or down the Link River to the lower Klamath River.<sup>12</sup> The lower Klamath River is where coho salmon return from the Pacific during the late autumn and winter to spawn.<sup>13</sup> Though previously the coho and other salmon spawned all the way into the upper basin, today they can go no farther than Iron Gate Dam.<sup>14</sup>

Reclamation, therefore, must balance three primary variables regarding water allocation: the amount released through the A-Canal to irrigators, the amount released to coho habitat in the lower Klamath River, and the amount retained in Upper Klamath Lake where the suckers live. In years of drought, Reclamation simply is unable to meet all these demands.<sup>15</sup>

### B. *Endangered Species*

For the better part of a century, Reclamation water flowed virtually uninterrupted to agricultural lands.<sup>16</sup> The federal courts became heavily involved with water allocation in the Klamath Basin only upon

<sup>10</sup> BUREAU OF RECLAMATION, U.S. DEP'T OF INTERIOR, FINAL BIOLOGICAL ASSESSMENT: THE EFFECTS OF PROPOSED ACTIONS RELATED TO KLAMATH PROJECT OPERATION (APRIL 1, 2002–MARCH 31, 2012) ON FEDERALLY-LISTED THREATENED AND ENDANGERED SPECIES 21 (Feb. 25, 2002), [http://www.usbr.gov/mp/kbao/docs/Final\\_Biological\\_Assessment\\_02-25-02.pdf](http://www.usbr.gov/mp/kbao/docs/Final_Biological_Assessment_02-25-02.pdf).

<sup>11</sup> Hathaway & Welch, *supra* note 6, at 35.

<sup>12</sup> Kenneth A. Rykbost & Rodney Todd, *An Overview of the Klamath Reclamation Project and Related Upper Klamath Basin Hydrology*, in OSU REPORT, *supra* note 6, at 45, 50–51.

<sup>13</sup> BUREAU OF RECLAMATION, *supra* note 10, at 19.

<sup>14</sup> See Guillermo Giannico & Christopher Heider, *Coho Salmon and Water Management in the Klamath Basin*, in OSU REPORT, *supra* note 6, at 119, 120. The National Research Council's Final Report, *see* discussion *infra* Part III.E, calls for the "serious" consideration of removing Iron Gate Dam to reestablish access to the upper basin for the coho. COMM. ON ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN, NAT'L RESEARCH COUNCIL, ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN: CAUSES OF DECLINE AND STRATEGIES FOR RECOVERY 13 (2004) [hereinafter NRC FINAL REPORT], <http://www.nap.edu/catalog/10838.html> (last visited Nov. 4, 2004). PacifiCorp, which operates Link River Dam, already has proposed closing some of the less-profitable upstream hydroelectric facilities that block access to sucker habitat. Natalie M. Henry, *Tribes, Enviro's Push for Fish Passage, Dam Removal in Relicensing*, LAND LETTER, Mar. 4, 2004.

<sup>15</sup> Susan Burke, *The Effects of Water Allocation Decisions on Crop Revenue in the Klamath Reclamation Project*, in OSU REPORT, *supra* note 6, at 231, 240 fig.3.

<sup>16</sup> George Woodward & Jeff Romm, *A Policy Assessment of the 2001 Klamath Reclamation Project Water Allocation Decisions*, in OSU REPORT, *supra* note 6, at 337, 337.

the listing of endangered and threatened species.<sup>17</sup> Bald eagles, listed as threatened in 1967;<sup>18</sup> Lost River and shortnose suckers, listed as endangered in 1988; and coho salmon, listed as threatened in 1997, all inhabit the basin.<sup>19</sup> The two species of suckers and the coho are the three species behind the litigation in the basin.<sup>20</sup>

### 1. Lost River and Shortnose Suckers

Historically, the Klamath Tribes depended on *c'wam* and *qapdo*, commonly known as the Lost River and shortnose suckers, for their livelihood.<sup>21</sup> Large populations of these fish lived throughout the lakes and rivers of the Klamath Basin.<sup>22</sup> Later, they provided European settlers with fertilizer and oil, and then supported a popular sports fishery.<sup>23</sup> By the mid-1980s, however, sucker populations declined sharply.<sup>24</sup> The fishery closed in 1986,<sup>25</sup> and FWS proposed endangered status for both suckers the following year.<sup>26</sup>

<sup>17</sup> See *id.* at 337–38.

<sup>18</sup> Jeff Manning & W. Daniel Edge, *Relationships Between Bald Eagle Biology and Federal Environmental Decisions on the Klamath Reclamation Project*, in OSU REPORT, *supra* note 6, at 285, 285.

<sup>19</sup> Hathaway & Welch, *supra* note 6, at 38–39.

<sup>20</sup> Reclamation did have to consult with FWS regarding the bald eagle because of its control over the allocation of water to the Basin's National Wildlife Refuges, which support North America's largest wintering bald eagle population outside of Alaska. Manning & Edge, *supra* note 18, at 286, 297. However, despite FWS's conclusion that the Klamath Project's "impairment and injury of nesting and wintering eagles . . . would be broad," it determined that the proposed action jeopardized a population that was "a small proportion of the total . . . population in the Pacific Recovery Area"—one of several geographic regions in FWS's comprehensive national recovery plan. FISH & WILDLIFE SERV., U.S. DEP'T OF THE INTERIOR, BIOLOGICAL/CONFERENCE OPINION REGARDING THE EFFECTS OF OPERATION OF THE BUREAU OF RECLAMATION'S KLAMATH PROJECT ON THE ENDANGERED LOST RIVER SUCKER (*DELTISTES LUXATUS*), ENDANGERED SHORTNOSE SUCKER (*CHASMISTES BREVIROSTRIS*), THREATENED BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*), AND PROPOSED CRITICAL HABITAT FOR THE LOST RIVER/SHORTNOSE SUCKERS § III, pt. 1, at 30, 31 (Apr. 2001), [http://www.usbr.gov/mp/kbao/esa/34\\_final\\_sucker\\_bo\\_4\\_06\\_01.pdf](http://www.usbr.gov/mp/kbao/esa/34_final_sucker_bo_4_06_01.pdf). Therefore, while the Project jeopardizes eagle populations, it does not do so on a large enough scale to require adjustment of its operations. See *id.* As such, bald eagles have not been the focus of any litigation in the Klamath Basin.

<sup>21</sup> WILLIAM KITTREDGE, *BALANCING WATER: RESTORING THE KLAMATH BASIN* 37, 39, 136 (2000).

<sup>22</sup> See BUREAU OF RECLAMATION, *supra* note 10, at 21.

<sup>23</sup> Douglas F. Markle & Michael S. Cooperman, *Relationships Between Lost River and Shortnose Sucker Biology and Management of Upper Klamath Lake*, in OSU REPORT, *supra* note 6, at 93, 98.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> Proposal to Determine Endangered Status for the Shortnose Sucker and the Lost River Sucker, 52 Fed. Reg. 32,145 (proposed Aug. 26, 1987).

FWS officially listed both sucker species as endangered in 1988, noting that the Project's "[d]ams, draining of marshes, diversion of rivers and dredging of lakes have reduced the range and numbers of both species by more than 95 percent."<sup>27</sup> Currently, adult suckers only inhabit Upper Klamath Lake,<sup>28</sup> which is the principal water source for the Project.<sup>29</sup>

## 2. Coho Salmon

The Klamath River Basin was once the third-largest salmon-producing river system on the west coast, generating between 660,000 and 1.1 million spawning adults each year.<sup>30</sup> Some estimate the current wild adult spawning population to be less than one percent of its abundance in the mid-twentieth century.<sup>31</sup> Numerous factors for the decline have been cited, including "logging, road building, grazing and mining activities, urbanization, stream channelization, dams, wetland loss, beaver trapping, water withdrawals and unscreened diversions for irrigation."<sup>32</sup>

In 1997, NMFS listed the coho as threatened;<sup>33</sup> critical habitat was designated for the coho in 2000.<sup>34</sup> NMFS manages the coho because it is anadromous, meaning it spends part of its life at sea and migrates up the lower Klamath River—below Iron Gate Dam—to breed.<sup>35</sup>

### B. *The Klamath Project*

The Klamath Project (Project), authorized in 1905, was one of the first federal reclamation projects developed through the 1902

<sup>27</sup> Determination of Endangered Status for the Shortnose Sucker and Lost River Sucker, 53 Fed. Reg. 27,130, 27,130 (July 18, 1988).

<sup>28</sup> Markle & Cooperman, *supra* note 23, at 101.

<sup>29</sup> Hathaway & Welch, *supra* note 6, at 35.

<sup>30</sup> Glen H. Spain, Fisheries Issues for the Pacific Northwest: The Oceans Begin in the Watersheds, Presentation for the U.S. Commission on Ocean Policy (June 13–14, 2002), [http://www.pcffa.org/spain\\_comments.pdf](http://www.pcffa.org/spain_comments.pdf).

<sup>31</sup> NAT'L MARINE FISHERIES SERV., U.S. DEP'T OF COMMERCE, BIOLOGICAL OPINION: ONGOING KLAMATH PROJECT OPERATIONS 5 (Apr. 6, 2001), [http://www.usbr.gov/mp/kbao/esa/38\\_cohobo\\_4\\_6-01.pdf](http://www.usbr.gov/mp/kbao/esa/38_cohobo_4_6-01.pdf).

<sup>32</sup> Threatened Status for Southern Oregon/Northern California Coast Evolutionarily Significant Unit (ESU) of Coho Salmon, 62 Fed. Reg. 24,588, 24,592 (May 6, 1997).

<sup>33</sup> Threatened Status for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon, 62 Fed. Reg. 33,038 (June 18, 1997).

<sup>34</sup> Designated Critical Habitat: Critical Habitat for 19 Evolutionarily Significant Units of Salmon and Steelhead in Washington, Oregon, Idaho, and California, 65 Fed. Reg. 7764 (Feb. 16, 2000).

<sup>35</sup> Hathaway & Welch, *supra* note 6, at 39.

Reclamation Act.<sup>36</sup> Through the construction of an extensive irrigation system, the Project transformed large areas of marshes and shallow lakes in the Klamath Basin into agricultural lands and waterfowl refuges.<sup>37</sup>

Under authority of the Act, Reclamation entered into contracts with various irrigation districts, recovering costs for the Project and granting the irrigation districts rights to use Project water in perpetuity.<sup>38</sup> The irrigation districts then contracted with farmers to deliver available water at fixed costs.<sup>39</sup>

The Reclamation Act also provided that newly reclaimed agricultural land be available for homesteading.<sup>40</sup> Many veterans of World War I and World War II claimed Project lands, available primarily between 1917 and 1948.<sup>41</sup> A significant number of the farmers on the Project today are descendants of these veterans.<sup>42</sup>

The Project—currently consisting of seven dams, three reservoirs, hundreds of miles of canals and laterals, and numerous drains, pumping plants, and tunnels<sup>43</sup>—drains approximately 5700 square miles<sup>44</sup> to provide water to a population of 4240 people on 1364 farms.<sup>45</sup> The Project includes approximately 235,000 acres of irrigable land, of which about 205,000 acres are irrigated.<sup>46</sup>

Reclamation operates several of the dams itself; it contracts all but one of the others to local irrigation districts.<sup>47</sup> That dam, the Link River Dam, is operated by PacifiCorp as part of the Klamath River Hydroelectric Project.<sup>48</sup> It provides electricity to power the Project's irrigation pumps at very favorable rates under terms of a fifty-year contract with the United States.<sup>49</sup> That contract—with rates of \$0.003

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<sup>36</sup> Reclamation Act, Pub. L. No. 57-1093, 32 Stat. 388 (1902); BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, *KLAMATH PROJECT: HISTORIC OPERATION 5* (Nov. 2000), <http://www.usbr.gov/mp/kbao/docs/Historic%20Operation.pdf>.

<sup>37</sup> Hathaway & Welch, *supra* note 6, at 34.

<sup>38</sup> *Id.* at 35.

<sup>39</sup> Rykbost & Todd, *supra* note 12, at 61–62. Fees range from twelve to seventy dollars per acre, and do not depend on how much water (if any) is delivered. *Id.*

<sup>40</sup> Reclamation Act § 3.

<sup>41</sup> Hathaway & Welch, *supra* note 6, at 35.

<sup>42</sup> *Id.*

<sup>43</sup> BUREAU OF RECLAMATION, *supra* note 36, at iii, 11–22.

<sup>44</sup> *Id.* at 1.

<sup>45</sup> Bureau of Reclamation, *Klamath Project: Project Data* (1992), at <http://www.usbr.gov/dataweb/html/mpklaprjdata.html> (last visited Nov. 4, 2004).

<sup>46</sup> Rykbost & Todd, *supra* note 12, at 70.

<sup>47</sup> *Id.* at 72.

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*



to \$0.006/kWh, or eighty to ninety percent below current market rates<sup>50</sup>—is set to expire in 2006.<sup>51</sup>

The Project was fully developed by the 1960s and has irrigated about 210,000 acres of cropland annually.<sup>52</sup> Agricultural products from Project-irrigated land total about \$109 million per year, out of the basin's total agricultural production of about \$239 million.<sup>53</sup>

### C. Water Rights

Like in most western states, the doctrine of prior appropriation governs water law in Oregon.<sup>54</sup> Essentially, that means that older claims have priority over newer claims.<sup>55</sup> Water claims that arise under the Klamath Project are senior to most other claims because they date to the Project's authorization in 1905.<sup>56</sup> However, any water claims—Native American, private, state, and federal—that originate before these statutes were enacted in 1909 are subject to quantification in an adjudication proceeding.<sup>57</sup> That extensive process, which quantifies and certifies water claims, is still underway.<sup>58</sup>

Klamath Tribes have hunted, fished, and foraged in the Klamath River Basin for thousands of years.<sup>59</sup> They entered into a treaty with the United States in 1864,<sup>60</sup> in which they ceded their aboriginal claim to twelve million acres in return for a reservation of approximately 800,000 acres in south-central Oregon.<sup>61</sup> Article I of the treaty reserved to the tribes the “exclusive right” to fish and gather on the res-

<sup>50</sup> William K. Jaeger, *What Actually Happened in 2001?: A Comparison of Estimated Impacts and Reported Outcomes of the Irrigation Curtailment in the Upper Klamath Basin*, in OSU REPORT, *supra* note 6, at 265, 279.

<sup>51</sup> Rykbost & Todd, *supra* note 12, at 72.

<sup>52</sup> Harry L. Carlson & Rodney Todd, *Effects of the 2001 Water Allocation Decisions on the Agricultural Landscape and Crop Production in the Klamath Reclamation Project*, in OSU REPORT, *supra* note 6, at 163.

<sup>53</sup> Hathaway & Welch, *supra* note 6, at 37.

<sup>54</sup> See OR. REV. STAT. § 537.120 (2003).

<sup>55</sup> See *id.*

<sup>56</sup> See Rykbost & Todd, *supra* note 12, at 57.

<sup>57</sup> See OR. REV. STAT. § 539.010(2).

<sup>58</sup> Reed Marbut, *Legal Aspects of Upper Klamath Basin Water Allocation*, in OSU REPORT, *supra* note 6, at 75, 79. The process began in 1975. *Id.* at 79 n.20.

<sup>59</sup> KITTREDGE, *supra* note 21, at 37. The Klamath Tribes is a modern association comprised of the Klamath, the Modoc, and the Yahooskin. Klamath Tribes, *Klamath Tribes Home*, at <http://www.klamathtribes.org> (last visited Nov. 3, 2004). There currently are 3300 Klamath Tribe members. Hathaway & Welch, *supra* note 6, at 34.

<sup>60</sup> Treaty between the United States of America and the Klamath and Moadoc Tribes and Yahooskin Band of Snake Indians, Oct. 14, 1864, 16 Stat. 707.

<sup>61</sup> *United States v. Adair*, 723 F.2d 1394, 1398 (9th Cir. 1983) [*Adair II*].

ervation, and Article II provided funds to help the Klamath adopt an agricultural way of life.<sup>62</sup> The Klamath Tribes lived on the reservation in accordance with the treaty's terms until 1887, when Congress passed the General Allotment Act.<sup>63</sup> That Act authorized the distribution of communally-held reservation land to individual tribe members, some of which then passed to non-Native ownership.<sup>64</sup>

The United States terminated the Klamath Indian Reservation and ceased to recognize the Klamath Tribes in 1954.<sup>65</sup> The Klamath Termination Act authorized the government to pay willing tribe members for their tribal land interests, many of whom sold.<sup>66</sup> The United States also purchased much of the former reservation in 1958 to establish a migratory bird refuge under the jurisdiction of FWS.<sup>67</sup> In 1961 and from 1973 to 1975, the United States purchased and condemned the rest of the former reservation, creating the Winema National Forest.<sup>68</sup> The effect of termination was to leave the United States with title to approximately seventy percent of the tribal lands.<sup>69</sup> It was not until 1986 that the United States repudiated the policy of termination and renewed its recognition of the Klamath Tribes.<sup>70</sup>

Though the Klamath Tribes sold much of their land, a series of cases beginning in 1979 have consistently held that the Klamath Tribes have a reserved right—dating from time immemorial—to hunt, fish, and gather, as guaranteed by the 1864 treaty.<sup>71</sup> This naturally implies a water claim sufficient to support habitats for those fish and plants.<sup>72</sup>

Native tribes in the lower Klamath Basin also have claims to basin water.<sup>73</sup> Reservations created in 1855 and 1876 for the Hupa and Yu-

<sup>62</sup> Treaty between the United States of America and the Klamath and Moadoc Tribes and Yahooskin Band of Snake Indians, Oct. 14, 1864, 16 Stat. 707, 708.

<sup>63</sup> General Allotment Act, Pub. L. No. 49-119, 24 Stat. 388 (1887) (codified in scattered sections of 25 U.S.C.).

<sup>64</sup> *Adair II*, 723 F.2d at 1398. About 25% of the land was passed in this way. *Id.*

<sup>65</sup> Klamath Termination Act, 25 U.S.C. § 564 (2004). For the Klamath Tribes' stance on the policy of termination, see Allen Foreman, Chairman of the Klamath Tribes, *Termination of the Tribes*, at <http://www.klamathtribes.org/TerminationStatement.html> (last visited Nov. 4, 2004).

<sup>66</sup> *Adair II*, 723 F.2d at 1398; Marbut, *supra* note 58, at 83.

<sup>67</sup> *Adair II*, 723 F.2d at 1398.

<sup>68</sup> *Id.*; Marbut, *supra* note 58, at 83.

<sup>69</sup> *Adair II*, 723 F.2d at 1398; Marbut, *supra* note 58, at 83.

<sup>70</sup> Klamath Indian Tribe Restoration Act, 25 U.S.C. § 566 (2004).

<sup>71</sup> *United States v. Adair*, 478 F. Supp. 336 (D. Or. 1979) [*Adair I*], *aff'd as modified by Adair II*, 723 F.2d 1394 (9th Cir. 1983), *later proceeding at United States v. Adair*, 187 F. Supp. 2d 1273 (D. Or. 2002) [*Adair III*].

<sup>72</sup> *See Adair I*, 478 F. Supp. at 345; *see also* Woodward & Romm, *supra* note 16, at 343.

<sup>73</sup> *Id.* at 343–44.

rok Tribes reserved salmon fishing rights and the water to support it.<sup>74</sup> The Karuk also potentially have an unextinguished aboriginal fishing-right claim.<sup>75</sup>

Finally, the federal government has water claims to support the basin's National Wildlife Refuges (Refuges).<sup>76</sup> The basin is situated at a "strategic junction" in the routes of the Pacific Flyway, which annually hosts the largest concentration of migratory waterfowl on the continent.<sup>77</sup> FWS, therefore, attempts to maintain the Refuges in their "historic natural state, as wetlands to provide optimal conditions for wildlife and, in particular, for migratory birds."<sup>78</sup> Congress, however, established the basin's Refuges—and their corresponding water rights—just after it authorized the Klamath Project.<sup>79</sup> Water claims for the Refuges, therefore, are junior to those of most of the agricultural land within the Project.<sup>80</sup>

Much of the water that the Refuges receive consists of "return flows," or unused irrigation water.<sup>81</sup> Large, marshy wetlands, these areas serve as natural kidneys that filter agricultural nutrients from the water.<sup>82</sup> Though many of the wetlands have been converted to agricultural land, there currently is much discussion of restoring some of this land in order to improve water quality.<sup>83</sup>

## II. SETTING THE STAGE FOR THE CRISIS OF 2001

The Endangered Species Act (ESA) of 1973 played an instrumental role in the decisions leading up to the water crisis of 2001.<sup>84</sup> The ESA was enacted "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved."<sup>85</sup> Section 7 of the ESA singles out federal agencies, like Reclamation, requiring them to refrain from actions that would "jeopardize"

<sup>74</sup> *Id.* "Hupa refers to the people; Hoopa (a word invented by the federal government) refers to the reservation." *Id.* at 338 n.4.

<sup>75</sup> *Id.* at 344.

<sup>76</sup> See *Adair I*, 478 F. Supp. at 340.

<sup>77</sup> Hathaway & Welch, *supra* note 6, at 37.

<sup>78</sup> *Adair I*, 478 F. Supp. at 340.

<sup>79</sup> Rykbost & Todd, *supra* note 12, at 57.

<sup>80</sup> *Id.*

<sup>81</sup> Hathaway & Welch, *supra* note 6, at 37.

<sup>82</sup> See Markle & Cooperman, *supra* note 23, at 107–08.

<sup>83</sup> FISH & WILDLIFE SERV., *supra* note 20, at i.

<sup>84</sup> See *Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation*, 138 F. Supp. 2d 1228, 1230–38 (N.D. Cal. 2001).

<sup>85</sup> Endangered Species Act of 1973 § 2(b), 16 U.S.C. § 1531(b) (2000).

endangered or threatened species, or adversely modify those species' designated critical habitats.<sup>86</sup> Agency determinations of whether an action will jeopardize a species must be supported by "the best scientific and commercial data available," a seemingly innocuous requirement.<sup>87</sup> With contentious issues such as water allocation in the Klamath Basin, however, parties agree only that the best available science should apply; they rarely agree upon what constitutes the best science or what conclusions should be drawn from it.<sup>88</sup>

### A. *Application of the Endangered Species Act*

The ESA first requires Reclamation to "conduct a biological assessment for the purpose of identifying any endangered species or threatened species which is likely to be affected by [the proposed] action."<sup>89</sup> Reclamation then submits its biological assessment to FWS and NMFS,<sup>90</sup> which determine whether the proposed action is likely to affect the species.<sup>91</sup> If so, formal consultation is required, meaning that FWS or NMFS must issue a biological opinion (BiOp) setting forth "a summary of . . . how the agency action affects the species or its critical habitat."<sup>92</sup> If the agency concludes that "jeopardy" to the species or "adverse modification" to the species' habitat is likely, it should set forth "reasonable and prudent alternatives" (RPAs).<sup>93</sup>

Reclamation consults with FWS regarding its operation of the Link River Dam, which directly controls the level of Upper Klamath Lake, the suckers' primary habitat.<sup>94</sup> Water is released from the lake through the A-Canal to agricultural land, or through Link River toward the Iron Gate Dam and the lower Klamath River, where the coho

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<sup>86</sup> 16 U.S.C. § 1536.

<sup>87</sup> *Id.* § 1536(a)(2).

<sup>88</sup> *See generally* Doremus & Tarlock, *supra* note 1, at 340–41 (discussing the inability of "science" to solve such debates objectively, and noting that "[t]he ESA tries to finesse the culture clash and hide some of the uncertainties by framing the conflict as one of scientific facts rather than of values").

<sup>89</sup> 16 U.S.C. § 1536(c)(1). *See generally* *Pac. Coast Fed'n of Fishermen's Ass'ns*, 138 F. Supp.2d at 1240–42 (setting forth the applicable regulatory requirements under the ESA).

<sup>90</sup> 16 U.S.C. § 1536(c)(1).

<sup>91</sup> *Id.* § 1536(b)(3)(A).

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

<sup>94</sup> Markle & Cooperman, *supra* note 23, at 93; Rykbost & Todd, *supra* note 12, at 69.

salmon spawn.<sup>95</sup> Reclamation consults with NMFS to determine the flows released to the lower Klamath River.<sup>96</sup>

### 1. Lost River and Shortnose Suckers

Reclamation's obligation to consult with FWS regarding the Project's effects on suckers began in 1989, after the suckers were listed as endangered.<sup>97</sup> Upper Klamath Lake is very shallow: its surface area varies between 60,000 and 90,000 acres—historically 105,000 acres—depending on its level.<sup>98</sup> Before irrigation, that level varied between 4,139.9 and 4,143.0 feet above sea level, with a mean annual variation of about two feet.<sup>99</sup> After the construction of the Link River Dam in 1921, water levels have varied between 4,136.8 and 4,143.3 feet above sea level, a range of about 6.5 feet.<sup>100</sup> The lake is at “dead storage,” or the bottom of the dam, at 4,136.0 feet above sea level.<sup>101</sup>

FWS's first BiOp, in 1992, set the minimum lake elevation at 4139 feet above sea level.<sup>102</sup> The summer elevation was authorized to drop to 4137 feet in critically dry years, but no more than four years in ten, or for more than two consecutive years.<sup>103</sup> Successive BiOps for annual Project operations plans through the 1990s retained these two major components, in addition to other measures designed to improve water quality and sucker habitat.<sup>104</sup>

Reclamation largely complied with these BiOps, though it failed to implement a few of FWS's requirements.<sup>105</sup> For example, Reclamation failed to install screens at the A-Canal to prevent suckers from becoming entrained.<sup>106</sup> A report released by PacifiCorp in 2002 found that 109,000 suckers became stuck in the diversions between March 1997 and October 1999 alone.<sup>107</sup> Reclamation also failed to submit a

<sup>95</sup> Rykbost & Todd, *supra* note 12, at 50–51.

<sup>96</sup> Markle & Cooperman, *supra* note 23, at 93.

<sup>97</sup> Hathaway & Welch, *supra* note 6, at 39.

<sup>98</sup> Rykbost & Todd, *supra* note 12, at 47.

<sup>99</sup> *Id.* at 47–48.

<sup>100</sup> FISH & WILDLIFE SERV., *supra* note 20, § III, pt. 2, at 38.

<sup>101</sup> Rykbost & Todd, *supra* note 12, at 48.

<sup>102</sup> Hathaway & Welch, *supra* note 6, at 39.

<sup>103</sup> *Id.*

<sup>104</sup> *See id.* at 39, 40.

<sup>105</sup> FISH & WILDLIFE SERV., *supra* note 20, § I, at 4.

<sup>106</sup> *Id.* § I, at 4–5. The screens were finally completed in 2003. Kehn Gibson, *On Time, on Budget, But Experts Not Sure It Will Work*, TRI-COUNTY COURIER (Tulelake, Cal.), Feb. 19, 2003, at 1.

<sup>107</sup> Dylan Darling, *PacifiCorp to Close Plants on Link River*, HERALD & NEWS (Klamath Falls, Or.), Jan. 18, 2004, at A1.

report on a potential fish ladder for the Link River Dam, and to develop and implement a long-term plan that would avoid and minimize incidental take<sup>108</sup> associated with the Project.<sup>109</sup> While stating that it was working on its long-term plan, Reclamation continued to submit and operate under annual Project operations plans.<sup>110</sup>

## 2. Coho Salmon

Reclamation’s first consultation with NMFS regarding the threatened coho salmon took place in 1999.<sup>111</sup> Prior to the coho’s listing in 1997, the stream flows released at Iron Gate Dam into the lower Klamath River were determined by PacifiCorp’s hydroelectric dam project license, issued by the Federal Energy Regulatory Commission (FERC).<sup>112</sup> FERC flow recommendations, however, were subject to senior rights and water availability, so they were not always met.<sup>113</sup> Since 1999 was a comparatively wet year, Reclamation proposed to operate the Project that year at higher flows than those set out by FERC.<sup>114</sup> In response, NMFS issued its 1999 BiOp stating that Project operations were unlikely to jeopardize the coho.<sup>115</sup>

In August 1999, Dr. Thomas B. Hardy of Utah State University released a preliminary report—the Hardy Phase I Report—commissioned by the Department of the Interior the year before.<sup>116</sup> The report’s purpose was to study “the historical and existing status of the anadromous fish [including coho salmon] within the lower Klamath River” as well as to “make[] interim minimum monthly flow recommendations for the main stem Klamath River below Iron Gate Dam.”<sup>117</sup> The Hardy Phase I Report recommended flows much higher than those in the FERC li-

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<sup>108</sup> An incidental take is a taking that results from, but is not the purpose of, otherwise lawful activities. *See* Endangered Species Act § 10(a)(1)(B), 16 U.S.C. § 1539(a)(1)(B) (2000).

<sup>109</sup> FISH & WILDLIFE SERV., *supra* note 20, § I, at 5–6.

<sup>110</sup> Pac. Coast Fed’n of Fishermen’s Ass’ns v. U.S. Bureau of Reclamation, 138 F. Supp. 2d 1228, 1232 (N.D. Cal. 2001).

<sup>111</sup> Hathaway & Welch, *supra* note 6, at 39.

<sup>112</sup> *Id.*

<sup>113</sup> *Id.*

<sup>114</sup> *Id.*

<sup>115</sup> *Id.*

<sup>116</sup> Pac. Coast Fed’n of Fishermen’s Ass’ns v. U.S. Bureau of Reclamation, 138 F. Supp. 2d 1228, 1232 (N.D. Cal. 2001); INST. FOR NATURAL SYS. ENG’G, EVALUATION OF INTERIM INSTREAM FLOW NEEDS IN THE KLAMATH RIVER: PHASE I FINAL REPORT (Aug. 5, 1999), [http://www.usbr.gov/mp/kbao/esa/10\\_HardyPhaseIReport\\_4\\_6\\_01.pdf](http://www.usbr.gov/mp/kbao/esa/10_HardyPhaseIReport_4_6_01.pdf).

<sup>117</sup> INST. FOR NATURAL SYS. ENG’G, *supra* note 116, at i.

cense.<sup>118</sup> The Department of the Interior also commissioned Hardy to produce a Phase II Report, including site-specific field studies and state-of-the-art instream flow modeling.<sup>119</sup> That report has been released only in draft form, in November 2001, but many still regard it as the best scientific data available.<sup>120</sup>

### B. *The 2000 and 2001 Project Operations Plans*

The Project operations plan went through several iterations in 2000 before the final version was completed.<sup>121</sup> Reclamation's first biological assessment (BA), submitted to NMFS on April 4, 2000, proposed flow recommendations from the Iron Gate Dam that were substantially below other recommendations.<sup>122</sup> Specifically, it provided sixty-two percent of a previously rejected proposal, and in some months even fell below the original FERC flows.<sup>123</sup> Significantly, the flows also met only forty-two percent of the Hardy Phase I recommendations.<sup>124</sup>

Though given only one day to respond, a technical review team—consisting of members of FWS; Reclamation; the Bureau of Indian Affairs; the U.S. Geological Survey; NMFS; the Yurok, Hoopa, and Karuk Tribes; and California's Department of Fish and Game—"objected strenuously" to the proposed flow levels.<sup>125</sup> Dr. Hardy responded on April 12 by releasing preliminary draft recommendations.<sup>126</sup> Two days

<sup>118</sup> *Id.* at 44 tbl.15.

<sup>119</sup> DR. THOMAS B. HARDY & R. CRAIG ADDLEY, UTAH STATE UNIV., EVALUATION OF INTERIM INSTREAM FLOW NEEDS IN THE KLAMATH RIVER: PHASE II FINAL REPORT 44 (draft, Nov. 21, 2001), [http://www.krisweb.com/biblio/klamath\\_usdoj\\_hardy\\_2003\\_phase2draft.pdf](http://www.krisweb.com/biblio/klamath_usdoj_hardy_2003_phase2draft.pdf).

<sup>120</sup> Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, No. C 02-2006 SBA, at 8-9 (N.D. Cal. July 15, 2003) [hereinafter 2003 Order] (order granting declaratory judgment but denying injunction), <http://www.klamathbasin.info/Order7-14-03.pdf>. Some suggest that the Bush Administration has withheld the funding necessary to complete the final draft of the Hardy Phase II Report, suppressing it because it largely confirms the Hardy Phase I Report and its recommendation of greater stream flows for the coho. Or. Natural Res. Council, *Klamath Salmon-Gate: The Bush Administration's Real Record on Salmon Recovery* ("Since late 2001, the [Bush] Administration has withheld at least \$111,000 necessary to complete Hardy Phase II . . ."), at <http://www.onrc.org/programs/klamath/coallfactsheet2.html> (last visited Nov. 4, 2004); Press Release, Pacific Coast Federation of Fishermen's Associations, California Concludes that Federal Irrigation Withdrawals and Low Flows Were Primary Cause of Klamath Salmon Kill (Jan. 3, 2003), <http://www.pcffa.org/CDFGKillRept-PR1.pdf>.

<sup>121</sup> *Pac. Coast Fed'n of Fishermen's Ass'ns*, 138 F. Supp. 2d at 1235-36.

<sup>122</sup> *Id.* at 1235.

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

<sup>125</sup> *Id.* at 1232, 1235.

<sup>126</sup> *Id.* at 1235.

later, the technical team, including Hardy, unanimously considered those recommendations too low; Hardy then presented a revised version of the preliminary draft recommendations.<sup>127</sup> He stressed that his recommendations were still subject to revision as he continued to refine his analysis.<sup>128</sup>

Reclamation's final 2000 Project operations plan called for in-stream flows generally closest to those in Hardy's first response, which he and the entire technical review team subsequently had concluded were too low.<sup>129</sup> After all the drafts of the 2000 Project operations plan were completed, Reclamation failed to initiate formal consultation with NMFS.<sup>130</sup> It also failed to complete a final BA for 2000, allegedly waiting for the Hardy Phase II Report to be completed.<sup>131</sup> Thus, the Project operated in 2000 without approval by NMFS, in clear violation of the ESA.<sup>132</sup>

Reclamation did initiate formal consultations in early 2001.<sup>133</sup> In January, Reclamation submitted its BA to NMFS, proposing in-stream flows that dropped very low—to 398 cubic feet per second (cfs)—in critically dry years.<sup>134</sup> Reclamation also submitted its BA to FWS in February, proposing levels for Upper Klamath Lake as low as 4,136.8 feet above sea level in critically dry years.<sup>135</sup> In mid-March, Reclamation received draft BiOps from both agencies concluding that the proposed actions would indeed jeopardize the endangered and threatened species.<sup>136</sup>

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<sup>127</sup> *Pac. Coast Fed'n of Fishermen's Ass'ns*, 138 F. Supp. 2d at 1236.

<sup>128</sup> *Id.*

<sup>129</sup> *Id.* at 1236–37.

<sup>130</sup> *Id.* at 1237.

<sup>131</sup> *Id.* at 1237–38.

<sup>132</sup> *Id.* at 1248.

<sup>133</sup> Hathaway & Welch, *supra* note 6, at 40.

<sup>134</sup> *Id.*

<sup>135</sup> BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, BIOLOGICAL ASSESSMENT OF KLAMATH PROJECT'S CONTINUING OPERATIONS ON THE ENDANGERED LOST RIVER SUCKER AND SHORTNOSE SUCKER 3 tbl.1 (draft, Feb. 13, 2001), <http://www.usbr.gov/mp/kbao/esa/ba2000.pdf>.

<sup>136</sup> FISH & WILDLIFE SERV., U.S. DEP'T OF THE INTERIOR, BIOLOGICAL/CONFERENCE OPINION REGARDING THE EFFECTS OF OPERATION OF THE BUREAU OF RECLAMATION'S KLAMATH PROJECT ON THE ENDANGERED LOST RIVER SUCKER (*DELTISTES LUXATUS*), ENDANGERED SHORTNOSE SUCKER (*CHASMISTES BREVIROSTRIS*), THREATENED BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*), AND PROPOSED CRITICAL HABITAT FOR THE LOST RIVER/SHORTNOSE SUCKERS iii (draft, Mar. 13, 2001), <http://www.usbr.gov/mp/kbao/esa/KlamathProjectBO.pdf>; NAT'L MARINE FISHERIES SERV., U.S. DEP'T OF COMMERCE, BIOLOGICAL OPINION: ONGOING KLAMATH PROJECT OPERATIONS 29 (draft, 2001), <http://www.usbr.gov/mp/kbao/esa/draftcohobo.pdf>. For a thoughtful analysis of the factors leading FWS to be more



	<i>June</i>	<i>July</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>
Reclamation BA Proposed Levels <sup>138</sup>	-3.20	-2.63	-2.54	-2.32	-2.02
FWS BiOp Recommended Levels <sup>139</sup>	-0.15	0.10	0.94	1.34	1.05
Actual Levels <sup>140</sup>	-0.07	0.03	0.15	0.41	0.62

	<i>Apr.</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug.</i>	<i>Sept.</i>
1905–1912 Mean (Pre-Project) <sup>141</sup>	3857	3627	2930	2147	1503	1370
1961–1996 Mean <sup>142</sup>	2970	2046	1050	758	970	1303
FERC Permit Minimum <sup>143</sup>	1300	1000	710	710	1000	1300
Hardy Phase I Interim Recommendation <sup>144</sup>	3307	3056	2249	1714	1346	1395
2001 Reclamation BA <sup>145</sup>	572	513	506	428	398	538
2001 NMFS Final BiOp <sup>146</sup>	1700	1700	1900	1000	1000	1000
2001 Actual Flows <sup>147</sup>	1598	1727	1897	1012	1026	1025
Hardy Phase II Recommendation (critically dry year) <sup>148</sup>	1600	1600	1350	1000	1000	1000
Hardy Phase II Recommendation (average year) <sup>149</sup>	3300	3100	2300	1530	1250	1350

### C. The 2001 Order

On April 3, 2001, the District Court for the Northern District of California announced its decision in *Pacific Coast Federation of Fishermen's Ass'ns v. U.S. Bureau of Reclamation*.<sup>150</sup> After Reclamation failed to

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conservative in 2001, see Markle & Cooperman, *supra* note 23, at 113 (discussing decision-making in the face of uncertainty).

<sup>137</sup> Michael S. Cooperman & Douglas F. Markle, *The Endangered Species Act and the National Research Council's Interim Judgment in Klamath Basin*, FISHERIES, Mar. 2003, at 10, 17 tbl.1.

<sup>138</sup> See BUREAU OF RECLAMATION, *supra* note 135, at 3 tbl.1.

<sup>139</sup> See FISH & WILDLIFE SERV., *supra* note 136, § 3, pt. 2, at 157.

<sup>140</sup> See Cooperman & Markle, *supra* note 137, at 17 tbl.1.

<sup>141</sup> See HARDY & ADDLEY, *supra* note 119, at 38 tbl.5.

<sup>142</sup> See *id.*

<sup>143</sup> See *id.*

<sup>144</sup> See INST. FOR NATURAL SYS. ENG'G, *supra* note 116, at 44 tbl.15.

<sup>145</sup> See BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, BIOLOGICAL ASSESSMENT OF THE KLAMATH PROJECT'S CONTINUING OPERATIONS ON SOUTHERN OREGON/NORTHERN CALIFORNIA ESU COHO SALMON AND CRITICAL HABITAT FOR SOUTHERN OREGON/NORTHERN CALIFORNIA ESU COHO SALMON 11 tbl.2 (draft, Nov. 21, 2000), [http://www.usbr.gov/mp/kbao/esa/36\\_DraftcohoBA\\_4\\_6\\_01.pdf](http://www.usbr.gov/mp/kbao/esa/36_DraftcohoBA_4_6_01.pdf).

<sup>146</sup> See NAT'L MARINE FISHERIES SERV., *supra* note 31, at 31–32.

<sup>147</sup> See Giannico & Heider, *supra* note 14, at 139 tbl.2.

<sup>148</sup> See HARDY & ADDLEY, *supra* note 119, at 244 fig.154.

<sup>149</sup> See *id.*

<sup>150</sup> Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, 138 F. Supp. 2d 1228 (N.D. Cal. 2001).

consult NMFS for its 2000 Project operations plan, fishermen and environmental groups filed suit. Plaintiffs sought both a declaration that Reclamation was in violation of the ESA and an injunction preventing Reclamation from providing water deliveries to irrigators unless water flows met those recommended in the Hardy Phase I Report.<sup>151</sup>

First, the court held that Reclamation had violated the ESA by failing to pursue formal consultation with NMFS.<sup>152</sup> Next, the court granted plaintiffs' request for injunctive relief, citing the strong language of *Tennessee Valley Authority v. Hill* and its progeny<sup>153</sup> and Reclamation's "substantial procedural violation of the [ESA] in operating [the Project] for an entire year . . . without . . . engaging in consultation as the Act and the regulations specifically required it to do."<sup>154</sup> The court also sharply rebuked Reclamation for its failure to complete a long-term Project operations plan, an action that NMFS had found to be "very important."<sup>155</sup> Thus, the court granted plaintiffs' motion for summary judgment, and enjoined Reclamation

from sending irrigation deliveries from Klamath Project whenever Klamath River flows at Iron Gate Dam drop below the minimum flows recommended in the Hardy Phase I report, until such time as [Reclamation] completes a concrete plan to guide operations during the new water year, and consultation concerning that plan is completed.<sup>156</sup>

FWS completed its final BiOp for the suckers on April 5, 2001, immediately following the court's decision.<sup>157</sup> Its RPAs included a minimum level for Upper Klamath Lake at 4140 feet above sea level.<sup>158</sup> It also discarded the rule allowing low lake levels in four non-consecutive years out of ten.<sup>159</sup> NMFS released its final BiOp the following day.<sup>160</sup> Its RPAs involved Iron Gate Dam discharges ranging

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<sup>151</sup> *Id.* at 1240.

<sup>152</sup> *Id.* at 1245.

<sup>153</sup> *Id.* at 1247; see *Sierra Club v. Marsh*, 816 F.2d 1376, 1383 (9th Cir. 1987) ("In Congress's view, projects that jeopardized the continued existence of endangered species threatened incalculable harm; accordingly, it decided that the balance of hardships and the public interest tip heavily in favor of endangered species.") (citing *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 187-88, 194-95 (1978)).

<sup>154</sup> *Pac. Coast Fed'n of Fishermen's Ass'ns*, 138 F. Supp. 2d at 1248.

<sup>155</sup> *Id.* at 1233.

<sup>156</sup> *Id.* at 1251.

<sup>157</sup> FISH & WILDLIFE SERV., *supra* note 20.

<sup>158</sup> *Id.* § III, pt. 2, at 143.

<sup>159</sup> See *id.*

<sup>160</sup> NAT'L MARINE FISHERIES SERV., *supra* note 31.

from 1000 to 2100 cfs.<sup>161</sup> These amounts were greater than the FERC permit requirements—prior to the ESA entering the picture—but in a critically dry year they would prove to be less than the flows in 1999.<sup>162</sup>

Reclamation adopted these RPAs and mailed a notice to Project water users below Upper Klamath Lake, warning them that “severe water shortages are likely during the upcoming 2001 irrigation season.”<sup>163</sup> In response, various irrigation districts and water users’ associations filed suit in the District Court for the District of Oregon, arguing that Reclamation’s 2001 Project operations plan breached their contractual rights to use water from Reclamation’s Project.<sup>164</sup> The court rejected their challenge, holding that “plaintiffs cannot assert breach of contract based on Reclamation’s allocation of water to protect the suckers and salmon” when their “contract rights to irrigation water are subservient to ESA and tribal trust requirements.”<sup>165</sup> With that decision, the court terminated the irrigators’ chance for normal water deliveries in 2001.<sup>166</sup>

### III. THE CRISIS OF 2001 AND THE ENSUING PROBLEMS OF 2002

#### A. *The Crisis*

Snowpack during the winter of 2001—which, upon melting, supplies the Klamath Basin with water during the summer—indicated the lowest expected inflow on record to Upper Klamath Lake.<sup>167</sup> In fact, the city of Klamath Falls received just three inches of rain between October 2000 and April 2001, about one-third of the normal level.<sup>168</sup> Nevertheless, the total water available in Upper Klamath Lake in 2001 was more than that in 1992 or 1994, and similar to that in 1991.<sup>169</sup> Thus, the level of drought was not unprecedented.<sup>170</sup> For nearly a century, Project farmers had relied on Reclamation for irrigation water regardless of weather; unlike other farmers, they enjoyed a very dependable

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<sup>161</sup> *Id.* at 31–32.

<sup>162</sup> Hathaway & Welch, *supra* note 6, at 40–41.

<sup>163</sup> *Id.* at 41.

<sup>164</sup> *Kandra v. United States*, 145 F. Supp. 2d 1192, 1196 (D. Or. 2001).

<sup>165</sup> *Id.* at 1201 (citing *Klamath Water Users Protective Ass’n v. Patterson*, 204 F.3d 1206, 1214 (9th Cir. 1999)).

<sup>166</sup> *See id.*

<sup>167</sup> Hathaway & Welch, *supra* note 6, at 40.

<sup>168</sup> *Id.*

<sup>169</sup> Rykbost & Todd, *supra* note 12, at 62.

<sup>170</sup> *Id.*

supply.<sup>171</sup> In 2001, however, agriculture received 22% of the average diversion for the previous decade, while the Refuges received 71% and the lower Klamath River coho habitat received 68%.<sup>172</sup>

While water was held at Upper Klamath Lake, regular deliveries were made in the Lost River portion of the Project above Harpold Dam.<sup>173</sup> Also, many farmers utilized supplemental irrigation water from wells, exchanges, and purchased sources.<sup>174</sup> Additionally, there was a small release in late July and August—40,000 acre-feet—providing significant relief to pastures and hay crops.<sup>175</sup> Nevertheless, application of the ESA resulted in 344,000 acre-feet of water being diverted from irrigation purposes.<sup>176</sup> Thus, while the water available was similar to that in other recent dry years, irrigation for agriculture received a much smaller portion than it ever had before.<sup>177</sup>

What is most striking about the crisis is the considerable coverage it received from the national media. The Project, which provides water to a mere 4240 people on 1364 farms,<sup>178</sup> suddenly was the focus of national attention, in an epic battle of "farmer against fish."<sup>179</sup> The Wilderness Society named the Klamath Basin one of the nation's "most endangered wildlands";<sup>180</sup> American Rivers later assigned the Klamath River similar status.<sup>181</sup> *Wall Street Journal* editorials railed environmentalists' hidden agenda as "rural cleansing" and "expung[ing] humans from the countryside,"<sup>182</sup> while denouncing the sucker as a "bottom-feeding scavenger."<sup>183</sup>

<sup>171</sup> Woodward & Romm, *supra* note 16, at 337; see also Dan Keppen, Editorial, *Reliable Water the Reason Klamath Project Was Built*, HERALD & NEWS (Klamath Falls, Or.), Dec. 15, 2003, at A10 (arguing that the Project was built for that very purpose).

<sup>172</sup> Rykbost & Todd, *supra* note 12, at 62.

<sup>173</sup> Hathaway & Welch, *supra* note 6, at 42.

<sup>174</sup> *Id.*

<sup>175</sup> Rykbost & Todd, *supra* note 12, at 62.

<sup>176</sup> *Id.* at 64.

<sup>177</sup> *Id.* at 63 figs.1, 2.

<sup>178</sup> Bureau of Reclamation, *supra* note 45.

<sup>179</sup> Sally Ruth Bourrie, *A Shortage of Water Pits Farmer Against Fish in Or.*, BOSTON GLOBE, Aug. 17, 2001, at A2.

<sup>180</sup> Press Release, Wilderness Society, Klamath Basin Listed as One of America's Most Endangered Wildlands (Apr. 20, 2001), <http://forests.org/archive/America/klbaslis.htm>.

<sup>181</sup> Press Release, American Rivers, Long Running Crisis to Reach Crucial Crossroads in 2003 (Apr. 10, 2003) (noting that the Klamath River moved up to number two in 2003), <http://www.klamathbasin.info/ARKlamathPR2003.htm>.

<sup>182</sup> Kimberley A. Strassel, Editorial, *Rural Cleansing*, WALL ST. J., July 26, 2001, at A14.

<sup>183</sup> Editorial, *People Suck*, WALL ST. J., May 16, 2001, at A22. For a compelling treatment of rhetoric in environmental debates, see Holly Doremus, *The Rhetoric and Reality of Nature Protection: Toward a New Discourse*, 57 WASH. & LEE L. REV. 11 (2000).

In several symbolic efforts near the Fourth of July, farmers gathered at the head gates and forced open irrigation canals.<sup>184</sup> Adding to the drama, local sheriffs refused to intervene, and the district attorney refused to file charges.<sup>185</sup> The U.S. Senate narrowly defeated a measure by Gordon Smith, a Republican from Oregon, that would have sidestepped ESA requirements and authorized a lower level for Upper Klamath Lake.<sup>186</sup> Triggering references to snail darters and spotted owls, the Pacific Legal Foundation filed a petition to have Secretary of the Interior Gale Norton convene the Endangered Species Committee, also known as the “God Squad,” to review the decision to deny the farmers irrigation water.<sup>187</sup> She dismissed the petition on standing grounds, as the Bush Administration initially stayed out of the dispute.<sup>188</sup> Frustrated farmers filed suit against the United States seeking one billion dollars under a takings theory.<sup>189</sup>

Initial estimates varied widely, but many postulated \$250 million in lost agriculture revenues in 2001.<sup>190</sup> However, net crop revenue on the Project was actually reduced by only \$27 million to \$46 million; emergency payments further offset this amount by \$35 million to \$37 million.<sup>191</sup> The outcome was that net farming in 2001 was somewhere be-

<sup>184</sup> *Farmers Force Open Canal in Fight with U.S. over Water*, N.Y. TIMES, July 6, 2001, at A10.

<sup>185</sup> *Id.* (quoting County Sheriff Tim Evinger as stating, “We absolutely support it if it’s peaceful.”); Douglas Jehl, *Officials Loath to Act as Water Meant for Endangered Fish Flows to Dry Western Farms*, N.Y. TIMES, July 9, 2001, at A8 (quoting district attorney Ed Caleb as stating, “The sheriff and I are still of the opinion that damage to federal property is a federal issue.”). Failure to cooperate between state and federal authorities was one problem; racial tensions were another. James May, *Water Wars Heat Up in the Klamath Basin*, INDIAN COUNTRY TODAY (Canastota, N.Y.), May 16, 2001 (discussing tension and harassment between farmers and tribal members), <http://www.indiancountry.com/content.cfm?id=390>.

<sup>186</sup> Douglas Jehl, *Senate Vote Signals That Compromise Is Likely on Gulf Drilling*, N.Y. TIMES, July 13, 2001, at A12. (The vote was 52–48.)

<sup>187</sup> Douglas Jehl, *Norton Rejects Call to Have Panel Review Water Cutoff*, N.Y. TIMES, July 14, 2001, at A11. The Committee “has been convened only three times, in cases involving the snail darter, the whooping crane and the spotted owl, and only once, in the case of the spotted owl, did it authorize a waiver of the law.” *Id.*

<sup>188</sup> Jehl, *supra* note 186.

<sup>189</sup> Michael Milstein, *Lawsuit Against Government Will Seek up to \$1 Billion in Klamath Basin Fight*, OREGONIAN, Aug. 25, 2001, at D1. The farmers sued under a theory that was advanced successfully by California irrigators in *Tulare Lake Basin Water Storage Dist. v. United States*, 49 Fed. Cl. 313 (2001). However, the “vast majority” of the Klamath irrigators’ contracts, unlike those of the *Tulare* plaintiffs, specifically limit the government’s liability in case of drought. *Klamath Water Users Ass’n v. Patterson*, 15 F. Supp. 2d 990, 992 (D. Or. 1998).

<sup>190</sup> See Douglas Jehl, *Cries of “Save the Suckerfish” Rile Farmers’ Political Allies*, N.Y. TIMES, June 20, 2001, at A1.

<sup>191</sup> *Summary*, in OSU REPORT, *supra* note 6, at 11, 23.

tween an \$11 million loss and a \$10 million gain.<sup>192</sup> Interestingly, by contributing emergency payments to the basin, the local and federal governments effectively spread the cost of the drought across a wider population so that no one group—or the environment—shouldered the cost alone.<sup>193</sup>

### B. *The NRC Interim Report*

National attention abruptly turned away from the Klamath Basin’s water crisis following September 11, 2001. Irrigation protestors withdrew from the head gates of the Project, calling a temporary “truce” with the federal government in light of the national emergency.<sup>194</sup>

November saw the release of a draft of the long-awaited Hardy Phase II Report, calling for increased flows into the lower Klamath River.<sup>195</sup> The next month, the Interior and Commerce Departments sought review of the 2001 NMFS and FWS BiOps by the National Research Council (NRC), a branch of the National Academy of Sciences.<sup>196</sup> The NRC created the Committee on Endangered and Threatened Fishes in the Klamath Basin, comprised of twelve independent scientists and scholars, to review evidence and to prepare a report that then was circulated to independent reviewers.<sup>197</sup> The NRC did not con-

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<sup>192</sup> *Id.*

<sup>193</sup> See Bruce Weber et al., *Impact of the 2001 Klamath Reclamation Project Operations Plan on the Economy of the Upper Klamath Basin*, in OSU REPORT, *supra* note 6, at 251 (discussing the disparate impact of the crisis across the Basin’s residents, even among irrigators). Cooperman and Markle argue that:

A workable solution to the “Klamath Crisis” should be fair, requiring all water users to participate in an equitable distribution of limited water and society at large to shoulder responsibilities and share costs. Perhaps unknown to many, the latter is exactly what happened in Klamath Basin in 2001, with the larger public mitigating the cost of ESA protection through state and federal assistance.

Cooperman & Markle, *supra* note 137, at 18.

<sup>194</sup> *Group Suspends Protest in Oregon*, N.Y. TIMES, Sept. 13, 2001, at A19.

<sup>195</sup> HARDY & ADDLEY, *supra* note 119.

<sup>196</sup> COMM. ON ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN, NAT’L RESEARCH COUNCIL, SCIENTIFIC EVALUATION OF BIOLOGICAL OPINIONS ON ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN: INTERIM REPORT 3 (2002) [hereinafter NRC INTERIM REPORT], <http://www.nap.edu/catalog/10296.html> (last visited Nov. 4, 2004).

<sup>197</sup> *Id.* at v, xvii.

sider the Hardy Phase II Report because it existed only in draft form.<sup>198</sup> The NRC released an interim report in February 2002.<sup>199</sup>

The NRC Interim Report concluded that there was “no substantial scientific foundation” to support the reduction in irrigation water in the 2001 NMFS BiOp.<sup>200</sup> It also found that Reclamation’s 2001 BA proposals could not be justified scientifically.<sup>201</sup> Essentially, the NRC concluded that there were not enough data available to prove the necessity of making any changes to the water flows from the previous ten years at Iron Gate Dam.<sup>202</sup> Nevertheless, the NRC finding of “no substantial scientific foundation” underlying the decision to halt irrigation water deliveries galvanized irrigators, who insisted that those reductions were entirely unnecessary.<sup>203</sup>

### C. *To the Opposite Extreme in 2002*

Three weeks after the release of the NRC Interim Report, Reclamation released a BA to be submitted to both FWS and NMFS covering April 2002 to March 2012 (2002–12 BA).<sup>204</sup> The 2002–12 BA largely was consistent with the NRC Interim Report, returning flows to their average levels from the previous decade.<sup>205</sup> NMFS responded to the 2002–12 BA by releasing consecutive drafts of its BiOp, recommending increased flows below Iron Gate Dam to sustain coho habitat, which Reclamation rejected.<sup>206</sup> NMFS then released a final BiOp on May 31, 2002, with recommended stream flows that reflected the stream flows in Reclamation’s BA.<sup>207</sup> Notably, the BiOp validated Reclamation’s contention that since the Project encompasses fifty-seven percent of the basin’s irrigable land, Reclamation should be responsi-

<sup>198</sup> 2003 Order, *supra* note 120, at 6 n.2.

<sup>199</sup> Press Release, The National Academies, High Water Levels Not Scientifically Justified to Protect Fish in Klamath Lake and River (Feb. 6, 2002), <http://www4.nationalacademies.org/news.nsf/isbn/0309083249?OpenDocument>.

<sup>200</sup> NRC INTERIM REPORT, *supra* note 196, at 4.

<sup>201</sup> *Id.*

<sup>202</sup> *See id.* at 4–5.

<sup>203</sup> *See* Greg Walden, Editorial, “War on the West”: Fish Trump Farmers in Klamath Dispute, WASH. TIMES, Mar. 26, 2002, at A17.

<sup>204</sup> *See* Press Release, Bureau of Reclamation, Bureau of Reclamation Announces Biological Assessment for Klamath Basin Operations (Feb. 27, 2002), <http://www.doi.gov/news/020227.html>.

<sup>205</sup> *See id.*

<sup>206</sup> *See* 2003 Order, *supra* note 120, at 9.

<sup>207</sup> *See* NAT’L MARINE FISHERIES SERV., U.S. DEP’T OF COMMERCE, BIOLOGICAL OPINION: KLAMATH PROJECT OPERATIONS 58 (May 31, 2002), <http://swf.nmfs.noaa.gov/psd/klamath/KpopBO2002finalMay31.PDF>.

ble only for fifty-seven percent of the remedy.<sup>208</sup> It proposed an inter-governmental task force to provide for the additional water.<sup>209</sup> In particular, NMFS “anticipates that the States of California and Oregon will participate in the process [and] step up enforcement of existing water rights or water rights laws,” effectively instructing the state governments to restrain junior water users outside Project lands from irrigating their own land.<sup>210</sup>

Reclamation accepted this BiOp as its 2002 Project operations plan, and scheduled full irrigation deliveries.<sup>211</sup> The reopening of the irrigation head gates in March 2002 was accompanied by a high-profile ceremony attended by Oregon Senator Gordon Smith and two Cabinet-level officials.<sup>212</sup>

As if on cue, one of the largest fish kills in United States history took place in the lower Klamath River in late September 2002.<sup>213</sup> At least 34,000 salmon—likely an underestimate, though most were unlisted Chinook salmon<sup>214</sup>—returning up the Klamath River to spawn, died in warm, shallow, disease-ridden water.<sup>215</sup> Less than a month later, NMFS fisheries biologist Michael Kelly filed for whistleblower protection with the U.S. Office of Special Counsel, alleging that the successive drafts of the 2002 NMFS BiOp were the result of increased pressure from the Bush Administration to find a result consistent with irrigation interests.<sup>216</sup> John Kerry, Democratic Senator from Massa-

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<sup>208</sup> See *id.* at 55. The NRC Final Report emphasized the need for FWS and NMFS to focus on Basin irrigators outside of the Reclamation Project. NRC FINAL REPORT, *supra* note 14, at 9. Reclamation, however, has become the easy “hook” for ESA application, essentially giving non-Project irrigators priority. Doremus & Tarlock, *supra* note 1, at 345.

<sup>209</sup> NAT’L MARINE FISHERIES SERV., *supra* note 207, at 55.

<sup>210</sup> See *id.* at 55.

<sup>211</sup> Letter from Kirk Rodgers, Regional Director, Bureau of Reclamation, to Rodney R. McInnis, Acting Regional Administrator, National Marine Fisheries Service 3 (June 3, 2002), <http://www.usbr.gov/mp/mp150/envdocs/kbao/Memo-NMFS.pdf>.

<sup>212</sup> Michael Milstein, *Klamath Ceremony Frees Water for Farmers*, OREGONIAN, Mar. 30, 2002, at A1 (noting the presence of Smith, Interior Secretary Gale Norton, and Agriculture Secretary Ann Veneman). This is not entirely surprising, considering that Smith was up for reelection in 2002 in a sharply divided U.S. Senate—he defeated his Democratic opponent 56%–40%. See *How Oregon Voted*, OREGONIAN, Nov. 10, 2002, at B2.

<sup>213</sup> Michael Milstein, *Dead Fish Tied to Policy Flaws*, OREGONIAN, Sept. 24, 2002, at A1.

<sup>214</sup> FISH & WILDLIFE SERV., DEP’T OF THE INTERIOR, KLAMATH RIVER FISH DIE-OFF, SEPTEMBER 2002: REPORT ON ESTIMATE OF MORTALITY, at ii, 13 (Nov. 7, 2003), [http://sacramento.fws.gov/ea/news\\_releases/2003%20News%20Releases/fishnumberpublic2.pdf](http://sacramento.fws.gov/ea/news_releases/2003%20News%20Releases/fishnumberpublic2.pdf).

<sup>215</sup> CAL. DEP’T OF FISH AND GAME, SEPTEMBER 2002 KLAMATH RIVER FISH KILL: PRELIMINARY ANALYSIS OF CONTRIBUTING FACTORS 5 (Jan. 21, 2003), <http://www.pcffa.org/KlamFishKillFactorsDFGReport.pdf>.

<sup>216</sup> Press Release, Public Employees for Environmental Responsibility, Klamath River Water Levels Set Under Political Pressure (Oct. 28, 2002), <http://www.peer.org/press/>



chusetts and chair of the Oceans and Fisheries Subcommittee, called for a formal investigation.<sup>217</sup> The Office of Special Counsel eventually declined to prosecute, claiming that it could not substitute its judgment for that of NMFS.<sup>218</sup>

Numerous factors were blamed for the fish kill, including water temperature, quantity, and quality, an unusually large and early salmon run, and weather,<sup>219</sup> but low flows due to irrigation diversions initially were blamed most fervently by environmentalists.<sup>220</sup> The first official scientific analysis took approximately three months to complete.<sup>221</sup> That report, released by the California Department of Fish and Game (CDFG) in January 2003, criticized the low water flows, concluding that while multiple factors may have been at play, “flow is the only factor that can be controlled to any degree.”<sup>222</sup> In a report that was not released until November 2003—a full ten months after the CDFG report—the federal FWS came to essentially the same conclusion: low flows were a causative factor in the fish kill, though it emphasized that other factors also were at play.<sup>223</sup>

Just after the fish kill, a U.S. Geological Survey report was leaked to the press that concluded there were far more economic benefits to be had in the basin by restoring water for fish habitat and recreation rather than continuing to use it to irrigate farms.<sup>224</sup> Specifically, the report urged that \$5 billion in restoration costs easily would be offset by \$36 billion in benefits from recreational activities.<sup>225</sup> This is com-

286.html. See generally *infra* note 354 (discussing the role of federal politics and the Bush Administration in the Klamath Basin).

<sup>217</sup> Eric Bailey, *Klamath Decisions to Be Probed*, L.A. TIMES, Sept. 6, 2003, at B6.

<sup>218</sup> Don Thompson, *Klamath Basin: Feds Say They Won't Hear Whistleblower's Complaint*, GREENWIRE, Mar. 24, 2003, LEXIS, Nexis Library, Greenwire File.

<sup>219</sup> CAL. DEP'T OF FISH AND GAME, *supra* note 215, at 54–57.

<sup>220</sup> See Milstein, *supra* note 213.

<sup>221</sup> See CAL. DEP'T OF FISH AND GAME, *supra* note 215.

<sup>222</sup> *Id.* at 54.

<sup>223</sup> FISH & WILDLIFE SERV., U.S. DEP'T OF THE INTERIOR, KLAMATH RIVER FISH DIE-OFF, SEPTEMBER 2002: CAUSATIVE FACTORS OF MORTALITY (Nov. 7, 2003), [http://sacramento.fws.gov/ea/news\\_releases/2003%20News%20Releases/Causative%20Factors%2011-07-03public.pdf](http://sacramento.fws.gov/ea/news_releases/2003%20News%20Releases/Causative%20Factors%2011-07-03public.pdf). FWS apparently completed the report in April, but delayed its release awaiting administrative approval, though no changes were made. Michael Milstein, *Government Admits Role in Klamath Fish Die-Off*, OREGONIAN, Nov. 19, 2003, at A1.

<sup>224</sup> AARON J. DOUGLAS & ANDREW SLEEPER, U.S. GEOLOGICAL SURVEY, ESTIMATING RECREATION TRIP RELATED BENEFITS FOR THE KLAMATH RIVER BASIN WITH TCM AND CONTINGENT USE DATA (draft, 2002), [http://www.krisweb.com/biblio/klamath\\_usgs\\_douglasetal\\_xxxx\\_economics.pdf](http://www.krisweb.com/biblio/klamath_usgs_douglasetal_xxxx_economics.pdf). Critics argued that the release was delayed due to the timing of its completion and the fish kill. Jim Carlton, *Report Backs Using River for Fishing*, WALL ST. J., Nov. 1, 2002, at A4.

<sup>225</sup> DOUGLAS & SLEEPER, *supra* note 224, at 22 tbl.8.

pared with \$239 million at most in total agricultural production in the basin.<sup>226</sup>

The winter in late 2002 and early 2003 was markedly dry, and fears rose that the basin was in for another drought year.<sup>227</sup> Fortunately, a series of spring storms rendered the potential crisis moot by replenishing the basin’s water table and supplying sufficient water for the irrigation season.<sup>228</sup>

#### D. The 2003 Order

In July 2003, the District Court for the Northern District of California issued an order invalidating Reclamation’s 2002–2012 Project operations plan.<sup>229</sup> Pacific Coast Federation of Fishermen’s Associations (PCFFA), numerous environmental groups, tribes, and Representative Mike Thompson of California had challenged the plan as insufficient to protect the coho salmon.<sup>230</sup> Plaintiffs argued that the Hardy Phase II Report, though in draft form, represented the “best scientific data available,” and that Reclamation must release flows consistent with its requirements in order to avoid jeopardizing the coho.<sup>231</sup> Plaintiffs’ case was strong politically given the enormity of the fish kill.<sup>232</sup> The court reviewed Reclamation’s plans under the deferential “arbitrary” or “capricious” standard laid out in the Administrative Procedures Act (APA).<sup>233</sup>

First, the court evaluated the target long-term and short-term flow rates specified in the 2002 NMFS BiOp and adopted by Reclamation for its 2002 Project operation plan.<sup>234</sup> The flow rates were established by taking the flow rates specified in the NRC Interim Report—which were held by NMFS to be insufficient in its first draft BiOp—and adding cer-

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<sup>226</sup> See Hathaway & Welch, *supra* note 6, at 37.

<sup>227</sup> James May, *Klamath Tribes Believe a River Should Run Through It*, INDIAN COUNTRY TODAY (Canastota, N.Y.), Oct. 28, 2003, <http://www.indiancountry.com/content.cfm?id=1067367583>. Reclamation allegedly was considering curtailment of irrigation deliveries again; the *Wall Street Journal* reported that a quick phone call from the office of Karl Rove, President Bush’s political strategist, ended that possibility. Tom Hamburger, *Water Saga Illuminates Rove’s Methods: Bush Strategist Works Agencies in Bid to Make Policy Decisions Jibe with Political Goals*, WALL ST. J., July 30, 2003, at A4.

<sup>228</sup> May, *supra* note 227.

<sup>229</sup> See 2003 Order, *supra* note 120, at 31.

<sup>230</sup> *Id.* at 8.

<sup>231</sup> See *id.* at 8–9.

<sup>232</sup> See Dean E. Murphy, *California Report Supports Critics of Water Diversion*, N.Y. TIMES, Jan. 7, 2003, at A12.

<sup>233</sup> 2003 Order, *supra* note 120, at 12–13.

<sup>234</sup> *Id.* at 14–19.

tain measures to increase flow, including the creation of a water bank.<sup>235</sup> The water bank, a sort of short-term subsidy, establishes a mechanism whereby the government pays irrigators who willingly relinquish their water claims or use alternative sources of water.<sup>236</sup> In any case, because the flow rates were somewhat of a compromise between the conflicting studies by the NRC and Hardy, the court concluded that the NMFS flow rates themselves could not be found arbitrary or capricious.<sup>237</sup>

Next, however, the court examined NMFS's proposed intergovernmental committee, which was to "step up" enforcement of senior water rights.<sup>238</sup> ESA regulations direct NMFS to consider the effects of state and private activities that "are reasonably certain to occur" when evaluating a proposed action.<sup>239</sup> The court concluded: "There is nothing to suggest that it is 'reasonably certain' that the States and the Tribes will participate in the Conservation Implementation Committee. Furthermore, even with their participation, it is not 'reasonably certain' that the Conservation Committee will achieve the target flow rates."<sup>240</sup> The court quoted a letter from the CDFG noting its "little confidence" that the Committee's complicated task could be completed.<sup>241</sup> The court held that NMFS's reliance on uncertain state and private actions was indeed arbitrary and capricious under the APA.<sup>242</sup>

The court also rejected NMFS's incidental take statement (ITS).<sup>243</sup> An ITS is a trigger that compels the acting agency—Reclamation in this case—to initiate further consultation with the listing agency—here NMFS—when an unacceptable level of incidental taking of the species occurs.<sup>244</sup> The ITS in NMFS's final BiOp stated that

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<sup>235</sup> See *id.* at 10.

<sup>236</sup> See Jeff Barnard, *Feds Buying More Water for Klamath Salmon*, REGISTER-GUARD (Eugene, Or.), Jan. 17, 2004, <http://www.registerguard.com/news/2004/01/17/b5.cr.klamath.0117.html>; see also William K. Jaeger, *Water Allocation Alternatives for the Upper Klamath Basin*, in OSU REPORT, *supra* note 6, at 365, 381–83 (discussing water banks or markets as means for allocating water to the most productive land). In 2003, Reclamation began to use a water bank, through which it purchased 50,000 acre-feet of irrigation water for \$4 million. Barnard, *supra*. The bank was to be extended by 25,000 acre-feet and \$3 million in 2004. *Id.*

<sup>237</sup> 2003 Order, *supra* note 120, at 19.

<sup>238</sup> *Id.* at 19–22; see *supra* text accompanying notes 209–210.

<sup>239</sup> 50 C.F.R. § 402.02 (2003).

<sup>240</sup> 2003 Order, *supra* note 120, at 21.

<sup>241</sup> *Id.* at 21–22.

<sup>242</sup> *Id.* at 22.

<sup>243</sup> *Id.* at 24.

<sup>244</sup> See *id.* at 22 (citing 50 C.F.R. § 402.14(i)(1) (2003)).

NMFS expects some level of incidental take to occur due to implementation of some of the actions outlined in the reasonable and prudent alternative. However, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take of Klamath River coho salmon.<sup>245</sup>

The court found that NMFS's ITS was devoid of any concrete threshold that would indicate to Reclamation that further consultation was necessary.<sup>246</sup> Since such a standard failed to limit the Project's incidental take of coho salmon, the court held that it was arbitrary and capricious under the APA.<sup>247</sup> After identifying these deficiencies, the court remanded the 2002 NMFS BiOp to the agency for amending.<sup>248</sup> While plaintiffs were successful in that respect, the court refused to nullify the BiOp for the 2002 irrigation year.<sup>249</sup> Rather, it concluded that the deficiencies were not associated with the immediate phase of the plan, which therefore could remain in place until NMFS completed its revisions.<sup>250</sup> Both sides claimed victory.<sup>251</sup>

#### E. *The NRC Final Report*

In October 2003, the NRC released its final report.<sup>252</sup> While the NRC Interim Report focused on the 2001 BiOps, the task of the NRC Final Report was significantly broader: to "thoroughly address the scientific aspects related to the continued survival of coho salmon and shortnose and Lost River suckers in the Klamath River Basin."<sup>253</sup> The NRC reiterated its conclusion that the 2001 decisions to halt irrigation

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<sup>245</sup> NAT'L MARINE FISHERIES SERV., *supra* note 207, at 71.

<sup>246</sup> 2003 Order, *supra* note 120, at 23–24.

<sup>247</sup> *Id.*; see DEFENDERS OF WILDLIFE, SABOTAGING THE ENDANGERED SPECIES ACT: HOW THE BUSH ADMINISTRATION USES THE JUDICIAL SYSTEM TO UNDERMINE WILDLIFE PROTECTIONS 24 (2003), <http://www.defenders.org/wildlife/esa/report>.

<sup>248</sup> 2003 Order, *supra* note 120, at 25.

<sup>249</sup> *Id.*

<sup>250</sup> *Id.* at 26.

<sup>251</sup> See Glen Martin, *Klamath Ruling Pleases Salmon's Allies: Growers Say River's Flow Will Stay the Same*, S.F. CHRON., July 18, 2003, at A3.

<sup>252</sup> NRC FINAL REPORT, *supra* note 14. The Independent Multidisciplinary Science Team (IMST) also released a peer-reviewed report in October that was commissioned by Oregon Governor John Kitzhaber. INDEP. MULTIDISCIPLINARY SCI. TEAM, IMST REVIEW OF THE USFWS AND NMFS 2001 BIOLOGICAL OPINIONS ON MANAGEMENT OF THE KLAMATH RECLAMATION PROJECT AND RELATED REPORTS (2003). IMST concluded that "[t]he 2001 Biological Opinions prepared by USFWS and NMFS were based on the best available science." *Id.* at 2.

<sup>253</sup> NRC FINAL REPORT, *supra* note 14, at 3 box S-1.

deliveries were not grounded in sound science.<sup>254</sup> The NRC, however, also defended FWS and NMFS against charges that they used “junk science,” insisting that professional judgment must play a role.<sup>255</sup>

The NRC Final Report posited several recommendations for resolving the basin’s conflicts.<sup>256</sup> First, it criticized FWS and NMFS for not focusing on any water users but Reclamation.<sup>257</sup> Its first recommendation was that NMFS and FWS should “inventory all governmental, tribal, and private actions that are causing unauthorized take of endangered suckers and threatened coho salmon in the Klamath Basin and seek either to authorize this take with appropriate mitigative measures or to eliminate it.”<sup>258</sup> It also offered a number of recommendations for research and monitoring in the basin.<sup>259</sup>

The NRC also proposed recovery actions that were justified based on its current scientific knowledge.<sup>260</sup> For the suckers, the NRC recommended: the removal of Chiloquin Dam in order to expand spawning habitat; facilitation of passage at blockages and dams; screening of water intakes at Link River Dam; modification of screening and intake procedures at the A-Canal; and other measures to protect and expand habitat.<sup>261</sup> For the coho, the NRC recommended: reestablishment of cool summer flows in Klamath tributaries; provision for passage at all small dams; measures to protect coho habitat from other land uses such as livestock and agriculture; and “serious evaluation . . . of the benefits to coho salmon from elimination of Dwinnell Dam and Iron Gate Dam.”<sup>262</sup> The NRC estimated that its recommendations would cost \$25 million to \$35 million, excluding major projects such as dam removal.<sup>263</sup>

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<sup>254</sup> See *id.* at 6–7.

<sup>255</sup> *Id.* at 9.

<sup>256</sup> *Id.* at 9–13.

<sup>257</sup> See *id.* at 9.

<sup>258</sup> *Id.*

<sup>259</sup> NRC FINAL REPORT, *supra* note 14, at 10–11.

<sup>260</sup> *Id.* at 11.

<sup>261</sup> *Id.* at 11–12.

<sup>262</sup> *Id.* at 13.

<sup>263</sup> *Id.* Interestingly, another proposal was released at the end of 2003, this time by the Klamath Tribes. K. NORMAN JOHNSON ET AL., KLAMATH TRIBES, A PLAN FOR THE KLAMATH TRIBES’ MANAGEMENT OF THE KLAMATH RESERVATION FOREST (draft, Dec. 1, 2003), [http://www.klamathtribes.org/forest%20plan/Klamath%20Plan%2012\\_18.pdf](http://www.klamathtribes.org/forest%20plan/Klamath%20Plan%2012_18.pdf). In collaboration with the Department of the Interior, the Klamath Tribes proposed to have the former Klamath Reservation—an area the size of Rhode Island, located north and east of Upper Klamath Lake—returned to them for management, in exchange for guaranteed allotments of water for irrigators. Michael Milstein, *Klamath Tribes Will Unveil Vision for Reclaiming Lands*, OREGONIAN, Dec. 16, 2003, at A1. The tribes have pledged to waive sovereign immunity to

### F. Fodder for ESA Amendment Proponents

Like with the NRC Interim Report, many irrigators, politicians, and media groups latched on to a few particular sentences of the NRC Final Report to argue that the 2001 delivery curtailments were foolhardy and unsupported by science.<sup>264</sup> Without examining the complexity of the issues, the role of professional judgment, and the lack of available data, many saw the reports as plain and unmistakable proof that irrigators’ claims had been correct all along.<sup>265</sup> Some even found the reports to be proof of agency capriciousness in insisting that more water was needed for the suckers and coho.<sup>266</sup> As such, both NRC reports fueled the debate surrounding the role of science in Klamath Basin decisionmaking.<sup>267</sup>

Indeed, science and the conclusions to be drawn from it are at the very heart of the controversy in the Klamath Basin. Behind all of the scientific reports and analyses relevant to the basin—including the Hardy reports, NRC reports, Reclamation BAs, and FWS and NMFS BiOps, among others—are different sets of data, assumptions, levels of risk-aversion, areas of expertise, amounts of experience, and value judgments.<sup>268</sup> It is no surprise that the controversy over scientific con-

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bolster trust in the plan, which reflects state-of-the-art forest management, and could become a model for the nation, according to Oregon State University’s Dean of Forestry, Hal Salwasser. *Id.* Nevertheless, the plan appears to have split environmental groups, some of whom fear an erosion of the public’s voice in land management. *Id.*

<sup>264</sup> See, e.g., *Oversight Hearing on the Impact of Science on Public Policy Before the Subcomm. on Energy and Mineral Res. of the House Res. Comm.*, 108th Cong. 2 (2004) (statement of Greg Walden, Member, House Res. Comm.) (“We learned from the [NRC] that the decisions made [by FWS and NMFS] either weren’t based on adequate science or were made by misinterpreting the data they had.”); Editorial, *Fish Tales*, WALL ST. J., Feb. 27, 2002, at A20 (“[E]veryone else watching the Klamath charade knew long ago that [FWS and NMFS] had thrown over science for ideology.”). See generally Doremus & Tarlock, *supra* note 1, at 343 (noting that “people interpret mixed evidence as supporting their pre-conceived view and refuting their opponents’ view”).

<sup>265</sup> *But see* Markle & Cooperman, *supra* note 23, at 113 (discussing the uncertainty and complexity facing FWS in completing its 2001 BiOp). Indeed, the Klamath Water Users Association, representing irrigation interests, commissioned its own scientist to dispute the findings in the draft of the Hardy Phase II Report. Press Release, Klamath Water Users Association, Water Users Release Two Important Klamath River Reports (Dec. 24, 2003) <http://www.klamathbasincrisis.org/science/122403vogel2repts+kwua.htm>.

<sup>266</sup> See *Fish Tales*, *supra* note 264.

<sup>267</sup> For an analysis of the 2001 crisis’s effect on Klamath Basin communities, and particularly the role of information (both science and media), see Denise Lach et al., *Effects of the 2001 Water Allocation Decisions on Project-Area Communities*, in OSU REPORT, *supra* note 6, at 177, 200–01.

<sup>268</sup> See generally Holly Doremus, *Constitutive Law and Environmental Policy*, 22 STAN. ENVTL. L.J. 295, 321–24 (2003) (discussing value conflicts inherent in ESA determina-

clusions and methodology in the Klamath Basin has reignited debate over the ESA itself.<sup>269</sup>

Ever since the question was framed as a one-dimensional struggle between jobs and animals, critics of the ESA have disparaged it as a federal roadblock that puts too high a price on preserving species that serve no useful purpose to humans.<sup>270</sup> They point to the fact that although hundreds of species have been listed, only a handful have recovered.<sup>271</sup> Proponents see it as one of the few environmental statutes with any teeth, providing a vehicle for forcing agencies and citizens to consider the ramifications of their decisions on the environment.<sup>272</sup> Passionately lauded and fervently derided, consensus exists only in the notion that the ESA has become a potent weapon in preventing actions that contribute to the decline of endangered and threatened species.<sup>273</sup>

Overwhelmingly passed by Congress,<sup>274</sup> the ESA has been the subject of numerous reform efforts since its inception in 1973.<sup>275</sup> The 2001 crisis in the Klamath Basin and the NRC reports directly led to the most recent proposal to amend the ESA the Sound Science for Endangered Species Act Planning Act (Sound Science Act).<sup>276</sup> Con-

tions); Douglas F. Markle, *Understanding Science*, in OSU REPORT, *supra* note 6, at 91 (describing the general weaknesses of science in making determinations for large, complex environmental decisions).

<sup>269</sup> For a discussion of science's role in the ESA, see Holly Doremus, *Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy*, 75 WASH. U. L.Q. 1029 (1997).

<sup>270</sup> See generally CHARLES C. MANN & MARK L. PLUMMER, NOAH'S CHOICE 215–20 (1995) (arguing that the assumption underlying the ESA that all species should be preserved is both unethical and impractical); Zygmunt J.B. Plater, *The Embattled Social Utilities of the Endangered Species Act*, 27 ENVTL. L. 845 (1997) (discussing the rhetoric surrounding the snail darter litigation, as well as the varying utilities proffered to support the ESA).

<sup>271</sup> See MANN & PLUMMER, *supra* note 270, at 239–46. Others argue that these statistics understate the ESA's positive impact. See generally Jeffrey J. Rachlinski, *Noah By the Numbers: An Empirical Evaluation of the Endangered Species Act*, 82 CORNELL L. REV. 356 (1997) (reviewing MANN & PLUMMER, *supra* note 270).

<sup>272</sup> See SHANNON PETERSON, ACTING FOR ENDANGERED SPECIES: THE STATUTORY ARK, at ix (2002); ZYGMUNT J.B. PLATER ET AL., ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY 775 (3d ed. 2004).

<sup>273</sup> See PLATER ET AL., *supra* note 272, at 775.

<sup>274</sup> The ESA was passed unanimously in the Senate and 345–4 in the House. PETERSON, *supra* note 272, at 29.

<sup>275</sup> See Michael J. Brennan et al., *Square Pegs and Round Holes: Application of the "Best Scientific Data Available" Standard in the Endangered Species Act*, 16 TUL. ENVTL. L.J. 387, 433–41 (2003) (discussing recent attempts to amend the ESA); Jamie A. Grodsky, *The Paradox of (Eco)pragmatism*, 87 MINN. L. REV. 1037, 1041–45 (2003) (discussing some of the successful amendments to the ESA, and suggesting that many were responses to Tenn. Valley Auth. v. Hill, 437 U.S. 153 (1978)).

<sup>276</sup> S. 2009, 108th Cong. (2004).

gressman Greg Walden and Senator Gordon Smith, Republicans from Oregon, have introduced identical versions of the Sound Science Act in the House and Senate.<sup>277</sup> The Act’s self-stated purpose is to “give greater weight to scientific or commercial data that is empirical or has been field-tested or peer-reviewed.”<sup>278</sup> Its sponsors seek to avoid crises like that in the Klamath Basin in 2001 by standardizing the science used in ESA decisionmaking.<sup>279</sup>

#### IV. THE SOUND SCIENCE ACT AND ITS IMPLICATIONS FOR THE KLAMATH BASIN

The Sound Science Act has three principal sections: section 2: “Sound Science”; section 3: “Peer Review”; and section 4: “Improved Recovery Planning.”<sup>280</sup> Section 2 requires that FWS and NMFS utilize peer-reviewed science and field data, particularly when making final decisions regarding endangered or threatened species.<sup>281</sup> However, that requirement is somewhat redundant and serves only to create confusion regarding the definition of science.<sup>282</sup> Section 3 would essentially require that all major species-related decisions be evaluated by independent reviewers before they become final.<sup>283</sup> Departures from the reviewers’ recommendations would have to be explained by FWS or NMFS.<sup>284</sup> This obligation overlooks the role of professional judgment in the face of uncertainty and the inherent ambiguity in any scientific determination.<sup>285</sup> Its primary effect, therefore, would be to delay, hinder, or thwart agency decisionmaking.<sup>286</sup> Finally, section 4 of the Sound Science Act would open the science in the decisionmaking process to challenges from some, but not all, interested parties.<sup>287</sup> The result would be substantial influence for irrigators, but dismissal for

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<sup>277</sup> *Id.*; H.R. 1662, 108th Cong. (2003). Walden’s bill, introduced in April 2003, is the successor of a bill by the same title introduced in 2002 by Congressman Jim Hansen, a Republican from Utah. H.R. 4840, 107th Cong. (2002). Oregon Senator Gordon Smith introduced his bill in January 2004. S. 2009.

<sup>278</sup> S. 2009 pmbl.

<sup>279</sup> Press Release, Greg Walden, Walden Re-Introduces Legislation to Add Peer Review to Endangered Species Act (Apr. 8, 2003), <http://www.house.gov/walden/press/releases/2003/04Apr/pr0408a03.htm>.

<sup>280</sup> S. 2009.

<sup>281</sup> *See id.* § 2.

<sup>282</sup> *See infra* Part IV.A.

<sup>283</sup> *See* S. 2009, § 3.

<sup>284</sup> *See id.*

<sup>285</sup> *See* Markle, *supra* note 268.

<sup>286</sup> *See infra* Part IV.B.

<sup>287</sup> S. 2009 § 4.



Klamath Tribes—who hold superior treaty-based water rights—and downstream fishermen.<sup>288</sup>

Taken as a whole, the likely effects of the Sound Science Act in the Klamath Basin are protracted agency decisionmaking, increased influence for irrigators but not for other interested parties, more substantial impediments to finalizing agency decisions, and more opportunity for litigation. Indeed, the heightened barriers for ESA determinations effectively constitute a significant step away from the heart of the ESA: the Precautionary Principle.<sup>289</sup> Finally, the Sound Science Act will serve to validate parties' all-or-nothing approaches, at the expense of cooperation and real solutions.<sup>290</sup> As such, it likely will become a tool for individual interests rather than an instrument for a basin-wide resolution.

#### A. "Sound Science"

First, section 2 would require FWS and NMFS to "give greater weight to scientific or commercial data that is empirical or has been field-tested or peer-reviewed."<sup>291</sup> This requirement is redundant, considering that those agencies have had joint policies in place since 1994 ensuring that ESA decisions rely on the best scientific information available<sup>292</sup> and incorporating the solicitation of independent peer review of listing proposals and recovery plans.<sup>293</sup>

The Sound Science Act also would impose a "field data" requirement for the listing of any species as threatened or endangered.<sup>294</sup> Listing determinations would have to be "supported by data obtained by observation of the species in the field."<sup>295</sup> Already listed, the coho and

<sup>288</sup> See *infra* Part IV.C.

<sup>289</sup> See *infra* Part IV.D.

<sup>290</sup> See Robert L. Fischman, *Predictions and Prescriptions for the Endangered Species Act*, 34 ENVTL. L. 451, 472 (2004) (noting that the increase in ESA litigation has forced "agencies [to] expend their entire budgets responding to outside litigation priorities rather than their own"). For a criticism of litigation as a tool for solving basin-wide water disputes, and an advocacy of dispute resolution to take its place, see Barbara Cosens, *Water Dispute Resolution in the West: Process Elements for the Modern Era in Basin-Wide Problem Solving*, 33 ENVTL. L. 949 (2003).

<sup>291</sup> S. 2009 § 2(a)(1)(C).

<sup>292</sup> Notice of Interagency Cooperative Policy on Information Standards Under the Endangered Species Act, 59 Fed. Reg. 34,271 (July 1, 1994).

<sup>293</sup> Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities, 59 Fed. Reg. 34,270 (July 1, 1994).

<sup>294</sup> S. 2009 § 2(b).

<sup>295</sup> *Id.*

suckers would face no new challenge by this requirement.<sup>296</sup> Recent efforts to list the green sturgeon and other species, however, would be burdened by the field data requirement.<sup>297</sup> The provision also seems to eliminate a significant tool available to scientists—population modeling—which projects current data into the future.

This provision could be burdensome in general, given that candidate species are rare, almost by definition: “there may be little or no information on many of the species facing extinction, and insufficient personnel or funds available to conduct studies.”<sup>298</sup> Given the cost of scientific studies, particularly field studies, far fewer species may end up being listed.<sup>299</sup>

The field data requirement also includes a directive that FWS and NMFS accept field data collected and submitted by affected landowners.<sup>300</sup> Landowner-submitted field data, however, might not always be the best available science; other types of science or field data from other sources certainly could be the soundest science in many cases.<sup>301</sup> Moreover, requiring the agencies to accept landowner data would give substantial influence to those landowners, while providing no such influence to other interested parties.<sup>302</sup>

Section 2 would also require the agencies to “promulgate regulations that establish criteria that must be met for scientific and commercial data to be used” in listing protected species.<sup>303</sup> Again, FWS and NMFS already have a joint policy in place that establishes criteria,

<sup>296</sup> See *id.*

<sup>297</sup> See Press Release, Oregon Natural Resources Council, Court Rules in Favor of Conservation Groups Seeking Protection of Prehistoric Fish (Mar. 3, 2004), <http://www.onrc.org/press/083.GreenSturgeon.html>.

<sup>298</sup> PAMELA BALDWIN & M. LYNNE CORN, CONG. RESEARCH SERV., THE ENDANGERED SPECIES ACT AND “SOUND SCIENCE” 3 (July 16, 2002), <http://www.ncseonline.org/NLE/CRSreports/RS21264.pdf>. This might exacerbate the problem, argued to exist already by some, that the Bush Administration’s efforts to list new species have been lackluster. Betsy Mason, *Ecologists Attack Endangered-Species Logjam*, NATURE, Dec. 11, 2003, at 592 (noting the number of annual additions to the list of protected species under the administrations of George H.W. Bush (fifty-nine), William J. Clinton (sixty-five), and George W. Bush (eight)).

<sup>299</sup> BALDWIN & CORN, *supra* note 298, at 4; see Fischman, *supra* note 290, at 472 (noting the “significant budget increases necessary to carry out high quality research”).

<sup>300</sup> S. 2009, 108th Cong. § 2(b) (2004).

<sup>301</sup> See Representative Nick Rahall, Dissenting Views HR 4840: Endangered Species Act (Oct. 2002) (referring to H.R. 4840, 107th Cong. (2002), a predecessor of the Sound Science Act), [http://resourcescommittee.house.gov/resources/democrats/hot2002/esa\\_dissentingviews3.html](http://resourcescommittee.house.gov/resources/democrats/hot2002/esa_dissentingviews3.html) (last visited Nov. 4, 2004).

<sup>302</sup> See S. 2009 § 2(b).

<sup>303</sup> *Id.*

procedures, and guidance for determining the “best scientific and commercial data available” under the ESA.<sup>304</sup> This requirement of the Sound Science Act therefore fails to add much substance to the ESA’s current application.<sup>305</sup>

However, by adding its own principles to the definition of the best science, the Sound Science Act potentially confuses the very definition it seeks to elucidate.<sup>306</sup> Ostensibly, there could be discrepancies between the agencies’ criteria and the Sound Science Act requirement that greater weight be given to data that are field-tested or peer-reviewed.<sup>307</sup> If the agencies’ standards were to focus on different criteria, there very well could be a conflict between the Sound Science Act requirement of using “field data” and the ESA requirement of using the “best scientific data available.”<sup>308</sup>

Finally, one can make a strong argument that scientists, not legislators, should determine what constitutes the best science.<sup>309</sup> By introducing congressional standards into the ESA’s scientific calculus, the Sound Science Act arguably dilutes scientific integrity and reliability.<sup>310</sup>

### B. Peer Review

Section 3 of the Sound Science Act would create a peer review requirement for most ESA determinations.<sup>311</sup> Again, FWS and NMFS already have a joint policy that “incorporate[s] independent peer review in listing and recovery activities.”<sup>312</sup> Nevertheless, section 3 would establish a list of independent scientific reviewers “qualified” to assess agency actions.<sup>313</sup> Any agency action—including species listing or delisting, recovery plan development, jeopardy findings for proposed agency actions, and proposals for RPAs—would have to be reviewed

<sup>304</sup> Notice of Interagency Cooperative Policy on Information Standards Under the Endangered Species Act, 59 Fed. Reg. 34,271, 34,271 (July 1, 1994).

<sup>305</sup> *See id.*

<sup>306</sup> Rahall, *supra* note 301.

<sup>307</sup> *See id.*

<sup>308</sup> *See id.*

<sup>309</sup> *See Oversight Hearing on the Impact of Science on Public Policy Before the Subcomm. on Energy and Mineral Res. of the House Res. Comm.*, 108th Cong. 2 (2004) (statement of David Michaels, Research Professor, George Washington University School of Public Health and Health Services).

<sup>310</sup> *See id.*

<sup>311</sup> S. 2009, 108th Cong. § 3 (2004).

<sup>312</sup> Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities, 59 Fed. Reg. 34,270, 34,270 (July 1, 1994).

<sup>313</sup> S. 2009 § 3. Qualification is established by scientific expertise and lack of interest conflicts. *See id.*

by a random panel of three qualified reviewers before it could become final.<sup>314</sup> The agency also would have to justify any decisions that diverge from the reviewers' recommendations.<sup>315</sup>

In the Klamath Basin, the suckers and coho are listed already, so there would be no difficulty regarding the new peer review process for listing these species.<sup>316</sup> Any further critical habitat designations or changes in species status between threatened, endangered, or even de-listed, however, would be subject to the "peer review" process.<sup>317</sup> Indeed, so too would be any attempt by FWS or NMFS to develop conservation plans for the suckers or coho.<sup>318</sup> The NRC Final Report emphasized that creation of such plans was critical,<sup>319</sup> but the Sound Science Act would interject a layer of bureaucracy into that process.<sup>320</sup>

Agency decisions regarding endangered species already take considerable time; the Sound Science Act would add three months for the reviewers to make their recommendations for any major decision, as well as whatever time it takes the agency to respond to them.<sup>321</sup> This problem could be exacerbated further if there is any difficulty in finding three qualified, disinterested reviewers, potentially delaying agency actions significantly.<sup>322</sup> After all, "there may be few (or no) people in the world knowledgeable about some species and these specialists often have other duties and may not be available (or willing) to serve governmental regulators."<sup>323</sup> Additionally, "unbiased scientists may also be an issue if the listing or action being reviewed could involve major economic factors in which the scientists have an interest."<sup>324</sup> Academics with sufficient scientific training also might be less inclined to peer review for FWS or NMFS than they might be for a prestigious group like the NRC.<sup>325</sup>

The peer review requirement of the Sound Science Act would accomplish little more than to make final decisions more difficult to

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<sup>314</sup> *Id.* No such review would be required for decisions not to list species. *See id.*

<sup>315</sup> *Id.*

<sup>316</sup> *See id.* Again, efforts to list new species, like the green sturgeon, would be subject to the peer review requirement as well. *See supra* note 297 and accompanying text.

<sup>317</sup> S. 2009 § 3.

<sup>318</sup> *See id.*

<sup>319</sup> NRC FINAL REPORT, *supra* note 14, at 8.

<sup>320</sup> *See* S. 2009 § 3.

<sup>321</sup> *See id.*

<sup>322</sup> BALDWIN & CORN, *supra* note 298, at 4.

<sup>323</sup> *Id.*

<sup>324</sup> *Id.*

<sup>325</sup> Holly Doremus, *The Purposes, Effects, and Future of the Endangered Species Act's Best Available Science Mandate*, 34 ENVTL. L. 397, 435 (2004).

come by. The requirement is particularly unhelpful given the “lack of consensus typical of scientists in the early stages of exploring a complex system.”<sup>326</sup> Incomplete knowledge about an intricate system leads to scientific uncertainty: scientists must introduce value judgments and opinions in order to create useful conclusions.<sup>327</sup> For example, irrigators pointed to the NRC Interim Report as the ultimate harbinger of sound, peer-reviewed science, while critics simultaneously published peer-reviewed articles questioning the NRC’s political motivations and oversimplification of the issues.<sup>328</sup> The difficulty is that all sides have a scientific basis to support their arguments: “[I]t is always possible for a proponent or opponent of a particular course of action to point to alternative data or interpretations that support his or her point of view.”<sup>329</sup> Rather than politicizing decisions as relying only on “sound science,” parties must accept that any ESA decision necessarily involves significant policy considerations and professional judgment.<sup>330</sup>

Since consensus is unlikely, the “peer review” requirement would contribute little more than increased litigation.<sup>331</sup> Agencies already spread thin with backlogs of species that need to be listed or de-listed would become mired in litigation defending every decision as supported by peer-reviewed, field-gathered science.<sup>332</sup>

<sup>326</sup> Cooperman & Markle, *supra* note 137, at 10.

<sup>327</sup> See generally Markle, *supra* note 268 (describing the difficulties of applying science to complex systems like the Klamath Basin).

<sup>328</sup> Compare Cooperman & Markle, *supra* note 137, at 17 (defending the 2001 FWS BiOp as “more rigorous, thorough, and defensible than the NRC Interim Report,” which “presented a simpler view of water-sucker relationships and found a receptive audience for [its] message”) with William M. Lewis, Jr., *Klamath Basin Fishes: Argument Is No Substitute for Evidence*, FISHERIES, Mar. 2003, at 20. Lewis responds to Cooperman and Markle:

Cooperman and Markle, in grasping at every item in the NRC committee’s report that could be perceived or portrayed as an error, and in casting doubt on the committee’s competence and even its honesty, have shown that their main purpose is to discredit the committee rather than to deal in a useful way with some of the important issues that the committee’s report has highlighted.

Lewis, *supra*. See also *Fish Need Water: Support Klamath Salmon*, INDIAN COUNTRY TODAY (Canastota, N.Y.), July 28, 2003 (agreeing with Native American Rights Fund Executive Director John Echohawk, who called the National Resource Council Committee “blatantly discriminatory against Native American people”), <http://www.indiancountry.com/content.cfm?id=1059414430>.

<sup>329</sup> Markle, *supra* note 268, at 92.

<sup>330</sup> See Doremus, *supra* note 325, at 419–21; Daniel J. Rohlf, *Section 4 of the Endangered Species Act: Top Ten Issues for the Next Thirty Years*, 34 ENVTL. L. 483, 501–06 (2004); J.B. Ruhl, *The Battle Over Endangered Species Act Methodology*, 34 ENVTL. L. 555, 599 (2004).

<sup>331</sup> S. 2009, 108th Cong. § 3 (2004).

<sup>332</sup> See Fischman, *supra* note 290, at 472.

### C. *Improved Recovery Planning*

Section 4 of the Sound Science Act first would require FWS and NMFS to “actively solicit and consider information from the State agency in each affected State.”<sup>333</sup> This does not appear to be a significant requirement outside of the current process: the agencies already have a joint policy that takes advantage of state agencies’ “scientific data and valuable expertise” during prelisting, listing, consultation regarding critical habitat and BiOps, habitat conservation planning, and recovery planning.<sup>334</sup>

Section 4 also would substantially increase access to—and, consequently, influence in—the scientific review process for “any person who has sought authorization or funding from a Federal agency for an action that is the subject of the consultation.”<sup>335</sup> These individuals, such as irrigators in the Klamath Basin, would submit information to the agency regarding the effects of the proposed action and the availability of RPAs prior to the completion of the draft BiOp.<sup>336</sup> They also would have access to all information used by the agencies to develop the draft BiOp and could submit comments on and challenges to the draft BiOp prior to the release of the final BiOp.<sup>337</sup>

Thus, any future FWS and NMFS determinations regarding the suckers or coho would be subject to information requests and challenges by irrigators.<sup>338</sup> Moreover, any agency decision that diverged from the irrigators’ RPAs would have to be explained and justified.<sup>339</sup> Requiring overburdened agencies to defend their decisions to interested parties would impose a significant responsibility on those agencies and invite litigation by unsatisfied parties.<sup>340</sup>

Moreover, the Sound Science Act does not provide this access to all interested parties; rather, only to those “who ha[ve] sought authorization or funding from a Federal agency for an action that is the subject

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<sup>333</sup> S. 2009 § 4(a).

<sup>334</sup> Notice of Interagency Cooperative Policy Regarding the Role of State Agencies in Endangered Species Activities, 59 Fed. Reg. 34,274, 34,275 (July 1, 1994).

<sup>335</sup> S. 2009 § 4(b).

<sup>336</sup> *See id.*

<sup>337</sup> *See id.*

<sup>338</sup> *See id.*

<sup>339</sup> *See id.*

<sup>340</sup> *See id.*; see also Douglas Jehl, *An Endangered Act: Sacrifices to a Green Agenda*, N.Y. TIMES, June 24, 2001, § 4, at 5 (quoting Secretary of the Interior Gale Norton as saying, “For too long we’ve been spending precious resources on paying lawyers’ bills, fighting in court—instead of protecting species, fighting to bring them back from the brink of extinction.”).

of the consultation.”<sup>341</sup> This means that while irrigators would have substantial access to and influence in the creation of NMFS and FWS BiOps, downstream fishermen, tribes, and others would not.<sup>342</sup> The downstream fishermen certainly have an interest in any NMFS decision, since Reclamation’s actions greatly affect the fishing industry.<sup>343</sup> According to the Pacific Coast Federation of Fishermen’s Associations, the west coast’s largest organization of commercial fishing families, declining salmon populations have resulted in losses of 4000 jobs and \$80 million per year since 1992.<sup>344</sup> The tribes similarly have interests in agency decisions given their treaty rights for fishing and the cultural value they place on the suckers and salmon.<sup>345</sup> Nevertheless, section 4 makes it clear that only those who have “sought authorization or funding from a Federal agency for an action that is the subject of the consultation” have access,<sup>346</sup> leaving other parties to wait on the sidelines until decisions are made, and then to challenge them in court.

#### D. *Abandonment of the Precautionary Principle?*

In effect, the Sound Science Act is a large step away from the very core of the ESA: the Precautionary Principle.

The Precautionary Principle asserts that parties should take measures to protect public health and the environment, even in the absence of clear, scientific evidence of harm. It provides for two conditions. First, in the face of scientific uncertainties, parties should refrain from actions that might harm the environment, and, second, that the burden of proof for assuring the safety of an action falls on those who propose it.<sup>347</sup>

<sup>341</sup> S. 2009, 108th Cong. § 4(b) (2004).

<sup>342</sup> *See id.*

<sup>343</sup> *See* Kelly St. John, *Fishermen Sue to End Klamath’s Diversion to Farms*, S.F. CHRON., Apr. 25, 2002, at A4; *see also* Jim McCarthy, *The War on the River: Native Voices in the Contested Klamath Basin*, TERRAIN MAGAZINE, Winter 2001, at 18 (describing the downstream tribal fishing communities and noting the decreases in fish stocks).

<sup>344</sup> St. John, *supra* note 343.

<sup>345</sup> *See* KITTREDGE, *supra* note 21, at 136 (noting the cultural importance of the suckers to the Klamath Tribes); Anne M. Hartridge, *Salmon Medicine: Federal Trust, the ESA, and the Trinity River*, 23 ENVIRONS 107 (1999) (discussing the salmon’s importance to downstream tribes).

<sup>346</sup> S. 2009 § 4(b).

<sup>347</sup> Ken Geiser, *Preface to PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT: IMPLEMENTING THE PRECAUTIONARY PRINCIPLE*, at xxi, xxiii (Carolyn Raffensperger & Joel Tickner eds., 1999).

Knowledge about species that are on the brink of extinction is bound to be incomplete, and conclusions drawn from such imperfect knowledge are bound to vary.<sup>348</sup> Nevertheless, the remedy for this failure always has been the ESA's strong wording,<sup>349</sup> and its requirement of "the best scientific . . . data *available*, not the best scientific data *possible*."<sup>350</sup> The U.S. Supreme Court has taken Congress at its word that combating extinction is of utmost importance.<sup>351</sup>

By requiring field data and scientific peer review before species can be listed or other determinations can be made, the Sound Science Act delays ESA actions, and makes final agency decisions more difficult to achieve. Rather than urging caution before implementing potentially harmful activities, the Sound Science Act instead urges caution before implementing the ESA.

### CONCLUSION

Rather than contributing to real solutions for the Klamath Basin, it is likely that the Sound Science Act would serve only as another tool for political maneuvering. The past several years are replete with legal and political tactics aimed at "winning." Environmentalists sued successfully in 2001 to block irrigation deliveries.<sup>352</sup> The result was that, in a year of drought—but not unprecedented drought—irrigators received twenty-two percent of normal water flows.<sup>353</sup> The response, backed by the NRC Interim Report and an administration seeking to bolster the support of its conservative base,<sup>354</sup> was full irrigation deliv-

<sup>348</sup> See BALDWIN & CORN, *supra* note 298, at 3–4.

<sup>349</sup> See *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 173 (1978) ("One would be hard pressed to find a statutory provision whose terms were any plainer than those in § 7 of the Endangered Species Act."); COMM. ON SCIENTIFIC ISSUES IN THE ENDANGERED SPECIES ACT, NAT'L RESEARCH COUNCIL, SCIENCE AND THE ENDANGERED SPECIES ACT 1 (1995) ("The strength of the ESA lies with its stringent mandates . . ."), <http://www.nap.edu/catalog/4978.html> (last visited Nov. 4, 2004).

<sup>350</sup> *Bldg. Indus. Ass'n of Superior Cal. v. Norton*, 247 F.3d 1241, 1246 (D.C. Cir. 2001) (citation omitted).

<sup>351</sup> *E.g. Tenn. Valley Auth.*, 437 U.S. at 173.

<sup>352</sup> *Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation*, 138 F. Supp. 2d 1228 (N.D. Cal. 2001).

<sup>353</sup> Rykbost & Todd, *supra* note 12, at 62.

<sup>354</sup> The intersection of federal politics and the Klamath Basin water controversy is noteworthy. Oregon is a swing state: Al Gore beat George W. Bush there in 2000 by a mere 6000 votes. Jeff Mapes, *More Counting—and Politics Oregon: Vice President Will Pick Up 7*, OREGONIAN, Nov. 11, 2000, at A1. Though President Bush remained at a distance in 2001, he visited Portland in January 2002 with his political strategist Karl Rove and signaled his intent to accommodate farmers. Hamburger, *supra* note 227. Allegations later arose that Rove put considerable pressure on Interior officials to side with agricultural interests. See



eries in 2002, contributing to a catastrophic fish kill.<sup>355</sup> Again in 2003, environmentalists and others succeeded in challenging Reclamation's long-term Project operations plan, though the court stopped short of disallowing use of the plan through 2003.<sup>356</sup>

Every step in the controversy has embodied an all-or-nothing strategy, each group seeking to obtain its full legal water claim.<sup>357</sup> The heart of the problem, stated by everyone but embraced by few, is that there are too many legitimate rights to the water: simply put, the "demand for water . . . exceeds the supply of water."<sup>358</sup> In light of that reality and the basin's history, it seems likely that the Sound Science Act would contribute to the Klamath Basin's opportunities for litigation rather than resolution.

*id.*; see also *supra* text accompanying notes 216–218. The allegations underscore a broad complaint by some in the scientific community that "the Bush administration has suppressed or even attempted to distort the scientific findings of its own agencies to further its political agenda." UNION OF CONCERNED SCIENTISTS, SCIENTIFIC INTEGRITY IN POLICY-MAKING: AN INVESTIGATION INTO THE BUSH ADMINISTRATION'S MISUSE OF SCIENCE 15 (2004), [http://www.ucsusa.org/documents/RSI\\_final\\_fullreport.pdf](http://www.ucsusa.org/documents/RSI_final_fullreport.pdf).

<sup>355</sup> See FISH & WILDLIFE SERV., *supra* note 223. There also have been efforts to de-list both the suckers and the coho. See *Moden v. U.S. Fish & Wildlife Serv.*, 281 F. Supp. 2d 1193, 1203 (D. Or. 2003) (holding that a petition to de-list the suckers was improperly denied as not presenting scientific or commercial information, and remanding to FWS to reconsider the petition); *Alsea Valley Alliance v. Evans*, 161 F. Supp. 2d 1154, 1163 (D. Or. 2001) (holding that NMFS cannot count only naturally spawning coho salmon, but also must consider hatchery-born salmon). The *Alsea* decision, which makes it easier to de-list species that also are raised in hatcheries, has received much criticism. See, e.g., Brian J. Perron, *Just Another Goldfish Down the Toilet?: The Fate of Pacific Salmon After Alsea Valley and the De Facto Rescission of the 4(D) Rule*, 33 ENVTL. L. 547 (2003).

<sup>356</sup> See *supra* Part III.D.

<sup>357</sup> See Doremus & Tarlock, *supra* note 1, at 344 (noting the myopia and narrowness of parties' views in the Klamath Basin). The fragmented nature of governmental authority in the Basin tends to exacerbate this problem, for each involved agency has a narrow responsibility. See Emery Castle, *A Synthesis: Policy Analysis and Public Institutions*, in OSU REPORT, *supra* note 6, at 393, 396 ("A single agency, with the responsibility to protect species one at a time, may have the authority to affect the water use of only a particular group of users. This situation suggests fundamental inadequacies in the highly fragmented institutional framework for managing water in the Klamath Basin.").

<sup>358</sup> Governor John A. Kitzhaber, Editorial, *Klamath Solution Takes Cooperation by All*, OREGONIAN, June 1, 2001, available at <http://www.pcffa.org/kitz1.htm>. Then-Governor of Oregon Kitzhaber wrote a prescient editorial in the *Oregonian* in June 2001, noting that the courts would be helpless to solve the problem: "It will take all the parties coming to the mediation table—leaving their positions at the door—ready to roll up their sleeves and design a long-term solution that will sustain the Klamath Basin for the benefit of communities, the economy and the environment." *Id.*