# TOOLS OF THE TRADE: A MODEL FOR SUCCESSFUL WATER PROJECT REFORM

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The purpose of this Article is to provide a tool for advocacy pursuits in the law, especially those seeking successful water reform in California. Parts I and II of this Article begin by reviewing the traditional water ethic and what environmental damage resulted from its application. Part III provides an overview of the reform efforts in the Inyo-County and Mono Lake controversies.

The Mono Lake reform effort provides the basis for the model, designed as a tool to analyze the potential successes and possible gaps in future reform efforts. In Part IV, the model takes the form of a wheel supported by various spokes representing a series of components that contribute to successful reform. The spokes include Champions, Academic Legitimacy, Coalition, Legislation, Judicial Realism, Good Lawyering, Creativity/Negotiation Skills, and Agency Support. The success of a particular reform effort is proportional to the number and strength of the spokes.

Part V applies the model in the context of the Inyo County reform to examine the model's ability to explain successful reform in a different case. The Article concludes in Parts VI and VII by applying the model to the more complex reform efforts taking place in the Sacramento/San Joaquin Bay Delta.

I. THE WAY IT WAS - GROWTH, DEVELOPMENT AND THE OLD WATER ETHIC

As settlers moved to the west, a water ethic evolved that was unique to arid lands. It arose from the social and economic systems of the time, namely growth and development. Because water was crucial to accomplishing these twin goals, its acquisition was the primary pursuit in the western territories. In the middle to late 1800s, miners and farmers had to take water out of streams and apply it to beneficial use elsewhere. The eastern riparian water rights system — based on reasonably sharing the streamflow — would not work in arid western territories. Thus, the doctrine of prior appropriation evolved, establishing certainty to water rights and encouraging investment in water works and diversions. Essentially, the first person that takes and uses water gains an appropriative right to that water, senior to those who would come later.<sup>1</sup>

Appropriative water rights require removing water from the streambed. A junior appropriator could gain rights to any water left in the stream. Thus, people

<sup>&</sup>lt;sup>1</sup> See David L. Wegner, Looking Toward the Future: The Time Has Come to Restore Glen Canyon, 42 ARIZ. L. REV. 239, 242 (2000) (describing prior appropriation rights in the west).

strived to use every drop and considered any water flowing out to sea a waste.<sup>2</sup> In many cases, water was taken far distances from its source to serve lands otherwise uninhabitable. Indeed, as urban areas expanded, people searched distant headwaters for water sources and constructed long canals to bring the water to its destination. Some examples include the Bay Area's supply at Hetch Hetchy Reservoir on the Tuolumne River near Yosemite, and the Los Angeles Aqueduct that spans 322 miles to tap the resources of the eastern Sierra Nevada for the City of Los Angeles.<sup>3</sup>

Meanwhile, agriculture continued its expansion as farmers settled down to the business of "making the desert bloom." They created an intricate network of canals and ditches to carry streamflow to farms. The financial resources needed to construct canals, combined with the hardship of operating complex irrigation systems, precipitated the rise of private ditch companies, then irrigation districts, and eventually led to full public utility systems.<sup>4</sup> In the 1900s, a lack of dry-season irrigation flows and the overdraft of groundwater basins sparked a common cry for large dams to control floods and to provide supplemental water to augment local surface and groundwater supplies. In fact, California had an ambitious plan to move Sacramento River water south to the San Joaquin River basin.<sup>5</sup> The State lacked the resources to implement this grand plan,<sup>6</sup> so it passed the idea to the Federal Bureau of Reclamation (BuRec) and the Central Valley Project (CVP) was born.<sup>7</sup>

The CVP was a massive undertaking that eventually totaled twenty-seven dams, eight power plants, two pumping stations, and 500 miles of canals.<sup>8</sup> The CVP allocates approximately twenty percent of California's surface water to sup-

<sup>&</sup>lt;sup>2</sup> See Harrison C. Dunning, Confronting the Environmental Legacy of Irrigated Agriculture in the West: The Case of the Central Valley Project, 23 ENVTL. L. 943, 949 (1993) (detailing the traditional water use ethic and its impetus for the State Water Project in California).

<sup>&</sup>lt;sup>3</sup> See generally Holly Doremus, The Special Importance of Ordinary Places, 23 ENVIRONS 7 (2000) (describing arguments made over Hetch Hetchy).

<sup>\*</sup> See Dunning, supra note 2, at 947.

<sup>&</sup>lt;sup>5</sup> The Marshall Plan proposed that the State build a large impoundment on the Sacramento River in the north, with two canals to convey the water south to both sides of the San Joaquin Valley. *See id.* at 946. A canal that would tap the Columbia River was also contemplated. *See id.* 

<sup>&</sup>lt;sup>6</sup> California's credit rating prevented it from selling bonds during the Depression. See id. at 947.

<sup>&</sup>lt;sup>7</sup> The CVP was authorized by the Reclamation Act of 1902, the same law that first produced the Boulder Canyon Project Act (Hoover Dam) on the Colorado River, and the Grand Coulee Project on the Columbia River. *See* Reclamation Act of 1902, Pub. L. 106-274, 32 Stat. 388 (codified in 43 U.S.C. §§ 372-498).

<sup>&</sup>lt;sup>8</sup> See U.S. Bureau of Reclamation, Mid-Pacific Region, U.S. Dep't of the Interior, Central Valley Project Estimates of Yield 1-2 (1994) [hereinafter Estimates of Yield].

ply over one third of the irrigated agricultural lands in the State.<sup>9</sup> The first phase of the project planted the Shasta dam on the upper Sacramento River to divert surplus flow south. In addition, BuRec constructed the Friant dam to divert virtually the entire flow of the San Joaquin River to agricultural water users in the Madera region, and south towards Bakersfield to help farmers on the east side of the San Joaquin Valley.<sup>10</sup> The second phase of the CVP involved damming and diverting the majority of the Trinity River to supply farmers on the west side of the valley.<sup>11</sup> The State eventually constructed its own State Water Project (SWP) that largely parallels the CVP and diverts water south for municipal and agricultural uses, primarily from the Feather River in the northern Sierra Nevada.

II. RESULTS OF THE OLD WATER POLICY — FACING THE AFTERMATH

The projects born of the traditional water ethic wreaked havoc on the environment.<sup>12</sup> Negative effects resulted from diverting, dewatering, damming, and all the associated activities involved in "harnessing" the natural system. Toxic contamination from agricultural drainage poisoned waterfowl and other wildlife.<sup>13</sup> Wetland and riparian habitats were lost to agricultural conversion and channelization. Saltwater intrusion and land subsidence resulted from reduced Delta outflow and groundwater overdraft. The decline of fisheries has reached epic proportions from the cumulative impact of so many alterations to the natural system.<sup>14</sup> Anadromous fish have suffered greatly because of impediments to

<sup>&</sup>lt;sup>9</sup> BILL BRADLEY, TIME PRESENT, TIME PAST: A MEMOIR 107 (1997).

<sup>&</sup>lt;sup>10</sup> See Dunning, supra note 2, at 951.

<sup>&</sup>lt;sup>11</sup> See id.

<sup>&</sup>lt;sup>12</sup> See id. at 954.

<sup>&</sup>lt;sup>13</sup> See id. The now infamous Kesterson National Wildlife Refuge was created in a natural low area that BuRec used to store agricultural return flows as part of the San Luis Project. The San Luis Project was intended to be part of a longer-term project to deliver these return flows to the Delta, thus removing the salts that accumulated in agricultural areas in the southern San Joaquin River basin. The Kesterson National Wildlife Refuge served as a sump for agricultural run off from the Westlands Irrigation District. Marine sediments underlying the west side of the San Joaquin Valley added selenium, a toxic element, to irrigation water. Scientists discovered that the contaminant was accumulating in vegetation, invertebrates, and eventually vertebrates, causing deformities and death to waterfowl that used the area along the Pacific Flyway. See id. at 953.

<sup>&</sup>lt;sup>14</sup> In 1968, 118,000 salmonids were counted at the Red Bluff Diversion Dam on the Sacramento River. In 1991, the count totaled 191. *See* BRADLEY, *supra* note 9, at 108. The Trinity River fisheries have declined by 90%. *See* Dunning, *supra* note 2, at 951. The dewatering below Friant dam caused the extinction of the spring-run chinook salmon and the winter-run is listed as an endangered species. *See id.* 

their lengthy migration to the ocean and back;<sup>15</sup> large dams were often built without any accommodation for fish passage. Further, reservoirs alter water temperatures and slow flows to the detriment of migrating juveniles. In addition, poor land management practices caused erosion that silted up spawning gravel beds.<sup>16</sup> Lastly, as more water was pumped and diverted south, the reduction of outflow through the Delta harmed species that depended on the estuary.<sup>17</sup>

# III. CHALLENGING THE OLD WAY — CHANGES IN WATER POLICY IN THE LAST THIRTY YEARS

The 1960s saw the birth of environmental awareness in large segments of the population. People began to hold different values about water. Utilitarian concerns were supplemented by the need for recreation, the appreciation for scenic beauty, and the recognition of the complex network of ecological values that rivers and waterways provided.<sup>18</sup> In short, thoughtful people began to recognize the impacts large waterworks imposed on the landscape.

### A. Locals Fight Back

In addition to extensive environmental damage, long distance diversions impacted the people in the areas that the water originated. In the early 1970s, residents of the Owens Valley, long tormented by the exploits of the Los Angeles Department of Water and Power (LADWP), joined forces with the environmental movement to reform the way LADWP's water project operated.

<sup>&</sup>lt;sup>15</sup> Anadromous fish have a unique life cycle that starts in the gravel of freshwater streams. Eggs hatch, then the juveniles migrate downstream, and eventually undergo a process of smoltification to become biologically prepared to migrate to the sea. Smolts enter the ocean, grow and mature there, and migrate back up the streams as adults to spawn in the same streams from which they originated. *See* PETER B. MOYLE & JOSEPH J. CECH, JR, FISHES; AN INTRODUCTION TO ICHTHYOLOGY 273 (4th ed. 2000).

<sup>&</sup>lt;sup>16</sup> See MOYLE, supra note 15, at 512.

 <sup>&</sup>lt;sup>17</sup> Delta Smelt (Hypomesus transpacificus) and Sacramento Splittail (Pogonichthys macrolepidotus) populations are listed as threatened species. See Endangered and Threatened Wildlife, 50 C.F.R. § 17.11 (2000).
<sup>18</sup> See generally Marks v. Whitney, 6 Cal. 3d 251, 259-60 (1971) (holding that fish and wildlife habitat, ecological studies, and aesthetics are uses protected by the public trust).

By 1913, William Mulholland had succeeded in constructing the most ambitious water diversion project of the time, the first L.A. aqueduct.<sup>19</sup> The aqueduct spans 235 miles to tap the water resources of the Owens Valley for thirsty southerners. In 1963 LADWP announced its intention to construct the "second barrel" of the aqueduct, prompted in part by the State Water Resource Control Board (the Board).<sup>20</sup> The second aqueduct would be filled partly by resources in the north near Mono Lake. But Inyo County gradually realized that the major problem was the increased amount of groundwater pumping in the Owens Valley. The original estimate of pumping at 89 cubic feet per second (cfs) increased to 200 cfs, posing a threat not only to local control but also to wildlife and vegetation.<sup>21</sup>

By 1971, efforts for reform had begun in earnest. Inyo County filed suit in 1972 under the California Environmental Quality Act (CEQA) and successfully convinced the court that the increased groundwater extraction constituted a "project" and required an Environmental Impact Report (EIR).<sup>22</sup> The appellate court retained original jurisdiction over the case and during that time revisited the issue on five separate occasions.<sup>23</sup> The court penetrated LADWP's documents and identified fundamental flaws in its environmental analysis. The court was explicit about the requirements for the project description, baseline conditions, and alternatives analysis and refused to approve an EIR. It wrote:

This court has labored to make clear the requirements of its 1973 writ of mandate. In 1977 we explicated the 1973 decision in these words: "In any objective view the outlines of the 'project' conceived by our 1973 decision were quite clear. They

<sup>&</sup>lt;sup>19</sup> See WILLIAM L. KAHRL, WATER AND POWER 201 (1982). It was with considerable effort and questionable support from the Bureau of Reclamation that the project was originally allowed. BuRec had preliminary proposals to develop its own project in Owens Valley for the benefit of local residents. BuRec had set aside vast acreages from the public domain and landowners sold their property thinking the project would be constructed for their benefit. *See id.* at 39-54. To add to the scandal, some alleged that Los Angeles did not need additional sources of water and that the aqueduct was really designed to bring a windfall to San Fernando Valley land speculators. *See id.* at 191.

<sup>&</sup>lt;sup>20</sup> See id. at 404-6. In 1959 the State Water Rights Board made clear that Los Angeles needed to make full use of their water rights or risk losing them for lack of diligence. See id. Other pressures included conflicts with MWD and the fear that Arizona might allocate its fair share of Colorado River water, thereby limiting supply.

<sup>21</sup> See id. at 441.

<sup>&</sup>lt;sup>22</sup> See County of Inyo v. Yorty, 32 Cal. App. 3d 795, 814-816 (1973).

<sup>&</sup>lt;sup>23</sup> See County of Inyo v. Los Angeles, 124 Cal. App. 3d 1 (1981); County of Inyo v. Los Angeles, 160 Cal. App. 3d 1178,1186 (1984) (rejecting a proposed settlement and retaining jurisdiction until the 1973 writ of mandate was met).

were clear in 1973 and they are clear now. Unfortunately there is a limit to the precision of words. Judicial opinion writers cannot always armor their language against wishful misinterpretation. The project which forms both the scope of this litigation and the subject of the EIR mandated by this court is the department of water and power's program for increasing the average rate of groundwater extraction and use (both for export and in-valley use) above a baseline rate. ...<sup>24</sup>

Had LADWP complied with CEQA, it could not have adopted the pumping alternative without implementing some conservation measures in Los Angeles. The court's "judicial realism"<sup>25</sup> held LADWP accountable for its project's impacts from intensive groundwater pumping, and gave Inyo County great leverage in negotiating a tentative joint management agreement.

Another approach to reform taken by Inyo County was to enact a local groundwater ordinance based on its police power to regulate for the health and welfare of the public. Litigation ended when a court held the ordinance unconstitutional,<sup>26</sup> and rather than appeal, Inyo put its efforts into bargaining and generating solutions with LADWP. Traditionally, LADWP had always maintained complete control over its project. Discussions regarding Inyo County's participation in the management of the water resources marked a distinct shift in policy.<sup>27</sup> Perhaps the Mono Lake decision alerted LADWP to the fact that it could not continue pumping to oblivion without regard of the consequences.<sup>28</sup> In 1997, the parties finally reached an agreement and the court dismissed its original writ of 1973. The agreement calls for the joint management of surface and ground-

<sup>&</sup>lt;sup>24</sup> See Yorty, 124 Cal. App. 3d at 5-6.

<sup>&</sup>lt;sup>25</sup> Antonio Rossmann, U.C. Davis Natural Resource Law Seminar Guest Lecture (Mar. 14, 2000). Antonio Rossmann, counsel for Inyo County, coined this phrase when describing Justice Friedman and Justice Richards, the justices originally presiding over the case. Mr. Rossmann also used the term to describe Justice Blease and Justice Renford, the justices who maintained the standard of excellence in subsequent decisions in the Inyo County dispute.

<sup>&</sup>lt;sup>26</sup> See City of Los Angeles v. County of Inyo, No. 12903 (Cal. Super. Ct. Inyo County, filed Jan. 16, 1981) (issuing a statement of intended decision in March, 1983 with no final decision pending settlement). Chartered cities have the power to "make and enforce all ordinances and regulations in respect to municipal affairs" without intrusion from the state legislature. CAL. CONST. art. XI, § 5. The Superior Court stipulated that the "municipal affairs" doctrine exempts Los Angeles from the law. In addition, Article X, section 2 of California's Constitution makes the categorical exclusion of exports unreasonable. See e.g., Hillside Water Co. v. City of Los Angeles, 10 Cal. 2d 677, 685-86 (1938). However, Inyo's ordinance did not contest ownership or export, rather it required Los Angeles to get a permit to pump groundwater. See Antonio Rossmann & Michael Steel, Forging the New Water Law: Public Regulation of "Proprietary" Groundwater Rights, 33 HASTINGS L.J. 903, 931 (1982).

 <sup>&</sup>lt;sup>27</sup> See John Walton, Western Times and Water Wars: State, Culture, and Rebellion in California 270 (1993).
<sup>28</sup> See discussion infra at IIIB.

water, overall restoration goals, monitoring requirements, local ownership of the town water systems, rewatering the Owens River, and \$1.2 million for general County purposes.<sup>29</sup>

## B. Scientists Take a Stand

North of the Owens Valley, a group of extraordinary science students identified the extensive damage that LADWP's project was causing to Mono Lake. The second aqueduct, as originally conceived, was intended to divert flows from streams entering Mono Lake by forty percent that would ultimately reduce the lake to one third its original size.<sup>30</sup> As the lake receded, water became saltier, threatening the unique ecological balance of the lake and associated plants and wildlife.<sup>31</sup> Wetlands dried up and a land bridge became exposed that allowed predators to reach the California gull nesting colony on Negit Island.<sup>32</sup> Air quality declined, as alkali dust storms became more frequent, posing significant health threats.<sup>33</sup>

The students decided to act, and thus embarked on a protracted and dedicated campaign to save Mono Lake.<sup>34</sup> The effort drew large support from environmental groups located in southern California, which helped spread the word to the public about Mono Lake. Media coverage and photographs helped generate statewide support and subsequent valuable political influence. With this . political support, county representatives formed an Inter-Agency Task Force to study LADWP's diversion's effects on Mono Lake.<sup>35</sup> Various federal, state, and local legislatures attempted to pass laws to regulate the diversions, and succeeded in creating a State Reserve and National Forest Scenic Area.<sup>36</sup>

<sup>&</sup>lt;sup>29</sup> See Inyo County Water Department, Inyo/LA Water Agreement (visited Nov. 16, 2000) <http:// www.inyowater.org/Water\_Resources/water\_agreement/default.html>.

<sup>&</sup>lt;sup>30</sup> See KAHRL, supra note 19, at 430.

<sup>&</sup>lt;sup>31</sup> See JOHN HART, STORM OVER MONO 50 (1996). Mono Lake supports large numbers of waterfowl with brine shrimp and alkali fly populations that thrive in the lake's saline environment. As reduced flows increased the Lake's salinity, the fly and shrimp populations decreased in size and numbers. This in turn affected the bird populations that feed on them. *See id*.

<sup>&</sup>lt;sup>32</sup> See KAHRL, supra note 19, at 430.

<sup>&</sup>lt;sup>33</sup> See HART, supra note 31, at 53.

<sup>&</sup>lt;sup>34</sup> See id. at 70.

<sup>&</sup>lt;sup>35</sup> See Walton, supra note 27, at 266.

<sup>&</sup>lt;sup>36</sup> See id.

Meanwhile, legal experts conducted extensive research into possible approaches for protecting Mono Lake, including invoking California's public trust doctrine. Activists persuaded a team of attorneys from a prominent San Francisco law firm to take the case.<sup>37</sup> After an adverse decision in the lower court, the plaintiffs appealed straight to the California Supreme Court.<sup>38</sup>

The controversy over Mono Lake culminated in the famous *Audubon* case.<sup>39</sup> The court held that the water rights of Los Angeles were to be integrated with the public trust doctrine, so far as feasible.<sup>40</sup> The court broke new ground by holding that the decision applied to all water rights holders.<sup>41</sup> *Water rights were no longer inviolate and immune from accountability to the public.* On remand, the Court assigned the Board with the duty of adjudicating the water allocation for the Mono Lake basin. The Board eventually reached a decision in 1994.<sup>42</sup> This reduced LADWP's water diversions to allow the lake level to rise sixteen feet and established minimum flows in the tributaries.

IV. HOW IT WORKED - A MODEL FOR WATER PROJECT REFORM

For the purposes of this Article, I have conceived a simple model of water reform. (See Figure 1.) It is inspired by the elements in the Mono Lake controversy that contributed to the ultimate success of that campaign. The model uses a "wheel" with various spokes representing the components that led to successful water project reform. Success is measured both by actual improvements on the ground and whether a lasting solution is generated. This model is useful because no one single factor is wholly responsible for a successful outcome. Rather, this analysis concludes that it is a combination of the various elements

<sup>&</sup>lt;sup>37</sup> See id. at 81.

<sup>&</sup>lt;sup>38</sup> See HART, supra note 31, at 98.

<sup>&</sup>lt;sup>39</sup> See National Audubon Society v. Superior Court, 33 Cal. 3d 419 (1983).

<sup>40</sup> See id. at 426.

<sup>&</sup>lt;sup>41</sup> The court was writing partly in response to the preliminary questions asked by Judge Karlton in the district court. The first question was whether the issue should go before the Board before initiating a legal challenge. The second question presented was how to harmonize the appropriative water rights doctrine with the public trust doctrine. Judge Cook answered that the issue should first go before the Board, and second, that the public trust was subsumed by Los Angeles' water rights. These were the broadly framed issues presented on appeal. *See* HART, *supra* note 31, at 90-91; 102.

<sup>&</sup>lt;sup>42</sup> See Daniel N. Frink, Resolution of the Mono Lake Dispute: Observations on State Water Resources Control Board Decision, Environmental Law Institute at Yosemite 5 (Oct. 20, 1995) (unpublished manuscript, on file with *Environs*).

working together that generates momentum towards change. The concept is that the sturdier the wheel, the more weight it will carry, the less likely it will break down and the greater the reform achieved.<sup>43</sup> Some components may play larger or more prominent roles than others in different situations. The objective is to provide a tool to analyze strengths and weaknesses in any given water issue. The model should also provide insight into gaps to be filled in order to achieve the goal of project reform in the future.





<sup>&</sup>lt;sup>43</sup> Likewise, the stronger the wheel, the less bumpy the ride.

### A. Champions

The ultimate reform of the L.A. aqueduct would never have occurred without a dedicated group of individuals. These campaigners not only took notice of the degradation of the lake, but also exhibited an unflagging commitment to solving the problem. David Gaines and the others who began the Mono Lake Committee dedicated their entire lives to seeing that the lake was saved.<sup>44</sup> Major studies in the mid-1970s led to continuous efforts to form coalitions, educate the public, and drum up support throughout the decade and beyond. This enormous commitment was the glue that held the effort together. The model characterizes such people as "champions."

### B. Academic Legitimacy

Academic activity, both on the scientific and legal fronts, played a large role in framing the Mono Lake issue and in generating solutions to the problem. Scientific studies led to the initial realization that a problem existed. Large bodies of legal research and analysis provided a thorough review of possible legal approaches for intervening on the lake's behalf. The Inter-Agency Task Force report and a major law conference on the public trust doctrine<sup>45</sup> eventually supported much of the court's decision.<sup>46</sup> These records provided legitimacy for questions of fact and questions of law upon which a court could rest an opinion.

# C. Coalition Building

The campaign to save Mono Lake could not have gathered such momentum and political support were it not for the coalition of environmental groups that joined efforts to inform the public and advocate for the lake. Starting with the Audubon Society chapter in Santa Monica, environmental groups, including Friends of the Earth, Natural Resource Defense Council, and the Sierra Club, formed a united front to inform the public about Mono Lake and its potential

<sup>&</sup>lt;sup>44</sup> See HART, supra note 31, at 77. Others include David Winkler and Sally (Judy) Gaines. See id. at 74 and 77.

<sup>&</sup>lt;sup>45</sup> See id. at 101. In 1980, law professor Harrison C. Dunning gathered over 650 people at UC Davis for a two-day conference on the public trust. *See id.* 

<sup>46</sup> See id. at 101.

demise.<sup>47</sup> This coalition gathered momentum and motivated state and county representatives to find solutions. Monetary support from the groups was also invaluable to keep the court case moving.<sup>48</sup>

## D. Legislation

Legislation in the Mono Lake case had an influence on supporting reform efforts. As a result of the well-built coalition of environmental groups, the legislature recognized the large constituency of citizens concerned with Mono Lake. Legislation created the Mono Basin National Forest Scenic area.<sup>49</sup> Other legislation attempted reform but ultimately failed to pass.<sup>50</sup> Legislation was a factor nonetheless and is depicted in the model because of its potential to lead successful water project reform in the future.

# E. Judicial Realism

Judicial Realism is a term used to describe exceptional judges who are willing to carefully examine environmental issues.<sup>51</sup> These judges tend to issue decisions favorable to the environment, or at least place environmental concerns equally with other interests. The *Audubon* court recognized the ecological values of Mono Lake and the need to somehow balance these with the interests of Los Angeles. Judicial Realism is a key to water reform because it levels the playing field among property owners and environmentalists.

# F. Good Lawyering

Skillful lawyering can guide a case procedurally so that it ends up in a favorable court. The plaintiff's lawyers in *Audubon* first adroitly steered the case into court before Judge Karlton, and then bypassed the Third District Court of

<sup>47</sup> See id. at 77.

<sup>&</sup>lt;sup>48</sup> See id. at 81. Outreach and financing constitute a maintenance function, vital for any reform effort. This maintenance function is continuous and represents the rim and tread on the wheel model.

<sup>&</sup>lt;sup>49</sup> See HART, supra note 31, at 127. Interestingly, the set aside land could have given rise to a different lawsuit based on the riparian rights of the federal government as a landowner. See id.

<sup>&</sup>lt;sup>50</sup> See id. at 90.

<sup>&</sup>lt;sup>51</sup> See Rossmann, supra note 25

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Appeal to reach the California Supreme Court.<sup>52</sup> Further, the lawyers thoroughly reviewed many potential legal angles before pursuing what they thought would be the strongest argument.<sup>53</sup> Finally, they thoughtfully perceived about what

## G. Creativity and Negotiating Skills

kind of precedent the case could establish for future conflicts over water.

In addition to good lawyering skills, good negotiation skills and the willingness to think creatively played an important role for reform to produce lasting solutions. In the beginning of the Mono Lake controversy, activists worked creatively to gain media coverage. Later, good negotiating skills helped in the adjudication at the Board in developing a solution that would restore the lake and minimize economic impacts on Los Angeles.<sup>54</sup>

## H. Agency Support

Agency support is a key component in the model because of its importance in significant water project reform. Agency role was minimal in *Audubon* at first because the project was privately owned, although the Board did put pressure on LADWP to build the second aqueduct or surrender the water rights.<sup>55</sup> But before *Audubon*, the Board did not believe that it had the authority to adjust water rights to protect public trust resources.<sup>56</sup> *Audubon* firmly established the Board's duty and authority to protect public trust resources in the future.<sup>57</sup> After the decision, the Board's cooperation and expertise were essential in generating and implementing a solution amenable to both Mono Lake supporters and Los Angeles. Any future surface water project reform in California will inevitably involve the Board and other various agencies. The two largest water projects in California are owned by the state and the federal government and operated by the Department of Water Resources and BuRec, respectively. Thus, it is safe to

<sup>&</sup>lt;sup>52</sup> See HART, supra note 31, at 98.

<sup>53</sup> See id. at 63-64.

<sup>&</sup>lt;sup>54</sup> See Frink, supra note 42, at 6.

<sup>&</sup>lt;sup>55</sup> See KAHRL, supra note 19, at 404.

<sup>&</sup>lt;sup>56</sup> "[1]t is indeed unfortunate that the City's proposed development will result in decreasing the aesthetic advantages of Mono Basin but there is apparently nothing that this office can do to prevent it." *Audubon*, 33 Cal. 3d at 428 (quoting Div. Wat. Resources Dec. 7053, 7055, 8042 & 8043 (Apr. 11, 1940)).

<sup>&</sup>lt;sup>57</sup> See Audubon, 33 Cal. 3d at 445.

say that these agencies must be fully cognizant of all issues for reform of these projects to take place.

### V. TESTING THE MODEL WITH INYO COUNTY

As a case study, Inyo County provides an opportunity to see how well the model works when applied to a different factual situation. (See Figure 2). Reform for Inyo County was eventually achieved, although the process was slow and arduous.<sup>58</sup> The strongest "spokes" or components in the Inyo case were undoubtedly Judicial Realism, Good Lawyering, and Negotiating Skills. Attorneys maneuvered the case to the Third District Court of Appeal. The judges retained original jurisdiction over the case from 1973 to 1997. This in turn provided great bargaining power to Inyo County in its negotiations with Los Angeles. Skilled negotiations eventually led to an agreement in which the County now participates in the management of water resources originating in its area.<sup>59</sup> The agreement helped Inyo County in its restoration efforts and allowed the County to regain some control that had been stripped away early last century.

Inyo County attempted to create solutions through Legislation, although it ultimately failed. The groundwater ordinance would have given the County a way to control the management of the groundwater, even though LADWP owned it by right.<sup>60</sup> By establishing a permit system, the County could have taken steps to protect against overdraft and the associated environmental impacts.<sup>61</sup> Perhaps a law conference on the topic of groundwater regulation issues would have helped establish legitimacy of the ordinance. Absent an outright ban on export, although it might be constitutional to establish a permit system for groundwater, the superior court thought not.<sup>62</sup> For these reasons, the Legislation and Academic Legitimacy components are depicted with only moderate impact in the model.

Agency Support and Coalition spokes are absent. Agency support was not an issue in this case because the State had no oversight over groundwater extrac-

<sup>&</sup>lt;sup>58</sup> See discussion infra Part III.A.

<sup>&</sup>lt;sup>59</sup> See supra Part III.A.

<sup>&</sup>lt;sup>60</sup> See generally Rossmann & Steel, supra note 26.

<sup>61</sup> See id. at 931-32.

<sup>&</sup>lt;sup>62</sup> See supra note 23.

tion. In addition, the Inyo County case lacked a coalition of environmental groups to advocate the County's cause. Clearly the County's success was due in part to the wave of environmental statutes enacted and the general support of the public.<sup>63</sup> But the County was motivated by the desire to regain control over its own resources. Perhaps this economic protectionism was not a cause for a coalition of environmentalists. More likely it is because groundwater issues are not as "sexy" to the public as Mono Lake. After all, groundwater is a mysterious resource and is certainly hard to photograph. Although Inyo lacked a coalition, it was not short of champions. Resolution was ultimately reached after a tremendous effort and dedication from those advocating for reform.



FIGURE 2. REFORM MODEL APPLIED TO INYO COUNTY

<sup>&</sup>lt;sup>63</sup> See CAL. PUB. RES. CODE §§ 21002-81(West 1977); *but see* CAL. WATER CODE §§ 10505, 11460, 11463 (West 1971) (enacting area of origin statutes to protect local users from export).

### VI. ONGOING WATER PROJECT REFORM EFFORTS IN THE DELTA

The utility of the model described is also illustrated by applying it to another example of needed water project reform. Any discussion regarding water project reform in California will ultimately lead back to the Sacramento-San Joaquin Delta (Delta), as does forty percent of the State's water.<sup>64</sup> Draining the entire Sacramento and San Joaquin basins, the Delta is part of the largest estuary on the West Coast, supporting over 750 plant and animal species.<sup>65</sup> In addition, water from the Delta supplies drinking water for two-thirds of Californians and irrigation water for over seven million acres of productive farmland.<sup>66</sup> Moreover, no discussion of California water reform and the Delta is complete without addressing the two largest water projects in the State — the Central Valley Project and the State Water Project. Over-allocation and conflicting demands for water have impacted the environment; declining fish populations and wildlife habitat and poor water quality indicate this.<sup>67</sup> Consequently, the Delta and the CVP are the focus of needed ongoing water project reform.

Several substantial efforts have already contributed to water project reform within the Delta context. These can be viewed in the framework of the model either on their own as reform efforts or as part of the larger goal to improve the Delta system and California water in general. These examples include the enactment and subsequent efforts to implement the Central Valley Project Improvement Act and the Friant Dam litigation.

## A. The Central Valley Project Improvement Act

Congress passed the Central Valley Project Improvement Act (CVPIA) in 1992 in a major effort to reform and address the environmental impacts of the CVP.<sup>68</sup> The Act attempted to accomplish this goal by using a number of provisions, including ""financial measures that eliminate a portion of the traditional

<sup>&</sup>lt;sup>64</sup> See Department of Water Resources, Sacramento Delta San Joaquin Atlas 1 (1993).

<sup>&</sup>lt;sup>65</sup> See CALFED BAY DELTA PROGRAM, U.S. BUREAU OF RECLAMATION, CALFED DRAFT PROGRAMMATIC EIS/EIR 1 (June 1999).

<sup>&</sup>lt;sup>66</sup> See id.

<sup>&</sup>lt;sup>67</sup> See id. 1-2.

<sup>&</sup>lt;sup>68</sup> See Reclamation Projects Authorization and Adjustment Act of 1992 § 3401, 43 U.S.C. § 371 (1994) [hereinafter Reclamation Projects Act].

subsidies afforded to CVP beneficiaries. In addition, the Act removed traditional barriers to water transfers, hence providing a mechanism that freed up CVP water for new beneficial uses.<sup>69</sup> Further, section 3406(b)(3)" introduces several creative ways to increase water supply, such as water banking, conjunctive use and reoperations.<sup>70</sup> Lastly, the Act set forth a series of measures designed to restore and enhance the anadromous fish populations by 2002.<sup>71</sup>

Bringing CVP water prices more in line with the way a free market operates constitutes a major step toward reform.<sup>72</sup> When the CVP was first built, it was meant to be self-financed.<sup>73</sup> However, farmers were reimbursed by the government based on their "ability to pay" and were never charged interest. In fact, deadlines were extended indefinitely and the majority of the project obligations remain unpaid. Most calculations estimate the subsidy to irrigated agriculture from federal water projects at over ninety percent.<sup>74</sup> This enormous subsidy led to inefficiencies in water use because the cost did not reflect its true value. The CVPIA encourages greater efficiency by allowing farmers to sell water to other users.<sup>75</sup> Potential profits from these sales provide an incentive to conserve through efficient irrigation practices and perhaps fallowing some of the least productive farmland.<sup>76</sup>

The CVPIA also addressed financial inefficiencies by reducing the length of water contracts between BuRec and water users from forty to twenty-five years.<sup>77</sup> The Act implements, upon renewal, a unilateral modification of the pricing structure on all water contracts.<sup>78</sup> It established a tiered-pricing structure that requires close to full-service cost for any water after delivery of eighty percent of the allocated supply.<sup>79</sup> Finally, the Act establishes a Restoration Fund

<sup>&</sup>lt;sup>69</sup> See id. § 3405.

<sup>&</sup>lt;sup>70</sup> See id. § 3406(b)(3).

<sup>&</sup>lt;sup>71</sup> See id. § 3406(b)(1).

<sup>&</sup>lt;sup>72</sup> See Bradley, supra note 9, at 109.

<sup>73</sup> See id. at 108.

<sup>&</sup>lt;sup>74</sup> See id.; see also Sarah F. Bates et al., Searching Out the Headwaters 133-34 (1993).

<sup>75</sup> See Reclamation Projects Act, § 3405.

<sup>&</sup>lt;sup>76</sup> Potential profits from wheeling water may also provide an incentive to sell surface water while increasing groundwater extraction to water crops. This risk lends support toward implementing a strong statewide groundwater monitoring program. *See* Timothy H. Quinn, *Wheeling Provisions of the Model Water Transfer Act*, 4 HASTINGS W/N.W. J. ENVTL. L. & POLY 83, 87 (1996) (describing California's "storied water wars"). <sup>77</sup> See Reclamation Projects Act, § 3404(c).

<sup>&</sup>lt;sup>78</sup> See id. § 3405(d).

<sup>&</sup>lt;sup>79</sup> See id. § 3405(d)(1). Full Service Cost includes capital, operation and maintenance, and interest starting in 1982.

to carry out programs, projects, plans, and wildlife restoration, improvement, and acquisition.<sup>80</sup>

But it is section 3406(b)(2) that caused an uproar in the water community because it allocated 800,000 acre-feet of CVP yield for the benefit of fish and wildlife.<sup>81</sup> This provision was problematic because its implementation required a hard look at how much water is actually available from the project. Contract allocations are in fact greater than the actual yield of the project.<sup>82</sup> Litigation ensued, joining both environmental and agricultural plaintiffs.<sup>83</sup> Judge Wanger exhibited characteristics of Judicial Realism by carefully examining the language and intent of the statute and assigning an expert to help sort out issues.<sup>84</sup> The court retained jurisdiction over the case until BuRec and the U.S. Fish and Wildlife Service developed an adequate accounting method for the "b2" water.<sup>85</sup> The CVPIA represents a major component in efforts to reform the CVP. For the model as applied to the Delta, the CVPIA provides the Legislation and Judicial Realism spokes to the wheel.

### B. The Friant Dam Litigation

The outcome of the Friant Dam litigation was a great victory for water project reform. Many viewed the San Joaquin River as a lost cause, degraded beyond possible restoration.<sup>86</sup> The degradation occurred in large part from the Friant Dam,<sup>87</sup> planted across the San Joaquin above Fresno. The dam supplies 1.5 million acre-feet per year to twenty-eight districts and municipalities holding water service contracts.<sup>88</sup> It also operates at the expense of the spring-run

<sup>&</sup>lt;sup>80</sup> See id. § 3407(a).

<sup>&</sup>lt;sup>81</sup> See id. § 3406(b)(2).

<sup>&</sup>lt;sup>82</sup> At the time the CVPIA was enacted, CVP yield was calculated at 8,156,000 acre-feet (AF). New calculations estimate yield at 5,826,000 AF. Existing contractual obligations total 6,210,000 AF, indicating that available supply was reduced by close to 2 million AF. *See generally* William H. Ferguson, III, Note, Westlands Water District v. United States: Forging NEPA into a Double-Edged Sword Against a Diodiversity Statute, 8 TUL. ENVTL. L.J. 293, 293 (1994) (describing CVIPA).

 <sup>&</sup>lt;sup>83</sup> See San Luis & Delta-Mendota Water Auth. v. United States, Case Nos. CV-97-06140 OWW, CV-F-98-5261 (E.D.Cal. Dec. 20, 1999) (on file with author), *aff'd*, San Luis & Delta-Mendota Water Auth. v. United States, Nos. 00-15876, 00-15922, 00-15941, 2000 U.S. App. LEXIS 23983 (9th Cir. Sept. 11, 2000).
<sup>84</sup> See id. at 37.

<sup>&</sup>lt;sup>85</sup> See id.

<sup>&</sup>lt;sup>86</sup> See generally Gene Rose, San Joaquin: A River Betrayed (1992).

<sup>&</sup>lt;sup>87</sup> See id. at 95.

<sup>&</sup>lt;sup>88</sup> See Marc Reisner & Sarah Bates, Overtapped Oasis: Reform or Revolution for Western Water 51 (1990).

chinook salmon, now extinct, and over ninety percent of riparian habitat in the region.<sup>89</sup> Even the CVPIA exempted and separated portions of the San Joaquin from its lofty restoration goals.<sup>90</sup> The most severe degradation is a seventeenmile stretch of dry riverbed below the dam.<sup>91</sup> In addition to dewatering on the upper portion of the river, degradation occurs downstream because of polluted runoff and salt-water intrusion.<sup>92</sup>

In the late 1980s, long-term water contracts began to expire. By the time of the CVPIA, BuRec had already renewed fourteen of them. Also during that time, the winter-run chinook was listed as an endangered species under the Endangered Species Act (ESA).<sup>93</sup> Environmental plaintiffs brought suit in federal district court in 1988 alleging that the contract renewals violated provisions of the ESA and section 5937 of the California Fish and Game Code.<sup>94</sup>

The Ninth Circuit affirmed the lower court's rescission of all fourteen contracts, and required that BuRec comply with Fish and Game Code section 5937.<sup>95</sup> In addition, the court affirmed the judgment for the plaintiffs on the ESA claim.<sup>96</sup> The United States Supreme Court let the decision stand. The case went back to the district court in Sacramento, where a judge must decide how much, if any

<sup>92</sup> See Dunning, supra note 2, at 953-54.

<sup>&</sup>lt;sup>89</sup> See id. at 40.

<sup>90</sup> See Reclamation Projects Act, § 3406(b)(1).

<sup>&</sup>lt;sup>91</sup> See ROSE, supra note 86, at 104. Sixteen years of litigation followed after riparian water right holders below the dam brought a takings claim against the federal government. See also Rank v. Krug, 142 F. Supp. 1 (C.D. Cal. 1956), aff'd in part, rev'd in part, Dugan v. Rank, 372 U.S. 609 (1963). Plaintiffs eventually entered into an agreement with the federal government to exchange San Joaquin water lost to Friant for Sacramento water pumped through the Delta and into the Delta Mendota Canal. *Id*.

<sup>93</sup> See 16 U.S.C. §§ 1531-44 (1994); see Dunning, supra note 2, at 959.

<sup>&</sup>lt;sup>94</sup> See CAL. FISH & GAME CODE § 5937 (West 1984) (requiring the owner of a dam to "allow sufficient water at all times to pass over, around or through a dam to keep in good condition any fish existing below the dam").

<sup>&</sup>lt;sup>95</sup> See Natural Resources Defense Council v. Houston, 146 F.3d 1118, 1131-32 (9th Cir. 1998). The 9<sup>th</sup> Circuit affirmed the lower courts decision that § 5937 was not preempted by section 8 of the Reclamation Act. Section 8 requires "cooperative federalism," meaning that the federal government must comply with state water law unless the law is directly inconsistent with a clear congressional directive. *See id.* 

<sup>&</sup>lt;sup>96</sup> See id. at 1133. BuRec had an affirmative duty to consult with the U.S. Fish and Wildlife Service (FWS) about other species possibly affected in the region. Instead, BuRec executed the contracts before FWS completed the Biological Opinions ("BO"), and inserted Article 14 "savings clause" into the contract. Article 14 allowed BuRec to modify the contract in light of the BO and outcome of the litigation. The Court held that BuRec could not act until FWS made the no jeopardy conclusion because the contract provision foreclosed conservation options such as reduction in the amount of water diverted. The claim was not moot because the procedural parts of the ESA are inextricably linked with its substantive requirements and violation of the correct procedure alone deprived plaintiffs of the benefits of the process, regardless of FWS post hoc determination. *See id.* at 1118.

water must be released from Friant Dam to protect salmon. Meanwhile the Natural Resource Defense Council and the Friant Water Users Authority are negotiating a potential settlement that involves swapping water from the California Aqueduct to allow releases into the San Joaquin.<sup>97</sup> As applied to the model, the Friant Dam litigation adds Good Lawyering, and perhaps Coalition and Champions spokes, to the wheel of water project reform. (See Figure 3.)

### VII. TOWARD SUCCESSFUL WATER PROJECT REFORM IN THE FUTURE

The problems in the Delta illustrate the interconnectedness and complexity of decision making for California water. Water reform in any part of the State will most likely have some impact on the operations in the Delta. For example, the Mono Lake case increased pressure to export more water from the Delta to Los Angeles. Efforts to dismantle Hetch Hetchy will result in the East Bay becoming dependent on a new source of water supply, most likely the Delta. Any water put back into the San Joaquin River will have to come from another source, most likely the Sacramento River. But the conditions in the Delta prevent pumping at maximum capacity. Protected species and water quality control standards create a "bottleneck" that often limit pumping over fifty percent. This issue is exacerbated by the fact that water resources are already overallocated. Therefore, reform operates as a "zero sum game" because additional supplies are not available. For this reason, any water reform efforts must be viewed under the larger umbrella of the Delta to fully understand the environmental results of any action. Water reformers and advocates today must think comprehensively or risk simply shifting an environmental problem elsewhere in the State.

Negotiation seems like a natural approach to solving complex problems. It avoids the risk and expense of litigation, may generate better and more creative solutions, and if successful, form lasting, cooperative relationships among the parties ultimately responsible for implementing the solution. On the other hand, negotiations are often interminable, producing only more studies, and preserving the status quo. Unfortunately, this process can lead the public to believe that the problems are being taken care of, when it really remains in a holding pattern.

<sup>&</sup>lt;sup>97</sup> See Jones & Stokes Associates, Inc., Analysis of Physical Processes and Riparian Habitat Potential of the San Joaquin River: Friant Dam to the Merced River at 1-1 (October, 1998) (on file with author).



FIGURE 3. REFORM MODEL APPLIED TO THE DELTA

Without public involvement, an important political constituency is missing and the Coalition spoke becomes weak. In the Mono Lake case, political support from the public was a strong component, driving legislation and other efforts. In contrast, while parties busily negotiate, decision-makers experience no pressure to make any changes. Advocates can cure this effect by keeping the "win" alive. In other words, reformers cannot give up the legal causes of action that get parties to the table to begin with.

With Legislation, Judicial Realism, Good Lawyering, and Negotiation Skills spokes already present on the wheel, it is time for the Champions lying in wait to take a stand. A solid legal framework exists for water project reform in California, including the CVPIA, California Fish and Game Code section 5937, ESA,

the public trust doctrine, and case law, to name a few.<sup>98</sup> One idea is to establish a minimum baseline quantity of water dedicated to preserving and restoring the environment. Any lasting solution will necessarily involve a more detailed evaluation of environmental needs.

The solution must involve calculating, first, the amount of water necessary to protect and restore the environment. This is no small task but can be accomplished by utilizing the tremendous talent in our universities. Environmental water calculations should cover not only the amount needed for minimum instream flows, but also consider temporal requirements, such as flushing flows. In addition, these flows must travel the full length of the stream and flow out the Delta to help restore the Delta estuary and improve water quality. This baseline environmental water should then include a buffer that conservatively allows room for environmental variation (but not below the minimum standards). This discipline would add the Academic Legitimacy spoke.

The Board needs to codify environmental standards. Only then can this State be sure that our resources are adequately protected. The amount of water may in fact be very small. But without a handle on how much we have and the limits it presents for growth, the environment remains vulnerable to further degradation and perhaps collapse if not set aside now for minimum needs. Establishing baseline environmental conditions is imperative before population in the state increases any further. Environmental groups need to form a strong coalition to get the job done. With a new administration at the capitol and the agencies loosely grouped in the CALFED arrangement, Agency Support is possible, adding the final spoke to the wheel. This would allow California to rise to the challenge of protecting its environment in the new millenium.

In conclusion, the model described in this Article provides a framework for looking at and predicting the success of reform efforts for water allocation in California. The model suggests that long-lasting reform and long-term environmental protection depend on a combination of "spokes." The greater number of spokes present in any decision-making context, the greater the likelihood that the outcome will protect the environment, including California's fisheries, the Delta, and ultimately, the quality of life for its citizens.

<sup>&</sup>lt;sup>98</sup> See also United States v. State Water Resource Control Bd., 182 Cal. App. 3d 82 (1986) (upholding the Board's authority to cut back water rights in order to protect water quality and the public trust).