

***NRDC v. KEMPTHORNE: RESOLVING THE CONFLICT BETWEEN
ECONOMIC DEVELOPMENT AND ENVIRONMENTAL PROTECTION IN
THE SACRAMENTO-SAN JOAQUIN DELTA***

by

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The Bay-Delta Estuary is a unique and irreplaceable combination of environmental and economic resources. Current management and use of the delta is not sustainable, and results in a high level of conflict among various interests. Future delta sustainability is threatened by changing hydrology, climate change, flood risk, seismic events, nonnative species, toxics, and other environmental problems. Future management of the delta must improve delta ecosystem health and improve the means of delta water conveyance in order to protect drinking water quality, improve water supply reliability, restore ecosystem health, and preserve sustainable agriculture and recreational values in the delta.¹

(I) Introduction

Water use is a contentious activity because so much is dependent on the resource for survival. Water must be taken out of natural systems to sustain a growing human population, and water must be left in-stream to protect the natural system and its inhabitants. This dichotomy has become difficult to manage over the long-term. Although the availability of fresh water is directly dependent on ecosystem health and stability, the two are fundamentally opposed in the short-term. The more water left in the system for its own protection, the less there is to drink. Management of large aquatic systems like the Sacramento-San Joaquin Delta in California becomes difficult because federal and state governments have over time adopted policies that support both the development of systems to facilitate human water consumption and the restriction of water consumption to protect the environment. While both goals are necessary to insure the strength and viability of this nation's economy and its natural environment, they are being pursued separately. Viewed as a zero sum game, agencies and private actors with interests in protecting water quality and endangered species seek to restrict the volume of water that can be withdrawn from lakes, rivers and reservoirs, while those with interests in maintaining a reliable water supply for a growing population continue to find ways to extract more water, wreaking havoc on delicate ecosystems and their inhabitants. Litigation is by nature an

¹ Safe Drinking Water Act of 2008, S.B. 2, 2d Spec. Sess. (Cal. 2007).

adversarial process, and rather than working together to achieve common long-term goals, these opposing interests often find themselves in court fighting to maintain uncompromising positions. While the strong connection between economic development and environmental protection has been recognized for quite some time, public management of water resources continues to function as if the pursuit of human survival and environmental sustainability were completely disjointed.

In 1983, the United Nations General Assembly created the World Commission on the Environment and Development, also known as the Brundtland Commission, after its Chair, Gro Harlem Brundtland, former Prime Minister of Norway.² The Commission set out to devise “long-term environmental strategies for achieving sustainable development.”³ Four years later, the Commission published a report entitled “Our Common Future.”⁴ The report recognized that many industrialized countries built strong, successful economies by using and exploiting natural resources such as trees, minerals, and water.⁵ While the environment originally seemed too immutable and resilient to suffer any impacts from human activity, by the publication of the Commission’s report it had become all too clear that ecosystems everywhere were crumbling due to natural resource exploitation. The report warned that negative impacts on the environment inevitably backlash, threatening the stability of a society so dependent on the health and viability of its natural resources.⁶ The Commission’s analysis emphasized this negative feedback cycle: “[M]any forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development.”⁷

² G.A. Res. 38/161, U.N. Doc. A/RES/38/161 (Dec. 19, 1983).

³ U.N. World Comm. on Env’t and Dev., *Our Common Future*, Chairman’s Foreword, U.N. Doc. A/42/427 (Aug. 4, 1987).

⁴ U.N. World Comm. on Env’t and Dev., *Our Common Future*, U.N. Doc. A/42/427 (Aug. 4, 1987).

⁵ *Id.* ¶ 9.

⁶ *Id.* ¶ 34.

⁷ *Id.* ¶ 8.

In the last quarter of the twentieth century, the dire nature of the environmental problems that rapid economic development created in the United States became abundantly clear to both lawmakers and the general public. Urban air was suffocating its residents, species were dying off, and rivers were literally on fire.⁸ Because it often takes catastrophic events such as these to incite changes in behavior or values,⁹ new environmental agencies and policies were developed in a fragmented, reactive manner to address specific environmental problems.¹⁰ Growth and exploitation of resources continued at similar rates, only checked by statutes and regulations designed to target specific issues such as sulfur dioxide emissions from power plants or the extinction of a certain animal or plant species. A clear trade-off between the environment and economic development is built into federal and state law enforcement and is readily apparent in the current management of many complex ecosystems, making it difficult to achieve growth and restoration simultaneously, something that is crucial to insure future environmental *and* economic stability. Even twenty years ago, it was clear that “the integrated nature of global environment/development challenges pose[s] problems for institutions...that were established on the basis of narrow preoccupations and compartmentalized concerns....[M]ost institutions facing those challenges tend to be independent, fragmented, working to relatively narrow mandates with closed decision processes.”¹¹

⁸ Francis X. Clines, *Navigating the Renaissance of an Ohio River That Once Caught Fire*, N.Y. TIMES, Jan. 23, 2000, available at www.nytimes.com.

⁹ Thomas Birkland, *In the Wake of the Exxon Valdez: How Environmental Disasters Can Spur Policy Change*, 40 ENVIRONMENT 5, 5 (1998).

¹⁰ U.N. World Comm. on Env't and Dev., *Our Common Future*, ¶ 104, U.N. Doc. A/42/427 (Aug. 4, 1987).

¹¹ *Id.* ¶ 31.

(A) New Statutes Address Shifting Ideals

American ideals shifted in the second half of the twentieth century from developing and conquering wilderness towards preserving what was left.¹² Lakes and rivers were tamed and reengineered to provide sufficient water supply to most of the arid West, and human development began to pressure natural ecosystems like never before. Congress' actions in the 1960s and 70s reflected a new national interest in environmental sustainability and a realization that without protecting the country's natural systems upon which its human population so strongly depended, all aspects of society would be endangered. However, new legislation did little to integrate environmental and economic goals.

The National Environmental Policy Act ("NEPA") is renowned for setting time-consuming procedural requirements, but the Act also sets an important substantive policy for the nation. Enacted in 1969, Congress declared "a national policy which will encourage productive and enjoyable harmony between man and his environment...."¹³ The passage of NEPA marked a new era in federal legislation designed to address the increasingly apparent environmental impacts of the destructive federal development programs of the early and mid-twentieth century. The procedural requirements of the statute, however, did little to temper effects of economic development, and only obligated government agencies to *consider* economic impacts as part of their decision-making process.

Other statutes, however, created stronger environmental protections, sometimes at the expense of economic progress. The Endangered Species Act ("ESA") was passed in 1973 and is arguably the "strongest American legal expression to date of environmental ethics."¹⁴ The ESA

¹² See generally RODERICK NASH, WILDERNESS AND THE AMERICAN MIND 141-60 (3d ed. 1982).

¹³ National Environmental Policy Act, 42 U.S.C. § 4321 (2006).

¹⁴ RODERICK NASH, WILDERNESS AND THE AMERICAN MIND 175 (3d ed. 1982).

explicitly recognizes the value of biodiversity and seeks to protect it at all costs.¹⁵ The statute recognizes that “various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation.”¹⁶ Enforcement of this federal law, however, unavoidably clashes with economic interests and unveils harsh conflicts existing between interests in societal expansion and interests in protection of the natural environment upon which such growth is dependant.

To address this conflict, recently many ecosystem management efforts, including those in the Sacramento-San Joaquin Delta, have become cooperative in nature in an attempt to champion both the consumptive and existence values of natural resources. However, some of these collaborative management efforts are failing, and economic advancement seems to frequently trump ecosystem protection. While policies advanced in cooperative management agreements state intentions to pursue environmental restoration, many complex systems seem unable to support constantly increasing human demands, no matter what protective programs are in place. Cities and suburbs continue to grow and flourish, while populations of endangered species and fragile habitats spiral towards extinction and destruction.

(B) Conflict in the Delta

On May 31, 2007, California’s Department of Water Resources (“DWR”) voluntarily shut down the Harvey O. Banks pumping plant that exports water from the Sacramento San-Joaquin Delta (“the Delta”) into the 444 mile long California Aqueduct, part of the State Water

¹⁵ Endangered Species Act, 16 U.S.C. §§ 1531(a)(3), 1533(b)(1)(A) (2006).

¹⁶ *Id.* § 1531(a)(1).

Project (“SWP”).¹⁷ The Delta is the largest estuary on the West Coast¹⁸ and the hub of California’s water supply.¹⁹ In addition to drawing water out of the Delta ecosystem, the Banks Pumping Plant also manages to siphon many of the aquatic inhabitants of the Delta, often killing organisms by sucking them through the actual pumping mechanisms.²⁰ Many fish in the Delta, including the delta smelt (*Hypomesus transpacificus*), are protected under federal and state statutes as threatened or endangered species. DWR completely shut down the pumping plant in May because a large number of threatened juvenile delta smelt were found in and around the SWP pumping facility.²¹ DWR Director Lester Snow commented:

Drastic times call for drastic measures....While there are clearly many factors at play in the current decline of smelt in the Delta, we must act on the one that is within our control. That is why DWR will stop pumping in the Delta as a preventative measure to protect endangered fish that are currently located near our facilities....Our actions to save the smelt will place a real hardship on some water users in the Bay Area, Central Valley and Southern California....However, given the concerns about the Delta smelt, this is a prudent action at this time.²²

Although Director Snow was careful to emphasize that the closing of the pumps was a “preventative” and “prudent” measure, his opening statement says it all. The situation in the Delta has become drastic, and complicated management programs are failing to secure much-needed environmental protection along with reliable water supplies for irrigation and municipal

¹⁷ Press Release, State Water Contractors, State Water Contractors React to Shut Down of Delta Pumps – Demand State Agencies Implement Additional Measures to Protect Delta Smelt (May 31, 2007), *available at* <http://www.swc.org/pdf/SWP%20Shut%20Down%205.31.07.pdf> (last visited Apr. 24, 2008).

¹⁸ CALFED BAY-DELTA PROGRAM, PROGRAMMATIC RECORD OF DECISION 1 (Aug. 28, 2000), *available at* http://calwater.ca.gov/calfed/about/about_history_detailed.html (last visited Apr. 24, 2008).

¹⁹ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION’S REVIEW OF THE CALFED BAY-DELTA PROGRAM 3 (Nov. 17, 2005), *available at* <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

²⁰ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *9 (E.D. Cal. 2007).

²¹ Press Release, California Department of Water Resources, DWR Stops Pumping to Protect Delta Smelt (May 31, 2007), *available at* http://www.sacbee.com/static/weblogs/water/archives/cat_delta.html (last visited Apr. 24, 2008).

²² Press Release, California Department of Water Resources, DWR Stops Pumping to Protect Delta Smelt (May 31, 2007), *available at* http://www.sacbee.com/static/weblogs/water/archives/cat_delta.html (last visited Apr. 24, 2008).

uses. Collaborative efforts between state and federal agencies are breaking down and recent litigation has brought the competition between in-stream and consumptive water uses to a head.

Rather than pursuing the long-term economic benefits of sustainable development, water is being consumed from the Delta at rates that threaten the *current* health of the ecosystem, let alone its long-term viability. While federal and state agencies attempt to cooperate with one another, their conflicting agendas and diffused authority have resulted in chaos. The state's water supply is limited and the demand for water is increasing as California's population grows rapidly. Additionally, the supply is becoming less reliable as climate change impacts create high precipitation variability²³ and recent environmental concerns compel new demands for water to be left in-stream.²⁴ Environmentally protective statutes, like the Endangered Species Act and the Central Valley Project Improvement Act, collide head-on with the state water rights system that historically has endowed individuals with usufructuary rights to as much water as the hydrological system can carry. Endangered species protection and water rights are in a sense mutually exclusive, in that "each offers little consideration of each other's values: western water law largely ignores environmental concerns, and the ESA as written gives little regard to economic concerns."²⁵

In a recent article, Dave Owens wrote that "[d]espite many advantages – regulatory creativity and cooperation, sometimes substantial funding, attention from high-level officials, and an impressive confluence of government and private expertise – the federal-state programs

²³ Z.W. Kundzewicz et al., *Summary for Policymakers, in Climate Change 2007: Impacts, Adaptation and Vulnerability - Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* 7, 11 (M.L. Parry et al. eds., 2007).

²⁴ Central Valley Project Improvement Act, Pub. L. No. 102-575, § 3406(b)(2), 106 Stat. 4706 (1992).

²⁵ Reed D. Benson, *So Much Conflict, Yet So Much in Common: Considering the Similarities between Western Water Law and the Endangered Species Act*, 44 NAT. RESOURCES J. 29, 48 (2004).

designed to redress the Bay-Delta's resource conflicts have so far produced a fiasco."²⁶ Citizen groups increasingly depend on litigation and enforcement of state and federal environmental laws to secure protection of the fragile ecosystem.²⁷ What happened to this ineffective regulatory program that at one time promised to be the solution to the Bay-Delta's problems? Why have efforts at collaboration failed so completely that lawmakers are now calling for an entirely new system of governance?

(C) NRDC v. Kempthorne

A recent federal district court case, *NRDC v. Kempthorne*, showcases conflicting environmental and economic interests, as citizen groups challenge the United States Fish and Wildlife Service's ("FWS") approval of federal and state coordinated water project operations in the Sacramento-San Joaquin Delta under the Endangered Species Act.²⁸ The citizen groups charged, and the court agreed, that the agency's approval is arbitrary and capricious considering the plummeting numbers of a federally protected species, the delta smelt, under current management regimes in the Delta.²⁹ *NRDC v. Kempthorne* and the enforcement of the ESA has rekindled conflicts between those that wish to defend their time-honored rights to use water and those that stress the importance of recognition of the major ecosystem benefits garnered by leaving water in-stream. It is not clear what the outcome of this major administrative upheaval will be, but new directions must be taken in the Delta to insure that the ecosystem does not deteriorate further.

²⁶ Dave Owen, *Law, Environmental Dynamism, Reliability: The Rise and Fall of CALFED*, 37 ENV'T. L. 1145, 1149 (2007).

²⁷ *NRDC v. Kempthorne*, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968 (E.D. Cal. 2007).

²⁸ *NRDC v. Kempthorne*, 506 F. Supp. 2d 322 (E.D. Cal. 2007).

²⁹ *Id.* at 387.

In the wake of the federal court decision, as politicians, scientists and policymakers struggle to develop new plans to protect the state's vital water supply while simultaneously revitalizing an ecosystem and a species on the brink of extinction, one fact perseveres: despite outwardly collaborative management efforts in the Delta, the conflict between resource protection and human development remains strong. While the existing management regime gave an impression that environmentally protective federal statutes and the allocation and distribution of water for human consumptive uses could be implemented in concert, it is now clear that unconditional enforcement of federal protection of endangered and threatened species is needed to check human impacts on the ecosystem.

This paper will analyze the circumstances leading up to and surrounding *NRDC v. Kempthorne*, a recent federal district court decision enforcing the Endangered Species Act in the California Bay-Delta and compelling state and federal agencies to drastically reduce withdrawals of water from the estuary to protect an endangered species of fish.³⁰ The court's decision highlights the failure of past management efforts in the Delta as well the strong undercurrents of conflict that remain between the numerous interests in this heavily impacted system. It is clear from the court's opinion and the public's subsequent reactions that although management policies and values were articulated supporting sustainable development and ecosystem restoration of the Delta, these goals were lost in the planning and implementation stages of its management.³¹ The separate and fragmented structure of the institutions attempting to collaborate prevented the achievement of any clear goal, creating a zero-sum game between the environment and the economy. This is not to suggest that government agencies and politicians

³⁰ *NRDC v. Kempthorne*, No. 1:05-cv-1207 OWW GSA (E.D. Cal. Dec. 14, 2007) (interim remedial order).

³¹ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION'S REVIEW OF THE CALFED BAY-DELTA PROGRAM 36 (Nov. 17, 2005), *available at* <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

are unaware of the long-term benefits of environmental protection. Instead, *NRDC v. Kempthorne* and the enforcement of the Endangered Species Act is used to highlight the conflicts that exist *despite* attempts at cooperative management.

This analysis begins by focusing on the history of the federal Endangered Species Act and its implementation, emphasizing the Act's tendency to pit the survival of a species against economic prosperity. Some attempts have been made to achieve development while simultaneously fulfilling the purposes of the ESA,³² but enforcement of the law still frequently shuts down government and private activity. After examining the necessary background, my analysis will focus on *NRDC v. Kempthorne*, a recent ESA challenge in the California Bay-Delta, a unique ecosystem whose health and viability directly affects the state's economy. While management efforts over the past fifteen years have primarily focused on collaboration between federal and state agencies, a federal district court judge recently made it clear that age-old conflicts perpetuated by the ESA still exist within the Delta. Although there are too many programs and initiatives to address in one project, a brief overview of the history of the management of the Delta, a closer examination of reactions to the recent court decision, and subsequent proposed solutions, may shed some light on the future of California water policy in the Delta. Various long-term solutions will be discussed because of their potential to either exacerbate or alleviate the tensions that exist between environmental and water use interests.

Transitioning water rights in the West from a tradition of natural resource exploitation to a future of environmental stewardship has proven difficult. Natural systems must be managed for both their protection and development. This multi-tasking incites conflict between those that favor protection of the ecosystem and its inhabitants, and those concerned with maintaining the

³² See Endangered Species Act, 16 U.S.C. § 1539 (2006).

water supply for human consumption. While these goals should be “co-equal,”³³ since a healthier ecosystem will presumably provide a cleaner and more reliable water supply for its users, recent litigation in a federal court in California suggests that it may be impossible to protect the environment to the degree envisioned by groundbreaking federal legislation while meeting the expectations of farmers and metropolitan areas that depend on a given amount of water to exist.³⁴ A compromise must be made between the two, and only time will tell if it is the fish or the farmers that are forced to give up ground.

(II) Endangered Species Act Enforcement & California’s Water Supply –

In the past, federal laws such as the Homestead Act³⁵ and the Reclamation Act³⁶ encouraged and facilitated rampant development and water diversion in the West. New federal legislation enacted in the latter half of the twentieth century addressed the negative impacts of this development and reflected the “relatively recent emergence of the belief that ethics should expand from a preoccupation with humans...to a concern for animals, plants, rocks, and even nature, or the environment, in general.”³⁷ Federal policy shifted from a purely anthropocentric dominance over nature to an understanding that the sustainability of the natural resources society depends on requires the implementation of protective and rehabilitative measures. Exercising its Article I powers to “make all laws which shall be necessary and proper,”³⁸ Congress enacted

³³ DELTA VISION BLUE RIBBON TASK FORCE, DELTA VISION: OUR VISION FOR THE CALIFORNIA DELTA 2 (November 30, 2007) *available at* <http://deltavision.ca.gov/> (last visited Apr. 24, 2008).

³⁴ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968 (E.D. Cal. 2007); Pac. Coast Fed’n of Fishermen’s Ass’n v. Gutierrez, No. 1:06-cv-00245 OWW LJO, 2007 U.S. Dist. LEXIS 45852 (E.D. Cal. 2007).

³⁵ Homestead Act, 35 Cong. Ch. 75, 12 Stat. 393, 393 (1862).

³⁶ Reclamation Act (National Irrigation Act of 1902), Pub. L. No. 57-161, 32 Stat. 388 (1902).

³⁷ RODERICK FRAZIER NASH, THE RIGHTS OF NATURE – A HISTORY OF ENVIRONMENTAL ETHICS 4 (1989).

³⁸ U.S. CONST. art. I, § 8, cl. 13.

several laws that protect the environment by either prohibiting or requiring specific human activity in order to reduce pressures on impacted ecosystems.

The economic benefit of environmental protection was readily understood. The National Environmental Policy Act recognizes that protection of the environment will “stimulate the health and welfare of man,”³⁹ and the Clean Air Act finds that increasing air pollution presents “mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation.”⁴⁰ While implementation of many of these laws is intended to improve the condition of this nation’s water, air, soil, plants, and animals, the improvements are for decidedly human purposes. The Endangered Species Act, as written, is different.

The federal Endangered Species Act (“ESA”), enacted in 1973,⁴¹ was signed into law shortly after the National Environmental Policy Act⁴² and the Clean Air Act⁴³. Of all the new environmental statutes, the ESA was arguably the most radical, as it authorized government agencies to protect animal or plant species with no regard to the costs such protection would impose.⁴⁴ Sixteen years after its enactment, Roderick Nash called the Act “the strongest American legal expression to date of environmental ethics.”⁴⁵ Section 7 of the statute imposes a requirement on federal agencies “to afford first priority to the declared national policy of saving endangered species.”⁴⁶ No matter how disparate, an agency cannot contrast the benefits of species preservation with the costs such preservation imposes on society.⁴⁷ The Act’s language

³⁹ National Environmental Policy Act, 42 U.S.C. § 4321 (2006).

⁴⁰ Clean Air Act, 42 U.S.C. § 7401(a)(2) (2006).

⁴¹ Endangered Species Act, 16 U.S.C. § 1531 *et seq.* (2006).

⁴² National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.* (2006).

⁴³ 42 U.S.C. § 7401 *et seq.*

⁴⁴ 16 U.S.C. § 1533(1).

⁴⁵ RODERICK FRAZIER NASH, *THE RIGHTS OF NATURE – A HISTORY OF ENVIRONMENTAL ETHICS* 175 (1989).

⁴⁶ *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 185 (1978).

⁴⁷ *TVA v. Hill*, 437 U.S. at 187.

speaks to the preservation of threatened and endangered species because they are an integral part of the ecosystem, not because society depends on them for subsistence.⁴⁸ “[T]he Endangered Species Act [embodies] the legal idea that a listed nonhuman resident of the United States is guaranteed, in a special sense, life and liberty.”⁴⁹

While the ESA requires the pursuit of environmental protection with no consideration of economic costs, the statute’s true purpose is less clear. Congress’ findings mention the “value” of species to society, but do not couch the definition in purely biological terms. Instead, the Act recognizes that species have “esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people.”⁵⁰ Testimonies during the hearings prior to the enactment of the ESA reveal that supporters of the legislation had varying views of the importance of the natural environment.⁵¹ While supporters agreed species protection was imperative, the motives behind this protection were diverse. Some agreed that humans may have “an ethical and moral responsibility to protect other life forms,”⁵² while others argued that preserving biodiversity would benefit society, whose growth and sustainability is dependent on natural resources and the health of the ecosystems it inhabits.⁵³ Nash describes the testimony of an equitable senator from California, who saw both sides of the argument and reasoned “that in the long run, safeguarding human welfare necessitated extending ethics to the limits of the ecosystem. Ultimately human rights coincided with the rights of nature.”⁵⁴

⁴⁸ 16 U.S.C. § 1531(b).

⁴⁹ RODERICK FRAZIER NASH, *THE RIGHTS OF NATURE – A HISTORY OF ENVIRONMENTAL ETHICS* 161 (1989) (quoting Joseph Petulla, 1980).

⁵⁰ 16 U.S.C. § 1531(a)(3).

⁵¹ RODERICK FRAZIER NASH, *THE RIGHTS OF NATURE – A HISTORY OF ENVIRONMENTAL ETHICS* 175 (1989).

⁵² *Id.* (quoting U.S. Congress, House, Committee on Merchant Marine and Fisheries, Subcommittee on Fisheries and Wildlife Conservation, Hearings, *Predatory Mammals and Endangered Species*, 92d Cong., 2d sess. (March 20, 21, April 10, 11, 1972)).

⁵³ RODERICK FRAZIER NASH, *THE RIGHTS OF NATURE – A HISTORY OF ENVIRONMENTAL ETHICS* 175 (1989).

⁵⁴ *Id.*

While economic and environmental interests may have collaborated to insure passage of the legislation, enforcement of the Act, due to its highly protective language, often forces these interests into opposition. The co-equal advancement of economic prosperity and environmental preservation that the Brundtland Commission championed in 1983 has not yet been realized, and the ESA continues to force limits on human activity to reduce ecosystem impacts, as it has in *NRDC v. Kempthorne*.

(A) Requirements of the Act

Designating specific implementation and enforcement duties for the Departments of Commerce and Interior, the ESA bestows *all* federal agencies with responsibility. “All Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act.”⁵⁵ Not only does the ESA set forth strict prohibitions on government and private actions, but also calls for positive action to protect biodiversity.⁵⁶ Enforcement agencies must not only list endangered and threatened species, but must also develop and implement recovery plans to restore listed species to previous abundances.⁵⁷ Administration of the ESA has been delegated to the United States Fish and Wildlife Service (“FWS”), within the Department of Interior, and the National Marine Fisheries Service (“NMFS”) within the Department of Commerce. FWS is responsible for terrestrial and freshwater species, while NMFS is responsible for marine species.⁵⁸ Because FWS is responsible for protection and recovery of the delta smelt, the fish at issue in *NRDC v. Kempthorne*, I will refer only to FWS when discussing general ESA enforcement.

⁵⁵ 16 U.S.C. § 1531(c)(1).

⁵⁶ 16 U.S.C. § 1533(f).

⁵⁷ *Id.*

⁵⁸ JOSEPH L. SAX, BARTON H. THOMPSON, JR., JOHN D. LESHY & ROBERT H. ABRAMS, LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS 868 (4th ed. 2006).

1. Section 4

Section 4 of the ESA authorizes the Secretary of the Interior and the Secretary of Commerce to list a species as threatened or endangered in consideration of any of five reasons:

- (1) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (2) overutilization for commercial, recreational, scientific, or educational purposes;
- (3) disease or predation;
- (4) the inadequacy of existing regulatory mechanisms; or
- (5) other natural or manmade factors affecting its continued existence.⁵⁹

The ESA defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range,”⁶⁰ and a species is threatened if it is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”⁶¹ When determining if it is appropriate to list a species based on any of the above five factors, the agencies are to make decisions “solely on the basis of the best scientific and commercial data available....”⁶² Unlike many other federal environmental regulations, ESA listing decisions are to be made solely reliant upon the status of the species and not on any economic effects that may result.⁶³ Conversely, the subsequent designation of a listed species’ “critical habitat,” also required by the ESA, is made “on the basis of the best scientific data available *and after taking into consideration the economic impact*, the impact on national security, and any other relevant impact of specifying any particular area as critical habitat.”⁶⁴ Congress recognized that absolute protection of a species *and* its habitat, which would often overlap with human development and activity, could have massive economic repercussions.

⁵⁹ 16 U.S.C. § 1533(a)(1).

⁶⁰ *Id.* § 1532(6).

⁶¹ *Id.* § 1532(20).

⁶² *Id.* § 1533(b)(1)(A).

⁶³ *Id.*

⁶⁴ *Id.* 1533(b)(2) (emphasis added).

While agencies are required to list a species as endangered or threatened if the scientific evidence alone supports such a listing, protection of the species' habitat is slightly more limited by economic considerations.

Finally, FWS is required to develop "recovery plans" for listed species.⁶⁵ The agencies must incorporate several elements into a recovery plan, including:

- (i) a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species;
- (ii) objective, measurable criteria which, when met, would result in a determination...that the species be removed from the list; and
- (iii) estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps towards that goal.⁶⁶

When monitoring of a species shows that it has met delisting or downlisting goals established in a recovery program, FWS and NMFS may initiate the process to remove the species from the threatened list, or change the status of a species from endangered to threatened.⁶⁷ Recovery plans are not always effective, however, and despite having a recovery plan in place since 1996,⁶⁸ delta smelt population numbers continue to plummet. In fact, environmental groups recently petitioned FWS to *uplist* the delta smelt from threatened to endangered on an emergency basis.⁶⁹ The petition cited population data to support its request: "In 2002, [delta smelt's] abundance...declined drastically, dropping more than 80% in just three years. In 2005, the

⁶⁵ *Id.* 1533(f).

⁶⁶ *Id.* 1533(f)(1)(B).

⁶⁷ U.S. Fish and Wildlife Service, *Delisting a Species – Section 4 of the Endangered Species Act 1* (2007) <http://www.fws.gov/endangered/factsheets/delisting.pdf> (last visited Apr. 24, 2008).

⁶⁸ U.S. FISH AND WILDLIFE SERVICE, *SACRAMENTO-SAN JOAQUIN DELTA NATIVE FISHES RECOVERY PLAN* (1995), *available at* http://ecos.fws.gov/docs/recovery_plan/961126.pdf (last visited Apr. 24, 2008).

⁶⁹ CENTER FOR BIOLOGICAL DIVERSITY, THE BAY INSTITUTE & NATURAL RESOURCES DEFENSE COUNCIL, *EMERGENCY PETITION TO LIST THE DELTA SMELT (HYPOMESUS TRANSPACIFICUS) AS AN ENDANGERED SPECIES UNDER THE ENDANGERED SPECIES ACT at ii* (Mar. 8, 2006) *available at* http://www.biologicaldiversity.org/species/fish/Delta_smelt/pdfs/ds-endangered-petition-3-8-06.pdf (last visited Apr. 24, 2008).

abundance of delta smelt fell to its second consecutive record low and was just 2.4% of the abundance measured when the species was listed in 1993.”⁷⁰ The report also indicates that the species has likely fallen below its “effective population size” making it very difficult, if not impossible for it to recover.⁷¹

2. Section 7

Perhaps the most well-known provision of the ESA is Section 9 because of its impacts on private property. Section 9 essentially prohibits “any person” from killing, harming, or otherwise modifying the habitat of a listed species.⁷² Private development interests are often compromised through enforcement of an environmentally protective national goal. However, another provision that applies only to federal agency actions, serves to place conflicting *agency* agendas in opposition, making it difficult for federal and state governments to successfully manage large ecosystems cooperatively.

Once a species is listed under the ESA, Section 7 prohibits federal agencies from executing, authorizing, or permitting any actions that would “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat....”⁷³ The Ninth Circuit summarized the purpose of Section 7: “to ensure that the federal government does not undertake actions, such as building a dam or highway, that incidentally jeopardize the existence of endangered or threatened species.”⁷⁴ An agency is required to “consult” with FWS, to insure their proposed action will not place a listed species in jeopardy. “If jeopardy or adverse modification is found, [FWS] shall suggest those

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² 16 U.S.C. § 1538(a)(1).

⁷³ 16 U.S.C. § 1536(a)(2).

⁷⁴ *Carson-Truckee Water Conservancy Dist. v. Clark*, 741 F.2d 257, 262 (9th Cir. 1984).

reasonable and prudent alternatives” the inquiring federal agency might undertake to avoid violating the ESA.⁷⁵ After consulting with an agency and reviewing potential impacts of the proposed action, FWS issues a “biological opinion.” “The biological opinion includes a summary of the information upon which the opinion is based, a discussion of the effects of the action on listed species or critical habitat, and the consulting agency’s opinion on ‘whether the action is likely to jeopardize the continued existence of a listed species....’”⁷⁶

If the consulting agency determines that the proposed action does not jeopardize a listed species or adversely affect critical habitat, the agency can issue an “Incidental Take Statement”⁷⁷ that “if followed, exempts the action agency from the prohibition on takings found in Section 9 of the ESA.”⁷⁸ Incidental take permits serve to permit an agency action to kill, or “take” a specific number of a listed species if “such taking is incidental to, and not the purpose of, carrying out the otherwise lawful activity.”⁷⁹ A “no jeopardy” biological opinion issued by FWS or NMFS will often permit a certain level of “incidental take” of the very species whose endangerment triggered the consultation.⁸⁰ This modification as well as the addition of an “Endangered Species Committee” with the authority to exempt certain federal projects from all ESA requirements, indicates an attempt to relieve human development in some cases from the strictly protective mandates of the Act.⁸¹ However, since the ESA’s enactment, courts have

⁷⁵ 16 U.S.C. § 1536(b)(3).

⁷⁶ National Wildlife Federation v. National Marine Fisheries Service, 481 F.3d 1224, 1230 (9th Cir. 2007) (quoting 16 U.S.C. § 1536(b) and 50 C.F.R. § 402.14(h)(3)).

⁷⁷ U.S. FISH AND WILDLIFE SERVICE, *Chapter 4 – Formal Consultation, in SECTION 7 CONSULTATION HANDBOOK 43* (1998), available at <http://www.fws.gov/Endangered/consultations/s7hndbk/s7hndbk.htm> (last visited Apr. 24, 2008).

⁷⁸ National Wildlife Federation v. National Marine Fisheries Service, 481 F.3d 1224, 1230 (9th Cir. 2007).

⁷⁹ 16 U.S.C. § 1539(a)(1)(B).

⁸⁰ UNITED STATES FISH AND WILDLIFE SERVICE, *BIOLOGICAL OPINION ON THE LONG-TERM OPERATIONAL CRITERIA AND PLAN (OCAP) FOR COORDINATION OF THE CENTRAL VALLEY PROJECT AND STATE WATER PROJECT 223* (February 24, 2005), available at http://www.fws.gov/sacramento/es/delta_smelt.htm (last visited Apr. 24, 2008).

⁸¹ 16 U.S.C. § 1536(e).

consistently upheld the power of Section 7 of the ESA to halt large development projects, even those projects for which significant planning and investment have already occurred.⁸²

3. Section 11

The broad discretion that FWS and NMFS have when interpreting and enforcing the ESA⁸³ is tempered by the Act's citizen suit provision.⁸⁴ Rather than relying on FWS alone to insure the protection and restoration of listed species, the ESA allows *any person* to file a lawsuit against *any party*, including the United States government, alleging violation of the ESA.⁸⁵ Consequently, Section 11 of the ESA permits suits by individuals and environmental groups against FWS for the agency's failure to list a species, designate critical habitat, or enjoin a government action that will jeopardize an endangered or threatened species. All final agency decision making is judicially reviewable according to the Administrative Procedure Act. "A person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof."⁸⁶

Citizen suits are somewhat limited. Plaintiffs cannot file a lawsuit challenging every aspect of the agency decision-making process or no decisions would ever be made. An action by FWS must be "final" to be reviewable.⁸⁷ The United States Supreme Court has determined that biological opinions issued by FWS pursuant to Section 7 of the ESA are considered final agency actions and can be subject to judicial review.⁸⁸ Because the Biological Opinion often prescribes conditions under which "incidental take" of the endangered species is permitted, the opinion has

⁸² *TVA v. Hill*, 437 U.S. at 172-73.

⁸³ *Babbitt v. Sweet Home Chapter of Cmty. for a Great Oregon*, 515 U.S. 687, 708 (1995).

⁸⁴ 16 U.S.C. § 1540(g).

⁸⁵ *Id.*

⁸⁶ Administrative Procedure Act, 5 U.S.C. § 702 (2006).

⁸⁷ *Id.* § 704.

⁸⁸ *Bennett v. Spear*, 520 U.S. 154, 178 (1997).

“direct and appreciable legal consequences.”⁸⁹ By giving agencies permission to harm or kill a certain number of endangered or threatened species, the biological opinion can often legalize agency action that previously was in violation of the ESA. A court may determine a biological opinion is unlawful if it is “arbitrary, capricious, or manifestly contrary to the statute.”⁹⁰

(B) Enforcement of the Endangered Species Act – Past and Present

After the enactment of the Endangered Species Act, many wondered if its strong protective purpose would hold up in court. Although the ESA seemed to put preservation of biodiversity above all else, it remained to be seen whether a court of law would uphold the statute against economic interests. The nation did not have to wait long for the legislation’s strength to be put to the test.

1. TVA v. Hill – The First Little Fish

One of the first major Section 7 challenges of a federal agency action was filed in federal court in the eastern district of Tennessee.⁹¹ The case concerned a small species of fish called the snail darter (*Percina tanasi*). Growing no more than three and a half inches long, the fish preferred habitat with gravel substrate and fast moving water interspersed with slow-moving deep pools, characteristic of areas in the Little Tennessee River and its tributaries where the fish could be found.⁹² The species has a very short life span, making it highly susceptible to population crashes.⁹³

⁸⁹ *Id.*

⁹⁰ *Chevron v. NRDC*, 467 U.S. 837, 844 (1984).

⁹¹ *Hill v. Tennessee Valley Authority*, 419 F. Supp. 753 (E.D. Tenn. 1976).

⁹² Holly Doremus, *The Story of TVA v. Hill: A Narrow Escape for a Broad New Law*, in ENVIRONMENTAL LAW STORIES 109, 119-20 (Richard J. Lazarus & Oliver A. Houck eds., 2005).

⁹³ *Id.* at 120.

The Tennessee Valley Authority (“TVA”), a federal agency and the defendant in this case, was planning to construct a large hydropower dam in the Little Tennessee River Valley, the home of the snail darter. Construction on the Tellico Dam commenced in 1967, but exorbitant costs and legal challenges filed under NEPA frustrated completion of the project.⁹⁴ Scientific investigation that was part of the NEPA challenge uncovered the existence of several rare species of fish whose existence was threatened by the construction of the dam.⁹⁵ Flooding of the river valleys would destroy essential breeding and feeding habitat, most likely rendering these species extinct.⁹⁶ When the NEPA challenge eventually failed to stop the dam construction, a law professor and his student selected one of these species, the snail darter, and petitioned to list it as an endangered species under the ESA.⁹⁷ Once the fish was listed⁹⁸ and critical habitat was designated⁹⁹ under the Act, they hoped to use the statute to challenge and possibly halt the construction of the dam. TVA argued that the project, initiated nine years prior to the listing of the snail darter, represented significant federal investment and could not be stopped.¹⁰⁰

The Supreme Court of the United States did not agree. Affirming a Sixth Circuit decision, Chief Justice Warren Burger upheld Section 7 of the ESA, enjoining the construction of the Tellico Dam.¹⁰¹ The language of the opinion emphasizes the strength of the statute. “Congress has spoken in the plainest of words, making it abundantly clear that the balance has

⁹⁴ *TVA v. Hill*, 437 U.S. at 158.

⁹⁵ *Id.* at 158-59.

⁹⁶ *Id.* at 162.

⁹⁷ Holly Doremus, *The Story of TVA v. Hill: A Narrow Escape for a Broad New Law*, in ENVIRONMENTAL LAW STORIES 109, 122 (Richard J. Lazarus & Oliver A. Houck eds., 2005).

⁹⁸ Amendment Listing the Snail Darter as an Endangered Species, 40 Fed. Reg. 47,505 (Oct. 9, 1975) (to be codified at 50 C.F.R. pt. 17).

⁹⁹ Critical Habitat – Snail Darter, 41 Fed. Reg. 13,928 (Apr. 1, 1976) (to be codified at 50 C.F.R. § 17.81).

¹⁰⁰ Holly Doremus, *The Story of TVA v. Hill: A Narrow Escape for a Broad New Law*, in ENVIRONMENTAL LAW STORIES 109, 122 (Richard J. Lazarus & Oliver A. Houck eds., 2005).

¹⁰¹ *TVA v. Hill*, 437 U.S. at 194-195.

been struck in favor of affording endangered species the highest of priorities....”¹⁰² Addressing the argument that Congress had also appropriated significant funding for the completion of the dam, the Court reasoned that the government sanctioned funding under the assumption that the money would go towards a lawful purpose.¹⁰³ “Without such an assurance, every appropriations measure would be pregnant with prospects of altering substantive legislation, repealing by implication any prior statute which might prohibit the expenditure.”¹⁰⁴ Even so early in the ESA’s history, the difficult tradeoff between environmental protection and economic development in the Little Tennessee River Valley was apparent.

Although the Court refused to go against Congress’ clear intention to protect endangered species at all costs, it was obvious from the language of the opinion that Chief Justice Burger found the application of the highly protective statute to be exceedingly impractical in this circumstance. “[T]he commitment to the separation of powers is too fundamental for us to preempt congressional action by judicially decreeing *what accords with ‘common sense and public weal.’* Our Constitution vests such responsibilities in the political branches.”¹⁰⁵ Unable to circumvent federal legislation in support of what seemed to make clear economic sense, the Court upheld the Endangered Species Act in the face of a massive federal water development project to protect a 3-inch fish.

While this result seemed to be a triumph for endangered species and new federal commitments to environmental protection, what happened after the Court issued its opinion reveals the true nature of the conflict between the economy and the environment. In 1978, Congress amended the ESA to include an exemption provision that would authorize certain

¹⁰² *Id.* at 194.

¹⁰³ *Id.* at 190.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 195 (emphasis added).

federal government actions despite their impacts on threatened and endangered species.¹⁰⁶ Although the Tellico Dam project did not qualify for an exemption, the fact that Congress created a review committee with the authority to exempt certain development projects immediately following *TVA v. Hill* indicates that legislators did not truly intend for the protection of the environment to trump *all* human activity. In some cases, it seemed, economic development was more important than protection of biodiversity.

While TVA was unable to secure an exemption from the ESA committee, the story of the Tellico Dam was not finished. The project was eventually authorized as a rider on an appropriations bill in 1980.¹⁰⁷ The dam was subsequently completed, and the Little Tennessee River Valley was flooded. Although the ESA seemed to pass its initial test in the Supreme Court, in the aftermath of the litigation it quickly became clear that economic interests would find ways to prevail over biodiversity protection in some cases. A court's role is limited to interpreting and applying laws as they are written, and when statutes are amended or appropriations made by the legislative branch, courts are powerless to stop what would seem to go strictly against the federal environmental policies set forth in NEPA, the ESA and other legislation.

2. Current Water Use Conflicts in California

Thirty years after the Supreme Court heard arguments on behalf of the snail darter, a federal district court judge in California considered the fate of another endemic fish species, the delta smelt. Recently issuing a decision in a lawsuit known as *NRDC v. Kempthorne*, Judge

¹⁰⁶ 16 U.S.C. § 1536(e).

¹⁰⁷ Holly Doremus, *The Story of TVA v. Hill: A Narrow Escape for a Broad New Law*, in ENVIRONMENTAL LAW STORIES 109, 134 (Richard J. Lazarus & Oliver A. Houck eds., 2005) (citing Energy and Water Development Appropriation Act, Pub. L. No. 96-69, 93 Stat. 437, 449 (1979)).

Oliver Wanger's holding sent a shockwave through the state and left the future of water use and development in California mired in uncertainty. To protect a dwindling population of a decidedly diminutive species of fish, the judge ordered what amounts to significant reductions in the water supply that serves the majority of California residents and a significant portion of the state's agricultural land.¹⁰⁸ The exact negative economic impact of this Endangered Species Act enforcement is unknown but predicted to be substantial.

Like the conflict in the Little Tennessee River Valley, the battle between environmental preservation and economic development continues in a federal district court in California. For now, it appears that another small fish has again prevailed. However, the repercussions of the district court holding in *NRDC v. Kempthorne* are more complex than purely an outright victory for a threatened species. The court's decision is only temporary, and future decisions from the state legislative and executive branches will determine the true direction of water policy within the Delta. First, there is the simple question of the fish's survival. Has human intervention in the fish's critical habitat gone on for too long, making it impossible for its population to rehabilitate? Second, as federal requirements essentially force reductions in California's water supply to protect the delta smelt, will policymakers and water users find a way to accommodate the recognition of new environmental interests in the system, or will they doggedly continue to seek an increased supply, merely expanding interests and increasing pressure on a highly over-taxed ecosystem? In the aftermath of *NRDC v. Kempthorne* the harsh conflict between economic and environmental interests has reemerged from underneath a cloak of collaborative but ineffective regulatory efforts. What solutions are proposed and adopted will shed light on efforts to reorient economic and environmental interests from a competitive to a more cooperative stance.

¹⁰⁸ *NRDC v. Kempthorne*, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *6 (E.D. Cal. 2007).

Human activity in and around the Delta ecosystem has negatively impacted its natural structure, composition, and inhabitants. For the purposes of this analysis, I will focus on enforcement of the federal ESA, but similar protection initiatives and legal challenges are occurring at the state level as well. In order to more accurately portray the listing process and recent ESA challenge involving the delta smelt, it is useful to first briefly review the geography and ecology of the Delta as well as the structure of the state and federal water delivery systems allegedly responsible for the delta smelt's demise.

3. The Sacramento-San Joaquin Delta

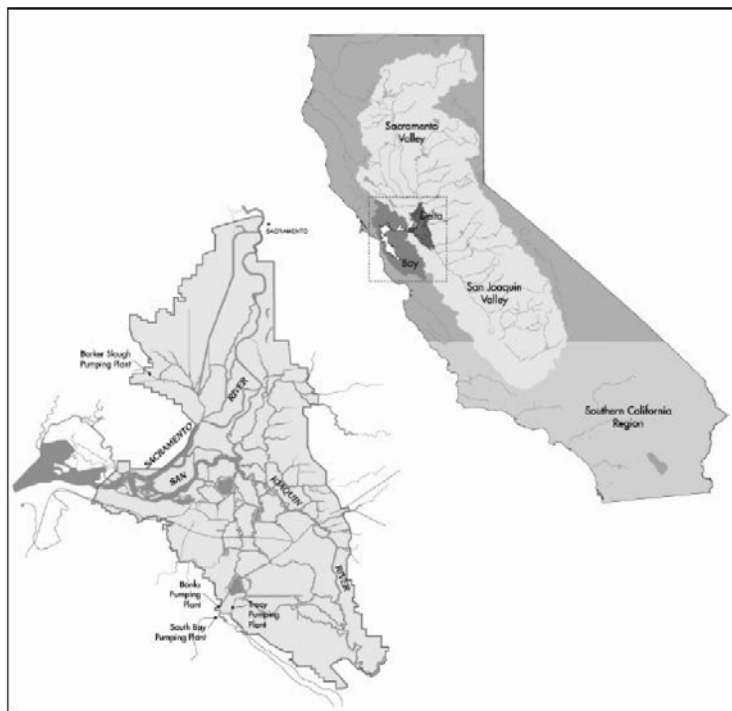
The Delta, located due east of San Francisco, is one of the most significant sources of freshwater in the state of California.¹⁰⁹ The Delta also represents the “largest brackish estuarine marsh on the West Coast.”¹¹⁰ Considered the state’s “largest expanse of wetlands,”¹¹¹ the Delta is the convergence of the Sacramento River from the north, and the San Joaquin River from the southeast.

¹⁰⁹ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION’S REVIEW OF THE CALFED BAY-DELTA PROGRAM 3 (Nov. 17, 2005), *available at* <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

¹¹⁰ JAY LUND ET AL., PUBLIC POLICY INSTITUTE OF CALIFORNIA, ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA 2 (2007) *available at* http://www.ppic.org/content/pubs/report/R_207JLR.pdf (last visited Apr. 24, 2008).

¹¹¹ NORRIS HUNDLEY, JR., THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY 399 (rev. ed. 2001).

Figure 1 – Delta Regional Map



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The Delta's boundaries are legally defined in the California Water Code¹¹³ and include San Francisco, San Pablo and Suisun Bays.¹¹⁴ Approximately 24 miles wide and 48 miles long,¹¹⁵ the Delta covers an area of approximately 1,150 square miles, or about 738,000 acres,¹¹⁶ and supports more than 750 species of wildlife.¹¹⁷

The tributaries of the two rivers carry snowmelt from the Sierra Nevada and Coastal mountain ranges in the eastern part of the state. Although the Delta only represents about 1% of

¹¹² THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION'S REVIEW OF THE CALFED BAY-DELTA PROGRAM 5 (Nov. 17, 2005), *available at* <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

¹¹³ CAL. WATER CODE § 12220 (2008).

¹¹⁴ JAY LUND ET AL., PUBLIC POLICY INSTITUTE OF CALIFORNIA, ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA 2 (2007) *available at* http://www.ppic.org/content/pubs/report/R_207JLR.pdf (last visited Apr. 24, 2008).

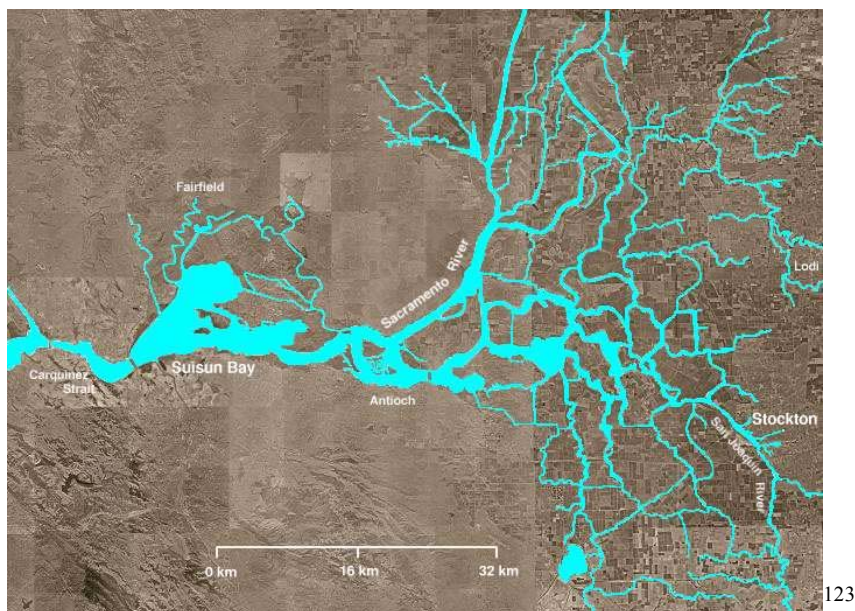
¹¹⁵ *Id.*

¹¹⁶ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION'S REVIEW OF THE CALFED BAY-DELTA PROGRAM 3 (Nov. 17, 2005), *available at* <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

¹¹⁷ *Id.*

California's landmass,¹¹⁸ about half of the state's entire runoff volume eventually drains through the Delta,¹¹⁹ which supplies water for irrigation and consumption to a majority of the state.¹²⁰ Water from the rivers flows westward through the Delta and, the small amount that is not exported through federal and state pumping systems or diverted by local Delta farmers eventually flows out to the Pacific Ocean through Suisun, San Pablo, and San Francisco Bays.¹²¹ Saltwater also flows in through the system of bays from the Pacific Ocean, maintaining an estuarine environment. Many species, including the delta smelt, depend on the balance of salt and freshwater in the Delta to survive and reproduce.¹²²

Figure 2 – The Delta Estuary and Its Tributaries



¹¹⁸ *Id.*

¹¹⁹ CALFED Bay-Delta Program – About the Delta, http://calwater.ca.gov/delta/about/about_delta.html (last visited Apr. 24, 2008).

¹²⁰ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION'S REVIEW OF THE CALFED BAY-DELTA PROGRAM 3-4 (Nov. 17, 2005), available at <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

¹²¹ CALFED Bay-Delta Program – About the Delta, http://calwater.ca.gov/delta/about/about_delta.html (last visited Apr. 24, 2008).

¹²² UNITED STATES FISH AND WILDLIFE SERVICE, SPECIES ACCOUNT – DELTA SMELT (*HYPOMESUS TRANSPACIFICUS*) (October 19, 2007), available at http://www.fws.gov/sacramento/es/animal_spp_acct/delta_smelt.pdf (last visited Apr. 24, 2008).

¹²³ Wpdms_usgs_photo_sacramento_delta_2.jpg, ©2004 Matthew Trump.

Decades of human presence in the Delta has left it a “highly modified ecosystem.”¹²⁴ California, the nation’s third-largest state by area is also the most populated.¹²⁵ The state alone has the eighth largest economy in the world.¹²⁶ California’s population continues to grow rapidly, and demands for water are expected to increase in the future. The natural dynamics of the Delta are significantly altered by manmade water storage and delivery systems. Levees, ditches, channels, pumps and canals have been constructed to create a water delivery system to supply virtually the entire state, but the effects of this system are making it difficult for the Delta to support itself. The Delta has quickly become California’s water faucet. It collects water from the state’s largest watershed (from about 45% of state land surface area) and water is pumped out of the southern end of the Delta and delivered to more than 23 million California residents and over 7 million acres of irrigated agriculture.¹²⁷ The federal government provided funding for irrigation projects it chose to build in a number of western states pursuant to the Reclamation Act of 1902.¹²⁸ However, to date the federal Bureau of Reclamation has not recouped its costs for its construction projects in the Delta.¹²⁹ Instead, irrigators receive subsidized water at substantially below market rates through systems built with federal taxpayer dollars.¹³⁰ Water is provided at artificially low prices creating incentive to exploit, rather than conserve the resource.

¹²⁴ JAY LUND ET AL., PUBLIC POLICY INSTITUTE OF CALIFORNIA, ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA 3 (2007) *available at* http://www.ppic.org/content/pubs/report/R_207JLR.pdf (last visited Apr. 24, 2008).

¹²⁵ U.S. Census Bureau, Projections of the Total Populations of States: 1995 to 2025, <http://www.census.gov/population/www/projections/stproj.html> (last visited Apr. 24, 2008).

¹²⁶ California Department of Finance, History of California’s Economy, http://www.dof.ca.gov/HTML/FS_DATA/HistoryCAEconomy/index.htm (last visited Apr. 24, 2008).

¹²⁷ CALFED BAY-DELTA PROGRAM, PROGRAMMATIC RECORD OF DECISION 2 (Aug. 28, 2000), *available at* http://calwater.ca.gov/calfed/about/about_history_detailed.html (last visited Apr. 24, 2008).

¹²⁸ Reclamation Act of 1902, Pub. L. No. 57-161, 32 Stat. 388 (1902).

¹²⁹ Press Release, Congressman George Miller, Bush Administration Denies Public a Chance to Speak Out on Controversial Water Deals – Miller, Pelosi, others request extension of public comment period until 60 days after new environmental analysis is complete (August 20, 2004), *available at* <http://georgemiller.house.gov/press/rel82004.html> (last visited Apr. 23, 2008).

¹³⁰ JOSEPH L. SAX, BARTON H. THOMPSON, JR., JOHN D. LESHY & ROBERT H. ABRAMS, LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS 747 (4th ed. 2006).

Construction of the federally-run Central Valley Project (“CVP”) and the state-run State Water Project (“SWP”) began in 1937¹³¹ and 1957¹³², respectively, to divert and distribute freshwater across the state. Some of the largest water projects in the world, the operation of this extensive man-made infrastructure within and around the Delta has severely altered the Delta ecosystem and its inhabitants.¹³³ The CVP, operated by the federal Bureau of Reclamation (“Reclamation”), consists of an extensive system of dams on the Sacramento River while the SWP, operated by the California Department of Water Resources (“DWR”), includes a dam on the Feather River, also north of the Delta.¹³⁴ Reducing the average flow of freshwater through the Delta by storing large amounts of water in the North, both projects also pump large quantities of freshwater out of the southern end of the Delta to deliver to farmers in the Central Valley and metropolitan areas in southern California.¹³⁵ Additionally, water is directly diverted from the Delta to serve local water needs through the Contra Costa Canal, the North Bay Aqueduct, as well as to the City of Vallejo, and to almost 2000 local farmers.¹³⁶ This extensive modification of the natural system supports massive agricultural operations and thriving urban populations in otherwise desiccated areas. Marc Reisner wrote in 1986:

¹³¹ United States Bureau of Reclamation, The Central Valley Project (CVP), <http://www.usbr.gov/mp/cvp/index.html> (last visited Apr. 24, 2008); *See also* NORRIS HUNDLEY, JR., THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY 234-75 (rev. ed. 2001).

¹³² California Department of Water Resources, History of Water Development and the SWP, http://www.publicaffairs.water.ca.gov/swp/history_swp.cfm#cvp (last visited Apr. 24, 2008); *See also* NORRIS HUNDLEY, JR., THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY 276-302 (rev. ed. 2001).

¹³³ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION’S REVIEW OF THE CALFED BAY-DELTA PROGRAM 3-4 (Nov. 17, 2005), *available at* <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

¹³⁴ United States Bureau of Reclamation, The Central Valley Project (CVP), <http://www.usbr.gov/mp/cvp/index.html> (last visited Apr. 24, 2008); California Department of Water Resources, History of Water Development and the SWP, http://www.publicaffairs.water.ca.gov/swp/history_swp.cfm#cvp (last visited Apr. 24, 2008).

¹³⁵ California Department of Water Resources, The SWP Today, <http://www.publicaffairs.water.ca.gov/swp/swptoday.cfm> (last visited Apr. 24, 2008).

¹³⁶ California Department of Water Resources, Where Rivers Meet...the Sacramento-San Joaquin Delta, <http://www.publicaffairs.water.ca.gov/swp/delta.cfm> (last visited Apr. 24, 2008).

The whole state thrives, even survives, by moving water from where it is, and presumably isn't needed, to where it isn't, and presumably is needed. No other state has done as much to fructify its deserts, make over its flora and fauna, and rearrange the hydrology God gave it. No other place has put as many people where they probably have no business being. There is no place like it anywhere on earth. Thirty-one million people (more than the population of Canada), an economy richer than all but seven nations' in the world, one third of the table food grown in the United States – and none of it remotely conceivable within the preexisting natural order.¹³⁷

In addition to supplying California with a significant portion of its water supply, the Delta also provides habitat for hundreds of species of plants, fish, and birds, and is a recreational destination for many California residents.¹³⁸ However, the intense pressures created by society's dependence on the Delta for fresh water have seriously jeopardized the ecosystem and its ability to provide these valuable services. "The Delta has for decades been a water battleground, plagued by pollution from growing urban areas, unstable levees supporting agricultural lands, loss of wetlands, pesticide infiltration, as well as salinity and losses of spawning grounds for anadromous fish and refuge for wintering waterfowl."¹³⁹ Water in the Delta is relied on to support municipal, agricultural and recreational water users, as well as hundreds of plant and fish species. In a recent article, Professor Dave Owen notes, "[b]alancing these often-competing needs is challenging, and the watershed has generated some of the longest-lasting battles in California's water wars."¹⁴⁰ Currently, it appears that California's water demands are winning the fight. Reduced freshwater flows from the rivers that feed the Delta and vigorous pumping of freshwater through the Delta have changed the composition and flow direction of the water in the

¹³⁷ MARC REISNER, *CADILLAC DESERT* 333 (rev. ed. 1993).

¹³⁸ JAY LUND ET AL., PUBLIC POLICY INSTITUTE OF CALIFORNIA, *ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA 4-7* (2007) available at http://www.ppic.org/content/pubs/report/R_207JLR.pdf (last visited Apr. 24, 2008).

¹³⁹ JOSEPH L. SAX, BARTON H. THOMPSON, JR., JOHN D. LESHY & ROBERT H. ABRAMS, *LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS* 628 (4th ed. 2006).

¹⁴⁰ Dave Owen, *Law, Environmental Dynamism, Reliability: The Rise and Fall of CALFED*, 37 *ENV'T. L.* 1145, 1148 (2007).

ecosystem, directly affecting its aquatic inhabitants.¹⁴¹ Populations of fish are crashing, and to date no management efforts have been sufficient to revive them.¹⁴² Fish are slaughtered by the pumping actions of the CVP and SWP, as the individual organisms are drawn through the pumps with the water.¹⁴³

4. The Delta Smelt (*H. transpacificus*)

One of the species of fish that has become a victim of these massive water delivery systems is also the subject of recent ESA litigation in the Delta. Like the snail darter that foiled the plans of the Tennessee Valley Authority, the delta smelt is a diminutive fish, growing to only about 2.5 inches in length.¹⁴⁴ Smelt are translucent with blue markings on their sides.¹⁴⁵ Consuming primarily zooplankton,¹⁴⁶ smelt inhabit the brackish waters where salt and freshwater meet (“the mixing zone”), a characteristic unique to a delta ecosystem.¹⁴⁷ When spawning, generally between February and June,¹⁴⁸ delta smelt adults migrate upstream from the mixing zone into fresher water. Dependent on specific salinity conditions for survival and breeding success, the fragile nature of the species is further compounded by its limited range. “It is the

¹⁴¹ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *13-14 (E.D. Cal. 2007).

¹⁴² THE BAY INSTITUTE, CENTER FOR BIOLOGICAL DIVERSITY & NATURAL RESOURCE DEFENSE COUNCIL, PETITION TO THE STATE OF CALIFORNIA FISH AND GAME COMMISSION AND SUPPORTING INFORMATION FOR LISTING THE DELTA SMELT (*HYPOMESUS TRANSPACIFICUS*) AS AN ENDANGERED SPECIES UNDER THE CALIFORNIA ENDANGERED SPECIES ACT at 2 (February 7, 2007) available at http://www.biologicaldiversity.org/species/fish/Delta_smelt/index.html (last visited Apr. 24, 2008).

¹⁴³ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *13 (E.D. Cal. 2007).

¹⁴⁴ UNITED STATES FISH AND WILDLIFE SERVICE, SPECIES ACCOUNT – DELTA SMELT (*HYPOMESUS TRANSPACIFICUS*) (October 19, 2007), available at http://www.fws.gov/sacramento/es/animal_spp_acct/delta_smelt.pdf (last visited Apr. 24, 2008).

¹⁴⁵ Determination of Threatened Status for the Delta Smelt, 58 Fed. Reg. 12,854 (Mar. 5, 1993) (to be codified at 50 C.F.R. pt. 17).

¹⁴⁶ UNITED STATES FISH AND WILDLIFE SERVICE, SPECIES ACCOUNT – DELTA SMELT (*HYPOMESUS TRANSPACIFICUS*) (October 19, 2007), available at http://www.fws.gov/sacramento/es/animal_spp_acct/delta_smelt.pdf (last visited Apr. 24, 2008).

¹⁴⁷ *Id.*

¹⁴⁸ Determination of Threatened Status for the Delta Smelt, 58 Fed. Reg. 12,854 (Mar. 5, 1993) (to be codified at 50 C.F.R. pt. 17).

only smelt endemic to California and the only true native estuarine species found in the Delta.”¹⁴⁹ Furthermore, delta smelt only live for one year and produce significantly fewer eggs compared to other fish species in the Delta.¹⁵⁰ Since the number of smelt in a given year is directly dependent on the spawning success of a previous year, drought conditions and high levels of freshwater exports create a strong risk of population crash the following year.¹⁵¹ Once hatched, smelt larvae migrate back downstream into the Delta to more brackish waters where they spend approximately seven and a half months before swimming upstream to freshwater to spawn.¹⁵² The smelt’s historic distribution extended upstream from Suisun Bay to Sacramento on the Sacramento River and Mossdale on the San Joaquin River although, due to changes in salinity, the center of the population has since shifted upstream.¹⁵³ “Delta smelt are now rare in Suisun Bay, and virtually absent from Suisun Marsh where they once were seasonally common.”¹⁵⁴

Delta smelt are considered a good indicator of ecosystem health because of the species’ habitat requirements, life history, and high sensitivity to change.¹⁵⁵ Rapid human population growth and increased water consumption has direct effects on the aquatic inhabitants of the Bay Delta. In addition to declining water quality and an increasing abundance of invasive species, as freshwater exports from the Delta for agriculture and urban use increase, brackish water creeps

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

¹⁵¹ SPRECK ROSEKRANS & ANN H. HAYDEN, ENVIRONMENTAL DEFENSE, FINDING THE WATER – NEW WATER SUPPLY OPPORTUNITIES TO REVIVE THE SAN FRANCISCO BAY-DELTA ECOSYSTEM 3 (2005), available at http://www.edf.org/documents/4898_FindingWater.pdf (last visited Apr. 24, 2008).

¹⁵² NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *10 (E.D. Cal. 2007).

¹⁵³ Determination of Threatened Status for the Delta Smelt, 58 Fed. Reg. 12,854 (Mar. 5, 1993) (to be codified at 50 C.F.R. pt. 17).

¹⁵⁴ *Id.*

¹⁵⁵ California Department of Fish and Game, Delta Smelt in San Francisco Bay and Estuary, <http://www.delta.dfg.ca.gov/baydelta/monitoring/delta.asp> (last visited Apr. 24, 2008).

further upstream through the Delta and limits suitable smelt spawning habitat.¹⁵⁶ No longer occupying large portions of the Delta,

the mixing zone becomes confined to the deep river channels, becomes smaller in total surface area, contains very few shoal areas of suitable spawning substrates, may have swifter, more turbulent water currents, and lacks high zooplankton productivity....In all respects, the upstream river channels are much less favorable for the spawning and survival of the smelt.¹⁵⁷

The pumps at the southern end of the Delta that power the massive water export infrastructure also kill the fish directly by reversing the natural flow and pulling the fish towards and often through the mechanism.¹⁵⁸ Originally one of the most abundant fish species in the Bay-Delta,¹⁵⁹ the delta smelt population declined so precipitously in the eighties and nineties that it eventually warranted federal protection under the Endangered Species Act.¹⁶⁰

On March 5, 1993, the United States Fish and Wildlife Service (“FWS”) issued a Final Rule listing the delta smelt as a “threatened” species under the Endangered Species Act.¹⁶¹ FWS found that “[t]he decline in the delta smelt population was concurrent with increased human changes to seasonal Delta hydrology, freshwater exports, and the accompanying changes in the temporal, spatial, and relative ratios of water diversions.”¹⁶² The agency goes on to conclude: “These deleterious hydrological effects, coupled with severe drought years, introduced nonindigenous aquatic species, and reduction in abundance of key food organisms, appear to

¹⁵⁶ *Id.*

¹⁵⁷ Determination of Threatened Status for the Delta Smelt, 58 Fed. Reg. 12,854, 12,859 (Mar. 5, 1993) (to be codified at 50 C.F.R. pt. 17).

¹⁵⁸ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *13 (E.D. Cal. 2007).

¹⁵⁹ Determination of Threatened Status for the Delta Smelt, 58 Fed. Reg. 12,854, 12,858 (Mar. 5, 1993) (to be codified at 50 C.F.R. pt. 17).

¹⁶⁰ *Id.* at 12,854.

¹⁶¹ *Id.* (The delta smelt was also listed as threatened by California Fish and Game under the California Endangered Species Act, CAL. CODE REGS. tit. 14 § 670.5 (1993)).

¹⁶² Determination of Threatened Status for the Delta Smelt, 58 Fed. Reg. 12,854 (Mar. 5, 1993) (to be codified at 50 C.F.R. pt. 17).

have reduced the species' capacity to recover from natural seasonal fluctuations in hydrology."¹⁶³

Highlighting the perpetual conflict that exists between Delta water users and federal promotion of species protection, many local government entities, including several local water districts, expressed opposition when FWS initially proposed listing the delta smelt.¹⁶⁴ Most were concerned about the negative effects enforcement of the Endangered Species Act would have on water use and development in the Delta, especially following the subsequent designation of the species' critical habitat.¹⁶⁵ Conversely, parties with an interest in restoring the Delta ecosystem argued that the recent and rapid decline in population numbers called for the delta smelt to be listed as endangered rather than threatened. Despite strong influences from both sides, the final rule maintained the agency's original determination:

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by the delta smelt in determining to list this species. The available data indicate a significant population decline over the last 20 years. The current population has remained relatively stable over the last 5 years, although it has done so at low levels. *No apparent recovery is occurring.* Based on evaluation of all available information on population dynamics and threats to this species, the preferred action is to list the delta smelt as a threatened species.¹⁶⁶

Human development activities were the primary cause of the delta smelt's decline, but a lack of effective management policies was also facilitating negative impacts. In addition to entrainment in the pumps and reduction in suitable breeding habitat, FWS concluded that a lack of sufficient regulatory mechanisms was negatively affecting the survival of the delta smelt.¹⁶⁷

At the time, operations of the State Water Project and Central Valley Project by federal and state

¹⁶³ *Id.* at 12,854-55.

¹⁶⁴ *Id.* at 12,855.

¹⁶⁵ *Id.*

¹⁶⁶ *Id.* at 12,856 (emphasis added).

¹⁶⁷ *Id.* at 12,859.

agencies indicated a continuing preference for increased water development and out-of-stream uses rather than protection of valuable in-stream ecological benefits.¹⁶⁸ Importantly, FWS recognized that although listing the delta smelt as a federally protected species inevitably benefits the species, without additional regulations or management directives in place, the complex ecosystem would continue to deteriorate. “[E]ven assuming immediate adoption and implementation of these interim terms and conditions, their adequacy as a regulatory mechanism to protect the delta smelt remains in question...*Institutional guarantees of compliance have been lacking in the past and are needed in the future.*”¹⁶⁹

On November 26, 1996, FWS published the final and cumulative report entitled “Recovery Plan for the Sacramento/San Joaquin Delta Native Fishes.”¹⁷⁰ The plan covers eight species of fish inhabiting the Delta, including the delta smelt. FWS optimistically suggested that the delisting process for the delta smelt could begin as early as 1999 if recovery criteria are met.¹⁷¹ Eight years later, in 2004, FWS conducted a review of the delta smelt recovery plan, and concluded that the population trend, despite management efforts, was still negative.¹⁷² The agency continued to link the decline of the species with changes in Delta hydrology due to climate variation as well as human diversions and exports of water.¹⁷³ Importantly, FWS also recognized that during the time since the species was listed, surface water demands in the Delta steadily increased. At the time of the review, FWS reported: “Reclamation and DWR have proposed to increase pumping capacity at the SWP Banks pumping plant from 6,680 cubic feet per second (cfs) to 8,500 cfs and eventually to 10,300 cfs.... The diversions would likely result

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* (emphasis added).

¹⁷⁰ U.S. FISH AND WILDLIFE SERVICE, SACRAMENTO-SAN JOAQUIN DELTA NATIVE FISHES RECOVERY PLAN (1995), available at http://ecos.fws.gov/docs/recovery_plan/961126.pdf (last visited Apr. 24, 2008).

¹⁷¹ *Id.* at i.

¹⁷² U.S. FISH AND WILDLIFE SERVICE, DELTA SMELT 5-YEAR REVIEW (2004), available at http://ecos.fws.gov/docs/five_year_review/doc731.pdf (last visited Apr. 24, 2008).

¹⁷³ *Id.*

in lower delta outflows and increased entrainment.”¹⁷⁴ The report also frequently mentions that population numbers of the listed fish are as low, if not lower, than they were in 1993 when the species was listed.

Today, despite numerous regulatory efforts, the delta smelt population in the Delta continues to plummet and the species is now being considered as a possible candidate for uplisting as endangered.¹⁷⁵ “Some scientists believe that the Delta smelt faces an imminent risk of extinction in the near future.”¹⁷⁶ The ESA seems to have been unable to protect or restore an inhabitant of a highly impacted ecosystem because efforts have been compromised by continued maintenance of the state’s water supply. Recent litigation involving both environmental and water use interests in the Delta has brought this crisis to the forefront.

5. NRDC v. Kempthorne – The Latest Little Fish

On December 14, 2007, Judge Oliver Wanger of the United States District Court for the Eastern District of California delivered an opinion that sent shockwaves throughout the state’s agricultural community and restored environmental groups’ hope that a seemingly weakened federal statute may still have some teeth.¹⁷⁷ Pursuant to the federal Endangered Species Act, the judge issued an interim remedial order that included an injunction barring both Reclamation and DWR from operating water delivery systems in the Delta in a manner inconsistent with measures

¹⁷⁴ U.S. FISH AND WILDLIFE SERVICE, DELTA SMELT 5-YEAR REVIEW at 24 (2004), *available at* http://ecos.fws.gov/docs/five_year_review/doc731.pdf (last visited Apr. 24, 2008).

¹⁷⁵ CENTER FOR BIOLOGICAL DIVERSITY, THE BAY INSTITUTE & NATURAL RESOURCES DEFENSE COUNCIL, EMERGENCY PETITION TO LIST THE DELTA SMELT (*HYPOMESUS TRANSPACIFICUS*) AS AN ENDANGERED SPECIES UNDER THE ENDANGERED SPECIES ACT at ii (Mar. 8, 2006) *available at* http://www.biologicaldiversity.org/species/fish/Delta_smelt/pdfs/ds-endangered-petition-3-8-06.pdf (last visited Apr. 24, 2008).

¹⁷⁶ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *8 (E.D. Cal. 2007).

¹⁷⁷ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968 (E.D. Cal. 2007).

stipulated by the court “to prevent the extinction of the Delta smelt, a threatened species.”¹⁷⁸ Judge Wanger emphasizes the separation of powers at play, recognizing that enforcement of this environmentally protective statute is directly at odds with human use of a natural resource.¹⁷⁹ However, until Congress changes the law, the court is powerless to do anything except enforce the law even if it means compromising human water use interests. “It is Congress that struck the balance in favor of affording endangered species the highest of priorities. It is up to the political branches of government, not the court, to solve the dilemma and dislocation created by the required application of the law.”¹⁸⁰

The court order requires measures such as surveys and sampling protocol to monitor heavily impacted populations of delta smelt. Most importantly, however, the court set forth “Flow Restrictions,” reducing the amount of water state and federal agencies can pump from the Delta through the CVP and SWP.¹⁸¹ “The evidence is undisputable that the CVP, operated by the Bureau and the SWP operated by DWR, cause the entrainment and salvage of unknown numbers of Delta smelt through the operation of their respective pumping facilities located in the south Delta pursuant to operations conducted under the 2004 Operations Criteria and Plan (“OCAP”).”¹⁸² Aware of the heavy economic burdens the decision could impose, the court was also careful to emphasize that the remedial order is “narrowly tailored to impose burdens no greater than reasonably necessary to comply with the ESA.”¹⁸³

¹⁷⁸ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA at 3 (E.D. Cal. Dec. 14, 2007) (interim remedial order).

¹⁷⁹ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *56-58 (E.D. Cal. 2007).

¹⁸⁰ *Id.* at 57.

¹⁸¹ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA at 5-8 (E.D. Cal. Dec. 14, 2007) (interim remedial order).

¹⁸² NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *13 (E.D. Cal. 2007).

¹⁸³ *Id.* at 42 (citing *National Wildlife Federation v. National Marine Fisheries Service*, 422 F.3d 782, 799-800 (9th Cir. 2005)).

Originally filed in the northern district of California in 2005 as *NRDC v. Norton*,¹⁸⁴ this Endangered Species Act challenge has met staunch opposition throughout its duration. Although the original suit was filed against the Secretary of the Interior, DWR, State Water Contractors, and San Luis & Delta-Mendota Water Authority have all intervened¹⁸⁵ as defendants. Plaintiffs are a coalition of environmental groups led by the Natural Resources Defense Council¹⁸⁶ and are represented by attorneys from the non-profit group Earthjustice.¹⁸⁷ The plaintiffs' complaint challenged a 2005 Biological Opinion published pursuant to the Endangered Species Act by FWS approving the coordinated administration of the CVP and SWP by Reclamation and DWR.¹⁸⁸ Reclamation's Operating and Criteria Plan ("OCAP"), completed in 2004, described present coordinated operations of the CVP and SWP, and future plans including increased pumping rates and construction of additional water storage and conveyance facilities, all actions that would likely impose negative effects on threatened species like the delta smelt.¹⁸⁹ The Biological Opinion was the result of an ESA Section 7 consultation with FWS to, as the statute requires, "insure that any [agency] action...is not likely to jeopardize the continued existence of any endangered species or threatened species"¹⁹⁰ After reviewing the OCAP, FWS concluded that the continued operation of the CVP and SWP as well as future proposed management actions would not jeopardize the delta smelt.¹⁹¹ The Biological Opinion also

¹⁸⁴ *NRDC v. Norton*, No. 1:05-cv-01207 OWW TAG, 2006 U.S. Dist. LEXIS 1363 (E.D. Cal. 2006).

¹⁸⁵ In federal court, to grant a motion to intervene, a court must find that the moving party claims an interest in the proceeding that will not be adequately protected, and existing parties do not "adequately represent that interest." FED. R. CIV. P. 24.

¹⁸⁶ Including California Trout, Baykeeper's Deltakeeper Chapter, Friends of the River, and The Bay Institute.

¹⁸⁷ *NRDC v. Kempthorne*, 506 F. Supp. 2d 322 (E.D. Cal. 2007).

¹⁸⁸ *Id.* at 328.

¹⁸⁹ *Id.* at 332; *Also see* UNITED STATES BUREAU OF RECLAMATION, LONG-TERM CENTRAL VALLEY PROJECT OPERATIONS AND CRITERIA PLAN (CVP-OCAP) (June 30, 2004), *available at* http://www.usbr.gov/mp/cvo/OCAP/OCAP_6_30_04.pdf (last visited Apr. 23, 2008).

¹⁹⁰ 16 U.S.C. § 1536(a)(2).

¹⁹¹ UNITED STATES FISH AND WILDLIFE SERVICE, BIOLOGICAL OPINION ON THE LONG-TERM OPERATIONAL CRITERIA AND PLAN (OCAP) FOR COORDINATION OF THE CENTRAL VALLEY PROJECT AND STATE WATER PROJECT

includes an incidental take statement which effectively permits the killing of a certain number of delta smelt by the operation of the CVP and SWP as long as actions are in compliance with the OCAP.¹⁹²

Plaintiffs argue the OCAP Biological Opinion is “arbitrary, capricious, and contrary to law under Section 702 of the Administrative Procedure Act.”¹⁹³

Among other things, Plaintiffs allege that the Biological Opinion fails to consider the best available science, relies upon uncertain (and allegedly inadequate) adaptive management processes to monitor and mitigate the potential impacts of the OCAP, fails to meaningfully analyze whether the 2004 OCAP will jeopardize the continued existence of the Delta smelt, fails to consider the OCAP’s impact upon previously designated critical habitat, and fails to address the impacts of the entire project.¹⁹⁴

On May 25, 2007, after almost two years of cross-filings by plaintiffs and defendants, Judge Wanger published an opinion granting in part and denying in part plaintiff’s motion for summary judgment.¹⁹⁵ Wanger’s opinion begins by noting the “increasingly coordinated manner” DWR and Reclamation have operated the SWP and CVP.¹⁹⁶ The agreement and operating mandates that govern the two agencies have changed over time as new water demands, new facilities and new regulations alter the circumstances.¹⁹⁷ The 2004 OCAP, the subject of this lawsuit, is the most recent record of the status of the joint operation “in light of...evolving circumstances.”¹⁹⁸ The purpose of the OCAP, the court notes, is to detail regulatory and operational aspects of both the SWP and CVP so that FWS can determine whether future

223 (February 24, 2005), available at http://www.fws.gov/sacramento/es/delta_smelt.htm (last visited Apr. 24, 2008).

¹⁹² 16 U.S.C. § 1536(b)(4).

¹⁹³ 5 U.S.C. §702 *et seq.*

¹⁹⁴ NRDC v. Kempthorne, 506 F. Supp. 2d 322, 329 (E.D. Cal. 2007).

¹⁹⁵ NRDC v. Kempthorne, 506 F. Supp. 2d 322, 387-88 (E.D. Cal. 2007).

¹⁹⁶ *Id.* at 330.

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

operation of the water delivery systems will jeopardize the existence of the delta smelt.¹⁹⁹ “In this case, the 2004 OCAP BiOp contemplates increases in water diversions and the construction of new facilities in the Delta.”²⁰⁰ The Biological Opinion under review observed that delta smelt population numbers exhibit an erratic downward trend.²⁰¹ However, FWS argued in proceedings that despite over twenty years of careful monitoring, not enough was known about the species to enable scientists to gather accurate information about their population density.²⁰² In concluding that the OCAP did not jeopardize the continued existence of the delta smelt, FWS relied heavily on Delta management mechanisms with untested success.²⁰³ Seemingly contradicting itself, the Biological Opinion also recognizes that continuing project operations will undoubtedly adversely affect the delta smelt.²⁰⁴

Despite FWS’s confidence in the ability of conservation efforts to mitigate any adverse effects of increased water withdrawals from the Delta in the future, new data was released after the publication of the 2005 Biological Opinion that caused Reclamation to request FWS to reinitiate consultation and consider the new information.²⁰⁵ “[T]he Bureau acknowledged that ‘emerging data indicates an apparent substantial decline in the Delta smelt population index.’”²⁰⁶ While the federal agency in charge of enforcing the ESA approved continued fresh water withdrawals from the Delta in spite of declining delta smelt counts, the federal agency in charge of operating the water withdrawal systems requested that FWS take another look. Although FWS is in the process of rewriting the Biological Opinion in light of new scientific information, Judge Wanger refused to stay the current proceedings. Until FWS completes the new Biological

¹⁹⁹ *Id.* at 331.

²⁰⁰ *Id.* at 332.

²⁰¹ *Id.* at 334.

²⁰² *Id.*

²⁰³ *Id.*

²⁰⁴ *Id.* at 339.

²⁰⁵ *Id.* at 342.

²⁰⁶ *Id.*

Opinion, Reclamation and DWR continue to rely on the challenged 2005 Biological Opinion and its incidental take limits.²⁰⁷ This reliance could easily result in irreversible harm to the species while the new analysis is performed.²⁰⁸

After carefully considering the original 2005 Biological Opinion under the Administrative Procedure Act with a high level of deference and a presumption of validity, Judge Wanger found the document to be “unlawful and inadequate”²⁰⁹ for four reasons. First, species management mechanisms such as the Delta Smelt Risk Assessment Matrix (“DSRAM”) are inadequately designed and do not provide any assurance that protective mitigation measures would be employed to lessen negative impacts of the water projects on the delta smelt. “Reclamation’s and DWR’s reliance on the DSRAM process has been unsuccessful, as demonstrated by the record low population abundance indices for the Delta smelt in the past three years.”²¹⁰ Second, the judge found that FWS failed to make a decision based on the “best available science” because the agency failed to consider 2005 population data as well as any impacts of climate change.²¹¹ Third, the agency failed to consider current conditions in the Delta when setting incidental take limits, mistakenly relying on historical take limits.²¹² “The existing take limits are unrealistically high and may approach the current population numbers of the species as a whole.”²¹³ Fourth, FWS failed to consider the impacts of project operations on delta smelt critical habitat.²¹⁴

²⁰⁷ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA at 2-3 (E.D. Cal. Dec. 14, 2007) (interim remedial order).

²⁰⁸ NRDC v. Kempthorne, 506 F. Supp. 2d 322, 343 (E.D. Cal. 2007).

²⁰⁹ *Id.* at 387.

²¹⁰ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *34 (E.D. Cal. 2007).

²¹¹ NRDC v. Kempthorne, 506 F. Supp. 2d 322, 288 (E.D. Cal. 2007).

²¹² *Id.*

²¹³ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *32 (E.D. Cal. 2007).

²¹⁴ NRDC v. Kempthorne, 506 F. Supp. 2d 322, 388 (E.D. Cal. 2007).

Because FWS reinitiated consultation and will publish an updated Biological Opinion in September 2008,²¹⁵ Judge Wanger held that an interim remedy was appropriate to prevent further harm to the species while the federal government reanalyzes the impacts of federal and state actions.²¹⁶ A hearing was held, and on December 14, 2007, Judge Wanger filed an opinion setting delta smelt monitoring requirements as well as strict pumping restrictions to be imposed until the new Biological Opinion is published.²¹⁷ Limited pumping rates are contingent on a number of factors including the speed and direction of the flow of the Delta near the pumps, frequent monitoring of the delta smelt population, and observed precipitation and snowmelt levels during the spring months.²¹⁸ The court carefully acknowledged its limitations in the matter:

The Court recognizes its own limitations in approaching the scientific and technical issues presented, some of which are fraught with uncertainty. The Court lacks the expertise and authority to take over operation of the Projects, or to supervise or second-guess the decisions of the biological, and other expert staff of the USFWS and DWR and the hydrologists and engineers of the Bureau of Reclamation. . . . The court's role is limited to see that that compliance with the requirements of law is achieved.²¹⁹

While Plaintiffs were successful in challenging the current operation of Delta water delivery systems in court, it is clear from the judge's words that the outcome of this adversarial process is not the most effective way to address the conflict that exists between environmental and water use interests. The result of this case has in fact exacerbated the conflict by restricting the available water supply in the face of increasing demands rather than working to find solutions that meet the needs of all stakeholders.

²¹⁵ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA at 2 (E.D. Cal. Dec. 14, 2007) (interim remedial order).

²¹⁶ *Id.*

²¹⁷ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA (E.D. Cal. Dec. 14, 2007) (interim remedial order).

²¹⁸ *Id.* at 5-8.

²¹⁹ NRDC v. Kempthorne, No. 1:05-cv-1207 OWW GSA, 2007 U.S. Dist. LEXIS 91968, at *60 (E.D. Cal. 2007).

(III) California Water Policy – The Origins and Perpetuation of Conflict

To better understand the regulatory impasse that currently exists in the Delta, it is helpful to briefly examine the history of water law in California, especially as it pertains to the Delta.

(A) History of California Water Law

Explorer Otto von Kotzebue observed the Sacramento-San Joaquin Delta region virtually untouched in 1824. “An abundance of deer, large and small, are to be met with all over the country, and geese, ducks, and cranes, on the banks of the rivers....There was such a superfluity of game...”²²⁰ While the Delta may have been fertile and teeming with life, on average the state more accurately resembled a desert. Water distribution was and is uneven over both time and space, with distinct wet and dry seasons as well as large tracts of land with no water source in close proximity.²²¹ In order to support any significant human development, it was necessary to divert, store, and redistribute the state’s water supply. “To easterners, ‘conservation’ of water usually means protecting rivers from development; in the West, it means building dams.”²²²

The gold rush was responsible for rapid growth in California – the state’s non-indigenous population exploded from 10,000 in 1846 to 100,000 in 1849.²²³ By 1900, California was home to over 1,000,000 residents, all looking to make a fortune by striking gold.²²⁴ The state’s arid landscape meant that flowing rivers were few and far between. Miners built ditches, canals and

²²⁰ NORRIS HUNDLEY, JR., *THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY* 8 (rev. ed. 2001).

²²¹ MARC REISNER, *CADILLAC DESERT* 334 (rev. ed. 1993).

²²² *Id.* at 12.

²²³ NORRIS HUNDLEY, JR., *THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY* 66 (rev. ed. 2001).

²²⁴ *Id.*

sluices to divert water, using it to search the soil for gold ore.²²⁵ To regulate individual water diversions and insure that some sense of fairness was injected into what was undoubtedly a ruthless endeavor, miners developed a system of priority to protect their rights. “In a water-shy country with rapidly growing population, even the most single-minded gold seekers recognized that uncontrolled diversions would eventually mean insufficient water and economic disaster for all.”²²⁶ Prior appropriation is the term used to describe the legal doctrine that developed in mining camps and now governs water rights allocation in the majority of western states.²²⁷ The system quickly spread to regulate all types of water use, including municipal and agricultural.²²⁸ “First in time, first in right,” is the phrase that epitomizes the doctrine, which gives priority to those individuals who divert water earliest over those that lay claim to a portion of the resource at a later date.²²⁹ The nature of the prior appropriation doctrine encourages depletion, rather than sustainable management, of the natural resource.²³⁰

In California, individual water use has been regulated by the State Water Resources Control Board (“SWRCB”) since 1949.²³¹ Besides giving earlier diverters priority, SWRCB must only allocate water rights to applicants that put the water to a “beneficial use”²³² that is reasonable.²³³ Through these loosely interpreted requirements, California state law provides some protections for its water resources. The state Constitution reads:

It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the

²²⁵ NORRIS HUNDLEY, JR., *THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY* 70 (rev. ed. 2001).

²²⁶ *Id.*

²²⁷ DAVID H. GETCHES, *WATER LAW IN A NUTSHELL* 78, 81-2 (3d ed. 1997).

²²⁸ *Id.* at 81.

²²⁹ JOSEPH L. SAX, BARTON H. THOMPSON, JR., JOHN D. LESHY & ROBERT H. ABRAMS, *LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS* 126 (4th ed. 2006).

²³⁰ NORRIS HUNDLEY, JR., *THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY* 75 (rev. ed. 2001).

²³¹ The Dickey Act, CAL. WATER CODE § 13000 *et seq.*

²³² CAL. CONST. art. X, § 2.

²³³ *Id.*

waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.²³⁴

While many beneficial uses such as agricultural irrigation and municipal water supplies require large quantities of fresh water to be removed from the natural system, the state legislature has also recognized that there are benefits to leaving certain amounts of water in-stream. “The use of water for recreation and preservation and enhancement of fish and wildlife resources is a beneficial use of water. *In determining the amount of water available for appropriation for other beneficial uses, the board shall take into account, whenever it is in the public interest, the amounts of water required for recreation and the preservation and enhancement of fish and wildlife resources.*”²³⁵ While it is important for the government to recognize that a certain amount of fresh water is essential to insure that fragile ecosystems remain intact, mere recognition of this new need only serves to incite competition with existing needs. Without more concrete requirements specifying what amounts must be reserved for what uses or guidelines indicating how competing interests should be reconciled or integrated, extractive and restorative “uses” or fresh water will continue to butt heads in a zero sum game.

Prior appropriation prioritizes individuals’ right to use a certain amount of water based on when the rights were granted.²³⁶ In drought years, a senior appropriator can divert all of her

²³⁴ *Id.*

²³⁵ CAL. WATER CODE § 1243 (2008) (emphasis added).

²³⁶ DAVID H. GETCHES, WATER LAW IN A NUTSHELL 75 (3d ed. 1997).

water before more junior appropriators can have any.²³⁷ Water use is structured not a community endeavor but a singular and selfish purpose. Historian Norris Hundley summarizes it best: “[T]his situation encouraged individual and corporate tendencies to monopolize as much of it as possible. This tendency surfaced early in the mining districts and led not only to friction among miners but also to monumental environmental despoliation.”²³⁸ In fact, “[w]ater right holders legally may, and commonly do, dry up streams completely when their cumulative demands exceed the available supply of water.”²³⁹

By the end of the nineteenth century, it was clear that access to a steady and reliable water source was essential to support California’s economic growth. Both farms in the Central Valley as well as exploding urban growth centers throughout the state needed access to an increasingly large supply of water, thus the extensive conveyance systems discussed above were created to transport water from the Delta to more arid portions of the state.²⁴⁰

Without an adequate water supply, human activity and existence are not sustainable. This reality is especially obvious in California, where average annual precipitation in the southern half of the state is about 13.4 inches, compared to average annual rainfalls of forty to sixty inches for states east of the Mississippi River. The vital link between land, water and people is made ironclad in California by the tenuous geographic connection between water resources and human activity. To a degree unprecedented in history, life in California depends on the continuous maintenance of giant systems that connect distant water sources to people and their activities. Roughly seventy-five percent of the natural water runoff occurs in the northern one-third of the state, while seventy-five percent of the water demand is created in the southern two-thirds.²⁴¹

²³⁷ JOSEPH L. SAX, BARTON H. THOMPSON, JR., JOHN D. LESHY & ROBERT H. ABRAMS, *LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS* 126 (4th ed. 2006).

²³⁸ NORRIS HUNDLEY, JR., *THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY* 75 (rev. ed. 2001).

²³⁹ Reed D. Benson, *So Much Conflict, Yet So Much in Common: Considering the Similarities between Western Water Law and the Endangered Species Act*, 44 *NAT. RESOURCES J.* 29, 49 (2004).

²⁴⁰ See generally NORRIS HUNDLEY, JR., *THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY* 203-302 (rev. ed. 2001).

²⁴¹ James P. Morris, *Who Controls the Waters? Incorporating Environmental and Social Values in Water Resources Planning*, 6 *HASTINGS W.-N.W. J. ENV. L. & POL’Y* 117, 155 (2000).

(B) Modern Water Policy in the Delta – CALFED Confusion

CALFED, a collaborative management effort that began in the 1990s to address both environmental and economic issues in the Delta, was originally touted as a successful, interdisciplinary, multi-leveled governance structure for an ecosystem that has value in both its protection and the consumption of its natural resources.²⁴² Unfortunately, while increased public involvement in the form of stakeholder meetings, committees, and advisory boards, may have bolstered the management oversight process, state and federal agencies have been unable to successfully implement their respective and often conflicting obligations. Despite the design of innovative and collaborative management programs, the status of the fragile Delta ecosystem continues to decline as species hover on the brink of extinction.

Water policy in the western United States has traditionally been controlled by the states, and state agencies are in charge of monitoring demand for and insuring a reliable supply of water. The State Water Resources Control Board is charged with the “primary responsibility for the coordination and control of water quality...[and the] administration of water rights pursuant to applicable law.”²⁴³ It has long been recognized that allocation of a water resource is within a state’s control. In *California Oregon Power Co. v. Beaver Portland Cement Co.*, the Court emphasized that “[n]othing we have said is meant to suggest that the act as we construe it, has the effect of curtailing the power of the states affected to legislate in respect of waters and water rights as they deem wise in the public interest.”²⁴⁴ The Court goes on to say that:

Rights have been altered by many of the Western States, by their constitutions and laws, because of the totally different circumstances in which their inhabitants are placed, from those that exist in the States of the East, and such alterations have been made for the very purpose of thereby

²⁴² Elizabeth Ann Rieke, *The Bay-Delta Accord: A Stride Toward Sustainability*, 67 U. COLO. L. REV. 341, 348 (1996).

²⁴³ CAL. PUB. RES. CODE § 30412 (2008).

²⁴⁴ *California Oregon Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142, 163 (1935).

contributing to the growth and prosperity of those States arising from mining and the cultivation of an otherwise valueless soil, by means of irrigation. This court must recognize the difference of climate and soil, which render necessary these different laws in the States so situated.²⁴⁵

The Supreme Court recognized that drastic differences in topography and hydrology dictate the need for significantly different systems of water management in the West. It would be impossible to impose a national regime to allocate this natural resource because its allocation is dependent on local conditions.

The federal government, while it explicitly left the development of law governing water rights allocation and distribution to the states,²⁴⁶ has a history of heavy involvement with the physical development of water systems that facilitated the development of public lands in the West.²⁴⁷ The Reclamation Act of 1902 clearly states:

It is hereby declared to be the policy of the Congress to recognize the primary responsibilities of the States and local interests in developing water supplies for domestic, municipal, industrial, and other purposes and that the Federal Government should participate and cooperate with States and local interests in developing such water supplies in connection with the construction, maintenance, and operation of Federal navigation, flood control, irrigation, or multiple purpose projects.²⁴⁸

The Central Valley Project was subsequently constructed in the Delta by the federal government for several economically-driven purposes, including “improving navigation, regulating the flow of the San Joaquin River and the Sacramento River, controlling floods, providing for storage and for the delivery of the stored waters thereof, for the reclamation of arid and semiarid lands and lands of Indian reservations...and for the generation and sale of electric energy....”²⁴⁹

²⁴⁵ *Id.* at 165.

²⁴⁶ *Id.* at 162.

²⁴⁷ Reclamation Act (National Irrigation Act of 1902), Pub. L. No. 57-161, 32 Stat. 388 (1902).

²⁴⁸ 43 U.S.C. § 390b (2006).

²⁴⁹ Pub. L. No. 75-392, 50 Stat. 844, 850 (1937).

More recent federal legislation has focused on environmental protection, including the National Environmental Policy Act,²⁵⁰ Clean Air Act,²⁵¹ Clean Water Act,²⁵² and Endangered Species Act.²⁵³ With the passage of these newer, more environmentally protective statutes, the management of water resources in the Delta has become even more complicated. No longer managing a water source only to insure that users get the full amount of water they are entitled to each year, the system must now also be managed to protect water quality, inhabitants of aquatic ecosystems, and the public trust.²⁵⁴ Local management of a resource becomes difficult when stakeholders are spread throughout an entire state or over multiple states. Furthermore, allocation and distribution systems that are encouraged and subsidized by federal reclamation programs are now limited by environmentally protective statutes. New concerns translate into increased interests in the system that must be represented and accounted for. Laws protecting environmental and consumptive rights do not typically make allowances for each other, resulting in further confusion regarding entitlements.

Each law seems to provide nearly absolute protection to a certain interest, so representatives of each interest may believe that ‘the law’ is clearly on their side, thus reducing the chances for compromise....The lack of positive incentives means that any real progress on conservation is not likely to come through voluntary measures, but instead through enforcement of regulatory actions that are inherently controversial.²⁵⁵

The simple decision method of maximizing economic benefit is no longer appropriate in the Delta’s current political, legal, and social climate. While water delivery systems previously only concerned those using the water and the state and federal agencies responsible for its delivery, the number of interests in the process has steadily increased. “Native Americans,

²⁵⁰ National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.* (2006).

²⁵¹ Clean Air Act, 42 U.S.C. § 7401 *et seq.* (2006).

²⁵² Federal Water Pollution Control Act, 33 USCS § 1251 *et seq.* (2006).

²⁵³ Endangered Species Act, 16 U.S.C. § 1531 *et seq.* (2006).

²⁵⁴ Nat’l Audubon Society v. Superior Court, 33 Cal. 3d 419 (Cal. 1983).

²⁵⁵ Reed D. Benson, *So Much Conflict, Yet So Much in Common: Considering the Similarities between Western Water Law and the Endangered Species Act*, 44 NAT. RESOURCES J. 29, 69 (2004).

homeowners, low-income advocates, recreationists, health advocates and other grass-roots community groups are demanding a voice in the process.”²⁵⁶ Amplified pressures on the system and an ever-increasing demand for water have negatively affected the Delta environment. “Despite [declines in Delta species numbers], large demands for water by the agricultural community and the state’s growing urban areas have made it difficult to allocate additional freshwater flows for environmental purposes.”²⁵⁷ Furthermore, the system of water rights and water transfer agreements has made compromises with new environmental interests more difficult. A recent report written in 2006 by the Congressional Budget Office entitled “How Federal Policies Affect the Allocation of Water,” recognizes that although water demands in western states are changing, the supply allocation remains inflexible.²⁵⁸ For example, subsidized prices rarely reflect the true cost of water, and water often does not go to its “highest-value use.”²⁵⁹ Higher prices can encourage more efficient practices thereby freeing a larger quantity of water to remain in-stream and produce much-needed environmental benefits.

In the Delta region during the last quarter of the twentieth century, state decisions regarding water rights and distribution were frequently challenged on behalf of newly recognized interests in the environment.²⁶⁰ Numerous federal and state agencies with conflicting agendas were operating within the Delta region, and it quickly became clear that their often opposing actions were not the most effective approach to managing the water resource. Federal agencies responsible for enforcing new environmental statutes, including FWS and the Environmental

²⁵⁶ James P. Morris, *Who Controls the Waters? Incorporating Environmental and Social Values in Water Resources Planning*, 6 HASTINGS W.-N.W. J. ENV. L. & POL’Y 117, 127 (2000).

²⁵⁷ Patrick Wright, *Fixing the Delta: The CALFED Bay-Delta Program and Water Policy Under the Davis Administration*, 31 GOLDEN GATE U.L. REV. 331, 334 (2001).

²⁵⁸ UNITED STATES CONGRESSIONAL BUDGET OFFICE, HOW FEDERAL POLICIES AFFECT THE ALLOCATION OF WATER (August 2006), available at <http://www.cbo.gov/ftpdocs/74xx/doc7471/08-07-WaterAllocation.pdf> (last visited Apr. 23, 2008).

²⁵⁹ *Id.* at 9.

²⁶⁰ Patrick Wright, *Fixing the Delta: The CALFED Bay-Delta Program and Water Policy Under the Davis Administration*, 31 GOLDEN GATE U.L. REV. 331, 334 (2001).

Protection Agency, began issuing regulations and decisions that restricted the available water supply from the Delta, such as species listings and water quality standards.²⁶¹ Without some sort of agreement or effort to collaborate between the numerous state and federal agencies working within the Delta, management of the Delta suddenly looked to be impossible as opposing interests constantly pushing back on one another completely stalled any effective decision-making.²⁶²

Initial collaboration in the Delta was between the federal agencies involved in its management, specifically EPA, FWS, NMFS and Reclamation.²⁶³ Eventually, this agreement evolved into a “Framework Agreement” between state and federal agencies to cooperatively manage the Delta. On December 15, 1994, leaders from state and federal agencies as well as stakeholder groups signed on to the *San Francisco Bay-Delta Agreement* (“the Bay-Delta Agreement”), supporting a set of principles that, when implemented, were intended to lead to a more holistic management of the Bay-Delta region.²⁶⁴ Signatories to the Agreement included the California Resources Agency, the California Environmental Protection Agency, United States Environmental Protection Agency, United States Department of Interior, as well as local California water districts, the Association of California Water Agencies, the Northern California Water Association, and non-governmental organizations such as The Bay Institute, Environmental Defense Fund (now Environmental Defense), and Natural Heritage Institute.²⁶⁵ It was thought that the Bay-Delta Agreement would be the solution to the management problems

²⁶¹ *Id.* at 335.

²⁶² Elizabeth Ann Rieke, *The Bay-Delta Accord: A Stride Toward Sustainability*, 67 U. COLO. L. REV. 341, 345 (1996).

²⁶³ Patrick Wright, *Fixing the Delta: The CALFED Bay-Delta Program and Water Policy Under the Davis Administration*, 31 GOLDEN GATE U.L. REV. 331, 336 (2001).

²⁶⁴ PRINCIPLES FOR AGREEMENT ON BAY-DELTA STANDARDS BETWEEN THE STATE OF CALIFORNIA AND THE FEDERAL GOVERNMENT (THE SAN FRANCISCO BAY-DELTA AGREEMENT) (December 15, 1994) *available at* <http://calwater.ca.gov/content/Documents/library/SFBayDeltaAgreement.pdf> (last visited Apr. 23, 2008).

²⁶⁵ *Id.* at 4-5.

that plagued the Delta region, and its signatories hoped that new efforts would help to restore the ecosystem.²⁶⁶ FWS even depended on the Bay-Delta Agreement’s potential to benefit the delta smelt population. “[T]he service anticipates that adverse modification or destruction of critical habitat will be avoided by operation of the CVP, SWP, and other water management facilities with implementation of the [agreement].”²⁶⁷ It was thought that this newly adopted collaborative management structure for the Delta would both sustain the water supply and restore the ecosystem.²⁶⁸

Five years after the Bay-Delta Agreement was signed, the agencies, working together under the CALFED Bay-Delta Program (“CALFED”), published a final programmatic Record of Decision (“ROD”) for an interagency Delta management plan.²⁶⁹ “The plan...was the product of over five years of discussions and negotiations among the state and federal agencies and urban, agricultural, and environmental interests over how to allocate California’s water supplies among many competing interests.”²⁷⁰ The ROD describes CALFED as the “largest, most comprehensive water management program in the world” and “one of the most intensive water conservation efforts ever attempted.”²⁷¹ The document also sets forth the new agency’s mission: “to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system.”²⁷²

²⁶⁶ Elizabeth Ann Rieke, *The Bay-Delta Accord: A Stride Toward Sustainability*, 67 U. COLO. L. REV. 341, 348 (1996).

²⁶⁷ Critical Habitat Determination for the Delta Smelt, 59 Fed. Reg. 65,256, 65,261 (Dec. 19, 1994).

²⁶⁸ Elizabeth Ann Rieke, *The Bay-Delta Accord: A Stride Toward Sustainability*, 67 U. COLO. L. REV. 341, 348 (1996).

²⁶⁹ CALFED BAY-DELTA PROGRAM, PROGRAMMATIC RECORD OF DECISION (Aug. 28, 2000), available at http://calwater.ca.gov/calfed/about/about_history_detailed.html (last visited Apr. 24, 2008).

²⁷⁰ Patrick Wright, *Fixing the Delta: The CALFED Bay-Delta Program and Water Policy Under the Davis Administration*, 31 GOLDEN GATE U.L. REV. 331, 331 (2001).

²⁷¹ CALFED BAY-DELTA PROGRAM, PROGRAMMATIC RECORD OF DECISION 1 (Aug. 28, 2000), available at http://calwater.ca.gov/calfed/about/about_history_detailed.html (last visited Apr. 24, 2008).

²⁷² *Id.* at 9.

As listed in the ROD, agencies formally participating in CALFED are:

<u>State</u>	<u>Federal</u>
Resources Agency	United States Department of the Interior
Department of Water Resources	United States Department of Agriculture
Department of Fish and Game	United States Department of Commerce
Delta Protection Commission	United States Bureau of Reclamation
Reclamation Board	United States Fish and Wildlife Service
Department of Food and Agriculture	United States Geological Survey
California Environmental Protection Agency	United States Bureau of Land Management
State Water Resources Control Board	United States National Marine Fisheries Service
	United States Environmental Protection Agency
	United States Army Corps of Engineers
	United States Natural Resources Conservation Service
	United States Forest Service
	Western Area Power Administration

Currently, 25 entities are included under the CALFED umbrella.²⁷³

The ROD established four objectives for the development of a Delta management solution:

1. Provide good water quality for all beneficial uses.
2. Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species.
3. Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system.
4. Reduce the risk to land use and associated economic activities, water supply, infrastructure and the ecosystem from catastrophic breaching of Delta levees.²⁷⁴

The ROD advocates a “broad approach” to these objectives, understanding that their interrelation requires that issues must be addressed in conjunction.²⁷⁵

Thus the single most important difference between the CALFED Bay-Delta Program and past efforts to solve the problems of the Bay-Delta is

²⁷³ CALFED Bay-Delta Program – The CALFED Agencies, http://calwater.ca.gov/calfed/calfed_Agencies.html (last visited Apr. 24, 2008).

²⁷⁴ CALFED BAY-DELTA PROGRAM, PROGRAMMATIC RECORD OF DECISION 9 (Aug. 28, 2000), *available at* http://calwater.ca.gov/calfed/about/about_history_detailed.html (last visited Apr. 24, 2008).

²⁷⁵ *Id.* at 10.

the comprehensive nature of CALFED's interrelated resource management strategies. *A comprehensive CALFED solution will also be supported by governance mechanisms that overcome problem-specific or resource-specific limitations of previous, more narrowly-focused, approaches.*²⁷⁶

After a lengthy development phase, CALFED moved into its implementation phase. The CALFED Bay-Delta Authority was created by the CALFED Bay-Delta Authority Act of 2003 in order to establish “[a] coordinated implementation structure and organization...necessary for the effective implementation of the California Bay-Delta Program.”²⁷⁷ The California Legislature recognized the importance of the Delta as both a water supply and species habitat.²⁷⁸ However, despite the fact that federal and state agencies had been operating under what was supposed to be coordinated agreement for almost ten years, the legislature also found that “[c]onflicts currently exist regarding water use for the purposes of water quality, fish protection, and water supply that demonstrate *how little flexibility the state's water supply systems have to meet the state's growing demand for water and the need to protect the environment.*”²⁷⁹ While the Bay-Delta Agreement and the CALFED Record of Decision described holistic and cooperative relationships between various Delta interests, it was clear that these documents were not enough to resolve the persisting conflicts.

Like much environmental regulation, CALFED was born from crisis. While its results have not been successful, the multi-faceted design of the agency was well-intentioned:

The CALFED Bay-Delta Program emerged from water crises of the 1990s, and was shaped by funding crises in the early 2000s. It was seen as an alternative to the costly and time-consuming legal wrangling amongst

²⁷⁶ *Id.*

²⁷⁷ California Bay Delta Act of 2003, CAL. WATER CODE § 79401(f) (2008).

²⁷⁸ *Id.* § 79401(b).

²⁷⁹ *Id.* § 79401(d) (emphasis added).

Delta interests and a way to solve conflicts in the Delta to benefit the system.²⁸⁰

FWS reviewed the CALFED Bay-Delta Program to assess its impacts on threatened and endangered species. The language of the opinion reflects the multi-disciplinary nature of the program: “All aspects of the CALFED Program are interrelated and interdependent. Ecosystem restoration is dependent upon supply and conservation. Supply is dependent upon water use efficiency and consistency in regulation. Water quality is dependent upon water use efficiency and consistency in regulations, improved conveyance, levee stability and healthy watersheds.”²⁸¹ Many programs implemented under the umbrella of CALFED are designed to create flexibility in the management system and dedicate water for environmental purposes like habitat restoration.²⁸² The success of these programs, however, depends on the fundamental willingness of conflicting interests to compromise. CALFED was created because the conflict between interests had become unworkable, not because a feasible solution to Delta management was envisioned. It was hoped that the interagency agreement would engender such a solution, but no mechanism to derive an effective way to manage Delta water was created.²⁸³ “[A]daptive policies, though often emphasized in academic and policy literature as a means to address variability and uncertainty, can prove dauntingly difficult to implement, largely because common preferences for stability can undermine the institutional dexterity upon which adaptive

²⁸⁰ CALFED Bay-Delta Program – CALFED History, http://calwater.ca.gov/calfed/about/about_history.html (last visited Apr. 24, 2008).

²⁸¹ CALFED BAY-DELTA PROGRAM, PROGRAMMATIC RECORD OF DECISION, Attachment 6A at 11 (Aug. 28, 2000), available at http://calwater.ca.gov/calfed/about/about_history_detailed.html (last visited Apr. 24, 2008).

²⁸² See Alf W. Brandt, *An Environmental Water Account: The California Experience*, 5 U. DENV. WATER L. REV. 426, 427-28 (2002).

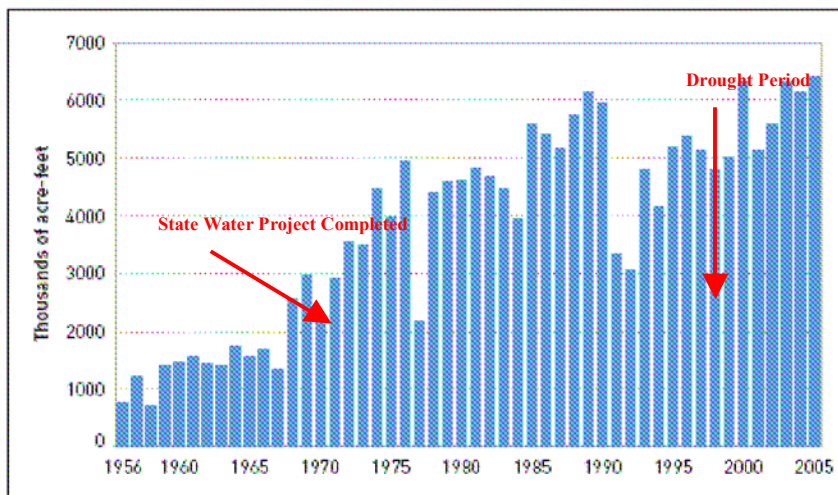
²⁸³ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION’S REVIEW OF THE CALFED BAY-DELTA PROGRAM 65 (Nov. 17, 2005), available at <http://www.lhc.ca.gov/lhedir/report183.html> (last visited Apr. 24, 2008).

management approaches depend.”²⁸⁴ Over time, gradually increasing Delta fresh water exports despite additional environmental demands for in-stream flow make this preference for stability evident.²⁸⁵ Although various programs designate quantities of water for environmental protection, fish populations are still crashing.

The shortfalls in water dedicated to environmental protection are largely due to diminished state and federal funding, unavailable operational assets...and revised accounting rules for environmental water.... As a result, fishery agencies have been significantly constrained in their ability to dedicate water at key times of the year to protecting fisheries – particularly endangered species – as promised in the CALFED plan.²⁸⁶

Figure 3

Historic Delta exports, 1956–2005



In recent years, both state and federal exports have been steadily rising, with three out of the past five years reaching record highs, and an all-time high of 6.4 million acre-feet was reached in 2005.

Source: California Department of Water Resources

While efforts at environmental protection fail, the original objectives of the Delta’s water delivery systems, growth and development, continue to be met. Until recently water exports for human consumption continued to increase dramatically. The above figure, from a 2005 report on

²⁸⁴ Dave Owen, *Law, Environmental Dynamism, Reliability: The Rise and Fall of CALFED*, 37 ENVTL. L. 1145, 1156 (2007).

²⁸⁵ SPRECK ROSEKRANS & ANN H. HAYDEN, ENVIRONMENTAL DEFENSE, FINDING THE WATER – NEW WATER SUPPLY OPPORTUNITIES TO REVIVE THE SAN FRANCISCO BAY-DELTA ECOSYSTEM 10 (2005), available at http://www.edf.org/documents/4898_FindingWater.pdf (last visited Apr. 24, 2008).

²⁸⁶ *Id.* at v.

the Bay-Delta compiled by Environmental Defense, shows rapidly increasing water withdrawals since the Central Valley Project and State Water Project were constructed to transport water from the Delta to drier areas in the Central Valley and southern California.²⁸⁷

While scholars initially touted the Delta's multi-leveled governance system as breakthrough and innovative,²⁸⁸ a recently published law review article titled in part "The Rise and Fall of CALFED" explained: "[d]espite many advantages – regulatory creativity and cooperation, sometimes substantial funding, attention from high-level officials, and an impressive confluence of government and private expertise – the federal-state programs designed to redress the Bay-Delta's resource conflicts have so far produced a fiasco."²⁸⁹ The "comprehensive solution" and effective "governance mechanisms" that the CALFED Record of Decision called for never materialized as federal and state agencies found it difficult to coordinate efforts while still pursuing singular, often conflicting goals. It is largely agreed that CALFED has failed to implement its admirable goals because of a lack of effective leadership, a diffused decision-making structure, and a lack of accountability for program actions.²⁹⁰

(IV) Future Water Policies – The Potential for Collaboration

Professor Robert Adler and Sarah Van de Wetering write about conflict and collaboration in western water law. While a resource management agreement may look strong on paper and set admirable goals in its governing documents, "such an arrangement, of course, turns not on its

²⁸⁷ *Id.* at 2.

²⁸⁸ Elizabeth Ann Rieke, *The Bay-Delta Accord: A Stride Toward Sustainability*, 67 U. COLO. L. REV. 341, 348 (1996).

²⁸⁹ Dave Owen, *Law, Environmental Dynamism, Reliability: The Rise and Fall of CALFED*, 37 ENVTL. L. 1145, 1149 (2007).

²⁹⁰ See THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION'S REVIEW OF THE CALFED BAY-DELTA PROGRAM i-xii (Nov. 17, 2005), available at <http://www.lhc.ca.gov/lhedir/report183.html> (last visited Apr. 24, 2008).

design but its successful implementation.”²⁹¹ Fourteen years after the creation of a “super agency”, recent legislation cites the failure of CALFED as justification for an entirely new system of governance.²⁹² A recently published independent report commissioned by Governor Schwarzenegger also concluded that a new management regime is needed within the Delta.²⁹³ It seems that while its design may have been ideal, the CALFED management structure has fallen short in its implementation.²⁹⁴

The judge’s decision in *NRDC v. Kempthorne*, the outcome of litigation between opposing Delta stakeholders, has exacerbated the conflict that exists between providing the state with a reliable water supply and protecting the Delta ecosystem. A posting on the website for the Wheeler Ridge-Maricopa Water Storage District on October 11, 2007 warned: “The recent federal court decision by Judge Wanger is harmful to your 2008 water supply.”²⁹⁵ An article in the San Francisco Chronicle published on September 1, 2007, outlined some of the possible negative impacts of the holding:

Water agency representatives said cropland is likely to go fallow, and cities in the Tri-Valley, Santa Clara County, Los Angeles, and elsewhere could have to institute mandatory rationing programs in order to deal with the cuts in water. Agencies that rely on delta water...also will have to rely on water reserves, threatening efforts to deal with severe droughts or disasters like earthquakes.²⁹⁶

²⁹¹ Sarah B. Van de Wetering & Robert W. Adler, *New Directions in Western Water Law: Conflict or Collaboration?*, 20 J. LAND RESOURCES & ENVTL. L. 15, 27 (2000).

²⁹² California Bay-Delta Authority Act, S.B. 1102 (Cal. 2008).

²⁹³ DELTA VISION BLUE RIBBON TASK FORCE, DELTA VISION: OUR VISION FOR THE CALIFORNIA DELTA (November 30, 2007) available at <http://deltavision.ca.gov/> (last visited Apr. 24, 2008).

²⁹⁴ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION’S REVIEW OF THE CALFED BAY-DELTA PROGRAM ii (Nov. 17, 2005), available at <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

²⁹⁵ Wheeler Ridge-Maricopa Water Storage District, Important Notice to Water Users Regarding Threats to Your 2008 and Future Water Supply (Oct. 11, 2007), <http://www.wrmwsd.com/Notice%20A.htm> (last visited Apr. 24, 2008).

²⁹⁶ Peter Fimrite, *Ruling to Protect Delta Smelt May Force Water Rationing in Bay Area*, SAN FRANCISCO CHRONICLE, Sept. 1, 2007, available at <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/09/01/MNPCR83Q.DTL> (last visited Apr. 24, 2008).

Tim Quinn, the executive director of the Association of California Water Agencies was quoted in the article declaring: “This is the most drastic cut ever to California water supplies...It is the most significant decision ever made in the implementation of either the state or federal Endangered Species Act.”²⁹⁷ Conversely, the attorneys for the plaintiffs in *NRDC v. Kempthorne* see Judge Wanger’s ruling and subsequent injunction as only a first step towards restoring a highly damaged ecosystem and its endangered inhabitants.²⁹⁸

Because of substantial uncertainty underlying scientists’ understanding of delta smelt population dynamics it is unclear that mandatory cutbacks on Delta withdrawals ordered by Judge Wanger will even be sufficient to restore the threatened fish species.²⁹⁹ On March 13, 2008, California Department of Water Resources issued a report indicating that pumping by the SWP would have to be restricted even further than originally anticipated in the court’s interim remedial order because recent monitoring of the delta smelt population in the vicinity of the pumps has shown an increase in the number of adult fish entrained in the pumping mechanisms.³⁰⁰ While the full impact of Judge Wanger’s decision will not be realized for some time, it is clear that without additional modifications to the manner in which the Delta is both used and protected, the ecosystem will continue to decline and will soon be unable to support California’s demands and insure the state’s economic stability.

Despite collaborative management efforts in the Delta over the past fourteen years, the conflict between protection of biological diversity and human consumption of a natural resource is barely hidden beneath the surface. As a federal statute threatened, and now promises, to limit

²⁹⁷ *Id.*

²⁹⁸ *Id.*

²⁹⁹ *Id.*

³⁰⁰ Press Release, California Department of Water Resources, DWR Announces Further Delta Pumping Reductions to Comply With Restrictions to Save Smelt (March 13, 2008), *available at* <http://aquaforia.com/archives/2575> (last visited Apr. 24, 2008).

an already waning water supply in the Delta, consumers express an increasing sense of entitlement to their water rights.³⁰¹ While concerns are legitimate, it should be clear to all involved that if restoration and rehabilitation of the Delta is not made an immediate priority, the system from which users are now scrambling to get an increased and reliable supply will not be able to deliver California's most precious resource for much longer.

Many potential solutions to the crisis in the Delta have been proposed by citizen groups, policymakers, and legislators, and are currently being considered. Three proposals are discussed in this analysis because of their implications in the resolution of the conflict between economic and environmental interests in the Delta. It is important to emphasize that these solutions are not mutually exclusive. In fact multiple approaches are likely needed to address the plethora of water supply, management, and ecosystem protection issues that exist in the Delta.

(A) Governance

Many have concluded that a new, more effective system of governance is needed in the Delta. On January 15, 2008, Senator Michael Machado, a democrat representing California's Fifth District, proposed Senate Bill 1102, which repeals the California Bay-Delta Authority Act of 2003.³⁰² Repealing the legislation that created the faulty oversight structure within CALFED is only the first step, however, and a replacement structure must be designed and proposed. Senator Machado's bill delegates the Bay-Delta Authority's administrative duties, including the administration of "all contracts, grants, leases, and agreements made or entered by the California Bay-Delta Authority," to the California Department of Resources.³⁰³ The bill also shifts the responsibility of administration related to the ecosystem restoration program to the California

³⁰¹ <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/09/01/MNPCRT83Q.DTL>

³⁰² California Bay-Delta Authority Act, S.B. 1102 (Cal. 2008).

³⁰³ *Id.*

Department of Fish and Game.³⁰⁴ While Senate Bill 1102 recognizes that current management of the Delta is faulty and ineffective, simply redistributing responsibilities related to water use and ecosystem restoration to preexisting state agencies operating within the region will do little to relieve the conflict between water use and environmental interests.

In a press release, the senator seems to echo these sentiments. “The Delta is an important California resource....CALFED is no longer an effective agency looking out for the best interests of the Delta and it is time to look at creating a new, alternative governance structure....”³⁰⁵ While the “best interests” of the Delta were clarified in the CALFED Record of Decision, implementation of these clearly-stated policies was ineffective. Unable to prioritize CALFED program actions, a focus on maintaining a steady water supply continued to draw more water out of the system, leaving inefficient in-stream supplies to insure the ability to protect and restore the Delta ecosystem and species like the delta smelt.³⁰⁶ Additionally, while CALFED policies themselves were initially clear, the role of the Authority and participating federal and state agencies in implementing these policies remains uncertain. “Without a clear operating model, the [Authority] is burdened with trying to live up to widely different expectations.”³⁰⁷

The Little Hoover Commission, an independent oversight agency created in California in 1962, reviewed the CALFED management structure in 2005 and made recommendations. The Commission’s stated goals are to “promote efficiency, economy and improved service.”³⁰⁸ In requesting the review, Governor Schwarzenegger recognized the “significant management

³⁰⁴ *Id.*

³⁰⁵ Press Release, Senator Michael Machado, Senator Machado Announces Legislation to Repeal the California Bay Delta Authority (Jan. 15, 2008), *available at* <http://dist05.casen.govoffice.com> (follow “Current News” hyperlink and then “Press Releases” hyperlink) (last visited Apr. 24, 2008).

³⁰⁶ NRDC v. Kempthorne, 506 F. Supp. 2d 322, 335 (E.D. Cal. 2007).

³⁰⁷ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION’S REVIEW OF THE CALFED BAY-DELTA PROGRAM 42 (Nov. 17, 2005), *available at* <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

³⁰⁸ Little Hoover Commission, About the Commission, <http://www.lhc.ca.gov/lhcdir/about.html> (last visited Apr. 24, 2008).

challenge [of] balancing the need for habitat preservation and environmental protection with those for water supply and conveyance.”³⁰⁹ The report generated by the Commission reviewed governance issues. The Commission calls for several improvements in the Delta management structure, such as clarification of roles and duties of participating agencies as well as the authority to adapt and change policies and management strategies as the ecosystem and land and water use patterns within the Delta change over time, rather than being bound to the Record of Decision that was published in 2000.³¹⁰ The Commission also recognized that management decisions must be better orchestrated to “coordinat[e] and integrat[e] the related efforts of government agencies that each play an essential...role in restoring the Bay-Delta and all of its attributes.”³¹¹ Despite these recommendations, few changes to the CALFED management structure were made after the publication of the Commission’s report.

On December 17, 2007, a Blue Ribbon Task Force convened by order of Governor Schwarzenegger over a year before,³¹² published the final version of the “Delta Vision” report, the group’s vision for future sustainable management of Delta resources.³¹³ The Task Force, an independent body with members appointed “to include diverse expertise and perspectives, policy and resource experts, strategic problem solvers, and individuals having successfully resolved multi-interest conflicts,”³¹⁴ was directed by the Governor to:

develop a durable vision for sustainable management of the Delta with the goal of...managing the Delta over the long term to restore and maintain identified functions and values that are determined to be important to the

³⁰⁹ THE LITTLE HOOVER COMMISSION, STILL IMPERILED, STILL IMPORTANT – THE LITTLE HOOVER COMMISSION’S REVIEW OF THE CALFED BAY-DELTA PROGRAM 93 (Nov. 17, 2005), *available at* <http://www.lhc.ca.gov/lhcdir/report183.html> (last visited Apr. 24, 2008).

³¹⁰ *Id.* at 42.

³¹¹ *Id.* at 45.

³¹² Cal. Exec. Order No. S-17-06 (Sept. 28, 2006).

³¹³ DELTA VISION BLUE RIBBON TASK FORCE, DELTA VISION: OUR VISION FOR THE CALIFORNIA DELTA (November 30, 2007) *available at* <http://deltavision.ca.gov/> (last visited Apr. 24, 2008).

³¹⁴ Cal. Exec. Order No. S-17-06 (Sept. 28, 2006).

environmental quality of the Delta and the economic and social well being of the people of the state.³¹⁵

The report went further than simply addressing water use issues in the Delta. “Our vision is comprehensive, addressing water, land use, environmental and institutional elements necessary to a desirable solution.”³¹⁶ The Task Force recognized that in order to protect California’s past investments in the Delta and insure future benefits, action must be taken immediately to reduce negative impacts on the ecosystem.³¹⁷ Most notably, the Delta Vision report cites the importance of integrating new social values into the management of the Delta. Since many state and federal laws have been passed to promote environmental protection, any decision-making regarding the Delta water supply must not only focus on physical conveyance, but “must address statewide water use, governance, population growth, public safety, public service infrastructure, long-term climate change, ecosystem threats within and outside the immediate Delta, seismic risk, and the character of the Delta as a place.”³¹⁸ Specifically, current polices within the Delta are critiqued as lacking clear priorities and comprehensive, effective and adaptive mechanisms to facilitate decision-making based on scientific information.³¹⁹

Senator Machado has now taken the first step in by recognizing the need for a new management structure within the Delta that is able to adequately address both environmental and economic concerns as climate change and a growing population put increasing pressures on the ecosystem and water delivery infrastructure. Currently, agencies convene under the CALFED umbrella, but do little to effectively collaborate since their individual mandates are often in direct opposition. Simply redistributing the responsibilities of the Authority to pre-existing agencies as

³¹⁵ *Id.*

³¹⁶ DELTA VISION BLUE RIBBON TASK FORCE, DELTA VISION: OUR VISION FOR THE CALIFORNIA DELTA at ii (November 30, 2007) available at <http://deltavision.ca.gov/> (last visited Apr. 24, 2008).

³¹⁷ *Id.* at 3.

³¹⁸ *Id.* at 5.

³¹⁹ *Id.* at 5.

Senate Bill 1102 requires, however, is not enough to achieve these goals. Performance reviews by independent bodies like the Little Hoover Commission and the Delta Vision Blue Ribbon Task Force, contain valuable information and should be used as resources when developing and implementing a new management structure.

The water supply reductions imposed by the court's decision in *NRDC v. Kempthorne* serve to emphasize the shortcomings of the Delta management system that have been identified in independent evaluations for at least the past three years. While the criticism of the CALFED system is detailed, few substantive proposals have been made for a replacement structure. The Delta Vision Blue Ribbon Task Force that recently published a report outlining numerous issues in the Delta is currently working to develop a strategic implementation plan by November of 2008. When legislators and policymakers are able to agree upon a management structure, a new governing entity within the Delta that has the clearly stated mutual goals of protecting California's economy *and* the Delta ecosystem with the authority to implement and develop new policies, will go far to alleviate tensions between human and environmental water uses.

(B) Water Use Efficiency

In addition to a more effective management structure, improvements in the efficiency of urban and agricultural water use are also necessary to insure that future water demands in California can be met with Delta water supplies. Water is a finite resource, and a growing population coupled with a warming climate threatens to put increasing pressures on an already overworked ecosystem. Legislators are currently discussing the potential expansion of the

state's water storage and delivery systems,³²⁰ but before massive alterations are made to Delta infrastructure, serious efforts should focus on reducing statewide demand for water.³²¹ "Greater conservation, increased regional self-sufficiency in water supplies, more conjunctive uses, integrated water system management and demand management, and new technologies will all be essential."³²² While reducing demand will not resolve the conflict between various stakeholders in the Delta, freeing up more water to share between competing interests will help to alleviate conflict while new governance solutions are proposed and developed.

Efficiency improvements, especially in urban areas of the state, have already been in place for some time and have exhibited great success. A report published by the state Department of Water Resources in 2005 estimates that "[c]ities use about the same amount of applied water today as they did in the mid-1990s, but accommodate 3.5 million more people. Water conservation and demand reduction strategies are expected to continue playing a prominent role in achieving future goals."³²³

On September 19, 2007, after Judge Wanger's initial opinion in *NRDC v. Kempthorne* indicated that sharp reductions in the state's water supply were imminent, Senator Don Perata, a democrat from Oakland, introduced Senate Bill 2 in the California Legislature's Second Extraordinary Session, entitled the Water Supply Reliability Bond of 2008.³²⁴ The bill was later amended to be called the Safe Drinking Water Act of 2008.³²⁵ This piece of legislation

³²⁰ Press Release, Office of the Governor of the State of California, Governor Schwarzenegger Outlines Comprehensive Actions Needed to Fix Ailing Delta (Feb. 29, 2008), *available at* <http://gov.ca.gov/press-release/8911/> (last visited Apr. 24, 2008).

³²¹ DELTA VISION BLUE RIBBON TASK FORCE, DELTA VISION: OUR VISION FOR THE CALIFORNIA DELTA 10 (November 30, 2007) *available at* <http://deltavision.ca.gov/> (last visited Apr. 24, 2008).

³²² *Id.*

³²³ CALIFORNIA DEPARTMENT OF WATER RESOURCES, *California Water Today*, in CALIFORNIA WATER PLAN UPDATE 2005 VOL. 1 at 3-1 (2005), *available at* <http://www.waterplan.water.ca.gov/docs/cwpu2005/vol1/v1ch03.pdf> (last visited Apr. 24, 2008).

³²⁴ Water Supply Reliability Bond Act of 2008, S.B. 2, 2d Spec. Sess. (Cal. 2007) (as introduced Sept. 19, 2007).

³²⁵ Safe Drinking Water Act of 2008, S.B. 2, 2d Spec. Sess. (Cal. 2007) (as amended Oct. 8, 2007).

authorizes state spending on programs that will increase the reliability of the state's water supply as well as improve the Delta ecosystem. Senator Perata's plan includes \$2 billion for competitive grants to be awarded to projects that "improve water supply reliability or improve the supply and delivery of safe drinking water"³²⁶ such as, water recycling, desalination, education and public outreach, and other urban and agricultural water use efficiency efforts.³²⁷ Public agencies, public utilities and mutual water companies may apply for state grants, and projects must serve a clear public purpose in order to qualify.³²⁸ The preliminary findings of the bill immediately recognize the conflicting interests in the Delta but reorient environmental protection from an opposing interest to a necessary condition for economic enhancement.

Providing adequate supplies of clean, safe drinking water is vital to keeping California's economy growing and strong....Encouraging water conservation...[is a] commonsense measure[] to treat water as the precious resource that it is. Projecting [*sic*] lakes, rivers, and streams from pollution...and protecting water sources that supply the California State Water Project are crucial to providing a reliable supply of drinking water.³²⁹

Significant opportunity for improvement exists in the agricultural sector. Water is still provided to agricultural users at heavily subsidized prices, creating little incentive for conservation practices.³³⁰ Since about 75% of water taken out of streams or groundwater aquifers in the West is used for irrigated agriculture,³³¹ these subsidies have a large impact on statewide water demands. Readjustments of water pricing schemes to more accurately reflect the environmental and administrative costs of operating the water delivery systems would encourage

³²⁶ Safe Drinking Water Act of 2008, S.B. 2, 2d Spec. Sess. § 79722(d)(5) (Cal. 2007).

³²⁷ *Id.* § 79722(d).

³²⁸ *Id.* § 79722 (e).

³²⁹ *Id.* § 79701.

³³⁰ EnvironmentNow.org, Freshwater Program, <http://www.environmentnow.org/water.html> (last visited Apr. 24, 2008).

³³¹ UNITED STATES CONGRESSIONAL BUDGET OFFICE, HOW FEDERAL POLICIES AFFECT THE ALLOCATION OF WATER vii (August 2006), *available at* <http://www.cbo.gov/ftpdocs/74xx/doc7471/08-07-WaterAllocation.pdf> (last visited Apr. 23, 2008).

more efficient water use practices thereby reducing demand. Pricing must be calculated carefully, however, as studies have shown that agricultural water demands are highly inelastic when compared to urban water demands.³³² Because agricultural uses represent the majority of water demands in the state, installation of more efficient irrigation practices like drip irrigation technology will also help to alleviate a considerable amount of pressure currently on the Delta ecosystem.

(C) Peripheral Canal

Perhaps the most controversial proposal to date is the construction of a Peripheral Canal in the Delta. Although no specific design has been selected, the canal would essentially divert water from the Sacramento River north of the Delta, and transport it to canals and aqueducts south of the Delta that deliver water to the rest of the state.³³³ It is thought by some policymakers that circumventing the Delta would greatly improve the quality of the state's water supply as well as allow the highly impacted ecosystem and its inhabitants to recover by abrogating the need to pump such high volumes of freshwater *through* the Delta.³³⁴ A similar project was designed and proposed by state legislators in the 1970s, but California citizens defeated the project through a ballot vote in 1982.³³⁵

Although cutting the Delta ecosystem off from a significant supply of freshwater seems particularly risky, some think that “break[ing] the connection between water exports and the

³³² JAY LUND ET AL., PUBLIC POLICY INSTITUTE OF CALIFORNIA, ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA 189 (2007) *available at* http://www.ppic.org/content/pubs/report/R_207JLR.pdf (last visited Apr. 24, 2008).

³³³ *Id.* at 123.

³³⁴ *Id.* at 124.

³³⁵ NORRIS HUNDLEY, JR., THE GREAT THIRST: CALIFORNIANS AND WATER – A HISTORY 331-32 (rev. ed. 2001).

maintenance of a homogenous freshwater Delta,³³⁶ would allow for more successful management of conflicting interests. Currently modeling capabilities are limited, making it difficult to predict the future impacts of the construction of a canal.³³⁷ The Governor proposed a peripheral canal as part of the solution to Delta management in this past fall,³³⁸ but is currently attempting to maintain a neutral position on the topic.³³⁹ In a recent press release he indicated that although multiple options to improve Delta conveyance were being considered, including a peripheral canal, no preferred option has been selected to date.³⁴⁰

Environmental groups across the state are highly skeptical that a peripheral canal would do anything to improve the Delta environment, and many are worried it would destroy the ecosystem, especially if the primary goal of canal operation is to maximize the state's water supply.³⁴¹ A recently published editorial in the *Los Angeles Times* indicates that initial assessments of canal project design have identified opportunities to increase water diversions from the system, rather than freeing up larger quantities of water to support the ecosystem.

This does not recognize the critical state of the Delta and the chronic failure to meet water quality standards. But more disappointingly, it shows little interest in instituting policies that would balance water supplies and ecosystem health, and it shows that little has been learned from the current crisis and past failures.³⁴²

³³⁶ JAY LUND ET AL., PUBLIC POLICY INSTITUTE OF CALIFORNIA, ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA 125 (2007) available at http://www.ppic.org/content/pubs/report/R_207JLR.pdf (last visited Apr. 24, 2008).

³³⁷ *Id.* at 127.

³³⁸ Press Release, Office of the Governor of the State of California, Governor Schwarzenegger Submits Comprehensive \$9 Billion Water Infrastructure Proposal for Legislative Special Session (Sept. 18, 2007), available at <http://gov.ca.gov/press-release/7461/> (last visited Apr. 24, 2008).

³³⁹ Press Release, Office of the Governor of the State of California, Governor Schwarzenegger Outlines Comprehensive Actions Needed to Fix Ailing Delta (Feb. 29, 2008), available at <http://gov.ca.gov/press-release/8911/> (last visited Apr. 24, 2008).

³⁴⁰ *Id.*

³⁴¹ Mindy McIntyre, *More Water Diversion Alone Isn't the Answer* (Opinion), LOS ANGELES TIMES, Apr. 8, 2008, available at <http://www.latimes.com/news/opinion/commentary/la-op-snow-mcintyre8apr08,0,6432189.story> (last visited Apr. 24, 2008).

³⁴² *Id.*

Without more effective policies in place, there is a danger that this canal would be little more than a massive water grab for the constantly thirsty southern region of the state.

If environmental values are not integrated more concretely into California's system of water management, environmental and economic interests may be driven even further apart as human water use becomes less directly dependent on the ecosystem it is drawing from. An editorial in the *Los Angeles Times* on April 8, 2008 cautions against purely engineered solutions to the current physical and institutional breakdown in the Delta:

[T]he Delta's current crisis is in part because of policies and choices made by water project operators -- including the choice to maximize Delta pumping and increase exports by 1 million to 2 million acre-feet a year -- since 2000. This increase in pumping occurred despite the availability of water-supply alternatives and the collapsing fish populations. More disturbing was the complete lack of response to the growing crisis by the federal and state agencies charged with protecting the Delta ecosystem and the public trust of water. Rather, it took a lawsuit from environmental organizations and court intervention to achieve a reprieve for the Delta. Without changes in the policies that got us here, a peripheral canal would not prevent a repeat of the current situation in the future.³⁴³

(V) Conclusion

The purpose of this paper was not to suggest that the strict requirements of federal environmental laws like the ESA be relaxed to reduce costs to human development. Instead, the outcome of *NRDC v. Kempthorne* and the current clash between the enforcement of the ESA and water use in California is meant to shed light on the need for integration of environmentally protective goals within the water use systems in the Delta. Simply relying on the ESA to mitigate the effects of human development and resource exploitation will do little to restore populations of endangered species and protect the Delta ecosystem. The ESA was designed to

³⁴³ *Id.*

identify and protect species already in decline, whereas more proactive Delta management efforts are needed to insure the future sustainability of California's water supply.³⁴⁴

Human use of natural resources inevitably creates a tradeoff between the preservation of the resource and its development for economic gain. Regardless of any mitigation efforts, human use alters the ecosystem and imposes environmental costs. Plant and animal species like the delta smelt that are endangered by resource development bear the brunt of the short-term environmental costs, but society will suffer the long-term economic costs of environmental damage as well unless efforts are currently put into place to reduce impacts.³⁴⁵ Changes in the Delta governance structure and reduction in statewide water demand are important proposals that have the potential to streamline water use systems in the Delta, providing an increased volume of water for environmental protection. Construction of a peripheral canal, however, might serve to maintain or even exacerbate the conflict that exists between interests in protecting the Delta ecosystem and providing California with a reliable water supply by physically separating the two.

Although not a consideration when federal water development policies were first implemented in the early 1900s, new federal and state environmental laws now create restrictions on Delta water management. "The more numerous and complex the values and objectives, the more complex the planning process."³⁴⁶ The ESA and other environmentally protective statutes create new entitlements to the Delta water supply that are in direct opposition with the rights of farmers and other California residents to use the water that is pumped through the Delta.³⁴⁷ This

³⁴⁴ Reed D. Benson, *So Much Conflict, Yet So Much In Common: Considering the Similarities Between Western Water Law and the Endangered Species Act*, 44 NAT. RESOURCES J. 29, 76 (2004).

³⁴⁵ U.N. World Comm. on Env't and Dev., *Our Common Future*, ¶ 34, U.N. Doc. A/42/427 (Aug. 4, 1987).

³⁴⁶ James P. Morris, *Who Controls the Waters? Incorporating Environmental and Social Values in Water Resources Planning*, 6 HASTINGS W.-N.W. J. ENV. L. & POL'Y 117, 118 (2000).

³⁴⁷ *Id.*

harsh conflict between environmental protection and economic development was an *intentional* consequence, as legislators were originally concerned that too much collaboration between agencies and with private actors would invite undue influence and compromise.³⁴⁸ By specifically trying to protect against the deferral of environmental objectives in favor of economic advancement, legislators and regulators made it highly difficult to champion the goals of environmental protection *and* economic growth as co-equal. Enforcement of environmental laws results in an unflinching contest between water use and environmental interests, and litigation, an inherently adversarial method of problem-solving, is often the only viable way to protect environmental interests.

Compromises must be made as federal laws have increased the number of interests vying for their portion of Delta water. A recent report published by the Public Policy Institute of California in 2007 warns that these tradeoffs will always exist within Delta management, and they must therefore be recognized and embraced. After all, “the Delta cannot be all things to all people.”³⁴⁹ There are currently conflicts within the Delta between environmental groups and farmers, between farmers and urban water users, between federal and state agencies, and between users in northern and southern parts of the state. These conflicts will continue to persist, and are only exacerbated when enforcement of government policies favors one interest over another. As evidenced by the outcome of *NRDC v. Kempthorne*, environmental policies often restrict human development to reduce negative impacts. Rather than facilitating the development of management strategies that both protect the environment while recognizing and meeting the state’s water needs, water users are faced with forced reductions in their water supply. Instead of

³⁴⁸ DANIEL J. FIORINO, *THE NEW ENVIRONMENTAL REGULATION* 22 (2006).

³⁴⁹ JAY LUND ET AL., PUBLIC POLICY INSTITUTE OF CALIFORNIA, *ENVISIONING FUTURES FOR THE SACRAMENTO-SAN JOAQUIN DELTA 207* (2007) available at http://www.ppic.org/content/pubs/report/R_207JLR.pdf (last visited Apr. 24, 2008).

working together to share a fixed quantity of water, interests are frequently fighting to increase their own supply to the detriment of others. It remains to be seen whether current restrictions effectively protect the delta smelt, or whether, as was the case in Tennessee more than twenty years ago, human development eventually won out over efforts to protect a tiny, endangered fish.³⁵⁰

Citizen enforcement of the Endangered Species Act in *NRDC v. Kempthorne* has created a crisis in the Sacramento-San Joaquin Delta that has implications throughout the entire state of California. David Getches wrote in 2001 that “[t]o provoke change, there must be tangible and relatively immediate consequences to inaction, and nothing galvanizes political will like a crisis.”³⁵¹ Currently the extent of the crisis is unknown, but the possible impacts of a massive water shortage have encouraged the development of new policies and management objectives within the Delta. In order to insure the sustainability of California’s future water supply, this inevitable clash between economic and environmental interests should be taken as a warning, and every effort must now be made to incorporate environmental protection directly into Delta water use practices.

Without more comprehensive and long-term changes to Delta management, opposing interests will continue to wage legal battles for their share of Delta water. In fact, a petition was filed with the State Water Resources Control Board on March 18, 2008 by the California Sport Fishing Protection Alliance and the California Water Impact Network, alleging that SWRCB unlawfully permits the CVP and SWP to extract unreasonable amounts of fresh water out of the

³⁵⁰ *TVA v. Hill*, 437 U.S. 153 (1978).

³⁵¹ David H. Getches, *The Metamorphosis of Western Water Policy: Have Federal Laws and Local Decisions Eclipsed the States’ Role?*, 20 STAN. ENVTL. L.J. 3, 60 (2001).

Delta in violation of the public trust.³⁵² If the SWRCB chooses not to address the groups' petition, they will file a complaint in state court.³⁵³ Additionally, on April 16, 2008, Judge Oliver Wanger issued another ruling in *Pacific Coast Federation of Fishermen's Associations v. Gutierrez*, the companion case to *NRDC v. Kempthorne*, this one filed to protect endangered populations of steelhead trout and Chinook salmon from increased fresh water withdrawals planned for in the same 2004 OCAP.³⁵⁴ As in *NRDC v. Kempthorne*, Judge Wanger similarly ruled that NMFS' Biological Opinion was arbitrary and capricious for disregarding available scientific information when concluding that CVP and SWP operations would not jeopardize the listed species of salmon and trout.³⁵⁵ Hearings are currently being held to determine if restrictions must be put in place to protect the trout and salmon *in addition* to those already imposed to protect the delta smelt.³⁵⁶

While litigation acts as an important check on the management of the Delta, assertion of environmental rights in court cannot continue to be the only way to integrate environmentally protective goals into Delta decision-making. As potential solutions are currently worked out in the Legislature and through public participation, it is crucial that opposing interests reach some sort of compromise in order to protect the Delta environment and the human communities that depend on it.

³⁵² California Water Impact Network, *Public Trust, Unreasonable Use Complaint Filed With State Board* (Mar. 19, 2008), <http://www.c-win.org/groupsthreatensuit.html> (last visited Apr. 24, 2008).

³⁵³ *Id.*

³⁵⁴ *Pac. Coast Fed'n of Fishermen's Ass'n v. Gutierrez*, No. 1:06-cv-00245 OWW GSA (E.D. Cal. Apr. 16, 2008) (order granting in part and denying in part plaintiffs' motions for summary judgment); *Also see* Dan Bacher, California Progress Report, *Federal Judge Tosses California Plan to Export More Delta Water*, http://www.californiaprogressreport.com/2008/04/federal_judge_t.html (last visited Apr. 24, 2008).

³⁵⁵ *Pac. Coast Fed'n of Fishermen's Ass'n v. Gutierrez*, No. 1:06-cv-00245 OWW GSA at 149 (E.D. Cal. Apr. 16, 2008) (order granting in part and denying in part plaintiffs' motions for summary judgment).

³⁵⁶ *Id.* at 151.