

**Natural Resources Journal**  
Spring 2011

Professional Article

**\*35 THE PUBLIC TRUST NAVIGATES CALIFORNIA'S BAY DELTA**

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ABSTRACT

*California's Bay Delta, where freshwater from the Sacramento and San Joaquin rivers meets the saltwater from San Francisco Bay, has been mired in litigation and political controversy for decades. In the 2009 Delta Reform Act, the California State Water Board was ordered to conduct hearings to establish flow criteria to protect public trust resources in the Bay Delta. This article examines how the statutory deployment of the public trust in the 2009 Delta Reform Act built on the California Supreme Court's 1983 National Audubon decision, and details the California State Water Board proceedings leading up to the public trust Delta flow criteria adopted in August 2010.*

*"The Public Trust Doctrine is a very sharp knife, and it can cut the hand of the person who holds it."*  
[FNI]

I. INTRODUCTION: AN ANCIENT DOCTRINE AND A MODERN QUAGMIRE

As legal creatures go, the **public trust** is an odd duck.

**Public trust** principles are often echoed in state constitutional provisions, but state constitutions are not the source of the **public trust**. State statutory provisions often reference the **public trust**, but its legal foundation \*36 is not to be found in such statutes. [FN2] The **public trust** has been characterized as a property interest but one that is not held by any particular private or governmental entity. [FN3] Although recognized as part of the common law, **public trust** protections are said to be beyond the power of state legislatures to limit. [FN4] The origins of the **public trust** reach back centuries and millennium to old English and Roman law, yet the **public trust** continues to have far-reaching effects today throughout the United States.

In **California**, a comprehensive legal elucidation of the **public trust** was set forth in the **California** Supreme Court's 1983 decision in *National Audubon Society v. Superior Court* (*National Audubon*). [FN5] This case centered on whether the **California** State Water Resources Control Board (State Water Board, or SWCRB) was required to consider modification of previously issued water diversion rights granted to the City of Los Angeles in light of evidence of the dire impacts of such diversions on instream **public trust resources**. [FN6] The instream **public resources** involved in the litigation were Mono Lake and its tributary creeks in the eastern Sierras, and the fisheries and wildlife dependent on these watercourses. In *National Audubon*, the **California** Supreme Court held that **public trust** protections extend to all **navigable** waters and tributaries to such **navigable** waters. [FN7] The court in *National Audubon* also held that the **public trust** imposes a duty of "continuing su-

pervision” on trustee agencies to ensure that **public trust resources** are protected whenever feasible. The court concluded that the State Water Board had breached this duty by failing to consider impacts on instream **public trust resources** both at the time the water diversion rights were granted and subsequent to such issuance. [FN8] The holding in National Audubon eventually resulted in the State Water \*37 Board's 1994 modification of the previously issued water diversion licenses to secure additional instream flows in Mono Lake's tributaries, to restore elevation levels, and to reduce salinity levels in Mono Lake. [FN9]

The articulation of the public trust in the California Supreme Court's National Audubon case and the State Water Board's Mono Lake hearing, as well in subsequent court and State Water Board decisions involving other watercourses, is evidence that, although the public trust may be an odd legal duck, it is a duck with some legal bite.

As a result of California legislation signed into law in November 2009, the public trust is again at the center of competing claims to the state's instream resources. The 2009 Sacramento-San Joaquin Delta Reform Act (2009 Delta Reform Act) ordered the State Water Board to conduct proceedings to “develop new flow criteria for the Delta ecosystem necessary to protect public trust resources.” [FN10] The Sacramento-San Joaquin Delta (or Bay Delta) is where the freshwater of the Sacramento and San Joaquin rivers converge and flow down to meet the saltwater that enters through San Francisco Bay and the Carquinez Straits. [FN11] The Bay Delta is the water diversion hub for California's two largest water distribution systems--the federal Central Valley Project and the State Water Project--which collectively provide irrigation to over 4.5 million acres of farmland and drinking water to over 20 million residents. [FN12] The Bay Delta is also the largest estuary on the West Coast and a critical ecological resource, serving as a fisheries habitat for smelt, steelhead trout, and salmon (more than two-thirds of California's salmon pass through it), and as an integral part of the Pacific Flyway, an intercontinental migration corridor for hundreds of bird species. [FN13] Commercial fishing and sportfishing interests are also tied to the health and abundance of fisheries reliant on the **Bay Delta** ecosystem. [FN14] Given the strong agricultural and urban demands for river diversions of Sacramento and San Joaquin freshwater, and the competing **natural resource** ecosystem and fishery-related economic interests reliant on adequate instream flow, contention over the **Bay Delta**--in the court, in Congress and federal agencies, and \*38 in the **California** legislature and state agencies--has been constant and fierce. [FN15]

This article frames and assesses the **Bay Delta** flow-criteria proceedings before the State Water Board. It begins by sketching the legal contours of **public trust** instream **resource** protection in **California**, surveying the precedent leading to the landmark **California** Supreme Court and State Water Board Mono Lake decisions, and noting how the **public trust** mode of analysis established in these decisions has been subsequently clarified and employed. Next, the article details the **natural resources** and economic interests at stake in the **Bay Delta** and the decades-long litigation and political struggle over what instream flow is required to restore **Bay Delta** fisheries. With this context in place, the article then considers the substance of the submissions to the State Water Board in the 2010 **Bay Delta** flow-criteria proceedings and evaluates the consistency of these submissions with **California** law on **public trust** instream protection. A postscript reports on events that occurred after this article was submitted for publication, most significantly the State Water Board's adoption in August 2010 of its final **public trust Bay Delta** flow criteria.

## II. INSTREAM PUBLIC TRUST PROTECTIONS IN CALIFORNIA: FOUNDATION, SUBSTANCE, AND PROGENY OF THE MONO LAKE LITIGATION

#### A. Foundation: Upstream of Mono Lake

The **California** Supreme Court's 1983 National Audubon decision may be among the most well-known **public trust** cases in the United States, but this case is not the proper starting point to understand the **public trust**. Rather, National Audubon can be better understood as the judicial distillation of long-established **public trust** principles to enable application of the **public trust** to competing claims to instream **resources**.

The origins of the **public trust** date back to the law of the Roman Empire, which recognized a category of *res communis*, or common property. As Professor Joseph Sax explains:

These common things had two special qualities as property. One was that they could not be privately owned, but were common to everybody. The second thing was that they were for common use. Everybody had a right to use them. These common things could not be bought and sold in the ordinary way since they were for everybody's use . . . . What were those things? The sea and the seashore, and navigable rivers \*39 and harbors were the most important things in Roman law that were common property. [FN16]

England adapted and built upon the Roman legal concept of *res communis*. In 1215, King John of England signed the Magna Carta, which mandated the removal of fish weirs from rivers throughout England, imposing limits on the Crown's ability to convey property rights to waterways. [FN17] English common law also added the trustee component to *res communis*, holding that certain common resources were held by the Crown for the benefit of the Crown's subjects. [FN18] Thus, the English Crown held title to such common property in the capacity of a trustee for the public (citizens), which were the true beneficiaries, thereby imposing traditional trustee fiduciary obligations on the Crown in its management of such property. [FN19] Moreover, if the Crown improperly administered its trust duties in regard to such public or common property, citizens (as trust beneficiaries) had a legal right to bring an action against the Crown as trustee. [FN20]

When the English Crown conveyed certain property rights to the land encompassing the 13 original colonies in North America (that later became the United States of America), the Crown conveyed this land subject to the royal obligation to preserve the colonies' public trust resources for the benefit of the people. [FN21] With the American Revolution, the royal public trust obligations to the colonies were conveyed to the new state legislatures of each of the former 13 colonies. [FN22] The Northwest Ordinance of 1787 then declared that new states were to be subsequently admitted to the United States of America on "equal footing" with the original 13 colonies, with the same rights to the tidewaters and the lands under them. [FN23] The Northwest Ordinance of 1787 further provided: "The navigable waters leading into the Mississippi and St. Lawrence and the carrying places between the same, shall be common highways, and forever free, as well to the inhabitants of said territory as to the citizens of the United States . . . without any tax, impost or duty therefor." [FN24] In language strikingly similar to that found in the Northwest Ordinance of 1787, the 1850 Act admitting California to the United States of America \*40 provided: "All the navigable waters within the State shall be common highways and forever free, as well as to the inhabitants of such State as to citizens of the United States, without any tax, import or duty thereof." [FN25] As Professor Joseph Sax recounts:

[W]e developed the idea that the states would take over the role that the king had played because, just as the king was the sovereign, the states in America are sovereign. The law of England became the law of America. We imported the Trust idea, but switched the role of the king to the state, and the state became the owner and Trustee for the public. . . . At the moment of independence for the 13 colonies, and for every subsequent state at the moment of statehood, ownership of all the land beneath tidal and navigable waters, up to the ordinary high water mark, became the property of the state and subject to the Trust.

[FN26]

The U.S. Supreme Court recognized and relied upon the public trust in its 1892 decision in *Illinois Central R.R. Co. v. Illinois (Illinois Central)*. [FN27] In this case, the Illinois state legislature had granted a railroad fee-simple title to nearly the entire Lake Michigan waterfront in the city of Chicago. [FN28] In *Illinois Central*, the U.S. Supreme Court found that such a conveyance was inconsistent with the State of Illinois' public trust obligations:

A grant of all land under the navigable waters of a state has never been adjudged to be within the legislative power; and any attempted grant of the kind would be held, if not absolutely void on its face, as subject to revocation. The State can no more abdicate its trust over the property in which the whole people are interested, like navigable waters and the soils under them . . . than it can abdicate its police powers.

[FN29]

While in *Illinois Central* the U.S. Supreme Court had indicated that the public trust might warrant finding certain state conveyances of public trust resources “absolutely void” on their face, early California Supreme Court decisions adopted a more nuanced public trust approach to \*41 avoid this outcome. For instance, in the 1913 case of *People v. California Fish Co. (California Fish Co.)*, the California Supreme Court held that government conveyances of interests in public trust resources were impressed with the public trust, which required the owners to use such resources in a manner consistent with the right of the soil. [FN30] The litigation in *California Fish Co.* involved the State's grant of certain lands submerged beneath San Francisco Bay. The California Supreme Court did not void the grant outright, but instead clarified that the “title to the soil” is “subject to the public right of navigation” in the waters above such submerged lands. [FN31]

In its 1971 decision in *Marks v. Whitney*, the California Supreme Court recognized that public trust protections for tidelands and navigable waters include ecological and recreational values as well as commercial and transportation needs. [FN32] *Marks v. Whitney* held that the public trust uses and protections encompass the preservation of public trust resources in their natural state “so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life . . . .” [FN33]

1978 saw the release of the Final Report of the Governor's Commission to Review California Water Rights (1978 Water Rights Commission Report), which included Staff Paper No. 6 on “Legal Aspects of Instream Water Uses in California.” [FN34] This publication discussed the public trust and its potential to preserve instream flow, noting that although the public trust had not yet been relied upon to limit present diversions of instream water, that there was “nothing in theory to prevent it.” [FN35] The 1978 Water Rights Commission Report concluded:

Water use by private right holders which depletes the flow of a stream or decreases the quality of water so as to make it unsuitable for fish, navigation, recreation, or scenic or ecological uses, is as inconsistent with public trust protection as fencing\*42 a stream from the public, filling tidelands, or depositing debris in a river. [FN36]

In specifically identifying the public trust as an appropriate legal basis to re-evaluate previously granted water diversion rights, the 1978 Water Rights Commission Report anticipated by just a few short years National Audubon's determination that in California one cannot gain a vested right to divert water if such diversion is found to be inconsistent with public trust requirements. [FN37]

## B. Substance: Mono Lake's Outcomes

### 1. Underlying Mono Lake Facts

One of the oldest bodies of water in North America, Mono Lake is a terminal lake located approximately 300 miles north of Los Angeles and 200 miles east of San Francisco, just outside the eastern gate to Yosemite National Park. [FN38] Although Mono Lake receives limited water from the rain and snow that fall on its surface, most of its water supply comes from the Sierra Nevada mountain range snowmelt that flows easterly into the lake's west end from Lee Vining Creek, Mill Creek, Parker Creek, Walker Creek, and Rush Creek. [FN39]

Prior to the diversion of water from its tributary creeks, discussed further below, Mono Lake was characterized by at least two unique ecological conditions. First, the waters in Mono Lake are so saline--much more so than the ocean--that the only fish and insects that populate in or on it are the Mono Lake brine shrimp and the Mono Lake alkali fly. Second, there were two natural islands in the lake--Negit Island and Paoha Island. These two islands were home to a colony of California Gulls representing 85 percent of the California Gull breeding population. The California Gulls would travel from the Pacific Coast to these two Mono Lake islands to nest their chicks safe from land-based predators such as coyotes and to feed their chicks and themselves on the brine shrimp and alkali flies. [FN40]

In 1940, the California Division of Water Resources, a predecessor agency to the State Water Board, issued appropriative water right permits to the City of Los Angeles Department of Water and Power (LADWP) to divert nearly the entire flow of Lee Vining Creek, Parker Creek, Rush Creek, and Walker Creek before these watercourses reached \*43 Mono Lake. [FN41] The 1940 issuance of these water permits was premised on the California Division of Water Resources' understanding that, pursuant to a 1921 amendment to the California Water Code declaring domestic water use the "highest" use of water, the agency was legally precluded from denying or conditioning LADWP's application to avoid or reduce adverse anticipated effects on Mono Lake. [FN42] As the California Division of Water Resources stated in 1940 when it approved LADWP's water diversion application:

It is indeed unfortunate that the City's proposed development will result in decreasing the aesthetic advantages of Mono Basin but there is apparently nothing that this office can do to prevent it. The use to which the City proposes to put the water under its Applications is defined by the Water Commission Act as the highest to which water may be applied. [FN43]

In the 1940s, 1950s, and 1960s, LADWP was not able to exercise most of its appropriative water diversion rights due to the limited capacity of the Los Angeles Aqueduct. [FN44] By 1970, however, the capacity of LADWP's aqueduct system was expanded such that full diversion of Lee Vining Creek, Parker Creek, Rush Creek, and Walker Creek became possible. [FN45] As the diversions of the tributary creeks commenced, the level of Mono Lake dropped steadily. As its level fell, the waters of Mono Lake became increasingly saline so that brine shrimp and alkali fly populations began to decline. [FN46] The drop in lake level also caused a land bridge to form between Negit Island and the lakeshore, providing coyotes with access to the California Gull colony nests and chicks on the island. [FN47]

### 2. Mono Lake Litigation and 1983 National Audubon Decision by California Supreme Court

The National Audubon litigation over LADWP's diversions from the Mono Lake tributary creeks began with an action filed in California Superior Court (California state trial court) by the National Audubon Society, Mono Lake Committee, and other conservation organizations. [FN48] When LADWP added the United States as a party, the California Superior\*44 Court action was removed to federal district court in Sacramento, California.

[FN49] Pursuant to the abstention doctrine, federal district court Judge Lawrence Karlton then stayed the federal district court proceedings to seek guidance from the California courts on the state law questions of whether California's public trust obligations had been subsumed into California's appropriative water rights system or whether such public trust obligations operated independent of California's appropriate water rights system. [FN50]

Responding to the state law questions posed by Judge Karlton, the California Supreme Court set forth the following holdings in its 1983 National Audubon decision: (1) that because Mono Lake was navigable it was a public trust resource under California law [FN51]; (2) that under California law, public trust protection extends not only to navigable waters but also to the non-navigable tributaries (such as Lee Vining Creek, Parker Creek, Rush Creek, and Walker Creek) to such navigable waters [FN52]; (3) that under Marks v. Whitney, California public protections for Mono Lake extend to its scenic value and the Gulls that rely upon the lake for nesting and feeding [FN53]; (4) that water demand realities dictate that the California legislature and authorized state agencies (such as the State Water Board and its predecessor, the California Division of Water Resources) must have the power to grant licenses that permit the diversion of instream water even though such use diversions may harm instream public trust uses [FN54]; (5) that the power of state agencies to grant licenses for water diversion is conditioned on the affirmative duty of the State of California to consider the public trust in the allocation of water resources and to protect public trust uses whenever possible [FN55]; (6) that this affirmative duty impose a “continuing” obligation of supervision (extending beyond when the appropriative water diversion licenses are initially issued) to ensure that the exercise of such licenses provide proper protection of public trust resources [FN56]; (7) that the California Division of Water Resources had not initially fulfilled its public trust obligation by approving LADWP's application to divert water from the Mono Lake tributaries without first assessing the impact of such proposed diversion on Mono Lake's public trust resources and uses [FN57]; and (8) because the public trust is a “continuing”<sup>45</sup> obligation, the State Water Board needs to now review LADWP's diversion licenses to take proper account of the state's public trust obligations. [FN58] In reaching these holdings, the California Supreme Court explained:

Once the state has approved an appropriation, the public trust imposes a duty of continuing supervision over the taking and use of the appropriated water. In exercising its sovereign power to allocate water resources in the public interest, the state is not confined by past allocation decisions which may be incorrect in light of current knowledge or inconsistent with current needs.

....

In the case before us, the salient fact is that no responsible body has ever determined the impact of diverting the entire flow of the Mono Lake tributaries into the Los Angeles Aqueduct. This is not a case in which the Legislature, the Water Board, or any judicial body has determined that the needs of Los Angeles outweigh the needs of the Mono Basin, that the benefit gained is worth the price. Neither has any responsible body determined whether some lesser taking would better balance the diverse interests. Instead, DWP acquired rights to the entire flow in 1940 from a water board which believed it lacked both the power and the duty to protect the Mono Lake environment, and continues to exercise those rights in apparent disregard for the resulting damage to the scenery, ecology, and human uses of Mono Lake. [FN59]

In its National Audubon decision, the California Supreme Court stopped short of itself determining the specific lake elevation levels for Mono Lake that would comport with public trust requirements, and also stopped short of itself adopting specific instream flow criteria for Mono Lake's tributary creeks to achieve such lake elevation levels. [FN60] Instead, the California Supreme Court opted to provide the State Water Board with an initial opportunity to craft this more specific instream flow and lake level criteria consistent with the public trust

legal framework established by the court's National Audubon decision. [FN61]

**\*46** 3. California Trout Litigation Under [Section 5937 of California Fish and Game Code](#)

To facilitate its diversion of water from Mono Lake's tributaries creeks, LADWP had constructed certain impoundments (dams) on the creeks. [FN62] During several wet winters in the early 1980s, these dams overflowed thereby allowing trout (previously blocked by the impoundments) to re-enter and repopulate the lower reaches of Mono Lake's tributaries. [FN63] The habitat for this trout fishery was limited to the tributary creeks and did not extend to Mono Lake, which was too saline to support the trout.

[Section 5937 of the California Fish and Game Code \(Section 5937\)](#) requires dam operators in California to allow sufficient water to flow through, around, or over the dam to maintain fisheries below the dam in "good condition." [FN64] Significantly, unlike with the public trust as articulated in National Audubon, [Section 5937](#) does not include any qualifying language suggesting that such fishery-sustaining flows are only required "whenever feasible." A court reviewing [Section 5937](#) claims is therefore focused on the narrower scientific questions of the condition of the fisheries below the dam and what additional flows are needed to maintain such fisheries in good condition.

Between 1984 and 1986, California Trout, Inc. (a nonprofit association of recreational fishers) filed a series of lawsuits alleging that LADWP had violated [Section 5937](#) by failing to allow sufficient water to flow through, around, or over the impoundments on Mono Lake's tributary creeks to maintain the trout fishery below these impoundments in good condition. [FN65] The National Audubon Society and the Mono Lake Committee served as co-petitioners in the [Section 5937](#) litigation brought by California Trout. [FN66]

This litigation culminated in the 1989 California Court of Appeal decision in *California Trout, Inc. v. State Water Resources Control Board and City of Los Angeles Department of Water and Power*, which held that LADWP's operation of the impoundments violated [Section 5937](#) (due to its impact on trout). [FN67] The California Court of Appeal *California Trout* decision indicated that the holding "will require reduced diversions of water from the Mono Lake tributary creeks, albeit in an amount that cannot\*47 be precisely calculated on the record before us." [FN68] To determine such diversion reductions, the court ordered the State Water Board to modify LADWP's water diversion licenses to ensure compliance with [Section 5937](#). [FN69]

4. State Water Board Issuance of Decision 1631 in 1994: Establishing a Two-Phased Analysis for Instream Public Trust Resources

In response to both the California Supreme Court's National Audubon decision on the public trust and the California Court of Appeal's decision on [Section 5937](#), in June 1993 the State Water Board issued a hearing notice regarding amendment of LADWP's water licenses for diversion of water from Mono Lake's tributary creeks. [FN70] The State Water Board's hearing began on October 20, 1993, and ended on February 18, 1994. [FN71] There were over 40 hearing days and testimony was provided by more than 125 witnesses. [FN72] Parties participating in the hearing were allowed to submit legal briefs as well as reply legal briefs. [FN73]

In September 1994, the State Water Board issued Decision 1631, titled *Decision and Order Amending Water Right Licenses to Establish Fishery Protection Flows in Streams Tributary to Mono Lake and to Protect Public Trust Resources at Mono Lake and in the Mono Lake Basin*. [FN74] Decision 1631 began by first addressing the [Section 5937](#) compliance issue independent of public trust considerations. [FN75] This sequencing by the State Water Board was appropriate since, as discussed above, [Section 5937](#) compliance does not involve consideration

of the “whenever feasible” component of public trust analysis, and further, [Section 5937](#) sets forth a statutory “good condition” standard for the trout fisheries in Mono Lake's tributary that is independent of public trust protections that might also pertain to such creeks and/or fisheries. Decision 1631 established specific instream flow criteria and corresponding reductions in allowable diversions for Lee Vining Creek, Parker Creek, Rush Creek, and Walker Creek. [\[FN76\]](#) Decision 1631 also determined that (during the initial period) LADWP would need to reduce its annual Mono Lake tributary \*48 water diversions by approximately 35,200 acre-feet (AF) to satisfy [Section 5937](#)'s fishery protection flow requirements. [\[FN77\]](#)

After addressing [Section 5937](#) compliance issues, Decision 1631 then turned its attention to the public trust. In doing so, Decision 1631 established a two-phased public trust methodology to implement the National Audubon holding. [\[FN78\]](#) In the first phase of its public trust analysis, the State Water Board would determine what levels of instream flow and lake elevation were needed to fully protect the public trust resources at issue. [\[FN79\]](#) In the second phase of its public trust analysis, the State Water Board would then evaluate the extent to which the measures required to achieve full protection of public trust resources were “infeasible.” [\[FN80\]](#)

Turning to the first phase of its public trust analysis, Decision 1631 began by explaining the nature and scope of the public trust resources involved:

In addition to the fishery resources discussed above [in the [Section 5937](#) compliance analysis], there are a number of other public trust resources and beneficial uses of water affected by water management decisions in the Mono Basin. These include birds and other wildlife in the Mono Basin, the organisms\*49 in Mono Lake which provide food for birds, riparian vegetation, air quality, visual and recreational resources and water quality . . . . [\[FN81\]](#)

Decision 1631 then went on to focus on two central questions for the first phase of its public trust analysis: (1) to what elevation level should Mono Lake be restored to submerge the Negit Island land bridge and prevent coyote predation of the California Gull colony?; and (2) to what levels should Mono Lake's salinity be reduced to restore the Mono Lake brine shrimp and Mono Lake alkali fly populations upon which the nesting California Gulls depend?

In regard to the question of restoration of Mono Lake elevation levels, Decision 1631 found:

The decrease in the water level of Mono Lake has resulted in several important changes in island area and configuration, some of which have biological implications. . . . Negit Island increased from approximately 162 acres in 1940 to 263 acres when the water level of Mono Lake reached its historical lows of 6,372 feet in October 1982. . . . At a lake elevation of 6,375 feet, Negit Island becomes connected to the mainland by a land bridge. The landbridge [sic] begins as an island that emerges from the strait between Negit Island and the lake shore at approximately 6,390 feet. As the lake level falls, the island grows to form the land bridge at 6,375 feet. The land bridge provides access for coyotes and other terrestrial predators to California gulls nesting on Negit Island. [\[FN82\]](#)

....

The Mono Lake colony is the second largest concentration of California gulls in the world. . . . In 1992, the Mono Lake colony represented about 85 percent of the total population of California gulls breeding in California. [\[FN83\]](#)

....

Since 1979, there have been five major instances where the coyotes have crossed over the land bridge to the nesting islands. In 1979, coyotes crossed to Negit Island and displaced 33,000 gulls causing total reproductive failure . . . predation by coyotes is the one factor to have demonstrated a clear and major effect on reproduction success. The evidence shows that there has been a consistent relationship between lake level and nesting habitat security from predation. [FN84]

\*50 . . . .

Based on the evidence in the record, the SWRCB concludes that a lake level of 6,384 feet would protect the gulls from coyote access to Negit Island . . . a water level of 6,390 would completely inundate the landbridge between Negit Island and the shore. [FN85]

In reaching its initial determination that protection of the Negit Island California Gull colony required raising Mono Lake's elevation so that the Negit Island-shoreline land bridge was submerged, the State Water Board did not find it necessary to make a finding that it was scientifically certain that the land bridge was the "sole" cause of Negit Island California Gull colony's decline. Rather, in the first phase of its public trust analysis, the State Water Board found that raising the lake level to re-submerge the land bridge was warranted because of evidence suggesting that coyote predation (made possible by the land bridge) had a "clear and major effect" on Gull reproduction and because of evidence showing a "consistent relationship" between lake level and secure Gull nesting habitat. [FN86] The fact that there may have been other ecological factors also contributing to the Negit Island California Gull colony's decline did not justify public trust inaction on the State Water Board's part in regard to the documented predation effects resulting from the land bridge. In regard to the question of reduction of Mono Lake salinity levels, Decision 1631 stated:

The Mono Lake alkali fly (*Ephydra hians*) and the Mono Lake brine shrimp (*Artemia monica*) are the major food sources of the large bird populations at Mono Lake. The survival and reproduction of both species can be affected by changes in the salinity of the water in Mono Lake. The salinity in Mono Lake is an inverse function of the quantity of water in the lake; as the water elevation rises, salinity decreases, as the water elevation falls, salinity increases. [FN87]

. . . .

Based on the evidence presented, the SWRCB concludes that a water level in Mono Lake at or near 6,390 feet will maintain the aquatic productivity of the lake in good condition. [FN88]

After completing the first phase of its public trust analysis by determining the Mono Lake elevation required to submerge the Negit Island\*51 land bridge and achieve salinity levels for the maintenance of the Mono Lake alkali fly and Mono Lake brine shrimp populations, the State Water Board then turned to the second "feasibility" phase. [FN89] In considering the feasibility of reducing LADWP's diversions of Mono Lake's tributary creeks, Decision 1631 evaluated LADWP's water supply system as a whole, taking into account such aspects as opportunities for LADWP to improve water conservation and water reclamation, and the costs of replacing water diversions that were reduced to protect public trust resources. [FN90]

The State Water Board determined that, during the period required to restore Mono Lake's elevation level and for the protection of public trust resources, LADWP would need to reduce its "net" exports from the Mono Basin by approximately 43,700 AF per year. Yet, Decision 1631 was careful to note that its public trust feasibility analysis did not take into account annual water diversion reductions already required for fishery protection flows pursuant to Section 5937. [FN91] Thus, while Decision 1631 called for a total diversion reduction of

43,700 AF of water to restore Mono Lake to an elevation needed to protect public trust resources, 35,200 AF of this 43,700 AF reduction was independently legally mandated pursuant to [Section 5937](#) and therefore should not be part of the public trust feasibility analysis. [\[FN92\]](#)

This methodology establishes that, in conducting any public trust feasibility analysis for the proposed reduction of instream water diversions to protect public trust resources, it is critical to clearly distinguish water diversion reductions already required by other preexisting non-public trust legal requirements (be it [Section 5937](#) or some other law) from those water diversion reductions above and beyond these preexisting non-public trust legal requirements imposed specifically by the public trust. Based on its assessment of the LADWP water supply as a whole, Decision 1631 found that the estimated additional water supply costs to LADWP did not “make it infeasible to protect public trust resources in the Mono Basin in accordance with the terms of this decision.” [\[FN93\]](#) The analytic approach to public trust feasibility determinations taken by the State Water Board in Decision 1631 also suggests that the evidentiary \*52 burden rests with those parties (LADWP in this instance) contending that full protection of public trust resources is infeasible.

It should be noted that, in the course of the State Water Board Mono Lake hearings, LADWP resisted the two-phased public trust methodology adopted by the State Water Board in Decision 1631. As California water law specialist Cynthia Koehler notes:

Despite the strong wording of National Audubon, it was not certain that the Water Board would start from the premise that its first duty was to protect the Mono Basin. . . . Indeed, LADWP argued strenuously that the Board should first determine LADWP's optimal water needs, and then craft the public trust protections so as to avoid harm to water diverters. This proposed interpretation would have stood National Audubon on its head.

The Water Board prudently declined this invitation. [\[FN94\]](#)

State Water Board Decision 1631 was not challenged in subsequent litigation by either LADWP or environmental conservation groups.

### C. Progeny: Downstream from Mono Lake

#### 1. 1986 Racanelli California Court of Appeal Decision in the Delta Water Quality Litigation

In 1978, the State Water Board issued Water Rights Decision 1485 in an effort to bring water quality standards for the Bay Delta into compliance with federal Clean Water Act and California's Porter-Cologne Water Quality Act. [\[FN95\]](#) One of the primary water quality concerns was increased salinity in Bay Delta waters resulting from increased upstream diversions of Sacramento River and San Joaquin River freshwater flows. [\[FN96\]](#) The focus of State Water Board Decision 1485 was on curtailing Sacramento and San Joaquin River watershed diversions by the federal Central Valley Project and the State Water Project. [\[FN97\]](#)

In *United States v. California State Water Resources Control Board*, the federal government (which operates the federal Central Valley Project) challenged Decision 1485 on the grounds that in adopting the order, the State Water Board had failed to properly distinguish between its quasi-\*53 legislative water quality planning function and its quasi-adjudicatory water rights allocation function. [\[FN98\]](#) In a 1986 decision--which became commonly known as the “Racanelli” decision after Justice John T. Racanelli, who authored the opinion--the California Court of Appeal ultimately held certain portions of Decision 1485 invalid due to the State Water Board's confu-

sion over its quasi-legislative and quasi-adjudicatory roles. [FN99] In reaching this conclusion, however, the Racanelli decision also set forth some important observations regarding the scope of California's public trust doctrine after the California Supreme Court's National Audubon decision.

As part of the litigation in *United States v. California State Water Resources Control Board*, it was suggested that the State Water Board had public trust authority to potentially require the federal Central Valley Project or the State Water Project to consider alternative water supply measures (such as groundwater management, water conservation, water efficiency, and wastewater reclamation) to reduce water diversions from the Bay Delta. [FN100] In response to this suggestion, the Racanelli decision held that the State Water Board “unquestionably possessed legal authority under the public trust doctrine to exercise supervision over appropriators in order to protect fish and wildlife.” [FN101]

According to noted California water rights attorney David Aladjem, the 1986 Racanelli decision “potentially laid the basis for requiring a diverter not only to modify the manner in which water would be diverted, but also to change the source of water so as to reduce impacts on public trust resources.” [FN102]

## 2. 1990 California Superior Court Decision on the American River

The American River is a tributary to the Sacramento River with the confluence of the two rivers located near the city of Sacramento. [FN103] The East Bay Municipal Water District (East Bay MUD) is a public \*54 agency that provides municipal water service to residents in several cities in Alameda County and Contra Costa County east of San Francisco Bay, including Alameda, Berkeley, Oakland, and Richmond. [FN104]

East Bay MUD had proposed to divert 150,000 AF of water per year from the Lower American River. [FN105] This water was to be obtained at a point of diversion near the existing Nimbus Dam, and then delivered to the East Bay MUD service area via the Folsom South Canal. [FN106] Due to concerns about the instream and fishery impacts of the proposed diversion on portions of the Lower American River protected under wild and scenic river statutes, the conservation group Environmental Defense Fund filed suit in Alameda County Superior Court, alleging that the public trust required East Bay MUD to select a less damaging alternative point of diversion to reduce adverse instream effects. [FN107]

East Bay MUD initially contended that the public trust did not apply to the proposed American River diversion project since the diversion project had been approved by the California legislature. [FN108] In an unappealed decision, the superior court rejected this argument holding that even though the state legislature had approved the diversion project, there was no indication that in doing so the legislature had clearly or explicitly intended to abrogate its public trust obligations. [FN109] The superior court decision in *Environmental Defense Fund v. East Bay Municipal Water District* then noted that needless harm to public trust values must be avoided, and that if the harm to those public trust values becomes significant, then the fullest beneficial uses of water may be precluded as a violation of the public trust. [FN110]

Although conceding that East Bay MUD's proposed diversion might impair public trust resources, the superior court decision in *Environmental Defense Fund v. East Bay Municipal Water District* elected not to adopt the petitioner's specific proposed remedy of requiring East Bay MUD to select an alternative point of diversion. [FN111] Instead, the court determined that public trust resources and uses of the Lower American River could be adequately protected by imposing a different remedy--a \*55 series of instream flow requirements overseen by a special master appointed by the court. [FN112]

### 3. Yuba River and State Water Board Issuance of Decision 1644 in 2002 and Revised Decision 1644 in 2003

In 1986, the California Department of Fish and Game (DFG) started an Incremental Instream Flow Methodology Study on the Lower Yuba River, which is tributary to the Sacramento River. [FN113] One of the purposes of the DFG study was to evaluate whether existing hydroelectric facility licenses issued by the Federal Energy Regulatory Commission (FERC) to the Yuba County Water Agency provided sufficient instream flow for fisheries. [FN114] In 1991, DFG released its Lower Yuba River Fisheries Management Plan along with a recommendation that the State Water Board conduct hearings to revise Yuba County Water Agency's water rights to provide additional instream flow. [FN115]

Per DFG's recommendation, the State Water Board conducted the proposed water rights hearing and in 1999 the State Water Board adopted Water Rights Decision 1644, imposing the instream flow and water-temperature conditions that DFG had determined were necessary to restore Lower Yuba River anadromous fisheries. [FN116] In its legal analysis in support of Decision 1644 (and a subsequent Revised Decision 1644 adopted in 2003), the State Water Board concluded that the public trust provided it with proper authority to incorporate these new conditions on the Yuba County Water Agency's consumptive water permits. [FN117]

In its 2003 Revised Decision 1644, the State Water Board also rejected Yuba County Water Agency's contention that the incorporation of the new conditions constitutes a "taking" of private property requiring \*56 just compensation under the Fifth Amendment of the U.S. Constitution as well as under the California Constitution. [FN118] Revised Decision 1644 explained that (consistent with National Audubon and earlier California decisions such as *People v. California Fish Co.*) public trust limitations "inhere in the title" of Yuba County Water Agency's water rights and that "applying these limitations cannot constitute a taking." [FN119]

The insulation of California public trust instream protections from takings claims had been noted by water law scholars before its recognition in the State Water Board's Revised Decision 1644 in 2003. [FN120] For instance, in a 1995 law review article, Professor Michael Blumm (and co-author Thea Schwartz) commented that the California Supreme Court's National Audubon decision "makes clear that water rights that affect public trust resources are inherently non-vested property interests; that is, they are revocable by the state. And when revoked, private parties have no claim for just compensation under the takings clause of the constitution." [FN121] Along these lines, Professor Joseph Sax had noted in 1996:

Where the public trust is implemented, we do not run up against this so-called takings problem at all because the state cannot arguably be taking any private person's property by regulation. It is asserting its own property right, a property right that belongs to the public. If you are asserting a property right, you cannot be taking a property right. This is one of the great strengths of the public trust. [FN122]

### 4. 2006 California Court of Appeal Decision in State Water Resources Control Board Cases Regarding Revised Water Right Decision 1641

As discussed above, the State Water Board's initial approach to Bay Delta salinity in Decision 1485 was found deficient in the 1986 *Racanelli* California Court of Appeal decision. [FN123] Subsequent negotiations with the U.S. Environmental Protection Agency led the State Water Board to adopt a 1995 Delta Water Quality Plan to address salinity issues in the Bay Delta that had resulted from upstream diversions of freshwater\*57 flow from the Sacramento River and San Joaquin River. To implement and help achieve the salinity criteria in the 1995 Delta Water Quality Plan, in 2000 the State Water Board adopted Revised Water Right Decision 1641 which mandated modification of the diversion operations of the federal Central Valley Project and the State Wa-

ter Project. [FN124] There were numerous legal challenges to Revised Water Right Decision 1641, and this litigation culminated in the 2006 California Court of Appeal decision in State Water Resources Control Board Cases. [FN125]

Among other issues, the holding in State Water Resources Control Board Cases addressed a public trust claim advanced by the Golden Gate Audubon Society, the Marin Audubon Society, and the San Joaquin Audubon Society. The parties alleged that the State Water Board had violated the public trust doctrine by failing to include adequate provisions in Revised Water Right Decision 1641 to fulfill the narrative salmon protection objectives of the 1995 Delta Water Quality Plan. The California Court of Appeal reasoned:

Seizing on the phrase “whenever feasible” the Audubon Society parties contend that “conflicts between the public trust values and competing water uses must, whenever possible, be resolved in favor of public trust protection.” They further contend that by failing to do more to implement the narrative salmon protection objective, the Board “failed to comply with its duties under the public trust doctrine to protect the Bay-Delta’s fishery resources ‘whenever feasible.’” [FN126]

Although the California Court of Appeal did not disagree with how the Audubon Society parties had generally framed the public trust issue, they did not concur with the Audubon Society parties’ public trust conclusions, noting that the State Water Board had considerable discretion to determine what was “feasible” and to formulate appropriate water project operational modifications to achieve the 1995 Delta Water Quality Plan’s narrative salmon objectives that took account of municipal and agricultural water demand. [FN127]

The decision therefore affirms that California courts should grant the State Water Board a fair degree of deference in determinations of \*58 “feasibility” in the second phase of the two-phased public trust analysis established in State Water Board Decision 1631. This holding further suggests that, provided there is substantial evidence in the administrative record to support a State Water Board “feasibility” determination in the second phase of the two-phased public trust analysis, a reviewing California court is likely to uphold this determination and to refrain from substituting its own de novo feasibility findings. This judicial deference to State Water Board public trust feasibility determinations presumably cuts both ways, helping to preserve State Water Board public trust feasibility determinations from challenges by water diverters as well as environmental conservation groups.

### III. CALIFORNIA’S BAY DELTA: IMPERILED FISHERIES, INTRANSIENT POLITICS, AND LITIGATION WITHOUT END

A full account of the Bay Delta water resource battles in recent decades is beyond the scope of this article. However, a general sense of the key themes, stakeholders, and laws involved is needed to understand the frustrations and objectives that led to the inclusion in the California 2009 Delta Reform Act of statutory provisions mandating that the State Water Board conduct public trust proceedings to establish Delta flow criteria.

In terms of the main water diversion infrastructure and water diversion operations pertaining to the Delta, much of this infrastructure and operations relate to the federal Central Valley Project (operated by the federal Bureau of Reclamation, a subagency of the U.S. Department of the Interior) and the California’s State Water Project (operated by the California Department of Water Resources, a subagency of the California Resources Agency). The federal Central Valley Project was authorized in the 1930s primarily to provide irrigation to farms in California’s Central Valley (which stretches north-south from Redding to Bakersfield). [FN128] The bulk of Central Valley Project infrastructure was constructed in the 1940s and 1950s, and includes Shasta Dam on the Sacramento River (north of Redding), Friant Dam on the San Joaquin River (near Fresno), and extensive pump-

ing facilities in the Bay Delta (near Tracy). [FN129]

California's State Water Project was authorized in the late 1950s primarily to provide water supply for municipal urban use, particularly \*59 for growing cities in central and southern California. [FN130] The bulk of State Water Project infrastructure was constructed in the 1960s and early 1970s, and includes Orville Dam (on the Feather River, the largest tributary to the Sacramento River) and extensive pumping facilities in the Bay Delta (also near Tracy). [FN131]

In a 2001 law review article, Patrick Wright, a veteran of Bay Delta water allocation disputes and a former Senior California Water Policy Advisor to both the U.S. Environmental Protection Agency and the governor of California, observed:

For the previous two decades, water planning and politics have been characterized by conflict rather than cooperation. Each of the major interest groups have been powerful enough to block each other, in court or at the ballot box, but none have been powerful enough to enact their own agenda. Environmental groups, for example, have been successful in blocking new reservoirs, but unable to stop increased diversions from the Delta that have contributed to listings of several fish species under the federal Endangered Species Act. With the exception of passage of the federal Central Valley Project Improvement Act (CVPIA) in the waning hours of the Bush Administration [the first Bush presidency from 1988-1992], the resulting stalemate has prevented progress in either restoring the San Francisco Bay-Delta estuary or improving the state's water supply reliability. [FN132]

This article's preceding analysis already touched upon a few of the high-profile disputes concerning water resources in the Bay Delta and in the upstream Sacramento River and San Joaquin River watersheds that provide freshwater flows to the Bay Delta--such as the litigation and State Water Board actions in the 1980s regarding Bay Delta salinity, [FN133] litigation and State Water Board actions related to diversion and instream flow conditions on the American River and Yuba River (both tributary to the Sacramento River), [FN134] and litigation over the narrative salmon protection provisions of the 1995 Delta Water Quality Plan. [FN135] Below is a survey of other significant Bay Delta flashpoints.

\*60 The Central Valley Project Improvement Act (CVPIA), enacted in 1992, [FN136] was passed in response to the listing of Sacramento River and San Joaquin River salmon and steelhead trout runs under the federal Endangered Species Act (ESA) in the late 1980s and early 1990s, and subsequent analysis by the National Marine Fisheries Service (NMFS) pursuant to these ESA listings indicating that the federal Central Valley Project's Bay Delta diversion pumping was a major contributor to the salmon declines. [FN137] The CVPIA included statutory language providing that, going forward, protection of instream fisheries and instream water quality would be recognized as core objectives of the federal Central Valley Project on the same par with water supply. [FN138]

The CVPIA's passage, however, did not end ESA battles over the Bay Delta. ESA litigation, brought by environmental conservation and commercial fishing groups, led to a 1993 court-ordered suspension of the operation of the Bay Delta diversion pumps for the federal Central Valley Project and State Water Project to protect endangered salmon and steelhead. [FN139] The prospect of this diversion shutdown, in turn, led to high-level negotiations between the federal government (Bureau of Reclamation, Environmental Protection Agency, and NMFS) and the State of California (California Department of Water Resources and California Department of Fish and Game), resulting in the December 1994 Bay-Delta Accord. [FN140] The 1994 Bay-Delta Accord was then later expanded into a more long-term planning process known as the CALFED Bay-Delta Program.

[FN141] During the late 1990s, under the leadership of California's Republican Governor Pete Wilson and President Clinton's U.S. Department of the Interior Secretary Bruce Babbitt, a comprehensive set of policies and programmatic priorities were developed pursuant to the CALFED Bay-Delta Program to help better integrate environmental restoration and water supply objectives in the Bay Delta. [FN142]

The CALFED Bay-Delta Program, however, also became enmeshed in litigation. In 2005, the Third District California Court of Appeal held that the environmental impact assessment prepared for the CALFED Bay-Delta Program violated the California Environmental Quality Act (CEQA) by failing to consider the alternative of reduced \*61 statewide water supplies and by improperly assuming that certain levels of water supply were needed to meet anticipated population growth in the state. [FN143] In the case of *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings*, the California Court of Appeal stated:

[I]t is projected that the state's population will grow from 30 to 49 million by the year 2020, and that half of this growth will be in Southern California. Such population requires water. However, if there is not water to support the growth, will it occur as projected? Population growth is not an immutable fact of life.

....

CALFED apparently assumed that the California population would grow as projected regardless of the availability of water and did not consider whether, if less water was supplied, population growth would be affected accordingly, leading to less demand. [FN144]

This decision was reversed in 2007 by the California Supreme Court, which found that there was sufficient evidence in the administrative record to support the decision of the California Department of Water Resources (as the state agency participant in the CALFED Bay-Delta Program) to exclude the reduced water supplies alternative from consideration as a reasonable alternative in the CEQA environmental impact assessment. [FN145] In doing so, the California Supreme Court did not counter the California Court of Appeal's basic observations concerning the relationship between water availability and projected population growth, but rather determined simply that the California Court of Appeal had not provided appropriate deference to state agency CEQA determinations regarding the reasonable range of alternatives to be evaluated in an environmental impact assessment document. [FN146] By the time of this 2007 reversal by the California Supreme Court, however, political support for the CALFED Bay-Delta process had already begun to wane at both the federal and state level. [FN147]

\*62 As the more cooperative CALFED Bay-Delta process began to unravel in the mid-2000s, ESA litigation again took center stage. In 2004, the federal NMFS adopted a biological opinion pursuant to the ESA in connection with a proposed plan for joint operation of the Bay Delta diversion pumps by the federal Central Valley Project and the State Water Project. [FN148] In the case of *Pacific Coast Federation of Fishermen's Associations v. Gutierrez*, a federal district court invalidated the NMFS' 2004 ESA Biological Opinion due to the absence of evidence to support the findings that the proposed diversion pumping adequately protected the endangered fisheries such as salmon, steelhead, and smelt. [FN149] In December 2007, a federal district court ordered reduced operations of the Bay Delta pumps to protect endangered smelt. [FN150] In response to these ESA smelt rulings, the annual 2008 California State Bar Environmental Section Conference organized a special session on "Smelt-down: Endangered Species and Water Supply," [FN151] and studies were commissioned to assess the economic impacts of the shutdown of the water project Bay Delta diversion pumps. [FN152]

Beyond the ESA, beginning in the mid-1990s, there was also protracted federal court litigation regarding the

application of [Section 5937 of the California Fish and Game Code](#) (discussed above in regard to LADWP impoundments on Mono Lake's tributary creeks) to Friant Dam on the San Joaquin River, upstream of the Bay Delta. [\[FN153\]](#) Friant Dam was constructed in the 1940s by the federal Bureau of Reclamation as part of the federal Central Valley Project. [\[FN154\]](#) In 2004, in litigation brought by the Natural Resources Defense Council (NRDC) related to the Bureau of Reclamation's proposed renewal of long-term contracts with users of water stored in Millerton Lake behind Friant Dam, Judge Lawrence Karlton of the federal district court in Sacramento ruled that Friant Dam was subject to [Section 5937's](#) fishery requirements and that by dewatering portions of the San Joaquin River below Friant Dam, the Bureau of **\*63** Reclamation had violated and continued to violate [Section 5937](#). [\[FN155\]](#) Judge Karlton was the same judge that more than two decades earlier had requested the California Supreme Court to opine on the relationship between the public trust and California's appropriate water rights system in the Mono Lake litigation. Judge Karlton's 2004 ruling in the NRDC [Section 5937](#) litigation led to the negotiation of a comprehensive 2006 court-approved Friant Settlement Agreement providing for San Joaquin River bypass instream flows to help restore to "good condition" salmon and steelhead fisheries below the dam. [\[FN156\]](#)

The lack of progress in resolving **Bay Delta** ecological restoration and water supply objectives prompted **California** Governor Arnold Schwarzenegger to create the **Delta** Vision Blue Ribbon Task Force in 2006. [\[FN157\]](#) The governor's executive order creating the **Delta** Vision Blue Ribbon Task Force directed the group to "develop a durable vision for sustainable management of the **Delta**" [\[FN158\]](#) 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 environmental quality of the **Delta** and the economic and social well being of the people of the state." [\[FN159\]](#)

In January 2008, the governor's **Delta** Vision Blue Ribbon Task Force released its report, *Our Vision for the California Delta*. This report sought to articulate a common policy consensus between those interests pressing for continued water diversions from the **Bay Delta** and those interests seeking to curtail such diversions to restore the **Bay Delta's** fisheries and ecological integrity. The report suggested:

The **Delta** ecosystem and a reliable water supply for **California** are the primary, co-equal goals for sustainable management of the **Delta**. Both **California's** water supply and the ecological **resources** of the **Delta** are of paramount importance. They are co-equal, each is indispensable to **California** as a whole, and our actions must secure the future of both.

Current uses of **Delta** water--including diversions upstream and within the **Delta** as well as exports--are a major barrier to a "durable vision for sustainable management of the **Delta**." [\[FN160\]](#)

**\*64** Beyond its articulation of these proposed dual, co-equal objectives (ecological restoration/water supply) for **Bay Delta** water **resource** management, *Our Vision for the California Delta* also noted: **Public trust** principles, well established in the American legal system with roots back to England and parallel principles in other legal systems, provide a way to frame decisions about the use of water in the **Delta** and **Delta** watershed. In our legal system, water is not owned by any user, but the State of **California** and **public** retain ownership. Users gain the right for use of water in various ways (riparian, appropriative, etc.) but those rights are conditional as stated both in the term reasonable use and by the underlying **public trust** for protection of the **resource**. **Public trust** principles should provide an ethic and foundation for **public** policymaking regarding water **resources** in all of **California** and is [sic] especially relevant and important in the **Delta**. [\[FN161\]](#)

The **Delta** Vision Blue Ribbon Task Force's 2008 observations about the potential role of the **public trust** in

**Bay Delta** water policymaking would soon find expression in the provisions of **California's** 2009 **Delta** Reform Act. [FN162]

#### IV. 2010 STATE WATER BOARD PUBLIC TRUST PROCEEDINGS ON DELTA FLOW CRITERIA

##### A. **California's** 2009 **Delta** Reform Act--Directive to the State Water Board

The 2009 **Delta** Reform Act is a broad piece of legislation that, among other things, created two new governmental entities (the **Delta** Stewardship Council [FN163] and the Sacramento-San Joaquin **Delta** Conservancy [FN164]) and one new governmental position (a State Water Board-appointed **Delta** Watermaster [FN165]). The 2009 **Delta** Reform Act also established new groundwater basin-elevation-level reporting requirements.\*65 [FN166] An analysis of **Delta** Stewardship Council, Sacramento-San Joaquin **Delta** Conservancy, **Delta** Watermaster, and groundwater reporting provisions of the legislation exceeds the range of this article, but they are mentioned to underscore that that the **public trust Bay Delta** flow-criteria provisions were but one among several substantive statutory provisions in the 2009 **Delta** Reform Act.

In terms of the **public trust**, the 2009 **Delta** Reform Act added [Section 85086 to the California Water Code \(Section 85086\)](#). [Section 85086](#) provides:

[T]he board shall, pursuant to its **public trust** obligations, develop new flow criteria for the **Delta** ecosystem necessary to protect **public trust resources**. In carrying out this section, the board shall review existing water quality objectives and use the best available scientific information. The flow criteria for the **Delta** ecosystem shall include the **volume**, quality, and timing of water necessary for the **Delta** ecosystem under different conditions. The flow criteria shall be developed in a **public** process by the board within nine months of the enactment of this division. The **public** process shall be in the form of an informational proceeding conducted pursuant to Article 3 (commencing with Section 649) of Chapter 1.5 of Division 3 of Title 23 of the **California** Code of Regulations, and shall provide an opportunity for all interested persons to participate. The flow criteria shall not be considered predecisional with regard to any subsequent board consideration of a permit . . . . [FN167]

Significantly, [Section 85086](#) specified that the State Water Board public trust Delta flow-criteria proceedings were “informational proceedings” that would not be considered “pre-decisional” in terms of any subsequent board actions. This wording tracks certain distinctions set forth in Title 23 (on “Waters”) in the [California Code of Regulations. Sections 649.2 through 649.4 of Title 23](#) set forth regulations for “informational proceedings” by the State Water Board, while [Sections 648 through 648.8 of Title 23](#) set forth regulations for “adjudicative proceedings” by the State Water Board, such as those to modify water diversion permits and licenses. [FN168]

When read in the context of the distinction between “informational” and “adjudicative” proceedings in state regulations pertaining to the State Water Board, the statutory language in [Section 85086](#) therefore \*66 makes clear that, unlike State Water Board water right hearings such as the one that resulted in Decision 1631 for Mono Lake and its tributaries, the Delta flow criteria established pursuant to [Section 85086](#) would not result in any direct modification of existing California water diversion rights held by the federal Central Valley Project, the State Water Project, or any other water users.

This point was highlighted in the comments submitted to the State Water Board by the Environmental De-

fense Fund, and by American Rivers and the Natural Heritage Institute, as part of the [Section 85086](#) proceedings. The Environmental Defense Fund noted:

[A]s the Board is aware, its obligation in dealing with any public trust issues is to first isolate the water needs of the river, stream, fishery or estuary at issue. This is the task that the Legislature has required at this phase. The determination about the extent to which ‘practical necessity’ precluded the protection of the public trust is not before the Board at this time and, in our view, it would be improper for the Board to address such issues in this proceeding. The Legislature has expressly preserved this issue for another time by stating that the Board’s flow criteria will not be “predecisional” and by emphasizing that water rights cannot be affected by this proceeding. [FN169]

Similarly, in their joint comments submitted to the State Water Board, American Rivers and the Natural Heritage Institute emphasized that: “[T]he Board should also bear in mind that the flow criteria will not have any direct legal consequences for individual diversions,” and that “[b]efore flow requirements are imposed, each diverter and other stakeholders must and will be heard again in a subsequent water right proceeding.” [FN170]

As the comments of the Environmental Defense Fund, and those of American Rivers and the Natural Heritage Institute note, [Section 85086](#) of the 2009 Delta Reform Act was structured to focus the State Water Board’s public trust Delta flow-criteria proceedings specifically on the “first phase” of the two-phased public trust analytic approach established in State Water Board Decision 1631. That is, pursuant to [Section 85086](#), the California State Legislature directed the State Water Board to determine what flow criteria was needed to protect the Bay Delta’s public\*67 resources, while explicitly deferring the “second phase” of the public trust instream analysis on the question of what modifications (if any) to existing water diversion entitlements may be warranted.

[Section 85086](#)’s intentional statutory bifurcation of the two-phased public trust analysis for instream water resources makes sense, as the first phase of the public trust analysis is essentially a scientific inquiry, while the second phase of the public trust analysis is an inquiry that inherently involves political and economic considerations. [Section 85086](#), by its very design, seeks to preserve the integrity of the State Water Board’s science-based findings regarding Delta flow criteria. It does this by expressly guaranteeing that water rights holders will have subsequent and separate opportunities to present evidence to the State Water Board regarding the economic impacts of reduced diversions before such Delta flow criteria are relied upon to modify existing water rights.

The legislative history behind [Section 85086](#) reveals that this statutory bifurcation of the public trust instream flow methodology was deliberately intended. More specifically, the November 4, 2009, Committee Report by the California State Senate for [Section 85086](#) highlighted the “flow first” approach, noting:

This “flow criteria” in this bill reflect a landmark concept of the state exercising its public trust authority to ask--FIRST--what the Delta needs, before completing plans for fundamental change to the nature of the Delta, as envisioned by the Bay Delta Conservation Plan.

Water Code [Section 85086](#)(c)(1) specifies that the flow criteria for the Delta ecosystem developed under that subdivision shall not be considered “predecisional” in a subsequent SWRCB proceeding. In this context, the word “predecisional” means that the flow criteria do not predetermine how any issue will be decided in a later proceeding before the SWRCB. [FN171]

#### B. December 2009 State Water Board Notice

Following the enactment of the Delta Reform Act in November 2009, the State Water Board issued a public

notice regarding its [Section 85086](#) Delta flow-criteria proceedings in December 2009. This notice identified five particular “key issues” for which the State Water Board was seeking public comment and input in connection with its development\*68 of public trust Delta flow criteria. [\[FN172\]](#) For the first key issue listed in its December 2009 notice, the State Water Board asked:

What key information, in particular scientific information or portions of scientific information, should the State Water Board rely upon when determining the volume, quantity, and timing of water need for the Delta ecosystem pursuant to the board's public trust obligations? For large reports or documents, what pages or chapters should be considered? What does this scientific information indicate regarding the minimum and maximum volume, quality and timing or flows needed under the existing physical conditions, various hydrologic conditions, and biological conditions? With respect to biological conditions, what does the scientific information indicate regarding appropriateness of flow to control non-native species? What is the level of scientific uncertainty regarding the foregoing information? [\[FN173\]](#)

For the second key issue listed in its December 2009 notice, the State Water Board asked:

What methodology should the State Water Board use to develop flow criteria for the Delta? What does the methodology indicate the needed minimum and maximum volume, quality and timing of flows are for the different hydrologic conditions under the current physical conditions in the Delta? [\[FN174\]](#)

For the third key issue listed in its December 2009 notice, the State Water Board asked:

When determining Delta outflows necessary to protect public trust resources, how important is the source of those flows? How should the State Water Board address this issue when developing Delta outflow criteria? [\[FN175\]](#)

For the fourth key issue listed in its December 2009 notice, the State Water Board asked:

How should the State Water Board address scientific uncertainty when developing the Delta outflow criteria? Specifically,\*69 what kind of adaptive management, monitoring and special studies program should the State Water Board consider as part of the Delta outflow criteria, if any? [\[FN176\]](#)

For the fifth and final key issue listed in its December 2009 notice, the State Water Board asked:

What can the State Water Board reasonably be expected to accomplish with respect to flow criteria within the nine months following enactment of [\[Section 85086\]](#)? What issues should the State Water Board focus on in order to develop meaningful criteria during this short period of time? [\[FN177\]](#)

The State Water Board's December 2009 notice offered some initial insight into how the State Water Board viewed its responsibility and task pursuant to [Section 85086](#). In particular, the key issues listed in the State Water Board's December 2009 notice focused on technical questions of scientific methodology, assessment, and certainty concerning what constituted sufficient Delta flow criteria to protect instream public trust resources, rather than on policy questions of potential economic effects resulting from possible reductions of water diversions from the Bay Delta. The scientific focus of the December 2009 notice was consistent with the statutory provisions in [Section 85086](#) and with the first phase of the two-phased public trust methodology employed previously by the State Water Board in Decision 1631 on Mono Lake and its tributary creeks.

### C. Spring 2010 Submissions to State Water Board: Main Points of Contention

#### 1. Feasibility and Potential Economic Impacts Associated with Delta Outflow Criteria

As noted above, [Section 85086](#) contained language focusing the State Water Board's public trust Delta flow-criteria proceedings on the scientific “first phase” of the public trust analysis and preserving the feasibility “second phase” of the public trust analysis for later subsequent water rights or permitting proceedings before the State Water Board. This scientific focus was also highlighted in the key issues identified in the State Water Board's December 2009 notice.

Despite the statutory language in [Section 85086](#) and the focus of the State Water Board's December 2009 notice, many Bay Delta water \*70 diverters nonetheless submitted comments proposing that the State Water Board take into account such diverters' economic reliance on Bay Delta diversions in developing public trust Delta flow criteria. For instance, in its January 14, 2010, comment letter to the State Water Board, the California Department of Water Resources (which operates the State Water Project) stated:

The [Delta Reform] Act requires the State Water Board to “develop new flow criteria for the Delta ecosystem necessary to protect public trust resources” . . . .

DWR believes that if this mandate it to be achieved, the Board must develop the Delta flow criteria through a process that balances the benefits and costs to other beneficial uses of water and public trust resources. . . . DWR does not believe it is possible to develop what is a “necessary” level of protection without knowing whether it is a reasonable level of protection. [\[FN178\]](#)

The California Department of Water Resources restated this position in its subsequent February 16, 2010, submission to the State Water Board, suggesting:

[T]he reasonable level of protection for a given use can only be defined in reference to the costs it imposes upon other uses. When a particular level of protection is advocated for a given use, the first question that should be asked is, what are the costs of that level of protection on other uses. Parties and interests will come in and recommend various levels of protection for the public trust resources. However, it is only after the Board has considered all of those interests and uses, and after it has balanced them and made a reasonable allocation of water among them, that we can discover the level of protection to which any given use, or resource, is entitled. [\[FN179\]](#)

In a similar vein, in its April 14, 2010, comments to the State Water Board, the Coalition for a Sustainable Delta (representing interests that use water diverted from the Bay Delta), contended:

[S]ome of the participants continue to assume and assert that the State Board's mandate under [\[Section 85086\]](#) requires the \*71 State Board to pretend as if there were no water rights, no diversions for agricultural, municipal, or commercial uses, no flood control requirements, no flows required for power generation, and to formulate purely informational flow criteria based on what would be best for public trust resources if we lived in a radically different world governed by a radically different legal regime. [\[FN180\]](#)

The approach recommended by the California Department of Water Resources and the Coalition for a Sustainable Delta, which called for evaluation of second-phase “feasibility” consideration in the context of the [Section 85086](#)-mandated public trust Delta flow-criteria proceedings was uniformly resisted by environmental conservation and fishery stakeholders. For example, the January 14, 2010, comments submitted jointly by the California Water Impact Network, Friends of the River, and the California Sportfishing Protection Alliance noted:

The Board's task in this proceeding, as stated in [\[Section 85086\]](#), is to “develop new flow criteria for the Delta ecosystem necessary to protect public resources.” The Board should not attempt to engage in balancing ecosystem needs with other interests. Rather, it should restrict the proceeding's considerations

to the flows needed in the Delta to recover and protect the public trust resources embedded in Delta aquatic ecosystems and fisheries. [FN181]

In his April 14, 2010, comments, Tim Stroshane, Senior Research Associate with the California Water Impact Network, added:

We understand the temptation is great to balance what fish need with what water contractors and water project operators demand as part of developing flow criteria from this proceeding. “Balancing” is the planning mantra of the November 2009 water legislation that passed into law. But this is not your assignment . . . Water Code 85086 is an exception to this planning mantra. With the Delta Flow Criteria Proceeding, the State Water Board should not balance competing beneficial \*72 uses to complete its work with this section of the Water Code. [FN182]

In their closing written comments to the State Water Board, American Rivers and the Natural Heritage Institute explained:

Unlike the objectives in the 2006 Bay-Delta Water Quality Plan, the criteria stated in this report do not reflect a balance or accommodation between trust uses and the public interest in reliable water supply. The Board did not consider here the feasibility, cost-effectiveness, or other social or economic impacts of flows consistent with these criteria, or the relative benefits of alternative uses of water. [FN183]

The closing comments from the Bay Institute and the NRDC echoed this position:

[T]he SWRCB should identify the flows associated with fully protecting public trust resources in the Delta without attempting to assess or reconcile potential conflicts between the needs of these resources or between these resources and other uses of water. [FN184]

The April 2010 comment letter submitted by the Environmental Defense Fund placed the Section 85086 public trust Delta flow-criteria proceedings in the context of the two-phased public trust analysis previously established in State Water Board Decision 1631:

At this stage the only “balancing” allowed is that between competing trust uses themselves . . . . This is how the State Board proceeded in the Mono Lake case when the courts handed the matter back to it for application of the court’s ruling. The SWRCB’s initial analysis addressed the various trust resources of the Mono Basin and the water requirements necessary to ensure the future sustainability of those resources \*73 . . . . The SWRCB’s second step is to turn to the question of whether it is “feasible” to provide the water resources necessary to protect the trust values at issue, or whether accepting harm to those resources rises to the level of “practical necessity.” [FN185]

## 2. Scientific Certainty, Non-Flow Stressors, and Appropriateness of Focus on Delta Outflow Criteria

Several of the “key issues” identified in the December 2009 State Water Board notice addressed the question of scientific certainty related to establishing public trust Delta flow criteria. Several Bay Delta water diverters submitted comments recommending that the State Water Board adopt an exacting scientific threshold before adopting Delta flow criteria that isolated the particular contribution of Bay Delta diversions to public trust resource degradation vis-à-vis other “non-flow stressors” such as water pollution and invasive species. In its February 16, 2010, comment letter, the California Department of Water Resources stated:

There are multiple factors affecting the upper estuary ecosystem. Delta outflow is just one of many . . . . For example, contaminants represent a primary driver, but flow changes can influence its effect by diluting or concentrating toxins. In this way, flow itself is not a primary driver, although it can affect out-

comes. From a State Water Board point of view, the pollutant issues need to be addressed first in these cases before it considers changes in flows to address what are actually pollutant issues. [FN186]

....

The causes of the relationship between Delta outflow and species abundance are still relatively poorly understood . . . . Despite the high level of research into the flow-abundance relationships, the specific mechanisms remain fairly elusive. [FN187]

In a joint submission to the State Water Board, the San Luis & Delta-Mendota Water Authority, State Water Contractors, Westlands Water District, Santa Clara Valley Water District, Kern County Water Agency, and Metropolitan Water District of Southern California, maintained:

In the case of the Delta, various measures of flow are frequently presented as having a causal relationship with the \*74 abundance of various native and non-native fish. For example, the log of Delta outflow in the spring . . . has been noted to correlate with abundance indices for several species of fish. However, the existence of correlations, by themselves, cannot properly be used to assume that simply forcing a particular level of outflow will result in any improvement in fish abundance. It must first be determined whether flow per se causes changes in fish abundance or whether high spring flows are simply correlated to other factors that are the true causal factors. [FN188]

The comments submitted by the Coalition for a Sustainable Delta also suggested that there presently remained too much scientific uncertainty to justify the State Water Board's adoption of flow criteria to protect Bay Delta public trust resources:

Unfortunately, numerous stakeholders have presented the State Board with proposed flow criteria that are not based on the best scientific information. All too often, the proposed criteria have not been subject to either classical hypothesis testing or the Bayesian approach to determine the hypothesized relationship between variables (here the relationship between inflow or outflow at a specified volume, time, rate of change and geographic location, on the one hand, and a proposed response in one or more biological variables, such as delta smelt abundance, on the other). [FN189]

....

The State Board must also resist any tendency to give what appear to be intuitive “common-sense” rationales any credence absent support in the best available scientific information. For example, some participants speculate that since the native species evolved in natural hydrographic conditions, then the State Board should formulate informational flow criteria to mimic the natural hydrograph or unimpeded flows as a proxy for the natural hydrograph . . . . Intuitive as this may appear, it is not based on hypothesis testing and falsification, and it has not been demonstrated to be “necessary” to protect trust resources in the Delta. [FN190]

Environmental conservation and fishery groups, as well as two federal agencies, critiqued the characterization of scientific certainty \*75 standards proposed by water users and water project operators, noting that with the degradation of complex ecosystems such as the Bay Delta there is often not a single or per se driver of such degradation, and that the demand for the identification of such an isolated driver (the Bayesian methodology proposed by the Coalition for a Sustainable Delta) is itself not scientifically grounded.

In its comments to the State Water Board, the NMFS (a federal agency whose responsibilities include salmon and steelhead fisheries protected under the ESA) stated:

In a system as complex as the Delta, it is impossible to gather enough data to describe key processes, evaluate important variables, and predict results of management actions with absolute certainty . . . . NMFS encourages the SWRCB to establish initial flow criteria that provide a margin of safety for fish populations dependent on the Delta, including full public trust protection of fishery resources. [FN191]

. . . .

Adequate flows are an essential component of habitat for all life stages of listed and non-listed anadromous fish, both upstream in rivers and spawning habitats, and in the Delta. Flows affect cues for both upstream and downstream migration; affect access to and quality and quantity of rearing habitat; affect temperatures necessary for maintaining spawning, egg incubation and juvenile rearing; and are positively correlated with juvenile salmon survival. [FN192]

The comments of the NMFS were consistent with the comments submitted on behalf of the U.S. Department of the Interior (the parent agency for the Bureau of Reclamation that operates the federal Central Valley Project). The U.S. Department of the Interior stated:

Biological resource management decisions are always made with varying degrees of scientific uncertainty. . . . By acknowledging varying degrees of scientific uncertainty in making decisions, biological resources managers engage in risk assessment. Anyone making a decision must balance the certainty of a predicted effect of a management with the need to act. An example is the certainty of effects resulting from acting to recover delta smelt compared with the probable results of \*76 not acting, which are the continued decline and possible extinction of the species. [FN193]

In their joint comments to the State Water Board, American Rivers and the Natural Heritage Institute explained:

After more than forty years of scientific monitoring by federal and state agencies, universities and other entities, the Delta is the most studied aquatic system in the world. And while causal mechanism in the relation between the physical environment of the Delta and any indicator species are complex, dynamic, and not certain, that is true in any aquatic ecosystem . . . . The ultimate test is whether a flow requirement, or here a criteria, is supported by substantial evidence in the record, not whether the evidence is certain as to the biological response of a given species. [FN194]

The April 13, 2010, comment letter from the California Sportfishing Alliance observed:

For more than three decades, the State Water Board has received expert testimony from resource agency scientists, academic experts and consultants retained by environmental NGOs regarding criteria necessary to protect the Delta. That testimony, predicated upon the life histories of specific species, has shared a consistent thread: the need for considerably greater inflow and outflow, the minimization of reverse flows and return to a more natural hydrograph. [FN195]

In their joint submission to the State Water Board, the Bay Institute, the Defenders of Wildlife, the Nature Conservancy, and the Environmental Defense Fund noted:

The statute requires the Board's best judgment regarding public trust flows based on the available data, not "perfect" data. The standard for developing the public trust flow criteria is not "certainty," but reasonableness and best scientific judgment. As one prominent fishery biologist recently noted, there is no good mechanistic understanding of why gravity exists or how it works. Nevertheless, we do know that it does work, \*77 and the correlations that this unexplained phenomenon produces (e.g., how fast things

falls) are the rules that we use every day to build buildings, bridges, airplanes, etc. [FN196]

In evaluating these contrasting views on the scientific certainty question, two additional points bear mention. First, when the State Water Board evaluated in Decision 1631 what lake elevations levels were needed to protect the California Gull colony on Negit Island from predation by coyotes, the State Water Board did not deem it necessary to find that such predation was the singular or per se cause of the colony's decline. [FN197] Rather, in Decision 1631 the State Water Board based its lake elevation level determination on the more limited scientific findings that such predation was “a factor” that had a “major effect” on Gull reproduction, and that evidence showed “a consistent relationship between lake level and nesting habitat securing from predation.” [FN198]

Second, the text of [Section 85086](#) directs the State Water Board to establish Delta flow criteria to protect public trust resources, indicating the California State Legislature has already determined that some minimum in-stream flows through the Bay Delta are needed to protect public trust resources such as fisheries. To accept the contention of water users and water agencies that the correlation between instream flow and protection of Bay Delta fisheries has not yet been established, the State Water Board would need to disregard the fundamental legislative determination reflected and articulated in [Section 85086](#).

### 3. Qualitative (Narrative) Versus Quantitative (Numeric) Delta Outflow Criteria

In addition to disagreements concerning the appropriate scientific certainty standards, the comments to the State Water Board also revealed disagreements as to the particular form that the public trust Delta flow should take. Some water users and water project operators argued that, due to scientific certainty considerations and the multiple non-flow stressors involved, the public trust Delta flow criteria developed by the State Water Board should be limited to “qualitative” (narrative) flow criteria and should not include quantitative (numeric) flow criteria.

In its February 16, 2010, comment letter, the California Department of Water Resources stated its view that:

\*78 [N]ine months is too short of a time period to adequately develop and assess a new flow regime for all criteria in the Delta. As such, the State Water Board should focus on developing narrative criteria needed to establish new outflow objectives. [FN199]

In their joint submission to the State Water Board, the State Water Contractors (who received water from the State Water Project) and the San Luis & Delta-Mendota Water Authority, echoed the position of the California Department of Water Resources on this question:

The State and Federal Contractors support the State Water Board establishing qualitative (narrative) flow criteria for the Delta ecosystem that can guide planning processes . . . . Simply put, any attempt to establish numeric flow criteria would cause an exceedingly complex issue to become even more complicated . . . . In sum, the State and Federal Contractors believe an approach on producing qualitative (narrative) flow criteria can be accomplished within the time provided by the Legislature to the State Water Board. [FN200]

This approach was also endorsed in the joint comments submitted by the San Luis & Delta-Mendota Water Authority, State Water Contractors, Westlands Water District, Santa Clara Valley Water District, Kern County Water Agency, and Metropolitan Water District of Southern California:

The State Water Board can use this proceeding as an opportunity to establish largely narrative criteria that will guide future analyses of the ecosystem and that allows flow and non-flow hypotheses to be evaluated and management decisions to be made using the best data. History and the current state of the sci-

ence clearly demonstrate numeric flow criteria cannot be properly established until flow is studied in a proper context that analyzed the ecological services it provides, and it is determined that flow is the proper mechanism to provide those services. [FN201]

Due to their differing views of the scientific certainty question, environmental conservation and fishery organizations instead proposed that the State Water Board develop quantitative, numeric instream flow \*79 criteria pursuant to Section 85086 of the 2009 Delta Reform Act. More specifically, detailed and numerically specific proposed Delta flow criteria were included in the State Water Board submissions of the following organizations: American Rivers, [FN202] Natural Heritage Institute, [FN203] California Sportfishing Protection Alliance, [FN204] California Water Impact Network, [FN205] Environmental Defense Fund, [FN206] The Bay Institute, [FN207] and NRDC. [FN208] In its comments to the State Water Board as to why narrative flow criteria were inadequate, Environmental Defense Fund asserted:

A policy decision [by the State Water Board] to delay establishment of quantified and clear flow criteria until the science reaches this ideal level of predictability would be tantamount to a policy decision to tolerate the continued decline of the Bay-Delta ecosystem and its fishery resources. [FN209]

It should also be noted that water users and water project operators did not themselves present the State Water Board with any counterproposals for a quantitative, Delta flow criteria that called for numeric Bay Delta instream flow requirements of a reduced volume of water, other than those proposed by environmental conservation and fishery organizations. Presumably, water users and water project operators refrained from submitting such counterproposals for numeric Delta flow criteria because the submission of such counterproposals might have run counter to their contention that there is insufficient scientific certainty to support the State Water Board's adoption of any such quantitative criteria.

The approach taken by the water users and water project operators in the Section 85086 State Water Board proceedings can be contrasted with the approach taken by LADWP in the earlier Mono Lake State Water Board proceedings. More specifically, during the Mono Lake State Water Board proceedings, LADWP submitted its own expert testimony to support its position that public trust resources could be adequately\*80 protected by restoring the lake to elevations levels less than the lake elevation levels proposed by the National Audubon Society, the Mono Lake Committee, and the California DFG. [FN210] The State Water Board therefore was able to evaluate and compare LADWP's alternative proposed lake elevation level analysis as part of its assessment of what was needed to protect the Mono Basin's public trust resources. [FN211]

In terms of the Section 85086 public trust Delta flow proceedings, the State Water Board was thus denied the opportunity to compare the quantitative flow criteria proposed by environmental conservation and fishery organizations with alternative quantitative flow criteria proposed by water users and water project operators. By refusing to submit any alternative proposed numeric quantitative Delta flow criteria, the water users and water project operators therefore appear to have pinned their hopes on the prospect that the State Water Board would opt for qualitative criteria as its Section 85086 deliverable.

#### V. TO BE WIELDED WISELY: MID-COURSE ASSESSMENT OF DELTA PUBLIC TRUST PROCEEDINGS

The State Water Board's draft of the Delta public trust flow criteria mandated under California's 2009 Delta Reform is scheduled for release late in the summer of 2010, with the State Water Board's adoption of final public trust Delta flow criteria to follow sometime thereafter. The ultimate form the State Water Board's Delta pub-

lic trust flow criteria will take remains to be seen, but based on the informational framework set forth in the State Water Board's December 2009 notice for the Delta public trust flow-criteria proceedings and based on the 2010 submissions filed in response to these notices, some initial mid-course assessments can be offered.

First, this article began with a quote from Richard Roos-Collins (senior attorney with the Natural Heritage Institute) in which he characterized the public trust as a sharp knife that can cut the hand of the person holding it. Roos-Collins made this remark in 1996 at a national workshop on public trust protections for instream flow, where he went on to elaborate:

The public trust doctrine is now being developed in its application to riparian and appropriative water rights. One reason there are so few cases applying the public trust doctrine is that the public interest community, like the states, is afraid of setting bad precedent. The doctrine can hurt. It can be applied in \*81 a way that is unexpected and can hurt the very objectives you have in bringing a case. [FN212]

....

[A] significant problem with the Mono Lake cases as precedent is that they grew out of unique circumstances. As I said earlier, Los Angeles controlled all the water rights from its point of diversion on the stream downstream to the lake. There were no other water rights contributing to the degradation of these tributaries or significantly to the lake. As a result, it was relatively easy to demonstrate the causal connection between Los Angeles' diversions and the harm suffered by the trust resources. . . . In a circumstance where many water rights are contributing to degradation, proving the causal connection will be more difficult. [FN213]

In a 1995 law review article, Cynthia Koehler, now with Environmental Defense Fund, offered the following observation that dovetails with some of the public trust perils identified by Roos-Collins. Koehler wrote:

Together, the Mono Lake and American River disputes consumed over thirty-two years of litigation. Yet these are among the easy cases. . . . California and the rest of the American West face a torrent of conflicts between public trust resources and water rights. These conflicts will not readily submit to solution through easy alternatives or artfully crafted physical solutions, even by the most Solomonic of jurists. [FN214]

The warnings of Roos-Collins and the forecasts of Koehler recognize that the analysis of the economic feasibility of protecting public trust resources in a place like the Bay Delta is inherently more challenging than the analysis of the economic feasibility of protecting public trust resources in a place like the Mono Lake Basin. Unlike in the case of the Mono Lake Basin, with just one municipal diverter and user of instream water, in the case of the Bay Delta, state and federal agencies operate multiple diversion facilities throughout the Sacramento River and San Joaquin River watersheds, and there is a myriad of agricultural and municipal interests throughout the state that use water diverted from the Bay Delta specifically, and the Sacramento River and San Joaquin River watersheds more broadly.

\*82 Moreover, in the case of the Bay Delta, even after the State Water Board determines what instream flow is needed to protect public trust resources, the second phase of the public trust analysis would then require (before water diversion entitlements were modified) a determination of how much of this instream flow is already required pursuant to non-public trust legal requirements such as the federal ESA, federal Clean Water Act, federal CVPIA, and [Section 5937 of the California Fish and Game Code](#). To recall, in its Decision 1631 on the Mono Lake Basin, the State Water Board limited its public trust feasibility analysis solely to the consideration of those water diversion reductions specifically imposed by the public trust as opposed to those water diver-

sion reductions imposed pursuant to the public trust and other non-public trust legal requirements. [FN215] Such determinations could be made in the Bay Delta context, but the task of doing so would necessarily be far more complex than was the case with the Mono Lake Basin. The second phase of the public trust analysis, whether undertaken by the State Water Board or a court, would need to first determine the Delta flow already required under other non-public trust legal requirements such as the ESA, Clean Water Act, CVPIA, and [Section 5937 of the California Fish and Game Code](#). The preexisting non-public trust Delta flow requirements would then be excluded from any “feasibility” analysis in regard to public trust Delta flow requirements.

Lastly, in the feasibility determination, evaluating the economic impacts of reduced Delta diversions compelled by the public trust would also be a complex and controversial undertaking. For instance, there are many Central Valley agricultural lands currently served with Delta irrigation water that face the prospects of reduced farming for reasons quite unrelated to water supply. Vast acreage in the San Joaquin Valley's Westlands Water District, as one example, is being rendered unsuitable for farming due to a shallow clay level that resulted in lethal salt levels in the soil. [FN216] These Westlands Water District lands will likely not be viable for continued farming regardless of access to irrigation water, so presumably it would be unwarranted to identify reduced Bay Delta diversions as the proximate cause of reduced farming on such lands. Since--per the approach adopted in the Decision 1631--the evidentiary burden rests with those parties contending that full protection of public resources is “infeasible,” Westlands Water District and others similarly situated may be required to establish that reduced Bay Delta water diversions are the per se, or proximate cause, of why farming on such \*83 marginal lands is no longer viable. These considerations pertaining to agricultural land were not in play with Mono Lake and Decision 1631, which only involved diversion of public trust waters for urban/municipal use.

The circumstances noted above do not suggest that public trust protections are any less applicable or binding in the Bay Delta than they are in the Mono Lake Basin, but they do suggest that when it comes to the Bay Delta, the feasibility component of the two-phased public trust analysis is likely to be a contentious, politicized, and potentially protracted undertaking.

In adopting [Section 85086](#) of the 2009 Delta Reform Act, the California legislature took an honest and sober account of the multiple complexities involved in application of the second phase, or feasibility component, of the public trust analysis to the Bay Delta, and wisely chose an approach that can best be described as “intentional decoupling.” That is, instead of waiting to have the State Board attempt to address both the first phase and second phase of the public trust analysis in the context of a single water right proceeding seeking to modify Bay Delta diversion entitlements (in a proceeding most likely initiated by environmental conservation and fishery organizations), the California legislature used [Section 85086](#) to statutorily compel the State Water Board to complete the first phase of its Bay Delta public trust analysis within a specified timeframe, while reserving for another day and another proceeding the completion (by either the State Water Board or a court) of the second phase of the Bay Delta public trust analysis.

The December 2009 notice issued by the State Water Board stayed true to this practical and well-conceived statutory framework, by explicitly requesting that submissions focus on the science and by omitting any request for the submission of information concerning the feasibility of providing protection for public trust resources. The December 2009 notice of course did not prevent water users and water project operators from nonetheless including statements in their State Water Board submissions related to the potential economic impacts of reducing Bay Delta water diversions. However, if the December 2009 notice is reflective of the considerations that will actually guide the State Water Board's [Section 85086](#) public trust Delta flow-criteria deliberations, it seems unlikely that the economic feasibility statements submitted by water users and water project operators will factor

into the Bay Delta flow criteria ultimately adopted by the State Water Board.

In terms of a mid-course assessment of scientific questions concerning certainty and non-flow ecological stressors, and whether the State Water Board's public trust Bay Delta flow criteria should be quantitative or qualitative in form, we can again look to the statutory language \*84 and intention behind [Section 85086](#). If the primary objective of [Section 85086](#) is understood to be the State Water Board's adoption of new flow criteria that--if achieved--would provide for enhanced protection of Bay Delta fisheries, it is difficult to conceive how this objective would be fulfilled either by the adoption of solely narrative flow criteria or by the State Water Board's refusal to develop any flow criteria on the grounds that the complexity of the Bay Delta's ecology and interactions with non-flow ecological stressors preclude it from doing so.

## VI. CONCLUSION

[Section 85086](#) of California's 2009 Delta Reform Act has placed the public trust in the middle of one of the most contentious and longstanding water resource conflicts in our nation's history. Ecologically and economically, much is at stake. The resolution (or non-resolution) of the Bay Delta conflict will determine the fate of endangered salmon, smelt, and steelhead fisheries, and affect water supply for farms and cities throughout the state. A careful analysis reveals that [Section 85086](#) of California's 2009 Delta Reform Act is in close accord with the scope of public trust protections and the sequencing of public trust analyses established in previous California court decisions and State Water Board proceedings. Moreover, the actions of the State Water Board to date evidence a fidelity to the statutory text and the intentions of the California legislature by focusing the [Section 85086](#) proceedings on a scientific assessment of what instream flow is required to protect the Bay Delta's public trust resources.

As the [Section 85086](#) State Water Board proceedings move toward a conclusion, there is every expectation that water users and water project operators will continue to press the State Water Board to factor water supply economic considerations into the agency's substantive development of [Section 85086](#) Bay Delta flow criteria. It remains to be seen whether the State Water Board will resist such pressures.

## VII. POSTSCRIPT ON BAY DELTA PUBLIC TRUST FLOW CRITERIA ADOPTED BY THE STATE WATER BOARD

The initial version of this article was completed and submitted for publication in early July 2010, and was intended to cover developments through that date. Subsequent to the completion and submission of the article, however, significant events occurred pertaining to matters considered in the article. More specifically, and as discussed in this postscript, in August 2010 the State Water Board adopted a resolution setting \*85 forth its final Bay Delta public trust flow criteria in fulfillment of the statutory directive in the 2009 Delta Reform Act. [\[FN217\]](#)

### A. July 2010 Draft Public Trust Flow Criteria for the Bay Delta

On July 20, 2010, the State Water Board issued a "Draft Report" with its proposed Bay Delta public trust flow criteria (Draft Delta Flow Criteria Report). Section 1.1 of the Draft Delta Flow Criteria Report was titled "Legislative Directive and State Water Board Approach." Under the subheading "State Water Board's Public Trust Responsibilities in this Proceeding," the Draft Delta Flow Criteria Report explained:

Under the public trust doctrine, the State Water Board must take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible. ([National Audubon Society v. Superior Court \(1983\) 33 Cal.3d 419, 446.](#)) . . . The State Water Board does not make any determination regarding the feasibility of the public trust criteria and consistency with the public interest in this report.

. . .

[A]ny balancing of public trust values and water rights, would be conducted through an adjudicative or regulatory proceeding. Instead, the State Water Board's focus here is solely on identifying public trust resources in the Delta ecosystem and determining the flow criteria, as directed by Water Code [section 85086](#). [FN218]

A comprehensive analysis of the content of the Draft Delta Flow Criteria Report is beyond the scope of this postscript, but two components merit particular attention. First, in Section 1.2, titled "Summary Determinations," under a subheading titled "Flow Criteria and Conclusions," the Draft Delta Flow Criteria Report provided:

In order to preserve the attributes of natural variable system to which native fish species are adapted, many of the criteria developed by the State Water Board are crafted as percentages of natural or unimpaired flows. These criteria include:

\*86 • 75% of unimpaired Delta outflow from January through June;

• 75% of unimpaired Sacramento River inflow from November through June; and

• 60% of unimpaired San Joaquin River inflow from February through June.

It is not the State Water Board's intent that these criteria be interpreted as precise flow requirements for fish under current conditions, but rather they reflect the general timing and magnitude of flows under the narrow circumstances analyzed in this report. In comparison, historic flows over the last 18 to 22 years have been:

• approximately 30% in drier years to almost 100% of unimpaired flows in wetter years as Delta outflows;

• about 50% on average from April through June for Sacramento River inflows; and

• approximately 20% in drier years to almost 50% in wetter years for San Joaquin River inflows. [FN219]

Second, Appendix B to the Draft Delta Flow Criteria Report was titled "Water Supply Modeling." [FN220] The opening paragraph to Appendix B of the Draft Delta Flow Criteria Report stated:

This appendix provides a rough estimate of the theoretical impact of the flow criteria on water supplies in the Central Valley and Delta. To assist Water Board staff, Department of Water Resources (DWR) Modeling Support Branch staff modeled the criteria using the latest version of the CALSIMII model. The main purpose of this modeling study is to: 1) estimate water supply impacts of meeting the criteria; and 2) determine to what extent the criteria conflict with the need to preserve cold water in tributaries. [FN221]

As noted earlier in this article, DWR operates California's State Water Project, whose dams, reservoirs, and canals are responsible for the diversion of instream water from the Sacramento River and San Joaquin River watersheds that reduce Delta outflows. As also noted earlier in this article, DWR submitted comments during the Bay Delta public trust flow-criteria proceedings, discouraging the State Water Board from adopting quantitative

flow criteria and instead recommending that the State Water Board develop narrative criteria. [FN222]

**\*87 B. Comments on July 2010 Draft Bay Delta Public Trust Delta Flow Criteria**

1. Proposed Outflow/Inflow Criteria

Certain water users, water and irrigation districts, and water project operators criticized the Draft Delta Flow Criteria Report for not taking economic feasibility into account in its proposed outflow/inflow criteria for the Bay Delta. For instance, in its comment letter, the Coalition for a Sustainable Delta maintained:

[T]he State Water Resources Control Board (State Board) has interpreted its duties under the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act) with respect to the instream flow recommendations in a manner that is improperly narrow in scope . . . and no attempt is made to balance the public interest with respect to the need for water . . . . [FN223]

The comment letter from the State and Federal Contractors Water Agency stated:

The Draft Flow Report is deficient in that it does not comply with the Legislative mandate that the State Water Board prepare the report “pursuant to its public trust obligations.” (Water Code, §85086 (c)(1)). The significance of the Legislature's reference to the “public trust obligations” when ordering the State Water Board to develop flow criteria is that the references demand that the State Water Board develop criteria after balancing the needs served by the appropriation of water against the needs of public trust resources. (*National Audubon Society et al. v. Superior Court*, 33 Cal.3d 419 (1983)). [FN224]

The DWR was also displeased with the outflow/inflow criteria proposed in the Draft Delta Flow Criteria Report:

DWR understands that SWRCB interpreted its charge in Water Code Section 85086 of the Delta Reform Act to produce recommendations for Delta outflow necessary to protect public trust resources . . . without considering the feasibility of implementing the flow recommendations. [FN225]

.....

**\*88** SWRCB acknowledges on page 12 of the Draft Report that the public trust doctrine requires SWRCB to “preserve, so far as consistent with the public interest, the uses protected by the trust.” (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 447). These public interest considerations are critical to SWRCB's discharge of its public trust obligations. However, in developing the Draft Report, SWRCB takes a much more limited approach. By not considering the public interest in this report, or determining whether the flow criteria are consistent with the public trust, SWRCB fails to appropriately discharge its public trust obligations, as required by the Delta Reform Act. [FN226]

Conservation organizations and fishery-focused agencies, however, contended that the State Water Board had followed the statutory directive by basing its proposed outflow/inflow criteria on what was needed to protect the Bay Delta's public trust resources. In their joint comment letter, American Rivers and the Natural Heritage Institute stated:

We support the flow criteria (p. 5, Table 22-23) which the draft report recommends to protect public trust resources in the Delta, “assum[ing] the current physical system and climate” (p. 6). We agree with the conclusion (p. 5) that criteria which track unimpaired flow from each tributary will best preserve eco-

system functionality. We agree (p. 4) that these flow criteria are based on sufficient scientific information in the record of this proceeding. [FN227]

....

We recommend that the State Water Board adopt this draft report, which is consistent with the requirements of the **Delta** Reform Act. [FN228]

The outflow/inflow criteria proposed in the Draft **Delta** Flow Criteria Report were also endorsed in a comment letter submitted jointly by The **Bay** Institute, the **California** Coastkeeper Alliance, the **California** Sport-fishing Alliance, the **California** Water Impact Network, the Defenders of Wildlife, the Environmental Defense Fund, the NRDC, the Planning and Conservation League, and Sierra Club **California**:

**\*89** Our organizations collectively represent hundreds of thousands of Californians concerned about keeping the **Bay-Delta** Estuary alive and healthy and restoring our dwindling salmon and other aquatic species. We applaud the draft that you have prepared identifying the flow needs of the Estuary's **public trust resources**, and particularly commend your careful analysis of the overwhelming scientific support that has demonstrated for many years that we are, and have been, extracting too much water from the Estuary and its watershed to support those **trust resources** sustainably. [FN229]

The NMFS was also generally supportive of the outflow/inflow criteria proposed in the Draft **Delta** Flow Criteria Report:

[T]he purpose of the flow criteria is to inform both the **Bay Delta** Conservation Plan process and the **Delta** Stewardship Council in their development of a comprehensive, long-term **Delta** management plan. The State Water Board was successful in fulfilling this purpose by developing flow criteria through a **public** process, applying best available science, and considering the broad goals of the planning efforts the criteria are intended to inform. [FN230]

....

. . . [T]he **Delta** flow criteria provide a solid foundation for considering how to manage **Delta** flows in a manner that is more beneficial to native aquatic species. [FN231]

## 2. Appendix B on Water Supply Modeling

The DWR Water Supply Modeling in Appendix B to the Draft **Delta** Flow Criteria Report was referenced favorably in comment letters from water users. For instance, in its letter, the Northern **California** Water Association stated:

[A]ppendix B to the Draft Report includes information that is essential to the Draft Report's complying with the Legislature's mandate in Water Code section 85086(c)(1) that the flow criteria described the “**volume**, quality, and timing of **\*90** water necessary for the **Delta** ecosystem under different conditions.” [FN232]

....

Appendix B to the Draft Report demonstrates that--if implemented fully--the flow criteria recommended in the Draft Report would--effectively shut down **California**. [FN233]

The **California** Farm Bureau Federation also referenced Appendix B in its comment letter:

The Water Board has provided us with a set of the instream outflow, inflow, and in-Delta flow criteria that reduce the State's existing water supply north, south, up and downstream of the Delta by nearly 5.4 million acre-feet. According to the water supply modeling completed for the Board by DWR's Modeling Support Branch and included as Appendix B of the Draft Report, north-of-Delta CVP and SWP [State Water Project] deliveries to the Sacramento Valley and North Bay would be reduced by an average of 67% or some 2.2 million acre-feet; south-of-Delta deliveries would be further reduced 21 to 25 percent or some 1 million acre-feet . . . . [FN234]

. . . .

In light of the severe water supply . . . impacts . . . shown in the Water Supply Modeling of the Board's draft criteria, it is quite apparent that implementation of the proposed draft or any similar criteria would be impossible as a practical and legal matter, and that the criteria are therefore not "feasible." [FN235]

Among conservation organizations, however, there were several comment letters calling for Appendix B of the Draft Delta Flow Criteria Report to be removed. In their joint comment letter, American Rivers and Natural Heritage Institute asserted:

The draft report includes an Appendix B which reports modeling by Department of Water Resources (DWR) staff to estimate reductions in water supply and reservoir storage associated with the flow criteria. The final report should omit this appendix. It addresses an issue that the State Water Board expressly excluded from the limited scope of the hearing, \*91 which solely concerned flow criteria necessary for protection of public trust resources. . . . For that reason, we and many other parties did not submit any evidence on that issue. [FN236]

The Bay Institute and the NRDC explained:

[A]ppendix B, Water Supply Modeling, was prepared by the Department of Water Resources and added to the report, without significant caveats of any kind. Not only were water supply impacts properly excluded by the Board in its consideration of flow criteria, but in producing any estimate of such impacts there are many modeling assumptions, simplifications, and operational decisions that must be used but which are not adequately explained in the text of Appendix B, and which is likely to result in a significant overestimate of the impacts to State and Federal water contractors. For these reasons, we strongly recommend that the Board should exclude Appendix B from the final report. [FN237]

Along these same lines, the California Water Impact Network-California Sportfishing Protection Alliance comment letter stated:

Appendix B is a surprise and a deep disappointment to our organizations . . . . Appendix B's presence in the draft Delta Flow Criteria report defies Water Code Section 85086, which solely mandates preparation of the flow criteria contained in the report. "In carrying out this section," says the law, "the board shall review existing water quality objectives and use the best available scientific information." Appendix B's last minute addition reflects the fact that it was not subjected to the same rigorous analysis as Board staff exercised over the biological and hydrological information that was submitted as part of the proceeding. [FN238]

### 3. August 2010 Adoption of Final Bay Delta Public Trust Delta Flow Criteria

On August 3, 2010, the State Water Board adopted Resolution No. 2010-0039 which provided in pertinent part, that "[i]n accordance with the Delta Reform Act, the State Water Board approves the report determining

\*92 the new flow criteria for the Delta ecosystem that are necessary to protect public trust resources.” [FN239]

The Bay Delta outflow/inflow criteria in the final report adopted pursuant to State Water Board Resolution No. 2010-0039 were identical to those proposed in the Draft Delta Flow Criteria Report, and did not include any assessment of the economic “feasibility” of implementing the proposed outflow/inflow criteria. [FN240] In the final report adopted pursuant to State Water Board Resolution No. 2010-0039, however, DWR’s Water Supply Modeling (included as Appendix B in the Draft Delta Flow Criteria Report) was omitted. [FN241]

Although no litigation has yet been filed [FN242] challenging the validity of the State Water Board’s final Bay Delta public trust flow criteria, the courts may soon have an opportunity to put these criteria to use. On September 2, 2010, the nonprofit organizations California Water Impact Network, California Sportfishing Protection Alliance, and AquAlliance filed a petition for writ of administrative mandate in Sacramento County Superior Court against the State Water Board and the California Department of Water Resources. [FN243] The first cause of action in this petition was for violations of the California public trust doctrine, and alleged in pertinent part:

Respondents’ actions in increasing annual pumping after 2000, and the Board’s failure to enforce its public trust authority after the effects of that pumping became apparent, constitutes a prejudicial abuse of discretion, in that Respondents did not proceed in the manner required by the Public Trust law, and no substantial evidence supports the Board’s failure to take action to amend DWR’s permit to reduce diversion and protect the Bay-Delta estuary and its species.

Defendant Board has an affirmative duty to protect trust resources. Over the years and continuing to the present time, the Defendant Board’s permitting process and failure to enforce permit requirements has caused there to be a substantial decline in the food web, in fish numbers, in water quality, \*93 and in hydrologic changes which have caused injury to the ecosystem and to members of the public, including Plaintiffs. Present ecological conditions in the Bay-Delta have contributed to the closure of the commercial and sport-fishing fishing seasons off the California coast, resulting in the near complete loss of recreational fishing opportunities for anglers. [FN244]

In their prayer for relief, petitioners seek a declaration that “Defendant SWRCB [State Water Board] has failed to enforce and Defendant DWR’s operation have violated the California Public Trust in the Bay-Delta,” [FN245] and seek to “enjoin Defendant DWR from diverting water from the Bay-Delta until such time as Defendant DWR’s operations conform with law” [FN246] and to “enjoin Defendant SWRCB [State Water Board] from allowing operation of state water export projects until such time that Defendant DWR comes into compliance with the law.” [FN247] The claims and relief sought in the petition may now require the court to confront the second phase of the two-phased public trust analysis--the “feasibility” component--in the context of the Bay Delta flow requirements. What was outside the scope of Section 85086 of California’s 2009 Delta Reform Act may therefore soon become front and center.

As the petitioners in this litigation seek evidentiary support for their public trust claims, it is foreseeable, if not likely, that they will attempt to rely (at least in part) on the findings and recommendations set forth in the final State Water Board Bay Delta public trust flow criteria. So the public trust’s journey through the Bay Delta appears far from over.

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cisco, where he teaches Water Law and California Natural Resources Law and co-directs the GGU Center on Urban Environmental Law. He is also of counsel to and a former partner with the natural resources and water law practice group at Fitzgerald Abbott & Beardsley LLP. He received an LLM from the Boalt Hall School of Law at the University of California at Berkeley and a BA from Colgate University. The main section of this article covers developments through June 2010, and a postscript to this main portion covers developments through August 2010. This author acknowledges the assistance of Jon-Erik Magnus in research related to the preparation of this article. The author also thanks Cynthia Koehler, John Leshy, Antonio Rossman, and David Sandino for their review and comments on a pre-publication draft of this article.

[FN1]. Richard Roos-Collins, Comment in Panel Discussion, in *The Public Trust Doctrine and Its Application to Protecting Instream Flows: Proceedings of a Workshop* 42 (G.E. Smith & A.R. Hoar eds., 1999) (Mar. 5-6, 1996) [hereinafter 1996 Public Trust Workshop] (Workshop organized by the National Instream Flow Program Assessment) (on file with author).

[FN2]. Timothy M. Mulvaney, *Instream Flows and the Public Trust*, 22 *Tul. Env'tl. L.J.* 315, 365 (2009) (“[T]he public trust operates, in part, independently of the statute's expression of the public trust.”).

[FN3]. See generally Harrison C. Dunning, *The Public Trust: A Fundamental Doctrine of American Property Law*, 19 *Env'tl. L.* 515 (1989); Joseph L. Sax, Introduction to the Public Trust Doctrine, in 1996 Public Trust Workshop, *supra* note 1, at 5; Thomas J. Dawson, *The Public Trust Doctrine and Limits on Private Water Rights*, in 1996 Public Trust Workshop, *supra* note 1, at 27.

[FN4]. Hon. Coleman A. Blease, *What Water Does the Public Trust Doctrine Carry?*, in 1996 Public Trust Workshop, *supra* note 1, at 20; Sax, *supra* note 3, at 12; Cynthia L. Koehler, *Water Rights and the Public Trust Doctrine: Resolution of the Mono Lake Controversy*, 22 *Ecology L.Q.* 541, 546 (1995) (“The trust responsibility is an attribute of state sovereignty and is therefore beyond legislative modification.”).

[FN5]. *Nat'l Audubon Soc'y v. Super. Ct. of Alpine Cnty.*, 658 P.2d 709 (Cal. 1983).

[FN6]. *Nat'l Audubon*, 658 P.2d at 712.

[FN7]. *Id.* at 721.

[FN8]. See *id.* at 728.

[FN9]. Mono Lake Basin Water Right Decision 1631, St. of Cal. Water Resources Control Bd. (Sept. 28, 1994), [http:// www.swrcb.ca.gov/waterrights/board\\_decisions/adopted\\_orders/decisions/d1600\\_ d1649/wrd1631.pdf](http://www.swrcb.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1631.pdf) [hereinafter Decision 1631].

[FN10]. *Cal. Water Code* § 85086(c)(1) (West 2009).

[FN11]. See Patrick Wright, *Fixing the Delta: The CALFED Bay-Delta Program and Water Policy Under the Davis Administration*, 31 *Golden Gate U. L. Rev.* 331, 333 (2001).

[FN12]. *Id.*

[FN13]. *Id.*; Governor's Delta Vision Blue Ribbon Task Force, *Our Vision for the California Delta* 8, 26 (Jan. 2008), available at [http:// deltavision.ca.gov/BlueRibbonTaskForce/FinalVision/Delta\\_Vision\\_Final.pdf](http://deltavision.ca.gov/BlueRibbonTaskForce/FinalVision/Delta_Vision_Final.pdf)

[hereinafter Delta Vision].

[FN14]. Delta Vision, *supra* note 13, at 26.

[FN15]. Wright, *supra* note 11, at 332.

[FN16]. Sax, *supra* note 3, at 7.

[FN17]. Mulvaney, *supra* note 2, at 346.

[FN18]. Sax, *supra* note 3, at 7.

[FN19]. *Id.*

[FN20]. Dawson, *supra* note 3, at 27.

[FN21]. Mulvaney, *supra* note 2, at 346-47.

[FN22]. *Id.* at 347.

[FN23]. *Id.*

[FN24]. Mulvaney, *supra* note 2, at 32; Joseph L. Sax, The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention, 68 Mich. L. Rev. 471, 484 (1969-70).

[FN25]. Act of September 9, 1850, § 3, 9 Stat. 453, available at <http://memory.loc.gov/cgi-bin/ampage?collId=llsl&fileName=009/llsl009.db&recNum=6>.

[FN26]. Sax, *supra* note 3, at 8.

[FN27]. *Illinois Central R.R. Co. v. Illinois*, 146 U.S. 387 (1892).

[FN28]. *Illinois Central*, 146 U.S. at 453-54; Craig Anthony Arnold & Leigh A. Jewel, *Litigation's Bounded Effectiveness and the Real Public Trust Doctrine: The Aftermath of the Mono Lake Case*, 14 *Hastings W.-Nw. J. Envtl. L. & Pol'y* 1177, 1191 (2008).

[FN29]. *Illinois Central*, 146 U.S. at 453.

[FN30]. *People v. Cal. Fish Co.*, 138 P. 79, 87 (Cal. 1913); Sax, *supra* note 24, at 528.

[FN31]. *Cal. Fish Co.*, 138 P. 79, at 87; See also Sax, *supra* note 3, at 10 (“[T]he states may pass title to the land, but they cannot dispose of the Trust. It can give title but it cannot give the Public Trust away. The grantee takes title burdened by the Public Trust right in the land.”).

[FN32]. *Marks v. Whitney*, 491 P.2d 374, 380 (Cal. 1971).

[FN33]. *Id.*; See also Arnold & Jewel, *supra* note 28, at 1189; Harrison C. Dunning, *California Instream Flow Protection Law: Then and Now*, 36 *McGeorge L. Rev.* 363, 375 (2005); Koehler, *supra* note 4, at 550.

[FN34]. Governor's Commission to Review California Water Rights Law, Final Report (1978) [hereinafter Final

Report].

[FN35]. *Id.* at 28 (Staff Report No. 6); David R.E. Aladjem, [Innovation Within a Regulatory Framework: The Protection of Instream Beneficial Uses of Water in California, 1978 to 2004](#), 36 *McGeorge L. Rev.* 305, 321-22 (2005).

[FN36]. Final Report, *supra* note 34, at 28 (Staff Report No. 6).

[FN37]. [Nat'l Audubon Soc'y v. Super. Ct. of Alpine Cnty.](#), 658 P.2d 709 (Cal. 1983).

[FN38]. *Arnold & Jewel*, *supra* note 28, at 1182-83.

[FN39]. *Id.*

[FN40]. See Decision 1631, *supra* note 9, at 99-106.

[FN41]. *Id.* at 5-6.

[FN42]. *Arnold & Jewel*, *supra* note 28, at 1185; Decision 1631, *supra* note 9, at 6.

[FN43]. *Arnold & Jewel*, *supra* note 28, at 1185.

[FN44]. Decision 1631, *supra* note 9, at 5; See *Arnold & Jewel*, *supra* note 28, at 1183.

[FN45]. Decision 1631, *supra* note 9, at 5-6; *Arnold & Jewel*, *supra* note 28, at 1183.

[FN46]. See Decision 1631, *supra* note 9, at 77-82.

[FN47]. *Id.* at 99; *Arnold & Jewel*, *supra* note 28, at 1183-84.

[FN48]. [Nat'l Audubon Soc'y v. Super. Ct. of Alpine Cnty.](#), 658 P.2d 709, 716-17 (Cal. 1983).

[FN49]. *Id.*

[FN50]. *Id.* at 717.

[FN51]. *Id.* at 720.

[FN52]. *Id.* at 720-21.

[FN53]. See [Nat'l Audubon Soc'y](#), 658 P.2d at 719.

[FN54]. *Id.* at 727-28.

[FN55]. *Id.* at 728.

[FN56]. *Id.*

[FN57]. *Id.* at 728-29.

[FN58]. See [Nat'l Audubon Soc'y](#), 658 P.2d at 729.

[FN59]. *Id.* at 728-29.

[FN60]. See Arnold & Jewel, *supra* note 28, at 1196.

[FN61]. See *id.*

[FN62]. See *id.* at 1183, 1197.

[FN63]. *Id.* at 1197.

[FN64]. Cal. Fish & Game Code § 5937 (West 1998).

[FN65]. Cal. Trout, Inc. v. St. Water Resources Control Bd., 255 Cal. Rptr. 184 (Cal. Ct. App. 1989).

[FN66]. *Id.*

[FN67]. *Id.* at 209.

[FN68]. *Id.* at 213.

[FN69]. *Id.*; see also Koehler, *supra* note 4, at 571.

[FN70]. Decision 1631, *supra* note 9, at 14.

[FN71]. *Id.* at 15.

[FN72]. *Id.*

[FN73]. *Id.*

[FN74]. *Id.* at 1.

[FN75]. *Id.* at 21-76.

[FN76]. Decision 1631, *supra* note 9, at 2.

[FN77]. *Id.* at 85, 88. Per Section 7.1.2 of Decision 1631, out of the total annual reductions of 43,700 AF, 35,200 AF were to satisfy Section 5937's fishery protection flow requirements, thus leaving 8,500 AF for public trust requirements.

[FN78]. Environmental Defense Fund, Closing Comments for Informational Proceeding to Develop Flow Criteria for the Delta Ecosystem Necessary to Protect Pub. Trust Resources 7-8 (2010), [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/delta-flow/docs/closing\\_comments/edf\\_closing.pdf](http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/delta-flow/docs/closing_comments/edf_closing.pdf) [hereinafter Environmental Defense Fund Closing Comments] (“This nuanced ruling indicates a basic two-step process for dealing with public trust conflicts going forward. The State Board's first task in any public trust context is to identify the trust resources at issue and determine the water needed to preserve those trust uses for the benefit of the people of the state into the future. At this stage the only ‘balancing’ allowed is that between competing trust uses themselves. . . . This is how the State Board proceeded in the when the courts handed the matter back to it for application of the court's ruling. The SWRCB's initial analysis addressed the various trust resources of the Mono Basin and the water requirements necessary to

ensure the future sustainability of those resources. . . . The SWRCB's second step is to turn to the question of whether it is 'feasible' to provide the water resources necessary to protect the trust values at issue, or whether accepting harm to those resources rises to the level of 'practical necessity.' In the Mono Lake example, the SWRCB framed this inquiry as a matter of determining the economic impacts of providing the water required to meet the identified level of public trust requirements. It considered not only the water cost itself, but also the availability of alternative supplies, and the marginal cost of such alternatives. . . . Thus, as the Board is aware, its obligation in dealing with any public trust issue is to first isolate the water needs of the rivers, stream fisheries, or estuary at issue.”).

[FN79]. Decision 1631, *supra* note 9, at 77-158.

[FN80]. *Id.* at 177.

[FN81]. *Id.* at 77.

[FN82]. *Id.* at 98-99.

[FN83]. *Id.* at 100.

[FN84]. *Id.* at 103-104.

[FN85]. Decision 1631, *supra* note 9, at 106.

[FN86]. *Id.* at 104.

[FN87]. *Id.* at 77.

[FN88]. *Id.* at 82.

[FN89]. *Id.* at 85-92.

[FN90]. *Id.* at 85-92; Koehler, *supra* note 4, at 574-75 (“[T]he Board conceived its assignment broadly: to ascertain whether the City would be able to meet its total demand for water in light of the Mono Basin reductions. This led the Board to consider LADWP's water supply system as a whole. The Board found that LADWP can pursue ‘a number of alternatives to help offset water losses from the reduction of Mono Basin import . . . .’”).

[FN91]. Decision 1631, *supra* note 9, at 85-92.

[FN92]. *Id.* at 164.

[FN93]. *Id.* at 177.

[FN94]. Koehler, *supra* note 4, at 577.

[FN95]. See generally Federal Central Valley Project Decision 1485, St. of Cal. Water Resources Control Bd. (Aug. 16, 1978), [http:// www.swrcb.ca.gov/waterrights/board\\_decisions/adopted\\_orders/decisions/d1450\\_d1499/wrd1485.pdf](http://www.swrcb.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1450_d1499/wrd1485.pdf) [hereinafter Decision 1485].

[FN96]. See *id.*

[FN97]. See *id.* at 5; Aladjem, *supra* note 35, at 311.

[FN98]. *United States v. Cal. Water Resources Control Bd.*, 227 Cal. Rptr. 161 (Cal. Dist. Ct. App. 1986); Aladjem, *supra* note 35, at 311.

[FN99]. *Cal. Water Resources Control Bd.*, 227 Cal. Rptr. 161; Aladjem, *supra* note 35, at 324; Dunning, *Instream Flow Protection*, *supra* note 33, at 381-82 (“The famed ‘Racanelli’ decision from the Court of Appeal in 1986, which dealt with important questions about the relationship of water rights law and water quality law in the contentions context of the Sacramento-San Joaquin Delta, relied on the public trust doctrine to provide authority for the SWRCB to require instream flows.”)

[FN100]. *Cal. Water Resources Control Bd.*, 227 Cal. Rptr. at 200-201; Aladjem, *supra* note 35, at 324.

[FN101]. *Cal. Water Resources Control Bd.*, 227 Cal. Rptr. at 201.

[FN102]. Aladjem, *supra* note 35, at 324.

[FN103]. Mary J. Scoonover, *Application of the Public Trust Doctrine to Non-Navigable Waters and Efforts to Restore Dry River and Stream Beds*, in 1996 Public Trust Workshop, *supra* note 1, at 97, 99-100. (discussing *Envtl. Def. Fund v. East Bay Mun. Util. Dist.*, Case No. 425955 (Super. Ct. of Alameda Cnty., Jan. 2, 1990)).

[FN104]. *Id.*

[FN105]. *Id.*; Jan S. Stevens, *The Public Trust and Instream Uses*, 19 *Envtl. L.* 605, 615 (1989).

[FN106]. Scoonover, *supra* note 103; Stevens, *supra* note 105, at 615.

[FN107]. Scoonover, *supra* note 103.

[FN108]. *Id.* at 100.

[FN109]. *Id.*

[FN110]. *Id.*

[FN111]. *Id.*

[FN112]. *Id.*

[FN113]. *Fishery Resources and Water Right Issues of the Lower Yuba River Revised Decision 1644*, St. of Cal. Water Resources Control Bd., 49 (July 16, 2003), [http://www.swrcb.ca.gov/waterrights/board\\_decisions/adopted\\_orders/decisions/d1600\\_d1649/wrd1644revised.pdf](http://www.swrcb.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1644revised.pdf) [hereinafter *Revised Decision 1644*]; Ryan S. Bezerra & Yvonne M. West, *Submerged in the Yuba River: The State Water Resources Control Board's Prioritization of the Governor's Commission's Proposals*, 36 *McGeorge L. Rev.* 331, 342-43 (2005).

[FN114]. See generally *Revised Decision 1644*, *supra* note 113; Bezerra & West, *supra* note 113, at 342-43.

[FN115]. *Revised Decision 1644*, *supra* note 113, at 2; Bezerra & West, *supra* note 113, at 342.

[FN116]. See generally Revised Decision 1644, *supra* note 113; Bezerra & West, *supra* note 113, at 342.

[FN117]. Fishery Resources and Water Right Issues of the Lower Yuba River Decision 1644, St. of Cal. Water Resources Control Bd., 4 (2002), [http://www.swrcb.ca.gov/waterrights/board\\_decisions/adopted\\_orders/decisions/d1600\\_d1649/wrd1644.pdf](http://www.swrcb.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1644.pdf) [hereinafter Decision 1644]; Revised Decision 1644, *supra* note 113, at 4; Bezerra & West, *supra* note 113, at 342.

[FN118]. Revised Decision 1644, *supra* note 113, at 142.

[FN119]. *Id.*

[FN120]. Joseph L. Sax, Rights “That Inhere in the Title Itself”: The Impact of the Lucas Case on Western Water Law, 26 *Loy. L.A. L. Rev.* 943, 944 (1993).

[FN121]. Michael Blumm & Thea Schwartz, Mono Lake and the Evolving Public Trust in Western Water, 37 *Ariz. L. Rev.* 701, 709 (1995).

[FN122]. Sax, *supra* note 3, at 5.

[FN123]. *California Water Res. Control Bd.*, 182 *Cal. App. 3d* 82.

[FN124]. Implementation of Water Quality Objectives for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Revised Decision 1641, St. of Cal. Water Resources Control Bd. (Mar. 15, 2000), [http://www.swrcb.ca.gov/waterrights/board\\_decisions/adopted\\_orders/decisions/d1600\\_d1649/wrd1641\\_1999dec29.pdf](http://www.swrcb.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1641_1999dec29.pdf) [hereinafter Revised Decision 1641].

[FN125]. 136 *Cal. App. 4th* 674 (2006).

[FN126]. *Id.* at 778.

[FN127]. *Id.*

[FN128]. Delta Vision, *supra* note 13, at 23, 36-37, 39 fig.1, 7a, 7b & 8; Jay Lund et al., *Envisioning Futures for the Sacramento-San Joaquin Delta* (2007) [hereinafter Lund et al., *Envisioning Futures*]; Jay Lund et al., *Comparing Futures for the Sacramento-San Joaquin Delta* (2010) [hereinafter Lund et al., *Comparing Futures*].

[FN129]. Delta Vision, *supra* note 13, at 23, 36-37, 39 fig.1, 7a, 7b & 8; Lund et al., *Envisioning Futures*, *supra* note 128; Lund et al., *Comparing Futures*, *supra* note 128.

[FN130]. Delta Vision, *supra* note 13, at 23, 36-37, 39 fig.1, 7a, 7b & 8; Lund et al., *Envisioning Futures*, *supra* note 128; Lund et al., *Comparing Futures*, *supra* note 128.

[FN131]. Delta Vision, *supra* note 13, at 23, 36-37, 39 fig.1, 7a, 7b & 8; Lund et al., *Envisioning Futures*, *supra* note 128; Lund et al., *Comparing Futures*, *supra* note 128.

[FN132]. Wright, *supra* note 11 at 332 (citing Central Valley Project Improvement Act, *Pub. L. No. 102-575*, §§ 3401-3412, 106 *Stat.* 4600 (1992)).

[FN133]. See supra text accompanying notes 96-103.

[FN134]. See supra text accompanying notes 104-22.

[FN135]. See supra text accompanying notes 124-28.

[FN136]. Central Valley Project Improvement Act, Pub. L. No. 102-575, §§ 3401-3412, 106 Stat. 4600 (1992); Wright, supra note 11.

[FN137]. Wright, supra note 11.

[FN138]. Id.

[FN139]. Id.

[FN140]. Id.; Jeremy Brown, *In re Bay-Delta: CEQA Decision Adds Certainty to Water Planning*, 97 Calif. L. Rev. 1877, 1878 (2009).

[FN141]. Wright, supra note 11; Brown, supra note 140.

[FN142]. Wright, supra note 11; Brown, supra note 140.

[FN143]. Delta Vision, supra note 13; Lund et al., *Envisioning Futures*, supra note 128; Lund et al., *Comparing Futures*, supra note 128.

[FN144]. *In re Bay-Delta Programmatic Env'tl. Impact Report Coordinated Proceedings*, 34 Cal. Rptr. 3d 696, 774 (Cal. Ct. App. 2005), rev'd, 184 P.3d 709 (Cal. 2008).

[FN145]. *In re Bay-Delta Programmatic Env'tl. Impact Report Coordinated Proceedings*, 184 P.3d 709, 714-15 (Cal. 2008); Brown, supra note 140, at 1878, 1881.

[FN146]. 184 P.3d at 714-15; Brown, supra note 140, at 1878, 1881.

[FN147]. Delta Vision, supra note 13; Lund et al., *Envisioning Futures*, supra note 128; Lund et al., *Comparing Futures*, supra note 128.

[FN148]. *Pac. Coast Fed'n of Fishermen's Ass'ns v. Gutierrez*, 606 F. Supp. 2d 1122 at 1132-34 (E.D. Cal. 2008)

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[FN149]. Id. at 1173-74; Lund et al., *Envisioning Futures*, supra note 128, at 93 n.8.

[FN150]. *Nat. Resources Def. Council v. Kempthorne*, 66 Env't Rep. Cas. (BNA) 1891 (E.D. Cal. Dec. 14, 2007), claim dismissed by 539 F. Supp. 2d 1155 (E.D. Cal. 2008).

[FN151]. Gregory J. Newmark, Meyers Nave, Alf W. Brandt, Sacramento Assembly Committee on Water, Parks & Wildlife, Brenda W. Davis, Cent. Valley Law Grp., Katherine S. Poole & Nat. Resources Def. Council, "Smelt-down: Endangered Species and Water Supply," Session 17 of the 2008 Environmental Law Conference at Yosemite (Oct. 18, 2008).

[FN152]. Berkeley Economic Consulting, *Economic Impacts of the Wanger Interim Order for Delta Smelt* (Dec.

2008).

[FN153]. Nathan Mathews, [Rewatering the San Joaquin River: A Summary of the Friant Dam Litigation](#), 34 Ecology L.Q. 1109, 1124-27 (2007).

[FN154]. *Id.* at 1112.

[FN155]. *Nat. Resources Def. Council v. Patterson*, 333 F. Supp. 2d 906 (E.D. Cal. 2004).

[FN156]. Stipulation of Settlement at PP 17-20 *Nat. Resources Def. Council v. Rodgers*, 381 F. Supp. 2d 1212 (E.D. Cal. 2005); Mathews, *supra* note 153.

[FN157]. Office of the Governor of the St. of Cal., Executive Order S-17-06 (2006).

[FN158]. *Id.*

[FN159]. *Id.*

[FN160]. Delta Vision, *supra* note 13, at 7.

[FN161]. *Id.* at 38.

[FN162]. Richard M. Frank, A New Dawn for the Sacramento-San Joaquin Delta? Assessing the 2009 California Delta/Water Legislation, 37 Ecology L. Currents 17, 18 (2010), <http://elq.typepad.com/currents/2010/03/currents37-03-frank-2010-0317.pdf>. In this article, Frank notes: “The [Delta Vision Blue Ribbon] Task Force's conclusions attracted surprisingly broad and bipartisan support among Sacramento political leaders and Delta stakeholders alike. Many of the Task Force's recommendation formed the policy underpinnings of the Delta Legislation that ultimately was enacted.” *Id.*

[FN163]. Cal. Water Code § 85200 (West 2009).

[FN164]. Cal. Pub. Resources Code § 32320 (West 2009).

[FN165]. Cal. Water Code § 85230(b) (West 2009).

[FN166]. Cal. Water Code § 10920(a) (West 2009).

[FN167]. Cal. Water Code § 85086(c) (West 2009).

[FN168]. Cal. Code Regs. tit. 23, §§ 649.2-649.4, 648-648.8 (2009).

[FN169]. Environmental Defense Fund Closing Comments, *supra* note 78, at 8.

[FN170]. Summary of Testimony of the American Rivers and **Natural Resources** Heritage Institute [NHI] to the St. Water **Resources** Control Bd. for the Informational Proceeding to Develop Flow Criteria for the **Delta** Ecosystem Necessary to Protect Pub. **Trust Resources** 3 (2010) [hereinafter American Rivers Testimony] (on file with author).

[FN171]. Comm. Rep. for 2009 Cal. S.B. No. 1, Seventh Extraordinary Sess. (Nov. 4, 2009).

[FN172]. Notice of Pub. **Trust** Proceedings on **Delta** Flow Criteria, Cal. St. Water **Resources** Control Bd. (Dec. 15, 2009) [hereinafter Notice of **Public Trust** Proceedings] (on file with author).

[FN173]. Id.

[FN174]. Id.

[FN175]. Id.

[FN176]. Id.

[FN177]. Notice of **Public Trust** Proceedings, *supra* note 172.

[FN178]. Memorandum from the St. of Cal. Dep't of Water **Resources** for the **Delta** Flow Criteria Information Proceeding 1-2 (Jan. 14, 2010) (on file with author).

[FN179]. Written Summary of the Dep't of Water **Resources** for the Pub. Information Proceeding to Develop Flow Criteria for the **Delta** Ecosystem Necessary to Protect Pub. **Trust Resources** 2 (Feb. 16, 2010) [hereinafter Written Summary of the Department of Water **Resources**] (on file with author).

[FN180]. Closing Comments of the Coalition for a Sustainable **Delta**, for the Information Proceeding to Develop Flow Criteria for the **Delta** Ecosystem Necessary to Protect Pub. **Trust Resources** 1-2 (Apr. 14, 2010) [hereinafter Coalition for a Sustainable **Delta** Closing Comments] (on file with author).

[FN181]. Comment Letter from **California** Water Impact Network, Friends of the River, and the **California** Sportfishing Protection Alliance, for the Organization of **Delta** Flow Criteria Information Proceeding 2 (Jan. 14, 2010) (on file with author).

[FN182]. Closing Statement prepared by Tim Stroshane, Senior Research Associate for the **California** Water Impact Network, for the St. Water **Resources** Control Bd., to the Proceeding to Develop **Delta** Flow Criteria for the **Delta** Ecosystem Necessary to Protect Pub. **Trust Resources** 2 (Apr. 14, 2010) [hereinafter Stroshane Closing Statement] (on file with author).

[FN183]. Closing Comments of American Rivers and the **Natural** Heritage Institute for the Informational Proceeding to Develop Flow Criteria for the **Delta** Ecosystem Necessary to Protect Pub. **Trust Resources** (Apr. 14, 2010) [hereinafter American Rivers & NHI Closing Comments] (on file with author).

[FN184]. Closing Comments of The **Bay** Institute and NRDC for the Information Proceeding to Develop Flow Criteria for the **Delta** Ecosystem Necessary to Protect Pub. **Trust Resources** 2-3 (Apr. 14, 2010) [hereinafter The **Bay** Institute and NRDC Closing Comments] (on file with author).

[FN185]. Environmental Defense Fund Closing Comments, *supra* note 78, at 7-8.

[FN186]. Written Summary of the Department of Water **Resources**, *supra* note 179, at 4-5.

[FN187]. Id. at 6.

[FN188]. Summary of Written Testimony from State and Federal Water Contractors to St. Water **Resources** Control Bd. **Delta** Flow Criteria Proceeding 3 (Mar. 24, 2010) [hereinafter State and Federal Contractors' Testi-

mony] (on file with author).

[FN189]. Coalition for a Sustainable **Delta** Closing Comments, *supra* note 180, at 5.

[FN190]. *Id.* at 7.

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[FN192]. Letter from Nat'l Marine Fisheries Serv., to Phillip Crader, Senior Env'tl. Chair, St. Water **Resources** Control Bd. 1 (Apr. 14, 2010) (on file with author).

[FN193]. Comments from the U.S. Dep't of the Interior to St. Water **Resources** Control Bd. Notice of Pub. Informational Proceeding (Feb. 12, 2010) (on file with author).

[FN194]. American Rivers Testimony, *supra* note 170, at 3.

[FN195]. Closing Statement from Cal. Sportfishing Protection Alliance to St. Water **Resources** Control Bd. **Delta** Flow Criteria Proceeding 6 (Apr. 13, 2010) [hereinafter **California** Sportfishing Alliance Closing Statement] (on file with author).

[FN196]. Letter from Env'tl Def. Fund, Defenders of Wildlife, The **Nature** Conservancy, and The **Bay** Institute, to St. Water **Resources** Control Bd. **Delta** Flow Criteria Proceeding 1 (on file with author).

[FN197]. Decision 1631, *supra* note 9, at 100-106.

[FN198]. *Id.* at 104.

[FN199]. Written Summary of the Department of Water **Resources**, *supra* note 179, at 11.

[FN200]. Joint Submission of St. Water Contractors and San Luis & **Delta**-Mendota Water Authority 1-2 (Jan. 14, 2010).

[FN201]. State and Federal Contractors' Testimony, *supra* note 188, at 15.

[FN202]. American Rivers & NHI Closing Comments, *supra* note 183, at 6-8.

[FN203]. *Id.*

[FN204]. **California** Sportfishing Protection Alliance Closing Statement, *supra* note 195, at 7-16.

[FN205]. Strohane Closing Statement, *supra* note 182.

[FN206]. Environmental Defense Fund Closing Comments, *supra* note 78. "EDF supports the flow criteria developed by The **Bay** Institute of San Francisco . . . Exhibits TBI-1 through TBI-4 . . . present a comprehensive set of flow criteria . . . founded on the extensive scientific data and literature available regarding the **Bay-Delta** ecosystem and related fisheries."

[FN207]. The **Bay** Institute and NRDC Closing Comments, *supra* note 184.

[FN208]. Id.

[FN209]. Environmental Defense Fund Closing Comments, *supra* note 78, at 1-2.

[FN210]. Decision 1631, *supra* note 9, at 20.

[FN211]. Id.

[FN212]. Comment of Richard Roos-Collins in 1996 Public Trust Workshop, *supra* note 1, at 42.

[FN213]. Id. at 58-59.

[FN214]. Koehler, *supra* note 4, at 588.

[FN215]. Decision 1631, *supra* note 9, at 85-92.

[FN216]. Lloyd G. Carter, [Reaping Riches in a Wretched Region: Subsidized Industrial Farming and Its Link to Perpetual Poverty](#), 3 *Golden Gate U. Env'tl. L.J.* 5, 19-32 (2009).

[FN217]. Determining Delta Flow Criteria Pursuant to the Delta Reform Act, St. Water Resources Control Bd. (Aug. 3, 2010), [http:// www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/resolutions/2010/rs2010\\_0039\\_dwr.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2010/rs2010_0039_dwr.pdf).

[FN218]. St. Water Resources Control Bd., Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem, Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009 2-3 (adopted Aug. 3, 2010).

[FN219]. Id. at 5.

[FN220]. Id. at 178-81.

[FN221]. Id. at 178.

[FN222]. Written Summary of the Department of Water Resources, *supra* note 179, at 11.

[FN223]. Coalition for a Sustainable Delta Comments 1 (July 20, 2010) (on file with author).

[FN224]. State & Federal Contractors Water Agency Comment Letter to St. Water Resources Control Bd. 1-2 (July 29, 2010) (on file with author).

[FN225]. Department of Water Resources Comments on Flow Report 1 (July 29, 2010) (on file with author).

[FN226]. Id.

[FN227]. Comments of American Rivers & Natural Heritage Institute on Draft Report 1 (July 29, 2010) [hereinafter Comments of American Rivers & NHI on Draft Report] (on file with author).

[FN228]. Id. at 2.

[FN229]. Comment Letter from The Bay Institute, Cal. Coastkeeper Alliance, Cal. Sportfishing Alliance, Cal.

Water Impact Network, Defenders of Wildlife, Env'tl. Def. Fund, NRDC, Planning and Conservation League, and Sierra Club Cal., to St. Water Resources Control Bd. 1 (July 29, 2010) (on file with author).

[FN230]. Comment Letter from Nat'l Marine Fisheries Serv. on Draft Report 1 (July 29, 2010) (on file with author).

[FN231]. Id. at 1.

[FN232]. Comment Letter from Northern Cal. Water Ass'n. on Draft Report 3 (July 29, 2010) (on file with author).

[FN233]. Id. at 5.

[FN234]. Comment Letter from the Cal. Farm Bureau Fed'n on the Sacramento-San Joaquin Delta Ecosystem 5 (July 29, 2010) (on file with author).

[FN235]. Id. at 6-7.

[FN236]. Comments of American Rivers & NHI on Draft Report, *supra* note 227.

[FN237]. Comment Letter from The Bay Institute, NRDC on the Draft Delta Flow Criteria Report 5 (July 29, 2010) (on file with author).

[FN238]. Comment Letter from the Cal. Water Impact Network and the Cal. Sportfishing Protection Alliance 1 (July 29, 2010) (on file with author).

[FN239]. Res. 2010-0039, St. Water Resources Control Bd. (Cal. 2010), [http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/resolutions/2010/rs2010\\_0039\\_dwr.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2010/rs2010_0039_dwr.pdf).

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[FN241]. Id. at ii.

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[FN244]. Id. at 10-11.

[FN245]. Id. at 17.

[FN246]. Id.

[FN247]. Id.

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