

THE REGULATORY DROUGHT: FARMER VS. FISH  
*AN EXAMINATION OF THE EVENTS LEADING TO CALIFORNIA'S WATER CRISIS*

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## INTRODUCTION

Congress passed the Reclamation Act of 1902 (“the Act”) in order to develop an agriculturally focused irrigation system in the Western United States.<sup>1</sup> In 1933, Californians approved legislation allowing for the largest water management program in history, known as the Central Valley Project (“CVP”).<sup>2</sup> Both pieces of legislation authorized the construction of several water distribution and regulation devices, including aqueducts, canals, dams, and diversion projects.<sup>3</sup> With the help of these water projects, California quickly grew into one of the nation’s largest agricultural producers.<sup>4</sup> Today, California’s farming industry produces more than 400 commodities, including nearly half of all fruits, nuts, and vegetables grown in the United States.<sup>5</sup> In 2007, California’s agricultural industry experienced a record year. California was the highest grossing state in cash farm receipts, with its \$36.2 billion in revenue representing close to 12% of the nation’s total.<sup>6</sup> Of the 81,500 California farms in operation during 2007, 30% produced commodity sales totaling over \$100,000.<sup>7</sup> According to the United States Department of

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<sup>1</sup> 43 U.S.C. 371 (2003).

<sup>2</sup> *See infra* Part I.A.

<sup>3</sup> *See id.*; *see also* 43 U.S.C. 371 (2003).

<sup>4</sup> *See generally* Isao Fujimoto & Gerardo Sandoval, *Tapping into California's Central Valley's Hidden Wealth: Its Rich Cultural Capital*, 13 ASIAN AM. L.J. 193, 197 (2006).

<sup>5</sup> CALIFORNIA DEP’T OF FOOD AND AGRICULTURE, 2007-2008 RESOURCE DIRECTORY (2008), *available at* <http://www.cdfa.ca.gov/statistics/>. Across the nation, U.S. consumers regularly purchase crops produced solely in California. *See id.*

<sup>6</sup> *Id.* The state accounted for 14% of national receipts for crops, and 7.5% of the U.S. revenue for livestock and livestock products. *Id.*

<sup>7</sup> *See id.* (compared to 16% for the U.S. as a whole). California was also home to the most productive agricultural counties in the nation; according to the 2007 Census of Agriculture’s ranking of market value for agricultural products sold, nine of the Nation’s top 10 producing counties are in California. *Id.*

Agriculture (“USDA”), farm and farm-related employment accounted for 2.75 million jobs in California—roughly 14% of the state's total employment.<sup>8</sup>

As a result of a three year drought, however, California farmers have seen a marked depreciation in crop yields, followed by steep declines in revenue.<sup>9</sup> Farmers from across California have urged the state government to provide the irrigation necessary to support their industry.<sup>10</sup> While local officials have additionally sought to apply pressure at the federal level,<sup>11</sup> the Department of the Interior’s Bureau of Reclamation (the “Bureau”) has been persistently standing in their way.

To understand the Bureau’s ostensible impediment to delivering the water California farms so desperately require, one must first understand the basis behind water appropriation rights. The proximity of a landowner’s property in relation to water determines what type of water rights the owner may have. Those who own land adjacent to a river are said to be “riparian” right holders;<sup>12</sup> as a natural benefit of their land, these owners automatically derive a right to use a reasonable amount of water flow from the river.<sup>13</sup> However, those who do not own land adjacent to a river and wish to divert water to their property must acquire authorization.<sup>14</sup> Under California law, any person who

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<sup>8</sup> *Delano Farms Co. v. Cal. Table Grape Comm'n*, 546 F. Supp. 2d 859, 866 (E.D. Cal. 2008).

<sup>9</sup> See CALIFORNIA DEP’T OF FOOD AND AGRICULTURE, 200-2009 RESOURCE DIRECTORY (2008), available at <http://www.cdfa.ca.gov/statistics/> [hereinafter Resource Directory].

<sup>10</sup> See Bettina Boxall, *Judge Allows Slowdown of Pumps to Protect Smelt*, L.A. TIMES, Feb. 11, 2010, at D7.

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

<sup>12</sup> JOSEPH L. SAX ET AL., LEGAL CONTROL OF WATER RESOURCES 27 (4th ed. 2006).

<sup>13</sup> *Id.* at 28.

<sup>14</sup> *Stockton East Water Dist. v. United States*, 583 F.3d 1344, 1355 (Fed. Cir. 2009). There are primarily two ways for a reclamation water user to obtain rights to a managed water source: (1) establish an irrigation

wishes to appropriate water must apply for a permit from the State Water Resources Control Board (“SWRCB”).<sup>15</sup> Upon receipt of an application, the SWRCB may only issue a permit if it determines that (1) there is a sufficient amount of unappropriated water available, (2) the projected use is “reasonable and beneficial,” and (3) the appropriation best “serves the public interest.”<sup>16</sup> Such diversions from virtually all California Rivers to agricultural users occur through contracts with the Bureau.<sup>17</sup> However, because the Bureau is bound by the federal Endangered Species Act (“ESA”)—including the ESA’s subsequent agency regulations on pumping that are aimed at preserving the habitats of endangered fish—the Bureau has called into question the contractual and riparian rights of California farm owners.

As required by the ESA, Central Valley and Northern California waterways have been forced to alter their pumping and release restrictions to benefit several indigenous fish populations threatened by the state’s low water levels in its streams and reservoirs.<sup>18</sup> However, the last few years of pumping restrictions—coupled with the naturally dry

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district that contracts with the Department of Interior (“DOI”) for the right to manage irrigation efforts in that area; or (2) where the district does not have a direct contract with the DOI, form a contractual relationship with a district that does have a contractual right. *See also* JAN G. LAITOS, NATURAL RESOURCES LAW 412 (2002).

<sup>15</sup> *See* Cal. Water §§ 1201, which states:

[a]ll water flowing in any natural channel, excepting so far as it has been or is being applied to useful and beneficial purposes upon, or in so far as it is or may be reasonably needed for useful and beneficial purposes upon lands riparian thereto, or otherwise appropriated, is hereby declared to be public water of the State and subject to appropriation in accordance with the provisions of this code.

<sup>16</sup> *California v. United States*, 438 U.S. 645, 653 (U.S. 1978) (stating that, in determining whether to grant a permit, the SWRCB is to consider “not only the planned use of the water but also alternative uses, including enhancement of water quality, recreation, and the preservation of fish and wildlife.” (citing Cal. Water §§ 1242.5)).

<sup>17</sup> *Central Delta II*, 327 F. Supp. 2d 1180, 1183 (E.D. Cal. 2004).

<sup>18</sup> *See, e.g., San Luis & Delta-Mendota Water Authority v. Salazar*, 2010 WL 582089 (E.D. Cal. Feb. 12, 2010).

hydrological conditions—have produced a state-wide irrigation crisis.<sup>19</sup> As a result, tens of billions of gallons of water have been channeled away from farmers, leaving hundreds of thousands of acres of arable land fallow, decimating entire communities.<sup>20</sup> In total, the 2008 water shortages led to 21,000 jobs lost in the San Joaquin Valley alone—5,000 of which were directly due to environmental pumping restrictions.<sup>21</sup>

This Article reviews the legislative and judicial history surrounding the ongoing struggle between California farmers and the ESA—highlighting the New Melones and Klamath Basin disputes—in an effort to provide awareness and shed light on the current crisis. Part I describes the evolution of the CVP and the subsequent litigation surrounding the New Melones Project. Part II provides insight into the events that led to the Klamath Basin Settlement—a response to perhaps California’s most contentious fish vs. farmer confrontation ever. Finally, Part III examines recently proposed legislation and settlement agreements set to alleviate concerns regarding the current drought and to ease tensions between farmers and environmentalists.

## I. THE BAY-DELTA HISTORY

California’s diverse landscape—ranging from snow covered peaks to barren deserts—calls for a complex water appropriation system. Because most of California’s precipitation falls in the winter months, the remainder of the year water users in the arid Central Valley region once largely relied on runoff from the prior winter’s accumulation

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<sup>19</sup> See Boxall, *supra* note 10, at D-7.

<sup>20</sup> See Assoc. Press, *California's Man-Made Drought; The Green War Against San Joaquin Valley Farmers*, N.Y. TIMES, Sep. 2, 2009, at C10.

<sup>21</sup> DEP’T OF WATER, CALIFORNIA’S DROUGHT UPDATE (Sep 30, 2009), *available at* [http://www.water.ca.gov/drought/docs/DroughtUpdate\\_sept30.pdf](http://www.water.ca.gov/drought/docs/DroughtUpdate_sept30.pdf).

of snow in the Sierra Nevada Mountains.<sup>22</sup> Understanding the need for the development of an efficient water delivery system, the State of California from the 1930s to the early 1970s made a series of investments in water storage and transportation to supply agricultural and urban areas. This process began with the federally-sponsored CVP.

#### A. The Central Valley Project

The CVP was, and remains, the largest federal water management project in the United States.<sup>23</sup> Approved by the legislators and voters in 1933, the project authorized the construction and maintenance of twenty dams and reservoirs, eight power plants, and several hundred miles of major canals and aqueducts.<sup>24</sup> The initial agreement authorized the sale of revenue bonds to construct the project, but during the Great Depression the bonds didn't sell, stalling the project's advancement.<sup>25</sup> However, with the passing of the Rivers and Harbors Act of 1935, the Federal Government—through the Bureau—assumed control of the CVP and authorized its initial features for construction.<sup>26</sup> Currently, the CVP covers nearly 50,000 square miles of California's Central Valley

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<sup>22</sup> See Elisabeth Skillen, *Annual Review of Environmental and Natural Resources Law: Central Delta Water Agency v. Bureau of Reclamation: How the Ninth Circuit Paved the Way for the Next Fish Kill*, 34 *ECOLOGY L.Q.* 979, 984 (2007).

<sup>23</sup> *Cent. Delta Water Agency v. United States*, 306 F.3d 938, 943 (9th Cir. 2002).

<sup>24</sup> JAY LUND ET AL., *ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA* 2, 17-18 (2007) (describing the early Delta). The CVP coverage extends from the Cascade Range in the north to the arid but fertile plains along the Kern River in the south. *Id.*

<sup>25</sup> Funds for construction of the initial features of the CVP were provided by the Emergency Relief Appropriation Act of 1935. (74 Pub. Res. 11). See U.S. Department of Interior-Central Valley Project, available at [http://www.usbr.gov/projects/Project.jsp?proj\\_Name=Central+Valley+Project](http://www.usbr.gov/projects/Project.jsp?proj_Name=Central+Valley+Project). (last visited Aug. 31, 2009).

<sup>26</sup> *Id.* The project was authorized by a finding of feasibility by the Secretary of the Interior and approved by the President on December 2, 1935, for construction by the Bureau. However, when the Rivers and Harbors Act was reauthorized in 1937 (50 Stat. 844, 850), the Bureau took over the CVP's construction and operation, and the project became subject to reclamation law under the 1937 Act. *Id.*

Basin, including California's two major watersheds: the San Joaquin and Sacramento River systems.<sup>27</sup> The combined watersheds extend nearly 500 miles from northwest to southeast and range from about 60 to 100 miles wide, with the two river systems joining at the Sacramento-San Joaquin Delta.<sup>28</sup> This confluence of water then travels through the Carquinez Straight, into the San Francisco Bay, and eventually out to the Pacific Ocean, forming what is known as the Bay-Delta.<sup>29</sup>

One major provision of the CVP called for upstream storage along the Sacramento River, essentially resolving one of the two principal water problems concerning California at the time: crippling water shortages ailing the San Joaquin Valley.<sup>30</sup> The other major concern of salinity control, especially in the Sacramento-San Joaquin River Delta, was also addressed by the CVP.<sup>31</sup> By creating a system-wide hydraulic salinity barrier, as well as constructing a 420 foot dam with controlled releases

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<sup>27</sup> See *id.* Except for a gap in its western edge near the San Francisco Bay, the basin is completely surrounded by the Cascade Range to the North and Sierra Nevada Mountains on the east with both reaching an elevation of roughly 14,000 feet, and the Coast Range to the West, rising to about 8,000 feet. As a result, the valley floor occupies only about a quarter of the basin with the rest belonging to the surrounding mountain ranges. *Id.*

<sup>28</sup> See *California Delta. Cent. Valley Water Agency v. United States (Central Delta II)*, 327 F. Supp. 2d 1180, 1183 (E.D. Cal. 2004), *aff'd sub nom. Cent. Delta Water Agency v. Bureau of Reclamation*, 452 F.3d 1021 (9th Cir. 2006) (citing UC DAVIS WILDLIFE HEALTH CENTER, CALIFORNIA WILDLIFE: CONSERVATION CHALLENGES 334 (2007) (California's Wildlife Action Plan, prepared for the California Department of Fish and Game), available at <http://www.dfg.ca.gov/wildlife/WAP/docs/report/ch14-cvbd.pdf>). The Delta is roughly 1150 square miles.

<sup>29</sup> WILLIAM EISENSTEIN ET AL., REENVISIONING THE DELTA: ALTERNATIVE FUTURES FOR THE HEART OF CALIFORNIA 3 (2007), available at <http://landscape.ced.berkeley.edu/delta/symp%20report/ReEnvisioning%20FINAL.pdf>.

<sup>30</sup> JAY LUND ET AL., ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA 2, 17-18 (2007).

<sup>31</sup> See U.S. Department of Interior-Central Valley Project, *supra* note 25. Unless water flowed past a facility in Antioch at a minimum of 3,300 cubic feet per second, salt water from San Francisco Bay moved into the Delta during high tide, making the water harmful for crops and industry. *Id.*

of water from upstream storage, the CVP all but eliminated the incidence of salt intrusion which had routinely plagued many San Francisco Area communities.<sup>32</sup>

While the CVP has been successful in its preliminary goals, it has also succeeded in generating electric power, supplying industrial and domestic water, conserving fish and wildlife, enhancing water quality, and even improving navigation on the Sacramento River.<sup>33</sup> The CVP serves homes, farms, and industry in not only the Central Valley, but also major urban centers in the San Francisco Bay Area and as far south as San Diego.<sup>34</sup> In addition, it is also the primary source of water for much of California's wetlands.<sup>35</sup>

This multiple-purpose project has played a key role in California's water distribution efforts. However, the CVP's principal contribution has been the steady supply of irrigation to the heart of California's agrarian industry, helping California to sustain the title as the nation's leading farm state.<sup>36</sup> The Federal Government subsidizes these supplies by allowing farmers to reimburse project construction costs interest-free over a span of decades, shifting the burden onto other user costs—like hydroelectric dam projects.<sup>37</sup> The estimated annual subsidy to farmers receiving CVP irrigation supplies is

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<sup>32</sup> *Id.* Also, between 1919 and 1924, the salt water in Suisun Bay allowed sufficient growth of teredo, a wood-boring, salt-water worm, to destroy \$25 million of the bay's wharves and pilings. *Id.* In 1924, the water reached its lowest recorded stream flow and the maximum salt water content at Pittsburg reached 65%. In 1926, Pittsburg and Antioch communities were forced to discontinue using water from Suisun Bay for crops and industry. *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> *Id.* In addition to delivering water for homes, farms, and the environment, the CVP produces hydroelectric power and provides flood protection, navigation, recreation, and water quality benefits.

<sup>36</sup> See Ellen Hanak, et al., *Myths of California Water – Implications and Realty*, 16 HASTINGS W.-N.W. J. ENV. L & POL'Y 3 (2010).

<sup>37</sup> See *id.* In addition to shifting costs that exceed the irrigator's 'ability to pay,' the government also charges below-cost energy rates for moving the water. *Id.* at 14.

roughly \$60 million.<sup>38</sup> Currently, the CVP provides water for six of the state's top ten agricultural counties.<sup>39</sup> And, in any given year, the CVP manages a quantity of water sufficient to irrigate one-third of California's agricultural land.<sup>40</sup>

However, not all of the CVP's provisions have gone without criticism. In the minds of many environmentalists and urban water users, water supply subsidies for farmers are unfair and unjustified. Critics contend that federal water subsidies encourage the production of lower valued crops that should be grown elsewhere.<sup>41</sup> Others argue that subsidized irrigation decreases incentives for the agricultural industry to make efforts to conserve water.<sup>42</sup>

Another major criticism of the CVP has been its construction of several Northern California hydroelectric dams.<sup>43</sup> One of the CVP's last major construction developments—and perhaps its most controversial—was the completion of the New

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<sup>38</sup> *Id.* at 14-15.

<sup>39</sup> See OFFICE OF PLANNING & RESEARCH, CAL DEP'T OF AGRIC., GOVERNOR'S ENVTL. GOALS AND POLICY REPORT 73 (2003), available at <http://opr.ca.gov/EnvGoals/PDFs/EGPR--11-10-03.pdf>. The six highest producing agricultural counties referenced include Fresno, Tulare, Kern, Merced, San Joaquin, and Stanislaus. *Id.*

<sup>40</sup> See *Cent. Delta Water Agency v. United States*, 306 F.3d 943 (9th Cir. 2002). It has been estimated that the value of crops and related service industries has returned 100 times Congress's \$3 billion investment in the CVP. About 60% of the cost of the CVP was allocated to irrigation and municipal and industrial water with the remainder to other beneficial uses. See also U.S. Department of Interior-Central Valley Project, *supra* note 25.

<sup>41</sup> See Ellen Hanak, et al, *supra* note 36, at 19 (noting that lower valued crops include wheat, grain, cotton, and rice).

<sup>42</sup> *Id.* Hanak's article even suggests that there are critics who believe that it would be more equitable and efficient if the federal water subsidies were eliminated entirely. *Id.* at 20.

<sup>43</sup> See U.S. Department of Interior-New Melones Unit, <http://www.usbr.gov/dataweb/html/newmelones.html> (last visited Aug 31, 2009).

Melones Dam.<sup>44</sup> Located in the Sierra Nevada foothills, the Bureau constructed the 625 foot dam in 1979 along the Stanislaus River in an effort to control flooding, generate power, and contribute to local agricultural irrigation systems.<sup>45</sup> However, the Melones Dam's reduced Stanislaus River flow brought about changes in the salinity of downstream water.<sup>46</sup> The subsequent increase in salinity negatively affected local farmers who relied on the fresh water to irrigate their crops.<sup>47</sup> In response to the farmers growing concerns, the SWRCB created a limit as to the salinity concentration measured downstream to no greater than 500 parts-per-million (ppm).<sup>48</sup> This threshold concentration level became known as the Vernalis Salinity Standard.<sup>49</sup>

In addition to the increased downstream salinity concentration, another major problem brought on by the New Melones project was the significant elevation in water temperatures.<sup>50</sup> Prior to construction, estimates for the amount of available water from the project used data on annual flows from years 1922 through 1978.<sup>51</sup> Using these

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<sup>44</sup> *Id.* Construction on the Melones Dam began in 1944 and was completed in 1979, but not without having to withstand state and national scrutiny. Developing the Melones Dam brought the need for water into direct conflict with concerns over damage to the environment. For a full discussion outlining the controversy, see G. James West, *New Melones: Public Interpretation of the Archeological-Historical Record*, Cultural Resources Management, U.S. National Park Service, available at <http://crm.cr.nps.gov/archive/23-01/23-01-10.pdf>.

<sup>45</sup> See U.S. Department of Interior-New Melones Unit, *supra* note 43.

<sup>46</sup> See Elisabeth Skillen, *supra* note 22, at 987.

<sup>47</sup> *Id.* at 988.

<sup>48</sup> Cent. Delta Water Agency v. United States, 306 F.3d 943 (9th Cir. 2002).

<sup>49</sup> *Id.* The name derives from the Vernalis gauging and measurement station located just below the confluence of the San Joaquin and Stanislaus Rivers. *Id.*

<sup>50</sup> See U.S. Department of Interior-New Melones Unit, *supra* note 43.

<sup>51</sup> *Id.*

figures, the approximated 200,000 acre-feet<sup>52</sup> amount of water predicted to be available from the project justified its construction. When data from the years 1979 through 1987 were factored into the original estimates, the Bureau discovered that the possibility of drought was not accounted for in its estimate; thus, when California suffered a drought from 1987-1992, water availability and the subsequent demand was off by a significant amount.<sup>53</sup> Because of the drought and incorrect estimates, the lake's water level lowered substantially. As a result, the submerged old dam prevented the cold water at the lake's floor from reaching the outlet works of the dam.<sup>54</sup> Thus, temperatures downstream from the dam were elevated—so much so that several species of fish died as a result—angering environmentalists.<sup>55</sup>

#### B. ESA and the Central Valley Project Improvement Act

For the many years after the CVP was established, both federal and state water policy favored making the water available for consumptive purposes, principally for providing water to sustain the fertile fields of California's Central Valley agricultural

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<sup>52</sup> An acre-foot is the amount of water it would take to cover a square acre with one foot of water, or sustain an average American family of four for one year. This is approximately 345,000 gallons. See GREGORY MCNAMEE, GILA: THE LIFE AND DEATH OF AN AMERICAN RIVER 6 (1994).

<sup>53</sup> U.S. Department of Interior-New Melones Unit, *supra* note 43. California experienced a severe drought from 1987 through 1992, and demands for releases of water were higher than anticipated. Original estimates anticipated that approximately 200,000 acre-feet of the New Melones project would be available after pre-existing contractual obligations were met. As a result of the original estimates, contracts were negotiated with the Stockton East Water District and the Central San Joaquin Water Conservation District for up to 155,000 acre-feet per year. However, during the drought, preexisting obligations were not met; and no water was available to service those contracts. As a result, the Stockton East Water District is *still* in litigation against the Bureau seeking a judgment forcing the Bureau to meet the obligations of their contract. See *id.*

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

<sup>55</sup> *Id.* The situation became most critical when the amount of water in the lake dropped below 350,000 acre-feet, the point where the layer of cold water above the old dam was extinguished. *Id.*

industry.<sup>56</sup> However, in light of growing environmental concerns, by the late 1980's and early 1990's, government policy began to shift in favor of fish and wildlife interests.<sup>57</sup> In 1990, the Fish and Wildlife Service and the National Marine Fisheries Service ("NMFS") listed two fish—the winter-run Chinook and the delta smelt, indigenous to the San Joaquin and Sacramento Rivers—as threatened species under the 1973 Endangered Species Act ("ESA").<sup>58</sup>

In fulfillment of the duties assigned to it under the ESA, the NMFS determined that the Bureau's operations of the CVP were likely to jeopardize the continued existence of the salmon and smelt population.<sup>59</sup> Included with its findings, the agency suggested a "reasonable and prudent alternative" operations schedule designed to protect the two fish by restricting the time and manner of pumping water out of the Delta.<sup>60</sup> According to the NMFS's recommendations, water that would otherwise have been made available for agricultural irrigation was now to be made available for habitat restoration.<sup>61</sup>

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<sup>56</sup> See *Stockton East Water Dist. v. United States*, 583 F.3d 1344 (Fed. Cir. 2009). This was still the state of affairs when the New Melones project was undertaken in 1962 and up until its completion. *Id.*

<sup>57</sup> *Id.* at 1355. As stated by the Court, "the ever-increasing imposition of additional obligations for salinity and fisheries water releases led to a clash of management objectives and priorities, the unpredictability of available water supply, and an inherent conflict between demands for consumptive uses... and environmental concerns." *Id.* Ultimately the changing priorities "required the [Bureau] to alter the manner in which it made operational decisions regarding the allocation of water to the Contracting Parties pursuant to the 1983 Contracts." *Id.*

<sup>58</sup> Alf W. Brandt, *An Environmental Water Account: The California Experience*, 5 U. DENV. WATER L. REV. 426, 430-432 (2002).

<sup>59</sup> *Tulare Lake Basin v. United States*, 49 Fed. Cl. 313, 315 (Fed. Cl. 2001).

<sup>60</sup> *Id.* Where the activities of a federal agency are seen to jeopardize the continued existence of an endangered species, the ESA directs the Secretary to suggest "reasonable and prudent alternatives to avoid such harms § 16 U.S.C. 1536(b)(3)(A)(1994).

<sup>61</sup> See Alf W. Brandt, *supra* note 59, at 433.

In addition to the ESA, the shift in federal policy culminated in 1992 when Congress enacted the Central Valley Project Improvement Act (“CVPIA”)<sup>62</sup>—legislation which added “mitigation, protection, and restoration of fish and wildlife” to the purposes of the CVP.<sup>63</sup> The CVPIA authorized such purposes within the preference system for CVP water allocation.<sup>64</sup> The CVPIA amends the second preference tier—which includes irrigation and domestic uses—to also include fish and wildlife mitigation, protection, and restoration. As a result, irrigation uses became equal to fish and wildlife protection purposes on the second tier.<sup>65</sup> Of particular importance, three specific provisions expressly altered the priorities for use of the CVP dams and reservoirs to now

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<sup>62</sup> See CVPIA § 3402, Title XXXIV of the Reclamation Projects Authorization and Adjustment Act of 1992, Pub. L. 102-575, 106 Stat. 4600, 4706 (1992). As stated in the CVPIA, the purpose of the act shall be:

- (a) To protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California;
- (b) To address impacts of the Central Valley Project on fish, wildlife and associated habitats;
- (c) To improve the operational flexibility of the Central Valley Project;
- (d) To increase water-related benefits provided by the Central Valley Project to the State of California through expanded use of voluntary water transfers and improved water conservation;
- (e) To contribute to the State of California's interim and long-term efforts to protect the San Francisco Bay/Sacramento-San Joaquin Delta Estuary;
- (f) To achieve a reasonable balance among competing demands for use of Central Valley Project water, including the requirements of fish and wildlife, agricultural, municipal and industrial and power contractors.

<sup>63</sup> Congress authorized the CVPIA through the Rivers and Harbors Act of 1935, and which has maintained a governing hand in controlling the CVP water allocation. See *Cent. Valley Water Agency v. United States*, 327 F. Supp. 2d 1180 (E.D. Cal. 2004).

<sup>64</sup> See Reclamation Projects Act, § 3406(a)(2). The first tier of preferences only includes navigation improvement, flood control, and river regulation. *Id.*

<sup>65</sup> *Id.* § 3406(g), 106 Stat. at 4725. The CVPIA then places fish and wildlife enhancement on the third tier of priority, on the same footing as power generation. *See id.*

provide flows that enhance the habitats of several species.<sup>66</sup> First, § 3406(b)(1) requires that the Bureau:

[d]evelop within three years of enactment and implement a program which makes all reasonable efforts to ensure that, by the year 2002, natural production of anadromous fish<sup>67</sup> in Central Valley rivers and streams will be sustainable, on a long-term basis, at levels not less than twice the average levels attained during the period of 1967-1991.<sup>68</sup>

Second, to implement this goal, § 3406(b)(2) requires that the Bureau administer 800,000 acre-feet of CVP water supplies for the primary purpose of fish, wildlife, and habitat restoration.<sup>69</sup> In addition, § 3406(b)(2) also requires that the Bureau act in accordance with "flow and operational requirements imposed by terms and conditions existing in licenses, permits, and other agreements pertaining to the CVP under applicable State or Federal law existing at the time of enactment of this title . . . ."<sup>70</sup> Third, the CVPIA permits the Bureau to "develop and implement a program in coordination and in conformance with the plan required under § 3406(b)(1) for the acquisition of a water

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<sup>66</sup> *Id.* § 3406(b)(1), 106 Stat. at 4714. The CVPIA marked the first time under federal law that a specified quantity of water allocated by the CVP were to be dedicated annually to non-consumptive uses, specifically for fish, wildlife, and habitat restoration.

<sup>67</sup> Anadromous fish are that are fish born in fresh water, migrate to salt water to mature into adulthood, and then migrate back to fresh water to lay eggs. See Ludwig A. & Ellen Teclaus, *Restoring River and Lake Basin Ecosystems*, 34 *Natural Res. J.* 905, 914 (1994). The CVP species of fish of particular concern to the management of the CVP is the Chinook salmon. See *Cent. Delta Water Agency*, 306 F.3d at 945.

<sup>68</sup> *Id.* (citing Reclamation Projects Act, § 3406(b)(1)).

<sup>69</sup> Reclamation Projects Act, § 3406(b)(2). Specifically, the act requires that the Secretary: [d]edicate and manage annually eight hundred thousand acre-feet of Central Valley Project yield for the primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by this title; to assist the State of California in its efforts to protect the waters of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary; and to help to meet such obligations as may be legally imposed upon the Central Valley Project under State or Federal law following the date of enactment of this title . . . .

<sup>70</sup> *Id.*

supply to supplement the quantity of water dedicated to fish and wildlife purposes under § 3406(b)(2)."<sup>71</sup>

As a result, the Bureau was forced to adjust its operations and required the release of water throughout the CVP projects in order to comply with the CVPIA directives.<sup>72</sup> And, while nothing in the CVPIA mandates that the Bureau use New Melones water for its § 3406(b)(2) releases, the Bureau exercised its discretion to use that water,<sup>73</sup> electing to divert 98,000 acre-feet of water that was once used for consumption.<sup>74</sup>

As the Federal Government enacted the CVPIA, agriculturists began to worry about the likelihood of the depreciation in downstream Stanislaus water flow, and thus, an elevation in the salinity concentrations.<sup>75</sup> In 1997, the Bureau implemented the New Melones Interim Operations Plan ("New Melones Plan").<sup>76</sup> The New Melones Plan provided for the release of § 3406(b)(2) waters in April, May, and October to supplement

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<sup>71</sup> See Cent. Delta Water Agency, 306 F.3d at 945.

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

<sup>73</sup> The U.S. Supreme Court reinforced the importance of California Water Law in *California v. United States*, 438 U.S. 645 (U.S. 1978), where the Bureau sought to impound unappropriated water necessary for the New Melones project from the State's river without complying with California State law. The Court held that it was clear that the State had the control of the water within its boundary and that it was essential that "each and every owner along a given water course be amenable to the law of the State, if there was to be a proper administration of the water law." *Id.* Thus, the Bureau had to yield to the conditions imposed by the SWRCB and follow state law in all respects not directly inconsistent with congressional directives, because "the legislative history of the Reclamation Act of 1902 makes abundantly clear that Congress intended to defer to the substance, as well as the form, of state water law." *Id.* at 675.

<sup>74</sup> See Cent. Delta Water Agency, 306 F.3d at 945; See also Alita Giuda, *The Central Valley Project Improvement Act: Who Says Environmental Uses Are Not Beneficial?*, 11 ALB. L. ENVTL. OUTLOOK 304 (2007) (describing how §3406(d) of the CVPIA requires that 424,000 acre-feet per year of the CVP water be set aside for use as refuge and wildlife habitat, and §3406(b)(23) requires a minimum of 340,000 acre-feet per year to be released into the Trinity River.)

<sup>75</sup> See Skillen, *supra* note 22, at 985.

<sup>76</sup> Cent. Delta Water Agency, 306 F.3d at 945.

fishery flows in the Delta.<sup>77</sup> In addition, the Vernalis Standard was augmented to accommodate irrigation concerns.<sup>78</sup> However, the New Melones Plan, as adopted, did not cover plans for operations during the event of a drought.<sup>79</sup> And although the CVPIA-mandated release did not affect the present functions of local agriculturalists, farmers became worried that continued adherence to the New Melones Plan during a drought episode would elevate salinity levels, endangering the vitality of their soil and crops. In light of these concerns, four separate parties—led by two Central Valley farmers—filed suit against the Bureau.

### C. The Central Valley Water Agency Litigation Saga

In 1999, the four plaintiffs - two state agencies (the Central Delta Water Agency and the South Delta Water Agency) and two private parties (R.C. Farms, Inc. and farmer Alexander Hildebrand),<sup>80</sup> sought a temporary restraining order preventing the release of the § 3406(b) waters according to the New Melones Plan until the Bureau reserve an amount of water sufficient to meet the Vernalis Standard in the event of a drought.<sup>81</sup>

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<sup>77</sup> *Id.* The New Melones Plan also allowed for the purchase of water under § 3406(b)(3) from other water sources. *Id.*

<sup>78</sup> *Cent. Delta Water Agency v. Bureau of Reclamation*, 452 F.3d 1021 (9th Cir. Cal. 2006). The Vernalis Standard, now set at an electrical conductivity measurement, allows for a 1.0 mmhos/cm level during the period of September through March and a lower threshold of 0.7 mmhos/cm during the irrigation months of April through August. The Bureau is required to operate the CVP as not to exceed the 0.7-1.0 mmhos/cm salinity standard by the terms of the CVPIA. *Id.* at 1034.

<sup>79</sup> *See* U.S. Bureau of Reclamation, Central Valley Project: New Melones Unit, *supra* note 43. ("The Interim Agreement was not developed to cover drought conditions because the stakeholders could not reach agreement on how to manage the facility during periods of extended drought.") (last visited Nov. 12, 2007).

<sup>80</sup> *Central Delta I*, 306 F.3d 938, 945-46 (9th Cir. 2002). Plaintiff R.C. Farms, Inc., owned farmland that was located within the Central Delta area and riparian to the San Joaquin River, in the South Delta Area. Plaintiff Hildebrand possessed various appropriative rights to divert water from the CVP waterways to his farmland in the West Delta Region. *Id.*

<sup>81</sup> *Id.* at 942.

The Federal District Court granted summary judgment in favor the Bureau, concluding that none of the plaintiffs had standing to challenge the Bureau’s release of water from the New Melones project, because “...a breach of [plaintiff’s] Vernalis Standard rights under the New Melones Plan...was not imminent.”<sup>82</sup> On appeal, however, the Ninth Circuit granted the plaintiffs standing using a broader interpretation of the first standing requirement,<sup>83</sup> “injury in fact,” by using it in an environmental context.<sup>84</sup> The Court determined that an actual injury was not necessary; rather, the threatened injury from environmental harm suffices for standing purposes:

“the necessary showing for standing purposes is not that the Vernalis standard has already been exceeded, or that plaintiffs' crops have already been damaged by excessively saline water, but that plaintiffs face significant risk that the crops that they have planted will not survive as a result of the Bureau's decisions to discharge water from the New Melones Reservoir during April, May, and October, rather than when needed to meet the Vernalis standard.”<sup>85</sup>

After ruling that the plaintiffs had standing, the Ninth Circuit remanded the case in order to determine whether a temporary restraining order against the Bureau should be instated.<sup>86</sup>

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<sup>82</sup> *Id.* In other words, the court held that it would not grant the injunction unless the farmers faced an imminent threat of receiving dangerously high levels of saline concentration water under their water-use diversion permits.

<sup>83</sup> *Id.* Article III of the Constitution limits the jurisdiction of federal courts to "Cases" and "Controversies." One component of the case-or-controversy requirement is standing, which requires a plaintiff to demonstrate the now-familiar elements of 1) injury in fact 2) causation and 3) redressability. *Id.*

<sup>84</sup> *Id.* With regard to the individual plaintiffs, the Court noted that, when showing injury in fact for purposes of Article III standing in environmental cases, the focus of inquiry should be on the injury to the plaintiff—not the injury to the environment—because “threatened environmental harm is by nature probabilistic.” *Id.* at 949.

<sup>85</sup> *Id.* at 952.

<sup>86</sup> *Id.* Note, in support of their contention that a violation of the Vernalis Standard would result in damaged crops, the plaintiffs submitted reports of the U.S. Salinity Laboratory and the University of California Extension Service documenting the negative effects of increased salinity on the various crops that they grow. The Plaintiffs also claimed that their harvests were damaged in the past due to high salinity in the

Citing to the fact that the plaintiffs could not show, "within reasonable scientific certainty" that the Bureau would violate the Vernalis Salinity Standard in the future, the District Court granted summary judgment in favor of the Bureau.<sup>87</sup> On appeal, the plaintiffs argued that their showing of threatened harm through the interpretation of models prepared by the Bureau supported their theory of "hypothetical future harm."<sup>88</sup> Through the use of a modeling exercise derived from data using water conditions over the past 71 years, a Bureau engineer estimated that under the New Melones Plan, the Vernalis Standard will be violated at least one month a year in 37 of the next 71 years.<sup>89</sup> According to the Bureau model, under the New Melones Plan, roughly 16% of the months during the peak time when Central Valley Farmers depend on New Melones water for irrigation will see salinity concentrations higher than that permitted by the SWRCB.<sup>90</sup>

However, the Circuit Court upheld the lower court's ruling, and concluded that the plaintiffs failed to raise a genuine issue of material fact as to whether the Bureau will comply with the standard in the foreseeable future.<sup>91</sup> According to the Court, the plaintiff's dependence on the New Melones Plan's modeling in order to create a factual

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water resulting from insufficient water flows from New Melones, but they failed to produce accountable evidence. *Id.* at 947.

<sup>87</sup> Central Delta II, 327 F. Supp. 2d 1180, 1186 (E.D. Cal. 2004), *aff'd sub nom.* Cent. Delta Water Agency v. Bureau of Reclamation, 449 F.3d 965 (9th Cir. 2006).

<sup>88</sup> *Id.* at 1183. As part of its planning for the reservoir's current operational plan, the Bureau prepared a forecast of future violations of the Vernalis standard that would result from various alternatives. *Id.*

<sup>89</sup> *Id.* at 1187. In addition, the majority of the months during which the standard would be exceeded were projected to be peak-irrigation months during the Central Valley growing seasons. *Id.* at 1187-1188.

<sup>90</sup> *Id.*

<sup>91</sup> Cent. Delta Water Agency v. Bureau of Reclamation, 452 F.3d 1021, 1025 (9th Cir. Cal. 2006).

issue suffered from two major errors. The first was the fact that the model was based on hypothetical hydrological conditions; as actual hydrological conditions do and would change during the Bureau's management of the New Melones Project.<sup>92</sup>

The other major flaw was that the model's forecast that the plan would violate the Vernalis Standard in 10% of the months assumed that the Bureau would adhere fully to the New Melones Plan. However, the plan itself “is merely a starting point,” and the Bureau modifies its operation of the CVP as conditions on the river system change.<sup>93</sup> Furthermore, “[i]t is within the Bureau's discretion to determine the means by which it will satisfy the Vernalis Salinity Standard, and if the Bureau must depart from the Plan to ensure compliance, it will.”<sup>94</sup>

Ultimately, the Court found that although the plaintiffs were right in their assertions that the Bureau lacked the discretion to violate the Vernalis Standard, the CVPIA “leaves to the agency's discretion the decision of *how* to comply with those standards.”<sup>95</sup> Lastly, the Court noted that the Bureau had consistently met the Vernalis Standard since 1994—despite the fact that the New Melones Plan’s model showed that it would violate the standard 16% of the time.<sup>96</sup> As such, the farmers were left subject to the Bureau’s discretionary appropriation measurements.

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<sup>92</sup> *Id.* at 1035

<sup>93</sup> *Id.* In addition, both parties agreed that such deviation has occurred in the past when a violation of the salinity requirement has been threatened. *Id.*

<sup>94</sup> *Id.* The Bureau conceded at oral argument that it was legally obligated to meet the Vernalis Standard, even if it must deviate from its Plan in order to do so.

<sup>95</sup> *Id.*

<sup>96</sup> Thus, according to the Court, the Bureau's discretion to alter the New Melones Plan to account for changes in conditions appeared to be working adequately. *Id.*

Following the *Central Delta* decisions, California experienced one of the driest years in its history.<sup>97</sup> In 2008, both the Sacramento and San Joaquin Valleys reached the hydrological classification ‘critically dry.’<sup>98</sup> California’s Governor, Arnold Schwarzenegger, declared a statewide drought and issued a state of emergency within several Central Valley counties.<sup>99</sup> The months of March, April, and May were particularly harsh, as they marked the driest months ever recorded.<sup>100</sup> As a consequence, inflows into the CVP operated between 40-60% lower than normal, and the storage of the upstream reservoirs reached their lowest levels since 1992.<sup>101</sup> Water depletions<sup>102</sup> were especially high—much less of the water released from the reservoirs actually reached the Bay-Delta—due to the dry conditions.<sup>103</sup> Deliveries to CVP water service contracts,

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<sup>97</sup> See Resource Directory, *supra* note 9.

<sup>98</sup> Pac. Coast Fed’n of Fishermen’s Ass’ns v. Gutierrez, 606 F. Supp. 2d 1195, 1198 (E.D. Cal. 2008).

<sup>99</sup> See Press Release: Gov. Schwarzenegger Takes Action to Address California’s Water Shortage, Office of the Governor (Feb. 27, 2009), available at <http://gov.ca.gov/press-release/11556/> [hereinafter Press Release]. "Last year we experienced the driest spring and summer on record and storage in the state's reservoir system is near historic lows." Governor Schwarzenegger continued, "This drought is having a devastating impact on our people, our communities, our economy and our environment - making today's action absolutely necessary. This is a crisis, just as severe as an earthquake or raging wildfire, and we must treat it with the same urgency by upgrading California's water infrastructure to ensure a clean and reliable water supply for our growing state."

<sup>100</sup> *Id.* See also Pac. Coast Fed’n of Fishermen’s Ass’ns v. Gutierrez, 606 F. Supp. 2d 1195, 1198 (E.D. Cal. 2008). Describing how water measurements are measured in terms of precipitation and that this 3 month span was particularly harsh.

<sup>101</sup> See Press Release, *supra* note 99.

<sup>102</sup> Releases from the CVP reservoirs may increase (“accrete”) or decrease (“deplete”) as they travel to the Bay-Delta as a result of the natural migration of water through the soil of the river channels, small creeks that feed into the river systems, and the diversions by riparian water rights holder (mainly farmers). *Id.* at 1226.

<sup>103</sup> See CALIFORNIA DROUGHT, AN UPDATE: JUNE 2009, CALIFORNIA DEP’T OF WATER RESOURCES (June 2009) available at <http://www.ncdc.noaa.gov/sotc/index.php?report=drought&year=2009&month=apr>.

particularly agricultural service contracts, were substantially reduced.<sup>104</sup> Agricultural service contracts north of the Bay-Delta received 40% allocations, which were adjusted downward from the 2006 initial projection of 45%.<sup>105</sup> Deliveries South of the Bay-Delta also received 40% of allocations, but during the peak months of June, July, and August, the allocation was 35% due to Bay-Delta pumping restrictions.<sup>106</sup> Ultimately, the Bureau couldn't supply enough water to protect both the farmers' and wildlife release interests, and farmers took the brunt of the blow.

At about the same time that the *Central Delta* cases were being litigated, a small group of Oregon and Northern California farmers were contesting the Bureau's discretionary water releases as well. The crisis, as well as the end result, would alter the foundations of the farmer-fish disputes.

## II. THE KLAMATH BASIN CONTROVERSY

Among the first projects authorized under the Reclamation Act of 1902 was the Klamath Reclamation Project ("Klamath Project").<sup>107</sup> The Klamath Project approved the development of seven dams, three major reservoirs, over 185 miles of canals, and several pumping plants and drainage stations.<sup>108</sup> Through the construction of the irrigation systems, the Klamath Project transformed the shallow lake and marshland areas south of

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<sup>104</sup> *Id.* at 19-22.

<sup>105</sup> *Id.*

<sup>106</sup> *Id.* Municipal contracts received 75% allocations during the 2008 year.

<sup>107</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>108</sup> *Id.*

the Oregon-California border into fertile agricultural land and waterfowl refuges.<sup>109</sup>

After creating the vast irrigating system, the Bureau entered into irrigation contracts with the local farming districts.<sup>110</sup> Many of these contracts are still in existence today, as the Klamath Project presently provides water to a population of 40,000 people on 1300 farms.<sup>111</sup> Of the 235,000 acres of irrigable land created by the Klamath Project, all but 15,000 acres are irrigated.<sup>112</sup>

The Iron Gate Dam near the Oregon-California border divides the basin into upper and lower sections.<sup>113</sup> The Lower California section makes up two thirds of the Klamath Basin, however, much of the water originates in the upper third where most of the lake storage and river flow water is diverted to irrigate farmlands.<sup>114</sup> The largest body of water in the upper basin is the Klamath Lake,<sup>115</sup> from which the Klamath River

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<sup>109</sup> See 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, 35 (William S. Braunworth, Jr. et al. eds., 2003), available at <http://eesc.oregonstate.edu/agcomwebfile/edmat/html/sr/sr1037/report.pdf>. The Reclamation Act also provided that newly reclaimed land, in particular land located within the Klamath Basin, was made agricultural land for homesteading. Many veterans of both World War I and World War II were granted farmland in the Klamath Basin Region. *Id.*

<sup>110</sup> James K. Hein, *Note: the Sound Of Silence Amendment to the Endangered Species Act: Why it Fails to Resolve the Klamath Basin Conflict*, 32 B.C. ENVTL. AFF. L. REV. 207, 246 (2005).

<sup>111</sup> *Id.*

<sup>112</sup> Bureau of Reclamation, *Klamath Project: Project Data* (1992), at <http://www.usbr.gov/dataweb/html/mklaprjdata.html> (last visited Aug. 31, 2009).

<sup>113</sup> See RON HATHAWAY & TERESA WELCH, *supra* note 109, at 37.

<sup>114</sup> News Release: *Court Ruling Against Klamath Irrigators Gives Lower River Salmon Fishermen a Chance for Survival*, PACIFIC COAST FEDERATION OF FISHERMAN'S ASSOCIATIONS (April 30, 2001) available at <http://www.pcffa.org/pr01-1nw.htm>.

<sup>115</sup> Bureau of Reclamation, *Klamath Project: Project Data* (1992), at <http://www.usbr.gov/dataweb/html/mklaprjdata.html> (last visited Aug. 31, 2009).

flows southwest through the Iron Gate, into California, and eventually empties into the Pacific Ocean.<sup>116</sup>

Agriculture in the upper basin expanded and water flowed virtually uninterrupted to these purposes for several years.<sup>117</sup> However when too much water was allocated to farming needs, the result left too little in the Klamath Lake and Klamath River to support fish and wildlife.<sup>118</sup> As a result, two species of anadromous fish—coho salmon and the shortnose suckers—were added to the list as threatened or endangered under the federal Endangered Species Act (ESA).<sup>119</sup> Under such a designation, the Klamath Project became federally prohibited from engaging in any action that was likely to "jeopardize the continued existence of... the coho and shortnose suckers" or result in "the destruction or adverse modification of [their designated habitat]."<sup>120</sup>

In 1995, the Bureau began issuing yearly operating plans describing the minimum flow levels in the Klamath River downstream from the Iron Gate Dam.<sup>121</sup> In the years following 1995, the Bureau engaged in the process of preparing a multiple-year operating

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<sup>116</sup> See RON HATHAWAY & TERESA WELCH, *supra* note 109, at 36.

<sup>117</sup> George Woodward & Jeff Romm, *A Policy Assessment of the 2001 Klamath Reclamation Project Water Allocation Decisions*, in 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>118</sup> See News Release, *supra* note 114.

<sup>119</sup> See Determination of Endangered Status for the Shortnose Sucker and Lost River Sucker, 53 Fed. Reg. 27,130, 27,130 (July 18, 1988); see also Threatened Status for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon, 62 Fed. Reg. 33,038 (June 18, 1997).

<sup>120</sup> Pac. Coast Fedn. of Fisherman's Ass'ns v. United States Bureau of Reclamation, 2006 U.S. Dist. LEXIS 36894, 5-6 (N.D. Cal. May 24, 2006) (citing to 16 U.S.C. § 1536(a)(2)).

<sup>121</sup> *Id.* at 7. The flows were planned upon weekly or monthly periods, based upon hydrological conditions for the year; e.g., "Above Average," "Below Average," "Dry," and "Critically Dry." These classifications were based upon estimates received from the Natural Resources Conservation Service. *Id.*

plan, including a biological assessment as required under the ESA.<sup>122</sup> In 2000, the Bureau issued an operating plan which was to institute different flow levels.<sup>123</sup> However, the Bureau failed to seek formal consultation of the plan.<sup>124</sup> As a result, local fishermen and environmental groups were granted an injunction preventing the Bureau from providing water deliveries to irrigators unless water flows met those recommended by the NMFS.<sup>125</sup>

Following the order, the Bureau again consulted with the NMFS to address the 2000 Plan's impact on the suckers and coho salmon.<sup>126</sup> After investigation, the NMFS issued Biological Opinions ("BiOps") concluding that the Bureau's current activities were in violation of the ESA.<sup>127</sup> The NMFS then recommended minimum stream flows into the Klamath River to sustain the coho populations.<sup>128</sup> However, a drought was

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<sup>122</sup> *Id.* Whenever an agency undertakes an action that may affect a species listed as threatened under the ESA, it must pursue consultation with the United States Fish and Wildlife Service or the National Marine Fisheries Service. As part of the formal consultation process, the consulting agency will issue a "biological opinion" detailing how the proposed action will affect the listed species. *Id.* at 6-7. *See also* 16 U.S.C. § 1536(b)(3)(A)(describing the procedures).

<sup>123</sup> James K. Hein, *Note: the Sound Of Silence Amendment to the Endangered Species Act: Why it Fails to Resolve the Klamath Basin Conflict*, 32 B.C. ENVTL. AFF. L. REV. 207, 246 (2005).

<sup>124</sup> *See* Pac. Coast Fedn. of Fisherman's Ass'ns, 2006 U.S. Dist. LEXIS 36894, 5-6 (N.D. Cal. May 24, 2006).

<sup>125</sup> *Id.* In the years immediately following 1995, the Bureau had consulted with the NMFS regarding their operating plans, and in August 1999, the NMFS recommended certain minimum flow levels necessary to protect the anadromous fish in the Klamath River, but their report required more testing and analysis. As such, the NMFS's recommendations were only an interim report. The Bureau never followed up with the NMFS regarding the analysis needed, and thus failed to consult the agency as required under the ESA regarding its new 2001 Plan. *Id.* at 8.

<sup>126</sup> *See* Pac. Coast Fedn. of Fisherman's Ass'ns, 2006 U.S. Dist. LEXIS 36894, 5-6 (N.D. Cal. May 24, 2006).

<sup>127</sup> *Id.* at 18.

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

forecasted for the spring of 2001.<sup>129</sup> Realizing that it could not provide irrigation for farmlands and meet the minimum stream flow recommendations, the Bureau drafted and implemented a new 2001 Operations Plan that significantly favored preserving the salmon and suckers—at the expense of the local farmers.<sup>130</sup>

Already reeling from lower-than-normal irrigation supplies,<sup>131</sup> enraged farmers threatened to open up the dams themselves.<sup>132</sup> Following national media attention, the Secretary of the Interior authorized the release of 75,000 acre-feet of water from Upper Klamath Lake strictly for irrigation purposes.<sup>133</sup> However, the Secretary's release order

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<sup>129</sup> Press Release, U.S. DEPARTMENT OF INTERIOR, STATEMENT OF INTERIOR SECRETARY GALE NORTON REGARDING KLAMATH LAWSUIT (Aug. 7, 2001), available at <http://www.doi.gov/news/010808a.html>.

<sup>130</sup> As a result, Agriculture was slated receive 22% of its average diversion for the previous decade, while the habitat refuges were to receive 71%. See Kenneth A. Rykbost & Rodney Todd, *An Overview of the Klamath Reclamation Project and Related Upper Klamath Basin Hydrology*, in OSU REPORT, *supra* note 117, at 45, 50-51. See also News Release: *Court Ruling Against Klamath Irrigators Gives Lower River Salmon Fishermen a Chance for Survival*, PACIFIC COAST FEDERATION OF FISHERMAN'S ASSOCIATIONS (April 30, 2001) available at <http://www.pcffa.org/pr01-1nw.htm> [hereinafter News Release], where Glen Spain of the Pacific Coast Federation of Fishermen's Associations, the west coast's largest organization of commercial fishing, families spoke about the Bureau's decision,

“[a]s family food providers ourselves, we certainly feel for the plight of farming families that will be affected in this drought. The question the [Bureau] had to address was whether it was legal and appropriate to give nearly all the remaining water, in a serious drought year, to these particular farmers, and in the process dry up the river and most of the lakes, or whether enough water should be kept back to prevent huge economic losses—and even extinction—for downriver fishing communities that are every bit as valuable to society.” *Id.*

<sup>131</sup> In addition, the Klamath Project farmers had also come under economic stress due to international trade problems as the result of increasingly competitive world markets, including a world-wide excess of potatoes, one of the major products of the Project farmers. See *Id.*

<sup>132</sup> See *Farmers Force Open Canal in Fight with U.S. over Water*, N.Y. TIMES, July 6, 2001, at A10; see also Eric Brazil, *Klamath Livelihoods Wither: Water Shut-off Along Oregon Border Takes Toll on Farmers*, S.F. CHRON., July 16, 2001, at A1 (noting that farmers had forced open Upper Klamath Lake four times in one week to allow water to flow into the main irrigation canal, under the eye of local police officers; in addition, farmers "rigged an illegal irrigation line into a canal," siphoning off a small amount of water, in a "symbolic" effort).

<sup>133</sup> U.S. Dep't of the Interior, Office of the Secretary, Interior Secretary to Order Water Release to Klamath Farmers (2001), available at <http://www.doi.gov/news/010724a.html>. The Secretary gave the order in a statement made in Portland, Oregon. The order was a result of the Bureau's determination that “Upper Klamath Lake was at a higher-than-expected level.” *Id.*

was too little too late, as roughly \$250 million of agricultural revenues had already been lost due to the new operations plan.<sup>134</sup>

The following year, the National Research Council (“NRC”) declared that the NMFS’s 2000 BiOps mandating minimum stream flow requirements were unfounded.<sup>135</sup> As a result, the Bureau issued a new plan and provided 100% of the water necessary to meet the irrigation contracts.<sup>136</sup> However, the project’s initial worries became reality when, in late September 2002, thousands of fish died in warm, shallow, disease ridden waters.<sup>137</sup> At least 34,000 salmon and trout died in what became the worst fish die-off in Western United States history.<sup>138</sup> The subsequent Salmon declines resulted in direct and indirect economic losses to coastal fishing communities running well into the hundreds of millions of dollars.<sup>139</sup> Portions of the Klamath River were fatal to salmon as far as 80

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<sup>134</sup> See Douglas Jehl, *Cries of "Save the Suckerfish" Rile Farmers' Political Allies*, N.Y. TIMES, June 20, 2001, at A1. Net Crop revenue was reduced by \$45 million due to the Bureau’s alteration of the Klamath Project, the rest likely the result of the drought. *Id.*

<sup>135</sup> See Pac. Coast Fedn. of Fisherman's Ass'ns, 2006 U.S. Dist. LEXIS 36894, 10-12 (N.D. Cal. May 24, 2006).

<sup>136</sup> *Id.* This decision led to around 25% less water flowing from Upper Klamath Lake to the Klamath River, which is spawning grounds for the coho and other anadromous fish.

<sup>137</sup> CAL. DEP’T OF FISH & GAME, SEPTEMBER 2002 KLAMATH RIVER FISH KILL: PRELIMINARY ANALYSIS OF CONTRIBUTING FACTORS 5 (Jan. 21, 2003), *available at* <http://www.pcffa.org/KlamFishKillFactorsDFGReport.pdf>.

<sup>138</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), *available at* [http://sacramento.fws.gov/ea/news\\_releases/2003%20News%20Releases/fishnumberpublic2.pdf](http://sacramento.fws.gov/ea/news_releases/2003%20News%20Releases/fishnumberpublic2.pdf). While unlisted chinook salmon made up the majority of the dead, ESA-listed coho salmon were also among the fish killed, and a few endangered suckers turned up with the bodies as well.

<sup>139</sup> See News Release, *supra* note 130. The Klamath River system was once the third most productive salmon river in the United States. After the fish kill, most of the Lower Klamath River’s once prosperous salmon fisheries closed down or were severely restricted. *Id.*

miles downriver from the Iron Gate dam,<sup>140</sup> and Lower Klamath Basin fishing communities lost an estimated 3,780 family wage jobs.<sup>141</sup>

Following the fish kill, farmers and environmentalists began what appeared to be an endless dispute fraught with litigation. First, in July 2003, the District Court for the Northern District of California issued an order invalidating the Bureau's 2002-2012 Klamath operations plan, finding that the proposed flow rates were insufficient to protect the coho salmon.<sup>142</sup> Fueled by the fish kill's national media attention, the decision was strongly favored politically.<sup>143</sup> The following year, the Ninth Circuit concluded that a revised Klamath operations plan was again insufficient to fulfill the ESA requirements because the plan "failed to analyze the effects of eight of ten years of the proposed plan on a fish that has only a three-year life cycle."<sup>144</sup> Then in 2007, the Klamath Water Users Association lost in its appeal of a court order enjoining the Bureau from making irrigation diversions from the Klamath Project under an outdated BiOp.<sup>145</sup> Unfortunately, this exhaustive series of on-going court battles continued for several years.<sup>146</sup>

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<sup>140</sup> *Id.*

<sup>141</sup> *Id.* Additionally, most of the remaining commercial chinook salmon fishery in the Klamath Management Zone (the coastal area from Fort Bragg, CA to about Florence, OR) is maintained by the Iron Gate Hatchery. The Iron Gate Hatchery also failed, and more than 300,000 juvenile salmon died as a result of inadequate instream flows.

<sup>142</sup> Pac. Coast Fed'n of Fishermen's Ass'ns v. United States Bureau of Reclamation, 2003 U.S. Dist. LEXIS 13745 (N.D. Cal. July 14, 2003).

<sup>143</sup> See Dean E. Murphy, *California Report Supports Critics of Water Diversion*, N.Y. TIMES, Jan. 7, 2003, at A12.

<sup>144</sup> Pacific Coast Federation of Fishermen's Ass'ns v. United States Bureau of Reclamation, 426 F.3d 1082 (9th Cir. 2005).

<sup>145</sup> Pac. Coast Fed'n of Fishermen's Ass'ns v. United States Bureau of Reclamation, 226 Fed. Appx. 715, 717 (9th Cir. Cal. 2007).

<sup>146</sup> See, e.g., Pac. Coast Fed'n of Fishermen's Ass'ns v. Gutierrez, 606 F. Supp. 2d 1195 (E.D. Cal. 2008).

## I. THE CURRENT LANDSCAPE

The above two examples are characteristic of almost all farmer-versus-fish disputes: the farmer's interests usually lose out in favor of fish preservation. Despite the farmers' contractual and riparian right to water appropriations, their rights have fallen in all circumstances behind the rights of the ESA; subjecting farmers to whether years of harsh drought conditions with little to no water.<sup>147</sup> Such is the scenario that has devastated California's agricultural industry; so much so that a resolution has become paramount. In light of these concerns, two proposed solutions—the Klamath Basin Settlement and California Water Package Bill—appear to be headed towards resolve, because, for the first time in recent memory, farmers appear to have the upper hand.

### A. THE CALIFORNIA WATER PACKAGE

The *Central Delta* litigation and subsequent dry conditions have resulted in devastation for farmers and the rest of the agriculture-dependent Central Valley. In June 2009, despite California being designated in a state of "severe drought" by the U.S. Drought Monitor, the Obama Administration denied its request to be considered a federal disaster area.<sup>148</sup> In addition, lower-than-expected snowfalls—causing the Bureau's 2010 allocation to be only 5 percent of total contracted irrigation water deliveries—have only

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<sup>147</sup> Farmers and many others have not been able to understand the preference of preserving fish over the needs of sustaining their livelihoods. See Steve Adler, *Judge Says Water Problems Won't Be Solved in Court*, California Farm Bureau Federation, (Feb 24, 2010), available at <http://www.cfbf.com/agalert/AgAlertStory.cfm?ID=1487&ck=6D3A1E06D6A06349436BC054313B648C>. One farmer noted,

"If this is your lifeblood, if this is your existence, how can a fish or an environmental interest receive higher priority than human health, safety or your economic interest? You have invested your life, you have invested your resources, you have invested everything that you have into your farms or the activities that are dependent on these projects." *Id.*

<sup>148</sup> See *California's Manmade Drought*, *supra* note 20.

exacerbated the problem.<sup>149</sup> Understanding the dire need for a resolution, Governor Schwarzenegger issued a proclamation calling for the legislature to address California's water crisis and urged the passage of a new measurement.<sup>150</sup> As a result, the California Legislature passed a comprehensive 5-Bill water plan that has become known as the “Delta Package.”

Central to addressing the farmer-fish crisis is Senate Bill 1 (“SB1”). As written, SB1 established new policy for the Central Valley, erecting four committees to specifically address environmental protection, fish restoration and preservation, conduct scientific research, and water delivery.<sup>151</sup> In addition, SB1 created the Delta Stewardship Council and the Delta Protection Commission to craft the “Delta Plan”—a long-term economic sustainability plan to “restore the Delta ecosystem and provide a reliable water supply for irrigation efforts.”<sup>152</sup> In conjunction with SB1, Senate Bill 7 (“SB7”) mandates that agricultural water suppliers develop Agricultural Water Management Plans describing their existing water supply needs and current water use.<sup>153</sup> In addition, SB7 requires agricultural water suppliers to measure volumes of water delivered to customers with greater specificity in order to charge users based on more accurate measurements of

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<sup>149</sup> Western Farm Press, *First Snow Survey of 2009-2010* (Dec 28, 2009), available at <http://westernfarmpress.com/news/snow-water-1228/>.

<sup>150</sup> See Gov. Schwarzenegger *Applauds Passage of Historic Comprehensive Water Package*, Press Release (Nov. 4, 2009), available at <http://gov.ca.gov/press-release/13780>.

<sup>151</sup> See 2009 COMPREHENSIVE WATER PACKAGE BILL SUMMARY, California Dep’t of Water Resources, 3 (Nov. 2009), available at <http://www.valleywater.org/uploadedFiles/DWR2009waterpackagefactsheets.pdf?n=1127>.

<sup>152</sup> *Id.* SB 1 also mandates certain early actions such as the development of new Delta flow criteria for Delta waterways, and the rapid consideration of physical restoration and water supply projects aimed towards immediate environmental and water supply benefits. *Id.*

<sup>153</sup> See *id.* at 5.

water supplied.<sup>154</sup> Agricultural water suppliers that fail to comply with SB 7 will lose State water grants and be denied future loans.<sup>155</sup> Lastly, funding for the water Delta package comes in the form of Senate Bill 2—sanctioning the dispersion of \$11.4 billion—and will be placed on the November 2010 ballot.<sup>156</sup>

The passage of the Delta Package was regarded as a true legislative accomplishment,<sup>157</sup> and the approval of the much-needed overhaul of the state's water system reflects the current fear that the existing state of crisis will continue in California for several years to come. However, while the Delta Package ostensibly projects benefits to the State's agricultural industry in the future, the package provides little immediate support, and still leaves farmers uncertain as they plan their 2010 crops.

In response, farmers continue to request support that the Federal government mandate immediate increases in the Bureau's allocations to up to 30%.<sup>158</sup> Farmers have also attempted to develop and use efficient, short-term water management strategies like

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<sup>154</sup> *Id.*

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

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

<sup>157</sup> See Press Release, *supra* note 150. In support of the comprehensive water policy and bond issuance, Governor Arnold Schwarzenegger issued a press release which said:

"Water is the lifeblood of everything we do in California. Without clean, reliable water, we cannot build, we cannot farm, we cannot grow and we cannot prosper. That is why I am so proud that the legislature, Democrats and Republicans, came together and tackled one of the most complicated issues in our state's history. This comprehensive water package is an historic achievement." *Id.*

<sup>158</sup> Christine Souza, *Feinstein Outlines Approaches to Deal with Water Losses*, California Farm Bureau Federation (Apr. 8, 2010), available at <http://www.cfbf.com/agalert/AgAlertStory.cfm?ID=1509&ck=1CD3882394520876DC88D1472AA2A93F>

stress irrigation.<sup>159</sup> However, while droughts usually spur irrigation efficiency, steady advances in technology over the past 15 years have made rapid improvements harder to achieve.<sup>160</sup>

Currently, California Senators are attempting to install a plan consisting of about 10 short-term adjustments, which may increase water deliveries as high as 40 percent on CVP contracts.<sup>161</sup> One possible adjustment would be that instead of Water Districts taking their water deliveries in the summer months—when the need for irrigation is at its highest—require that the districts wait until the fall, freeing up water for agricultural needs.<sup>162</sup> Other potential adjustments include amplified water movement through delta pumps after July 1, to allow for faster CVP deliveries; recovery and rescheduling of restoration flows; and a variety of water exchanges, transfers and groundwater-substitution programs.<sup>163</sup>

## B. The Klamath Settlement

Amidst years of Klamath litigation, farmers, environmentalists, local authorities, and commercial fisherman instigated open discussions regarding the Klamath Basin's

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<sup>159</sup> Stress irrigation is based on the regulated deficit irrigation approach developed at UC-Davis that uses soil moisture and vapor pressure deficit to estimate leaf water potentials continuously. However, because it depends on the timing of application which, in turn, depends on crop and soil specific characteristics, the effectiveness of stress irrigation is a source of contention in current literature. *See e.g.*, Mark Holler, *High Density, Multiple Depth, Wireless Soil Moisture Tension Measurements for Irrigation Management*, Camile Networks, <http://camalienetworks.com/technology2.html> (last visited July 8, 2008).

<sup>160</sup> Richard E. Howitt, et. al, *Economic Impacts of Reductions in Delta Exports on Central Valley Agriculture*, AG. & RESOURCE ECONOMICS UPDATE V. 12 No 3 (Feb 2009) available at [http://www.agecon.ucdavis.edu/extension/update/articles/v12n3\\_1.pdf](http://www.agecon.ucdavis.edu/extension/update/articles/v12n3_1.pdf).

<sup>161</sup> *See* Christine Souza, *supra* note 158.

<sup>162</sup> *Id.*

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

future. Ultimately the negotiations coalesced into an assembly of more than 30 associations, and began drafting a settlement plan.<sup>164</sup> After several years of work on the part of irrigators, environmentalists, and federal, state, and local governments, a unique resolution to the Klamath Basin water conflicts was proposed, and on January 10, 2010, the Klamath Basin Settlement Restoration Agreement (“KBRA”) was announced.<sup>165</sup>

The KBRA's central agreements focus on the allocation of water for irrigation and fish and for providing affordable power for irrigation.<sup>166</sup> As written, the KBRA implements a permanent limitation on the supply of water that will be diverted from for the Klamath Project and will align irrigation water supply and demand consistent with its diversion limits.<sup>167</sup> In addition, the KBRA establishes a leasing program for water use and “provides federal regulatory assurances to landowners in a manner that seeks to maintain landowner economic stability.”<sup>168</sup> It also seeks to restore and sustain natural fish production and establish reliable water and power supplies which sustain agricultural uses, communities, and National Wildlife Refuges.<sup>169</sup> Furthermore, the KBRA

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<sup>164</sup> See Water Law Alert: Klamath Basin Settlement Agreements Released - Historic Dam Removal and Settlement of Water and Fish Disputes, Stoel Rives LLP (Jan. 12, 2010) available at <http://www.stoel.com/showalert.aspx?Show=6350>.

<sup>165</sup> See KLAMATH BASIN RESTORATION AGREEMENT FOR THE SUSTAINABILITY OF PUBLIC TRUST RESOURCES AND AFFECTED COMMUNITIES, 3 (Feb. 18, 2010), available at <http://67.199.95.80/Klamath/Klamath%20Basin%20Restoration%20Agreement2-18-10.pdf>. [hereinafter “KBRA”]. The group also proposed the potential removal of four hydroelectric dams--including the Iron Gate Dam—on the mainstream Klamath River which are owned by PacifiCorp, an investor-owned utility. If the proposal is approved, it will be the largest dam removal in history. *Id.* at 34.

<sup>166</sup> See *Water Law Alert*, *supra* note 164.

<sup>167</sup> *Id.* at 38.

<sup>168</sup> *Id.* at 36.

<sup>169</sup> *Id.* The KBRA also establishes a dispute resolution process which includes providing: 1) clear notice of a dispute; 2) informal meetings to resolve the matter; 3) referral to the Klamath Basin Coordinating Council; and 4) mediation. The parties acknowledged that resorting to litigation will be a last resort.

establishes a drought plan, which “will include a process to ensure increasingly intensive water management for agriculture, National Wildlife Refuges, and in-lake and in-river fishery purposes in drought years.”<sup>170</sup> And, if the settlement passes in upcoming elections, the funding of the KBRA will be by both federal and the state governments.<sup>171</sup>

Although unique to the Klamath Basin, the KBRA warrants broad consideration across California as a model for the instruction it provides. Central among the lessons of the KBRA is that resolving the Basin’s natural resource disagreements merited an all-inclusive, basin-wide advancement.<sup>172</sup> Prior single-issue campaigns—like that of the parties involved in the 2001 Fish Kill and subsequent litigation—failed for lack of unity and support. Put simply, the KBRA attends to the concerns of supplying irrigation and preserving fish and not at the expense of any other major interests. By addressing each of the involved parties’ worries amidst sustaining its fundamental objectives of maintaining sustainable farming and restoring fish habitats, the KBRA provides a revolutionary model for such agreements.<sup>173</sup>

## II. CONCLUSION

The struggle between the California farmer and protected fish is well documented. Both farmer and native fish depend on the Delta and the Klamath for water, and because the demand for water often exceeds the supply, litigation attempting to reconcile the

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

<sup>171</sup> *Id.* The Klamath Settlement Group estimates that the cost of implementing the KBRA in its first year would be \$41 million and about \$97 million dollars per year after. Of the total, over 90 percent is budgeted for fisheries restoration and reintroduction and actions to enhance the amount of water for fish.

<sup>172</sup> *See Water Law Alert, supra* note 164.

<sup>173</sup> *Id.*

needs of these two parties has been the focus of much attention. However, the Court's understanding of the rigidity of the ESA, coupled with a three year drought, has all but stopped water deliveries to California's agricultural heartland, threatening the farmer's livelihood. The conclusion: change will not come from the court.

While water supplies will be subject to potential droughts, aligning the needs of the farmer with that of the fish is an essential step for avoiding future conflict. And although it will take years to fully understand the issues surrounding California water distributions, it appears that both the Klamath Settlement and the Delta Package proposals are moving towards a resolve in the farmer-fish crisis. However, progress must be made soon or the inevitable results of 2010's water shortages will be more fallowed land, loss of jobs and reduction food supplies that Californians—and the Nation—depend upon.