california water impact network

California Sportfishing Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

AQUALLIANCE

DEFENDING NORTHERN CALIFORNIA WATERS

February 8, 2011

Transmitted by email, paper copies in US Mail

Kari Kyler
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

Subject: Nov 2010 SJR flow and S. Delta salinity Response

Dear Ms. Kyler:

Thank you for the opportunity to provide additional information and comments concerning the State Water Resources Control Board's continuing review and expected revision of San Joaquin River flow and South Delta salinity objectives associated with the Bay-Delta Water Quality Control Plan. We incorporate by reference a number of past and recent San Joaquin River flow and South Delta salinity comments our organizations have provided.[1]

---

[1] Toward this end, our organizations incorporate into this letter by reference the following previous communications to the Board and the Delta Stewardship Council:

- Letter from the California Water Impact Network and the California Sportfishing Protection Alliance to the Board, dated July 8, 2008, providing comments on the Board's Draft Strategic Workplan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.
- Letter from the California Water Impact Network and the California Sportfishing Protection Alliance to the Board, dated June 10, 2009, providing comments on the Board's 2009 Periodic Review Staff Report on the 2006 Bay-Delta Water Quality Control Plan (which updated the 1995 Bay-Delta Water Quality Control Plan).
- Letter from the California Water Impact Network and the California Sportfishing Protection Alliance to the Board, dated December 6, 2010, providing comments on the Draft San Joaquin River Technical Report by the Board staff, issued October 29, 2010.
- Environmental, Environmental Justice, and Fishing Community Joint Scoping Recommendations for the Delta Stewardship Council, January 25, 2011, providing comments on preparation of an Environmental Impact Report on the Council's state-mandated Delta Plan; and
- Letter from the California Sportfishing Protection Alliance, dated January 28, 2011, to the Delta Stewardship Council, providing comments on preparation of an Environmental Impact Report on the Council's state-mandated Delta Plan.

We refer the Board specifically to additional comments made by Bill Jennings, California Sportfishing Protection Alliance to the Delta Stewardship Council on January 28, 2011, that address water quality problems and difficulties with water supply impact modeling and analysis that come from exclusive reliance on CalSIM software.

It is our understanding that since the passage of SB 1 (Seventh Extraordinary Session, 2009) the State Water Resources Control Board diligently assembled a complete archive of scientific and analytic research and evidence, oral testimony, and workshop presentations that provide the Board with the "best available science" in support of the Board's now-adopted Delta flow criteria (including San Joaquin River flow criteria). Since that time, the Board has re-engaged its process for revising San Joaquin River flow and south Delta salinity objectives, and collected still more scientific research specific to the San Joaquin River Basin and its tributaries.

As we have made clear over the years, the State Water Resources Control Board's regulation of the Delta has been deeply disappointing to C-WIN, CSPA and AquAlliance, and for far too long. The 2006 Water Quality Control Plan continued reliance on the San Joaquin River Agreement and its scientific experiment, the Vernalis Adaptive Management Plan (VAMP) from Water Rights Decision 1641 (D-1641, adopted in 2000) and the earlier 1995 Bay-Delta Water Quality Control Plan. The Robie Decision of 2006, the San Joaquin River Agreement and the VAMP were found inadequate to the task of implementing the San Joaquin River flow objectives, and therefore contrary to law. In the ensuing four years, VAMP proved to be a scientific failure for lack of high flows during which to consider salmon survival. The data that were collected are essentially unrepresentative of the San Joaquin River system's unimpaired hydrograph. A decade when precautionary protections could have been in place, were instead wasted, its signature science experiment found legally and functionally wanting.

On southern Delta salinity objectives, Judge Robie also found in 2006 that south Delta salinity objectives were poorly implemented as well. While the Board had also assigned to the US Bureau of Reclamation and the California Department of Water Resources the responsibility for complying with the south Delta salinity objectives, it was not until 2006 (just before Judge Robie handed down his decision) that the Board took enforcement action, issuing a Cease and Desist Order on February 15, 2006.[2]

And then, what the Board giveth, the Board also taketh away. In early 2010, the Board modified its 2006 Cease and Desist Order to postpone enforcement of existing south Delta salinity standards until at least 2014. By then, a new Water Quality Control Plan with new south Delta salinity standards would be in place, and DWR hopes to have plans for a new set of permanent operable barriers approved by fisheries agencies. Such an outcome is hardly assured. In the meantime, the Board will have spectacularly underachieved in its responsibility to protect the Delta's fisheries and its agriculture. The pelagic organism decline documented in the middle of the last decade is still with us, as is the Board's penchant for delaying justice for the Delta ecosystem.

On the other hand, our organizations appreciate the important work the Board completed in its Delta flow criteria report. In our 2008 and 2009 letters (incorporated to this letter above), we placed at the center of

---

[2] 136 Cal App. 4th 674, Section I.A.1.a. Simply stated, the State Water Resources Control Board approved the San Joaquin River Agreement and its VAMP with flow targets that were less than those called for in the San Joaquin River flow objectives approved in the 1995 Bay-Delta Water Quality Control Plan. The Board delayed implementation of South Delta salinity objectives at two in-Delta compliance sites (both on Old River) for more than seven years without justification in the Plan. C-WIN, CSPA, and AquAlliance note that this record of delay has been further extended by the Board's 2009 modification of its 2006 Cease and Desist Order against the Bureau of Reclamation and the Department of Water Resources.

our analysis the problem for the Board of "what flows do fish need?" Under public trust doctrine case law, a rational balancing of the public trust resources is to take into account the answers the Board gave to this question and balance it with the public and private interests and beneficial uses of water in the Delta. Historically, the needs of fish were inadequately accounted for when the state and federal water projects were planned, and sometimes voices supporting fish resources in those days were effectively silenced. It was only when their operations began in the 1950s and 1960s that the consequences for fish and the Delta estuary began coming into focus. But by then the rush was on to complete and operate the projects to their utmost. In other words, little effort was made to balance then.

Since that time, the "balance" clearly struck was more like the peak of a pendulum reaching maximum storage at rim dams and Delta export pumping plants. From 2000 to 2006, four of these seven years saw the combined water exports of these projects from the Delta reached or exceed 6.3 million acre-feet (2000, 2003, 2005, 2006); and in 2005, combined Delta exports reached 6.47 million acre-feet, an all-time high for the coordinated operation of the Central Valley and State Water projects. During this same period, however, a number of Delta listed species crashed in abundance, a condition well-documented in the literature the Board acquired from scientists and interested parties during 2010.

Our organizations recognize that others disagree with such a characterization of the balancing process the Board must engage. Mr. O'Laughlin from the San Joaquin River Group Authority (SJRGA) charges, in an unsolicited letter to the State Water Resources Control Board dated January 31, 2011, that the Board is tacitly changing the scope of the public process concerned with revising the San Joaquin River flow and South Delta salinity objectives and has allowed many participants in the January 7, 2011, fisheries panel addressed flow issues in the San Joaquin watershed upstream of Vernalis. He asks that the Board re-notice "and officially inform all of the interested parties that information regarding areas upstream of Vernalis is relevant to its inquiry" (p. 4). C-WIN, CSPA and AquAlliance recognize that this could pose a due process issue supporting challenge of the Water Quality Control Plan that is to be adopted in 2012. We make a similar request of the Board, so that the integrity of this process is safeguarded for all concerned, and not undermined by litigation at some point in the future. We are concerned that inaction on this matter would result in otherwise preventable delay for public trust protection of Delta estuary and Central Valley watershed resources. We respectfully suggest that the Board base its reasoning in support of expanding the scope of this process on the need to address flow and habitat evidence contained in the Board's Delta flow criteria report adopted last August, and more recently obtained scientific evidence supporting increased instream tributary flows.

At the January 7th fish workshop panel before the Board, most fishery agencies' and NGO scientists stated that flow issues in the South Delta and flow issues in the tributaries are part of the same problem, insofar as San Joaquin basin salmon and steelhead fisheries are concerned. Many written submittals to this proceeding also made this point. Such an expanded geographic scope as the Board has begun working with simply reflects today's understanding of the biology of these fish. While Mr. O'Laughlin expresses concern that so many participants on that panel addressed themselves to fish, flows, and other conditions in the tributaries of the San Joaquin River, C-WIN, CSPA, and AquAlliance remind the Board that Dr. Mesick, in written testimony submitted on behalf of C-WIN and CSPA in December 2010, also discussed operations in the Delta, and made several conclusions and recommendations regarding exports.

Though seeking to limit discussion of the tributaries in general, SJRGA also discussed the tributaries when it found advantage to do so on three occasions. First, Mr. O'Laughlin, in concluding slide 56 of his January 7, 2011 SJRGA Powerpoint presentation, recommends: "1. Develop a life cycle model in an

open, collaborative process as set forth in SWRCB 2006 Order." Presumably, that model would include the parts of the life cycle that takes place in the tributaries. Second, Mr. Yoshiyama, presenting testimony on December 3, 2010 and questions for panelists on December 21, 2010, both on behalf of SJRGA member the City and County of San Francisco, provided extensive analysis and proposed numerous questions relating to the San Joaquin tributaries. We note that Mr. Yoshiyama declined to participate in any panels at the January 2011 workshop.

Finally, Mr. Robbins, speaking on behalf of SJRGA member Merced Irrigation District at the conclusion of the January 7, 2011, workshop, expressed concerns over overlapping jurisdictions on the Merced River, and appeared to us to suggest that Merced flow issues would appropriately be addressed in this proceeding and the evidentiary process to follow (rather than the ongoing FERC proceeding, in which Merced Irrigation District has sought to limit to the immediate vicinity of its reservoirs).

From the standpoint of protecting and balancing the public trust with the public interest, it is less important (though not unimportant) to determine the exact causal mechanisms at work in the destruction of a highly altered ecosystem. Because the Board has failed its public trust obligations in the Delta and the Central Valley watershed for decades, the proper balancing needed to recover fish abundances is to swing the pendulum back to reasonable precautions that will protect and recover the ecosystem in fulfillment of the Board's public trust duties. (See the Environmental Water Caucus letter to the Delta Stewardship Council, cited in footnote 1.) The big projects, operated to their utmost, are destructive to fish and the Delta's estuarine ecosystem. To back away from the precipice of wholesale native species extinctions in the estuary and its watershed, it will be essential to restrict Delta export pumping, increase tributary and mainstem flows of Central Valley rivers, establish sustainable controls on salinity and contaminant sources upstream in the San Joaquin River basin, and invest in restoring critical floodplain and streambank habitat along the mainstem and the tributaries that fish can use to rear, grow, and survive migration through the Delta to the Pacific Ocean.

Key Questions

C-WIN, CSPA, and AquAlliance believe that the central decision the State Water Resources Control Board will need to make involves the question of balancing protection of the public trust with other beneficial uses of water reliant on the Delta. This question is essentially the same as the Delta Stewardship Council's state mandate to balance "co-equal goals" in its Delta Plan expected in 2012. The definition of the "coequal" goals of ecosystem protection and water supply reliability begs for further elaboration in the State Board's Bay-Delta Water Quality Control Plan and Substitute Environmental Document (SED). These goals must be considered in the context of a degraded estuary, existing facilities, the California Water Code and how water is actually put to use in California. For example:

1. How does the State Water Resources Control Board intend to prioritize water use in terms of coequal goals, of public trust balancing?
2. What does water supply reliability mean in an arid state where we have granted rights to far more water than actually exists?
3. Does water supply reliability apply to both public trust resource needs and consumptive uses (i.e., should fish have water rights)?
4. Are statutory requirements to protect water quality and listed species equivalent to water supply reliability for lawns or surplus and non-food crops?
5. Is the standard by which we measure water supply reliability the same for junior and senior appropriators?

6. Does efficient use of water have higher priority over waste and inefficient use?
7. Do we prioritize consumptive use on the basis of economic value?
8. Does health and safety take precedence over certain agricultural uses of water?
9. Are food crops more important than non-food commodities?
10. Is it reasonable that Kern County, representing a fraction of one percent of the state's population and economy should be accorded rights to water equal to the South coast, with almost half the state's population and economy?
11. Is protection of a "national treasure" and one of the world's great estuaries more valuable to society than irrigating impaired soils, that by their nature when irrigated, discharge prodigious quantities of salt and toxic wastes back to our waterways?
12. If an entity discharges pollutants that eliminate "assimilative capacity" and "beneficial use" of downstream waters, should the degraded water be deducted from the water supply provided that entity?
13. Should water supply reliability be conditioned upon specific requirements to maximize reclamation, reuse, conservation and development of alternative local sources of water?
14. Do uses of water that require vast public subsidies have the same priority to uses that don't require subsidy of public funds and are uses that internalize adverse impacts equal to uses that externalize them?

We believe answers to these questions are foundational to resolving California's water conundrum, and must be addressed by the State Water Resources Control Board in its Bay-Delta Water Quality Control Plan and Substitute Environmental Document.

The SED Must Examine a Full Range of Alternatives at an Equal Level of Detail

The fundamental purpose of a SED under the California Environmental Quality Act is to disclose fully and analyze potential impacts and alternatives to a proposed project to enable decision makers to make informed decisions on whether the project will be effective in meeting its stated goals, will comply with regulatory requirements and be in the best interests of society. With that vital public purpose in mind, the Board's SED must evaluate a range of reasonable alternatives.

Given the present degraded condition of the Delta estuary, the over allocation of water rights and the statutory goal of reducing dependence on the Delta, C-WIN, CSPA, and AquAlliance believes the EIR must consider a no export and reduced export alternative, along with evaluation of a range of flows for any new Delta water conveyance facility. Evaluation should be presented at a level of detail common to each alternative and include a broad socio-economic analysis of each alternative, as well as potential effects of each alternative on all beneficial uses.

The California Legislature, in SB-1 (Seventh Extraordinary Session), tasked the State Water Resources Control Board (SWRCB) with gathering the best available science to develop flow criteria for the Delta ecosystem necessary to protect public trust resources, including the volume, quality, and timing of water needed under different conditions. The Legislature also directed the California Department of Fish and Game (DFG) to identify quantifiable biological objectives and flow criteria for species of concern in the Delta. Together, those reports represent the best scientific information on minimum flows and objectives needed to protect the estuary's public trust resources. As such, the SED should analyze and discuss the degree to which each alternative meets these criteria as necessary to protect the estuary.

In addition, California Water Code Section 85021 states that it is now the policy of the state of California to reduce reliance on the Delta as a water source for meeting California's future water supply in favor of development of regional supplies, conservation, and water use efficiency measures.[3] The SED's framing of alternatives must also take this legal mandate into account because the San Joaquin River Basin is clearly within the Delta watershed referred to in Section 85021.

The SED Must Address Paper Water in the Delta's Central Valley Watershed

California's modern water code is the result of more than a hundred and fifty years of legislation and legal precedent. Riparian water rights are the most senior and superior rights, followed by pre-1914 appropriative rights and, lastly, post-1914 appropriative rights, as determined by the seniority requirements of first-in-time-and-use. Failure to follow the explicit mandates of the water code has led to a massive, long recognized over appropriation of water in the Central Valley.

The SED must include a discussion of the water rights system in California, the protections accorded senior users and counties of origin, the extent to which water has been over-appropriated and how these protections and over-allocations relate to the coequal goals of ecosystem protection and water supply reliability.

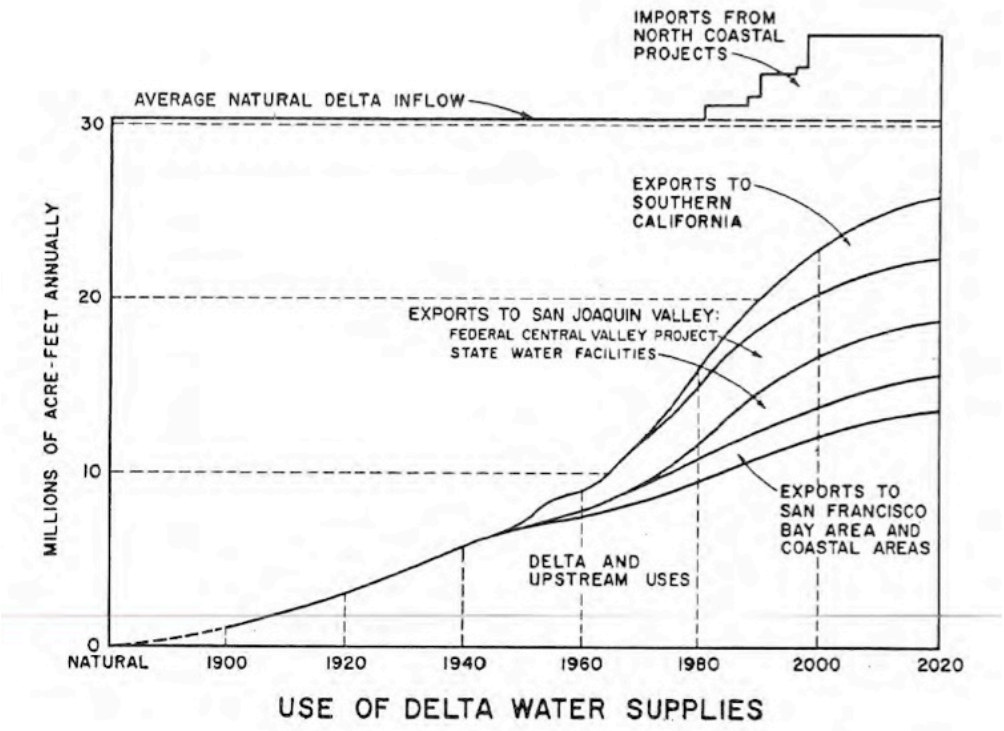
In the 1930s and 1940s, staff within the Department of the Interior and the old State Water Rights Board advocated an adjudication of water rights prior to construction of the Central Valley Project. Both Governor Earl Warren and State Water Rights Board Chairman Henry Holsinger testified during the Clair Engle's Congressional hearings in 1951 that a complete adjudication of water rights on the Sacramento River should have occurred prior to the completion of the Central Valley Project. In fact, the Engle committee concluded that, "[t]hat for all practical purposes, the developed water supplies of the Sacramento River are overcommitted and oversubscribed." This was prior to approval and construction of the State Water Project. And, as DWR Bulletin 76 in December 1960 stated, the State Water Project was predicated on obtaining some 5,000,000 acre- feet of water annually from north coastal streams (see graph below). With the exception of some Trinity River flows to the Central Valley Project service area, this "surplus" of water to the Delta system never arrived. Adjustments to the State Water Project should have been made earlier, but should have been made, but were not. The result is that the Delta's native aquatic ecosystems have collapsed.

Responding to a request from the Delta Vision Blue Ribbon Task Force in September 2008, SWRCB staff submitted a document briefly discussing water rights and use in the Delta watershed. It stated in part:

- The "total face value of the approximately 6,300 active water right permits and licenses within the Delta managed by the State Water Board, including the already assigned portion of state filings, is approximately 345 million AFA." Our organizations note that 245 million acre-feet of

---

[3] California Water Code Section 85021 states: "The policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts.



Source: California Department of Water Resources, Bulletin 76, December 1960, page 13.

face value in water rights were permitted by the Board and its predecessors in the Central Valley watershed (including imported watersheds like that of the Trinity River).

- Face value "does not include pre-1914 and riparian water rights." Our organizations also note that nor does face value include riparian water rights, which, in the absence of some form of adjudication of a watershed, are unquantified but nonetheless requiring of real, wet water. And,
- That "the total face value of the unassigned portion of state filings for consumptive use (excluding state filings for the beneficial use of power) within the Delta watershed is approximately 60 million AFA."

The SWRCB has no idea how much water is actually being used. Even accounting for limits on usage because of availability, multiple rights covering the same water (i.e., consumptive vs. non-consumptive uses) or return flows where water is not consumed; it remains indisputable that more rights to water have been issued than exists actual unimpaired runoff in the basin to fulfill them. This massive over-appropriation exists without even addressing the fact that the SWRCB does not know the extent of senior riparian or pre-1914 water rights or the amount of consumptive water rights in permits that have not been exercised (for example, DWR and the Bureau's pending petitions for extensions of time to put many of their water rights to beneficial use).

Further exacerbating the issue is the fact that climate change is likely to alter the timing and reduce the volume of runoff. PG&E's Chief Hydrologist, Gary Freeman has documented the shift in runoff timing and the annual decrease of 264-279 TAF of water in the Feather River watershed. Add the increased cold

water pools necessary to maintain water temperatures below rim dams to the estimates by the SWRCB and Department of Fish and Game of the increased inflow and outflow necessary to protect rivers and the Delta public trust resources and it becomes clear that the obligation to achieve a public trust balancing of water supply reliability with fish and ecosystem survival cannot be defined as maintenance of existing levels of supply from the Delta.

The SED must discuss the public trust balancing and proposed alternatives in the context of the vast over appropriation of water, legal requirements of the water code, public trust doctrine and legal precedent.

SED Scoping of Alternatives

We believe the paper water problem in the San Joaquin River Basin may be effectively addressed with proper scoping of the SED's Alternatives analysis. In the meantime, Mr. O'Laughlin proposes an unworkable analytical framework for the SED:

> The SJRGA understands that the SWRCB will have to look at the tributaries and other areas upstream of Vernalis as part of its Substitute Environmental Document ("SED"). However, an evaluation of impacts after the flow objectives have been established is radically different from looking at the alleged benefits that the new flow objectives may have upstream of Vernalis, or worse, using such alleged benefits as justification for the new flow objectives in the first place. The SWRCB should not seek, receive or consider any information concerning the areas upstream of Vernalis until it has identified the various SJR flow alternatives it will consider for protection of beneficial uses found within the Delta. (SJRGA "unsolicited" letter to the State Water Resources Control Board, January 31, 2011, page 4).

The problem with this formulation is that the environmental impacts of a flow requirement cannot be evaluated without knowing what the flows in each of the tributaries are going to be. For example, a flow regime for Vernalis that meets the vast majority of its requirements using water from New Melones and the Stanislaus alone (clearly SJRGA's preferred alternative) will have far different effects (and benefits) in the Basin than one that meets Vernalis flows with significant increases in flows from each of the tributaries.

C-WIN, CSPA, and AquAlliance believe that each proposed flow regime for Vernalis should be analyzed under the following CEQA alternatives:

1) A determined large percent of Vernalis flows is met from New Melones;
2) Responsibility for Vernalis flows is divided among the Stanislaus, Tuolumne and Merced proportional to unimpaired flows from each tributary; and
3) Responsibility for Vernalis flows is divided among the Stanislaus, Tuolumne, Merced and the upper San Joaquin proportional to unimpaired flows.

Embedded within this analysis, the SED should discuss alternatives for how water rights priorities will be allocated: will priorities govern on the one hand throughout the San Joaquin River Basin, or on the other hand apply strictly to priority within each tributary's watershed? Our organizations also urge the SWRCB to include a full accounting of water rights that would be affected (including pre-1914 and riparian right holders), including their order of priority.

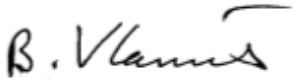
Finally, and following on this recommended alternatives approach, C-WIN, CSPA, and AquAlliance reiterate our observation about the Draft Technical Report omitting instream flow contributions from the Upper San Joaquin River in C-WIN and CSPA's December 6, 2010, letter to the Board. We have reviewed the San Joaquin River Restoration Program Settlement Agreement and find nothing in it that precludes its participation in a large regulatory framework for addressing San Joaquin River flow and South Delta objectives. The parties to the Stipulation of Settlement between Natural Resources Defense Council, et al and the US Bureau of Reclamation, et al, acknowledge (in paragraph 16(a)(2)) that the water recirculation plan in the Agreement "shall not be relied upon in connection with any request or proceeding relating to any increase in Delta pumping rates or capacity beyond current criteria existing as of the Effective Date of this Settlement [p. 20]." (Presumably, the Settlement could be relied upon, perhaps even by the State Water Board during a proceeding that might involve decreasing Delta pumping rates or capacity.) The Settlement also requires the Secretary of the Interior to "comply with all applicable federal and state laws, rules and regulations...as necessary [p. 35]." This would include the California Water Code, the California Constitution, and the Public Trust Doctrine. Parties to the Settlement also stipulate that no restoration or interim flows give rise to any property takings claim (paragraph 43, p. 38).

Thank you for considering our views of these issues, including those incorporated by reference. C-WIN, CSPA, and AquAlliance intend to continue participating in this process.

Sincerely,

Carolee Krieger, President
California Water Impact Network
808 Romero Canyon Road
Santa Barbara, CA 93108
(805) 969-0824
caroleekrieger@cox.net

Bill Jennings, Chairman
California Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204
(209) 464-5067
deltakeep@aol.com



Barbara Vlamis, Executive Director
AquAlliance
P.O. Box 4024
Chico, CA 95927
(530) 519-7468

Attachments

California Sportfishing
Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

8 July 2008

State Water Resources Control Board
Cal/EPA Headquarters
1001 "I" Street
Sacramento, CA 95814
driddle@waterboards.ca.gov
commentletters@waterboards.ca.gov

RE: Comments on the Draft Strategic Workplan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary

The California Sportfishing Protection Alliance (CSPA) and the California Water Impact Network (CWIN) have reviewed the State Water Resources Control Board's (State Board) Draft Strategic Workplan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Strategic Plan) and respectfully submit the following comments. California has both state and federal clean water laws, state and federal endangered species acts and a water code that specifies in great detail how water is to be allocated, reallocated and put to maximum and reasonable beneficial use. The present reality of a disintegrating Delta ecosystem, seriously polluted waterways and collapsing fisheries, coupled with over half a billion acre-feet of water rights in a state that has an average runoff of 77 million acre-feet is a searing indictment of the failures of the State and Central Valley Boards to enforce the law.

I. Background

It is the generally accepted view in the environmental and fishing communities, shared by the CSPA and CWIN, that the State Board has failed to properly carry out its constitutional and statutorily duties to both protect the public trust, and to prevent waste and unreasonable use of water in California. Over the course of many years, the State Board has chosen to act as a secondary player in the on-going saga of water supply and environmental problems in the State. As noted by the Governor's Delta Vision taskforce, the State Board "enforces its own laws and regulations poorly or not at all." As will be clear by our specific comments contained herein, our experience before the State Board is that the Board's failures to properly enforce the Water Code and environmental laws is directly responsible for the present pelagic organism crash and that it is mostly responsible for the looming failure of the California water supply system. We agree with these words of the Delta Vision task force:

> With respect to the water system, California already possesses a strong constitutional and statutory foundation for carrying out the

> recommendations of the [Governor's Delta] Vision. Yet key agencies and institutions too often lack consistent political support for certain missions, or are simply under-funded. As a result, the existing water governance structure enforces its own laws and regulations incompletely, unevenly, and on the basis of insufficient information. Measurement, reporting, and enforcement capabilities are all inadequate. In a state where the "reasonable use" of water is mandated by the Constitution itself, this is an unacceptable state of affairs.
>
> Delta Vision Strategic Plan draft p. 13, lines 20-27.

In an attempt to help remedy these long-standing failures, in March of this year, CSPA and CWIN filed a complaint with the State Board's complaint division to provide sufficient information to cause the State Board to investigate the State Water Project and the federal Central Valley Project for public trust and unreasonable use and unreasonable methods of diversion violations at their respective diversion facilities in the Delta. As of the date of this letter, neither the State Board nor the project owners have answered our complaint. However, we find proposed hearings outlined in the Strategic Plan that indicates that the State Board plans to address state and federal project accountability for the environmental decline in the Bay/Delta watershed. The Strategic Plan has proposed a five-year schedule to review and modify the out-dated 1995 Water Quality Control Plan to reflect improved data about the reasons for the catastrophic decline of several beneficial uses within the Bay/Delta. If the State Board would aggressively assert its authority to obtain and evaluate evidence, it has the power to greatly alleviate the demands currently placed on the courts to handle matters more properly before the Board. Again, as the Governor's Delta Vision Task Force makes clear:

> With respect to the ecosystem, enforcement of laws and regulations is driven more by court decisions than by any comprehensive long-range plans for ecosystem recovery. This introduces great uncertainty into water management and ecosystem management alike. It also tends to force environmental management agencies into a reactive posture focused on legal compliance rather than on proactive restoration of a badly degraded ecosystem.
>
> Delta Vision Strategic Plan Draft, p.13, lines 29-34.

Unfortunately, the Proposed Draft Strategic Plan produced by the State Board utterly fails to remedy the existing problems in California's water rights system. This strategic plan appears to CWIN and CSPA to be an attempt to buy time by reciting problems that are already well established: the organizations clear administrative problems, the fragmented nature of regulatory oversight affecting water resources in general in the State, the lack of qualified State Board staff, and the lack of resources from the Governor and other state officials in charge of budgets. What the Strategic Plan does not do is solve any of California's well-documented water problems. The State Board admits as much in this document:

> Many changes to the environmental regulatory landscape have occurred since publication of the Water Board's 2001 Strategic Plan. These include the trends described below, as well as particular issues related to those trends (such as the crisis in the Delta and implementation of the California Global Warming Act of 2006). Our ability to respond effectively to these and many other pressing issues is challenged by the fragmented nature of regulatory oversight affecting water resources in general in the State and of the governance structure specifically within the Water Boards.
>
> May 30 Draft Strategic Plan, p.2.

II. CSPA and CWIN's Comments On The Strategic Plan

The Strategic Workplan describes a suite of activities the State Board will undertake over the next five years to address the water supply and environmental crisis in the Bay-Delta, priorities identified by the Governor and Delta Vision and the Public Trust. Unfortunately, the Workplan evidences little appreciation or understanding of the gravity or nature of the accelerating disintegration of the Delta's ecosystem and is essentially a justification for the status quo. It does little more than imply or promise progress where little exists, ignoring reasonable interim actions that would ensure the collection and development of information critical to the success of any long-term program.

The State Board seems to have decided on a business-as-usual approach while waiting for the Bay-Delta Conservation Plan (BDCP) and Delta Vision processes to be finalized. It is likely to be a long wait. BDCP represents the most complicated and ambitious habitat conservation plan ever envisioned in the nation coupled with an massive scheme to hydrologically modify the core of California's water circulation system. BDCP's anticipated time schedule is absurdly optimistic and the unprecedented effort will almost certainly be substantially delayed, if it survives at all. California's fisheries may not survive in the interim. The State Board cannot remain a conscientious objector to actions necessary to ensure the survival of species already languishing on the brink of extirpation.

The Strategic Plan ignores crucially needed emergency measures to address the current crisis in Delta fisheries. It utterly fails to answer any of the following questions:

1. How much water does the Delta need?

There is no effort outlined in the Workplan or contemplated in parallel proceedings (Delta Vision, BDCP, SDIP, etc.) to determine how much water the Delta requires to maintain a stable ecosystem or how various levels of reduced exports would affect south-of-Delta water users. Indeed, the Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (Bureau) have strenuously resisted calls by resource agencies and the environmental and fishing community to determine how much water the Delta needs before embarking on projects to increase water exports.

The State Board should schedule an interim evidentiary hearing to collect evidence on how much water is required to maintain the Delta ecosystem and what impacts potential reductions on exports would have on water users. If such information is unavailable, the State Board should order DWR and the Bureau to undertake such studies in a timely manner as a condition of their permits.

2. How Will the Board Create And Manage A Comprehensive Delta Monitoring Plan?

With the exception of salt and mercury, there is a paucity of reliable information on the concentration, fate and transport of contaminates in the Delta, despite the fact that many of these pollutants are highly toxic and bioaccumulate in fish and wildlife. These pollutants also pose a threat to human health. Water quality has been identified by the POD workgroup as one of the three likely causes of the decline of pelagic species. An understanding of the fate and transport of these pollutants is critical to both the restoration of fisheries and any future projects that contemplate a modification of the hydrologic regime. Historical environmental analyses have focused almost exclusively on salt and several drinking water contaminates. The present lack of information on the array of toxic contaminates present in the Delta precludes any legally defensible environmental analysis of future projects. CSPA has long urged both the State and Central Valley Boards to establish a comprehensive Delta-wide monitoring program similar to those conducted by the San Francisco Estuary Institute in San Francisco Bay and the Sacramento River Watershed Program in the Sacramento River.

The State Board should schedule an interim evidentiary hearing to collect evidence and recommendations on the scope of an adequate contaminate monitoring program for the Delta. The DWR, Bureau and other beneficiaries of Delta exports should be directed to timely establish the Delta monitoring program, as a condition of their permits.

3. When Will Necessary State-Of-The-Art Fish Screens Be Required On Delta Export Pumps?

New fish screens at the export pumps would drastically reduce entrainment of virtually all of the pelagic and salmonid listed pursuant to state and federal endangered species acts. The screening project was mothballed after MWD and the State Water Contractors, the beneficiaries of the SWP and CVP, stated that they would not pay for them. The State Board should conduct an interim evidentiary hearing to collect evidence and consider requiring the installation of new fish screens as a condition of the permits of Department of Water Resources and the U.S. Bureau of Reclamation.

a. New state-of-the-art fish screens were required mitigation measures in the CalFed ROD. Evaluation of the success of the INSTALLED new

fish screens was to occur BEFORE further consideration of a peripheral canal.

b. Screening of agricultural diversions accomplishes little if the CVP/SWP pumps subsequently destroy fish that bypass agricultural screens.

c. The new screens at the Contra Costa intake have only taken a couple of smelt since they were constructed (much different than the 26,000 Delta smelt killed by the project pumps between June 1 and June 24 of 2007).

d. The first units of the new screens would have been in place today had the water contractors not refused to pay for them.

e. The required state-of-the-art screen project also encompassed improved new salvage facilities, transportation methods and improved release methods and new release areas. The new screens would have significantly reduced the approach velocity of water and new screen openings would have been reduced from the present one-inch to a couple of millimeters (thereby preventing most smelt from going down the DMC to Los Angeles).

f. The mandated new fish screens would have been in front of Clifton Court Forebay, which would have eliminated most of the current predation occurring in the Forebay (Forebay predation is the largest cause of mortality for most species "taken" by the pumps).

g. A component of the new screen project would have been an accelerated and intensified effort in improving survivability of smelt. Indeed, survival rates of salvaged Delta smelt are improving. Recent results from Pit-tag (passive integrated transponder tags) monitoring show that approximately 33.3% of Delta smelt salvaged survives collection, transport and release back into the Delta (14% at the CVP). Unfortunately, most smelt that reach the present screens pass through them and are never diverted to the salvage buckets.

h. The Fish Facilities Team effort was probably the finest multidisciplinary interagency study team ever established by DFG/NOAA.

i. Had the new screens been installed, as mandated, they would also have largely eliminated Clifton Court predation and significantly improved salvage and survivability of many other species presently in precipitous decline, including salmon, steelhead, splittail, threadfin, American shad, longfin, striped bass, etc.

j. As previously noted, under CalFed, an evaluation of the success of the installed new fish screens was to occur before further consideration of

a peripheral canal. Clearly, it cannot be claimed that money is an obstacle to construction of new screens, considering the estimated costs of proposed new reservoirs and a peripheral canal.

k. To reiterate, the State Board should mandate the timely installation of state-of-the-art fish screens as mandated by the CalFed ROD as a condition of water exports out of the Bay-Delta estuary.

4. What New Conditions On Export Pumping Will Be Implemented In Light Of Increased Water Exports And Resulting Reverse Flows To Protect The Bay/Delta Ecosystem?

The average of SWP and CVP exports in the 1970s were 1.430 MAF and 2.141 MAF, respectively. Exports in the 1980s averaged 2.425 MAF (SWP) and 2.519 MAF (CVP). During the 1990s, average exports were 2.305 MAF (SWP) and 2.219 MAF (CVP). Exports dramatically increased between 2000 and 2007 to an annual average of 3.251 SWP and 2.590 MAF (CVP). Additionally, average annual exports to Contra Costa Water District and the North Bay Aqueduct significantly increased from 90 TAF and 0 TAF, respectively, in the 1970s to 120 TAF and 48 TAF in the 2000s. In other words, total average annual exports from the South Delta increased from 3.662 MAF during the decade following approval of the subject water rights to an annual average of approximately 6.008 MAF between 2000 and 2007. The dramatic increase in the level of exports, beginning in 2003 coincided with the crash in pelagic species populations. For example, exports in 2003, 2004, 2005 and 2006 were 6.323 MAF, 6.145 MAF, 6.470 MAF and 6.315 MAF, respectively.

The availability of water for these increased exports apparently came from "surplus" water made "available" by the Monterey Agreement, signed in 2000. When the State Board issued D-1641, it could not have been aware that exports would dramatically increase in the following years and could not have anticipated the environmental consequences resulting from the significant increase in exports.

The State Board should conduct an interim evidentiary hearing to investigate increased exports and reverse flows in Old and Middle Rivers and consider terms and conditions in permits to protect the Delta ecosystem from the effects of the increased export of, so called, "surplus" water.

5. What Is To Be Done About Current Salt Loading To The San Joaquin River And Delta?

The State Board assigned DWR and the Bureau the responsibility for meeting salinity objectives in the 1979 Delta Plan, D-1485 and the 1995 Delta Plan and D-1641. Salinity standards continue to be routinely violated. The San Joaquin River Salinity and Boron TMDL assigns responsibility for controlling salt delivered to the San Joaquin Valley from the Delta to the Bureau. The

Bureau's salt load reductions are to be addressed through a joint Management Agency Agreement with the Central Valley Board. Unfortunately, the Bureau is claiming sovereign immunity and, while promising some level of cooperation, refuses to accept specific enforceable load limits that will actually lead to reductions in salt loading to the San Joaquin River.

To resolve this impasse, the State Board should conduct an interim evidentiary hearing to investigate salt loading caused by delivery of Delta water to the San Joaquin Valley and consider terms and conditions in permits to control salt loading to the San Joaquin River and Delta. This will resolve any question of whether the Regional Board has the authority to issue WDRs or require the Bureau to commit to specific reductions in salt loading.

6. When Will Water Storage Levels Be Increased To Protect River Flows In The Likely Event Of Dry Water Years In The Future?

Water storage in Shasta and Oroville are approaching historic lows and are projected to be at or below 1977 levels by the end of the summer. The principle cause of this shortfall is the cannibalization of north-of-Delta storage over the last several years to supply south-of-Delta storage in Semi-Tropic and Kern water banks and Diamond Valley Reservoir. Unless the approaching water year proves to be extremely wet, next years instream flows on the Feather, Sacramento and Yuba rivers are likely to approach record lows. These low flows will likely cause and contribute to reductions in spawning and rearing habitat, lethal temperatures and increases in pollutant concentration. Given the dramatic crash of pelagic species and the recent acceleration in the long-term decline in salmonid escapement, these expected low flows could trigger a catastrophic disaster to fisheries already hovering on the edge of extinction.

The State Board should immediately schedule an evidentiary hearing to receive evidence and recommendations from fishery and water agencies and the general public on possible interim emergency measures that may be implemented to reduce or mitigate this potential disaster to already depressed fisheries.

III. Specific Comments on Workplan Elements

The Workplan Elements are largely a fictionalized history coupled with a recital of current programs. With the exception of several new under-funded programs, the Elements represent a case history of how and why the Delta's ecosystem is imploding. For example:

1. **Water Quality and Contaminant Control**

The Workplan Elements pay lip service to the control of the largest sources of water quality impairment and controllable pollutant loading into the Delta and its tributaries. While recent information has, perhaps,

refined our understanding of these issues, the causes and sources of these problems and the actions necessary to reduce or eliminate them have been known for decades. The State and Regional Waterboards identified salt and selenium impairment of the San Joaquin River and Delta, organophosphorus (OP) pesticides in the Sacramento and San Joaquin Rivers and Delta, low dissolved oxygen in the Stockton Ship Channel, agricultural pollution and the problems of municipal wastewater and stormwater discharges many, many years ago. The sources and actions necessary to address and eliminate them have also been long known. The statutory authority and regulatory tools to address them have existed since the 1970s. Unfortunately, what has been absent is the political will to meaningfully attack these problems. The Workplan's Water Quality and Contaminant Control provisions that essentially eschew the Board's regulatory toolbox, minimize long-overdue regulatory enforcement and focus instead on historically ineffective stakeholder and voluntary processes continue a long-standing State and Regional Waterboard policy of denial and delay; in other words, the Workplan essentially proposes business-as-usual. The refusal to commit to meaningful measures to control pollution undermines any claim that the Workplan represents a serious commitment to protect and restore the Delta. Meanwhile, the Delta and its tributary waters continue to receive increasing loads of an array of pollutants, many already identified as "impairing" beneficial uses.

a. **NPDES Program.** The Workplan fails to acknowledge or discuss the failures of the NPDES permitting program controlling the discharge of almost two billion gallons per day into the Delta watershed (1.2 BGD in the actual Delta) from some 64 municipal wastewater treatment plants and 62 industrial dischargers. The Central Valley Board is allowing flow limits and, in many cases, the mass loading of pollutants to be increased in many, if not a majority, of permit renewals (every five years). Frequently, these renewed permits allow for increases in loading of pollutants identified as actually "impairing" a waterbody. State and federal antidegradation requirements are routinely ignored. For example, over the last two years, the Central Valley Board has allowed the increased discharge of impairing pollutants into the Delta from Stockton, Manteca, Tracy and Lodi, among others. Indeed, they even issued a new permit to the new city of Mountain House to begin discharging impairing pollutants into Old River; one of the most degraded areas of the Delta.

   It fails to acknowledge or discuss the failure of the municipal stormwater programs to reduce mass loading of toxic and impairing pollutants. Not a single municipality discharging stormwater pollutants into the Delta or its tributaries can document or quantify any reductions in the mass loading of pollutants over the last twenty years. Nor has the Central Valley Board incorporated enforceable TMDL

waste load allocations developed in TMDLs in recently issued MS-4 permits.

b. **Irrigated Lands Program.** Agricultural dischargers are the largest source of pollution to Central Valley waterways. The Workplan fails to acknowledge or discuss the failure of the Irrigated Lands Program to reduce the mass loading of toxic and impairing pollutants. The Irrigated Lands Program is implemented through waivers of Waste Discharge Requirements (WDRs). The Irrigated Lands Program is, perhaps, the single most graphic example of the failure of the State and Central Valley Boards to protect water quality.

Monitoring data collected by the Regional Board, U.C. Davis and agricultural coalitions, among others, establishes that discharges from irrigated lands represent the largest source of toxic and other pollutants to Central Valley waters. In 2007, The Central Valley Board released a landmark draft report presenting the first region-wide assessment of data collected pursuant to the Irrigated Lands Program since its inception in 2003. Data collected from some 313 sites throughout the Central Valley reveals that: 1) toxicity to aquatic life was present at 63% of the monitored sites (50% were toxic to more than one species), 2) pesticide water quality standards were exceeded at 54% of sites (many for multiple pesticides), 3) one or more metals violated criteria at 66% of the sites, 4) human health standards for bacteria were violated at 87% of monitored sites and 5) more than 80% of the locations reported exceedances of general parameters (dissolved oxygen, pH, salt, TSS). While the adequacy of monitoring (i.e., frequency and comprehensiveness of monitoring) varied dramatically from site to site, the report presents a dramatic panorama of the epidemic of pollution caused by the uncontrolled discharge of agricultural wastes.

Since conditional waivers were originally adopted in 1982, and subsequently in 2003/4 and 2006, the Central Valley Board has been unable to identify a single improvement in water quality or, indeed, a single pound reduction in the mass loading of agricultural pollutants that has been achieved by the Program (other than a reduction in application of organophosphorus pesticides as farmers switched to more potent and less expensive pyrethoids).

Under the agricultural waivers, the Central Valley Board does not know: who is actually discharging pollutants, the points of discharge, the quantities or concentrations of discharged pollutants, the actual impacts of those discharges on local receiving waters, whether any management measures (BMPs) have been applied, or whether applied BMPs are effective. The monitoring programs established by agricultural coalitions are grossly deficient and incapable of

identifying "bad actor" dischargers. Unfortunately, since the Central Valley Board does not know the actual identities of dischargers or the quantities or concentration of discharged pollutants, it must depend upon the good will of agricultural coalitions over which it has no enforcement powers other than the draconian and political difficult step of revoking a waiver covering thousands of farms spread over millions of acres (Note: Cleanup & Abatement Orders, Cease & Desist Orders and Notices of Violation can only be issued to actual dischargers).

It should be noted that the waivers essentially ignore the required elements of the state's Nonpoint Source Control Program. These mandated requirements include: 1) a description of BMPs, the process used to select or develop BMPs and the process used to ensure and verify BMP implementation; 2) specific implementation time schedules and quantifiable milestones to measure progress; 3) sufficient feedback mechanisms to ensure proper evaluation and determine whether additional BMPs are required and; 4) specific consequences for failure to achieve goals.

CSPA and San Francisco Baykeeper appealed the Central Valley Board's July 2006 adoption of agricultural waivers to the State Board. State Board technical staff reviewed the appeal and, in a series of draft reports concluded that: 1) discharges from irrigated agricultural lands have violated water quality standards; 2) agricultural coalitions have failed to comply with conditions of the waiver; 3) the Central Valley Board cannot or will not enforce fundamental waiver conditions; 4) the monitoring and reporting program is deficient; 5) the waivers lack specific time schedules for key elements of the program; 6) waiver conditions do not ensure pollution reductions by individual farms; 7) the size of coalitions is unmanageable and should be limited to subwatersheds; 8) the waiver should address groundwater protection; 9) the waiver is not consistent with the state's nonpoint source policy and; 10) the waiver should be remanded back to the Regional Board for recommended amendments. In an astonishing disregard of the public trust and water quality, senior board management informed staff that they didn't want the waivers remanded and directed staff to prepare a final report upholding the waivers. CSPA and Baykeeper subsequently filed a lawsuit that is pending.

c. **Lack of staff resources.** The Workplan fails to discuss or acknowledge the fact that the state has deprived the Central Valley Board of sufficient resources to carry out their statutory responsibilities to control discharges of toxic and other pollutants into the state's waters. The Executive Officer of the Central Valley Board, Ms. Pamela Creedon, acknowledged in a August 2007 presentation to the State Board title *State of the Central Valley Region* that the Board

has only: a) 12% of the staff minimally necessary to regulate stormwater discharges (NPDES), b) 37% of those necessary to control municipal wastewater discharges (NPDES), c) 26% of those necessary to issue WDRs and d) 16% of those required to regulate dairies, e) 22% of the staff crucial to enforcing conditions of the controversial agricultural waivers, and f) only 11 of the 38 people necessary for the basin planning unit to update the Basin Plans that are fundamental to all Board actions. The Board's surface water ambient monitoring program has only 2 person-years (PYs), its enforcement unit is assigned only 3.5 PYs, the water quality certification unit has only 2.6 PYs to process more than 400 certifications annually. Further, the underground storage tanks unit has only 17 of 41 staff needed for several thousand cases, the timber harvest unit has only 9.2 PYs to regulate and monitor discharges from thousands of timber projects covering 45% of the state's harvested timber and the Title 27 unit has only 40% of those needed to regulate leaking landfills and surface impoundments. And finally, the Board has only 16 PYs to develop, implement and monitor TMDLs covering over 300 waterbody/pollutant combinations identified as "impaired" throughout the Central Valley.

Given these serious staffing shortages, the waterboards cannot claim to be serious about controlling the pervasive degradation of the Delta caused by increasing loads of a vast array of pollutants. Especially, as they have embraced more intractable stakeholder or voluntary programs throughout the Strategic Workplan. Stakeholder driven voluntary programs require far more staff resources and considerably longer timeframes than direct regulatory permit issuance and enforcement. The history of water quality regulation in the Central Valley is littered with failed stakeholder programs. The plain fact is that neither the State nor Regional Board can identify a successful stakeholder process that has documented quantifiable reductions in pollutant loading and improvements in water quality. However, the Boards can point to regulatory successes (for example, Grassland WDRs and the Rice Herbicide Prohibition).

d. **Total Daily Maximum Loads (TMDLs).** The factual history of TMDL development and implementation in the Central Valley undermines the claims and goals for the Workplan's elements. The Workplan's descriptions of the goals and implementation of TMDLs resemble fiction more than fact. Adopted TMDL implementation plans rarely have enforceable load and wasteload allocations. Indeed, the State and Central Valley Board have frequently employed TMDLs as "rabbit holes" in an effort to avoid the political repercussions that would likely accompany prompt direct action.

An example of such a "rabbit hole" is the Board's refusal to comply with the explicit requirements of the Bay Protection and Toxic Cleanup Program. In 1989, the California Legislature mandated a program requiring the State and Regional Boards to identify and cleanup toxic hot spots (Water Code §§ 13390 et seq.). Ten years later, in 1999, the State Board belatedly identified the Delta as a toxic hot spot for mercury, low dissolved oxygen in the Stockton Ship Channel and pesticides from agricultural return flows and dormant spray runoff. The Sacramento and San Joaquin Rivers were identified as Toxic Hot Sports because of pesticides in agricultural return flows and dormant spray runoff. Stockton and Sacramento urban waterways were identified as Toxic Hot Spots because of pesticide runoff and low dissolved oxygen. The Central Valley Board was granted variances for the pesticide cleanup plans. Following a successful lawsuit by Bill Jennings and Deltakeeper, revised pesticide cleanup plans were adopted in 2003. However, rather than comply with specific mandates to, within one year, reevaluate and revise WDRs of dischargers identified as causing or contributing to Toxic Hot Spots in order to prevent or eliminate these hot spots (Water Code § 13395), the waterboards elected to implement the program through TMDLs. Little has changed in the ten years following adoption of the cleanup program; i.e., Toxic Hot Spots continue to plague the Delta and its tributaries.

The Workplan implies that TMDLs will achieve compliance with Basin Plan water quality standards. While the "technical TMDLs" adopted by the waterboards are scientifically defensible, the crucial implementation plans are sadly lacking. To date, there have been no documented and quantified reductions in pollutant loading attributable to TMDL implementation. The only identified reductions in the mass loading of any impairing pollutant has only come about as a result of growers shifting from organophosphorus (OP) pesticides to more potent and less expensive alternatives like the pyrethoids. Unfortunately, there is no comprehensive monitoring program for pyrethoids comparable to the major monitoring effort launched by the Regional Board to identify the fate and transport of OP pesticides that began in the late 1980s and continued thru the 1990s. Pyrethoid toxicity has become pervasive throughout the Central Valley but a pyrethoid TMDL remains elusive.

The Workplan creates the misimpression that effective, enforceable TMDLs loading allocations are being incorporated into NPDES permits. The reality is that the Regional Board has failed to include TMDL wasteload allocations in a number of adopted and renewed NPDES wastewater permits. These include, Stockton, Manteca, Modesto, Tracy, Lodi and Mountain House for discharges directly into the Delta, as well as numerous permits for municipalities discharging

into tributaries of the Delta. Nor has the Regional Board incorporated enforceable wasteload allocations in adopted MS-4 permits regulating urban stormwater discharges. While wasteload allocations in MS-4 permits are implemented through management measures, EPA regulations require they must still be achievable and enforceable.

The Central Valley Board has chosen to implement TMDL load allocations to agricultural dischargers through waivers of WDRs in the Irrigated Lands Program. The blatant failures of the Irrigated Lands Program are discussed above. Five years after adoption of the 2003 waiver, the Board cannot demonstrate that a single pound of pollutant loading has resulted from the program. Specific TMDL load allocations, incorporating the specific control elements of the state's Nonpoint Source Control Program, have yet to be assigned to the agricultural coalitions.

The Workplan seriously mischaracterizes the San Joaquin River Salinity and Boron TMDL. The SJR Salt TMDL is a poster child for the failures of the TMDL program to secure improvements in water quality. Salinity problems on the river have been recognized for over a century. The long-delayed salt TMDL is the first 100-foot TMDL in the nation's history, only protecting a short stretch of river below the San Joaquin's confluence with the Stanislaus River. Water quality violations continue to occur upstream of the confluence and downstream below Vernalis: this despite the fact that EPA regulations and the Central Valley Board's Basin Plan require that standards must apply throughout a waterbody, not simply at a single compliance point. While TMDL implementation plans must ensure attainment of water quality standards, the salt TMDL contemplates a 19% exceedance of standards in critical years and a 7% exceedance in dry years. The TMDL fails to reserve any assimilative capacity, thus depriving downstream farmers of the ability to irrigate and discharge return flows. Although the State Board has expressly directed the Central Valley Board to control salt loading from municipal and industrial dischargers, the Board is routinely allowing massive increases in salt loading in recently adopted NPDES permits. An example of the Central Valley Board's inability to meaningfully address salt is the City of Modesto's NPDES wastewater permit renewal issued in April 2008. The permit doesn't require compliance with final salt limits until July 2022 or July 2026. The SJR TMDL assigns load allocations to coalitions operating under the irrigated lands waiver but fails to incorporate the control elements of the Nonpoint Source Control Program, thus ensuring failure. The largest responsibility for reducing salt loads is assigned to the Bureau but these reductions are to be addressed through a joint Management Agency Agreement. Unfortunately, the Bureau is claiming sovereign immunity and promises vague cooperation but refuses and specific enforceable limits

that will actually reduce salt loads. Delta salinity standards continue to be violated with impunity.

Both the 1995 Water Quality Control Plan for the Delta and D-1641 (2000) directed the Central Valley Board to move the salt compliance point upstream of Vernalis. Thirteen years latter, the Central Valley Board has still not released the proposed upstream salinity objectives.

The San Joaquin River Dissolved Oxygen TMDL is yet another poster child for the failures of the Central Valley Board's TMDL program. The causes and solutions to the chronic oxygen deficits in the Stockton Ship Channel have been known since, at least, the 1970s. Following the Central Valley Board's refusal to comply with the explicit requirements contained in the Bay Protection and Toxic Cleanup Program, the Board embarked on a convoluted process to develop a TMDL. Over a span of five years, the process entailed: 1) more than ten updates, workshops or hearings by the Central Valley Board; 2) four draft plans circulated for comment, 3) a four-year stakeholder process involving more than 150 meetings of the steering and technical committees and 4) millions of dollars in special studies. Since then, no meaningful actions have been taken to address the causes of the oxygen deficit, other than a state financed project to construct a demonstration aeration experiment at the Port of Stockton.

The Central Valley Board's Mercury TMDL is under development. While the technical work has been superb, there is major disagreement over the actual water quality objective and implementation plan. The outcome remains problematic. As presently proposed, the objective is not protective of subsistence fishermen and their families, those with impaired immune systems, pregnant women or children. Most dischargers are strenuously lobbing for loopholes, i.e., "offsets" to avoid having to implement source control or treatment measures. A number of local agencies and DWR are opposing the TMDL because it may regulate wetlands, which have been found to be methylate mercury. In fact, DWR, in a strongly worded letter, claims "The proposed BPA and implementation plan could seriously curtail agencies' ability to help with the recovery of endemic and specially protected species by limiting projects that could restore wetland habitat and provide seasonal food sources for such species." Apparently, the possibility that species inhabiting such habitat might bioaccumulate mercury and pose a threat to both the protected species and human health, is of little concern. Given the increasing opposition, it is uncertain whether the proposed Mercury TMDL will lead to significant reductions in mercury concentration and methylation in Delta waterways.

e. **Once-through cooling** Evidencing a relaxed approach to resource protection, the Strategic Workplan acknowledges concern that once-through cooled electrical generating facilities in the Delta impinge and entrain significant numbers of fish and aquatic organisms and pelagic organisms and other threatened and endangered species. It then inexplicably proposes to address these imminent threats to listed species through development of a statewide policy. Presumably, the Central Valley Board will, following adoption of that policy and subject to some unspecified timeline, reissue NPDES permits for the power plants. The potential threats posed by these plants have been known for many years. The Mirant facility in Contra Costa County received an NPDES permit in 2001 that expired in April 2006. The State and Regional Boards have long had ample authority under the Water Code to require whatever studies were necessary to evaluate impacts to fisheries and to adopt measures protective of beneficial uses.

The State and Regional Board have known for decades that the Thermal Plan was inadequate. Indeed, Central Valley Board staff acknowledged as far back as the 1980s that the Delta-5 temperature standard is not protective and that biologically based temperature criteria were necessary. Despite the fact that excessive temperatures have been identified as a serious limiting factor for listed species throughout the Central Valley, no funds have yet been provided to develop biologically based temperature criteria. While we appreciate the fact that the State and Regional Boards are belatedly moving to address the once-through-cooling problem, we note that these problems have been known for a long time, should have been address years ago and will be deficient without biologically based temperature criteria.

f. **Sediment Quality Objectives** Another example of the State Board's ambivalence in protection of public trust resources is the stop and go effort in developing sediment quality objectives. Toxic or potentially toxic sediments have been identified at a number of Delta locations. In 1989, the California Legislature, as part of the Bay Protection and Toxic Cleanup Program, mandated that the State Board develop and adopt sediment quality objectives. The Board prepared a conceptual workplan in 1991 but soon abandoned efforts to develop sediment objectives. However, in 1999, the Sacramento Superior Court ordered the Board to resume development of sediment objectives, pursuant to a lawsuit brought by Bill Jennings and Deltakeeper. The State Board elected to pursue development of sediment quality objectives through a lengthy and cumbersome stakeholder process. The majority of environmental participants withdrew in protest over the direction of the project, i.e., potentially responsible parties were insisting on a degree of monitoring and evaluation that was so extensive and

expensive that it would be likely that only the very worst sites would ever be addressed. The developed approach envisions an extremely complicated three-pronged approach involving assessment of toxicity, bioaccumulation and biological assemblages. A scorecard will ultimately determine whether thresholds have been exceeded requiring cleanup. Unfortunately, the complexity of the evaluation coupled with the substantial amount of expensive monitoring and assessment necessary to reach a conclusion means that potentially serious problems in the Delta may remain unaddressed. For example, fish tissue collected by DFG and analyzed by the San Francisco Estuary Institute revealed that catfish and largemouth bass caught in Stockton's Smith Canal contained concentrations of PCBs that exceeded OEHHA levels of concern. Results from a subsequent sampling demonstrated that the sediments were toxic and bioaccumulative. However, it is questionable whether anyone will ever be required to conduct the replicate sampling necessary to compel a cleanup.

g. **Invasive Species Management** The Bay-Delta estuary has been identified as the most "invaded" estuary in North America. Invasive species are one of the three major suspected causes of the pelagic species crash in the Delta. In the late 1990s, Bill Jennings and Deltakeeper petitioned the Central Valley Board to begin development of a general order addressing the increasing impacts caused by invasive species. The petition described the 212 confirmed exotics and 123 suspected exotics that had already invaded the estuary. It laid out the waterboards regulatory authority over ballast water discharges and proposed specific actions that would potentially reduce the accelerating increase in the number of invasive species establishing a foothold in the estuary. The petition was ignored. Both the State and Central Valley Boards opposed our repeated efforts to have the Delta and tributary waterways identified on the state's CWA 303(d) List of Water Quality Limited Segments as impaired by invasive or exotic species. Finally, the State Board acquiesced and included the Delta as an impaired waterbody because of exotic species on the 2006 list. The Board's belated acknowledgement of the damage caused by invasive species is appreciated. However, the proposed program and the one person-year allocated to the project (split between the three waterboards) are seriously inadequate and betray a fundamental lack of concern regarding this serious threat to the Bay-Delta ecosystem.

h. **Blue Green Algae.** The toxicity of blue green algae poses a threat to both the Delta ecosystem and human health. The spatial distribution of these algal blooms has been rapidly expanding in the Delta over recent years. This expansion is likely fueled by increases in temperatures and nutrients and reduced flow. All three of these factors may be related to a failure to control nutrient loading into the Delta or provide necessary

outflow to the Bay. Efforts to establish a monitoring and reporting program in order to better understand the fate and transport and environmental and human health effects are welcome. Unfortunately, the allocation of only one-third of a person year to this serious task is likely to prove seriously inadequate.

i. **Characterize Discharges from Delta Islands.** The discharge of some 430,000 acre-feet of return flow from approximately 680,000 acres of Delta farmland clearly represents a serious problem. "Characterization" of the pollutants in these discharges is fundamental to any serious effort to protect Delta water quality. However, the proposed project is a searing indictment of both the Central Valley Board and the irrigated lands program. Had requirements to submit Reports of Waste Discharge not been waived for agricultural dischargers, outflow from Delta islands would have been "characterized" years ago. Similarly, had the Board insisted that agricultural dischargers, coalitions and water districts comply with the same monitoring requirements it routinely demands from virtually every other segment of society, i.e., municipalities, industries, businesses (even mom-and-pop operations), discharges would have already been "characterized." Indeed, had the Board complied with its regulatory responsibility to protect the water quality and the public trust values of Delta waterways, the receiving waters would also have been fully "characterized" by now. To squander $500,000 dollars in publicly funded contract work for activities that should have been performed by dischargers is a disgrace. First, $500,000 is inadequate to accomplish the necessary work and second, only allocating a half a person-year indicates that the Board is not serious about gaining an understanding of the fate and transport of pollutants plaguing Delta waterways. While the State Board seems focused on agricultural discharges in the Delta, it inexplicably ignores the agricultural discharges from millions of acres of farmland along waterways upstream of the Delta. Pollutants from these upstream discharges gather in the Delta and likely represent a far greater pollutant mass than those coming from Delta farmers. Targeting Delta farmers while ignoring those who discharge upstream is simply hypocritical. The State Board should direct the Central Valley Board to immediately issue 13267 letters requiring all agricultural dischargers to "characterize" their discharges.

j. **Effects of Ambient Ammonia Concentrations on Delta Smelt Survival and Algal Primary Production.** While, the project to designed to identify the effects of pervasive ammonia concentrations is welcome, it is woefully under funded and likely would not have been necessary had the Central Valley Board rigorously complied with state and federal antidegradation requirements and restricted ammonia pollutant loading. This issue points to an extremely serious and

growing threat to Central Valley waterways: concentrations of pollutants that are deemed to be below water quality standards or at levels not perceived to be harmful are later revealed to be serious threats to beneficial uses. The Valley is one of the fastest growing areas of the state. Waters from north of Redding to south of Fresno gather in the Delta. Renewals of municipal wastewater NPDES permits routinely allow significant increases in pollutant mass loading; often exceeding the identified assimilative capacity of receiving waters. The Delta has experienced significant increase in the ambient concentration of a vast array of contaminants; some exceeding water quality objectives, some below the threshold. However, the potential harmful consequences of synergistic and additive interactions, bioaccumulative toxins, sublethal or chronic impacts and the cumulative effects of multiple stressors remain largely unidentified and unaddressed. Further, it is an inescapable fact that water quality standards have never been promulgated for a large number of known and potentially harmful constituents. Only be restricting the increase in pollutant loading through application of antidegradation requirements can we hope to avoid the emergence of a multitude of "new" water quality problems in the future.

k. **Selenium Screening Study for the Delta** CSPA and CWIN strongly support this under-funded study. Selenium is a bioaccumulative toxin that works its way up the food chain. The Selenium TMDLs on the San Joaquin River and Salt Slough are generally focused on concentration rather than mass loads. Significant selenium loading to the Delta continues to be a problem. This study of selenium concentration in fish tissue is especially important, given that a peripheral canal or dual conveyance system will increase residence time in the eastern Delta, thereby providing increased opportunity for selenium uptake.

2. Comprehensive Monitoring Program

CSPA has long pleaded with both the State and Central Valley Boards to establish a comprehensive Delta-wide monitoring program similar to those conducted by the San Francisco Estuary Institute in San Francisco Bay and the Sacramento River monitoring program conducted by the Sacramento River Watershed Program in the Sacramento River. In 2004, Bill Jennings and Dr. G. Fred Lee presented the State and Central Valley Boards with a report titled *Overview of Sacramento-San Joaquin River Delta Water Quality Issues* that described the Delta's water quality problems and the need for a comprehensive monitoring program. As that report has been presented to the Board, we incorporate it by reference. Unfortunately, no serious monitoring program focused on chemical contaminates has been developed. The State Board needs to expedite development of a monitoring program funded by dischargers and exporters.

With the possible exception of salt and mercury, there is a serious lack of reliable information on the concentration, fate and transport of contaminates in the Delta, despite the fact that many of these pollutants are highly toxic and bioaccumulate in fish and wildlife. A comprehensive monitoring program is critical to improving water quality, restoring fisheries or evaluating the potential impacts of future projects that contemplate a modification of the Delta's hydrology. Water quality and water quantity are irrevocably connected and can be characterized as flip sides of the same coin. Alterations of flow inevitably alter assimilative capacity . Changes in assimilative capacity directly affect habitat and water quality.

3. <u>San Joaquin River Flow and Southern Delta Salinity</u>

Art Baggett's recent waiving of the agricultural water quality standards contained in D-1641, without hearings or evidence, indicates that the State Board is not interested in enforcing Southern Delta Salinity standards against the state and federal water projects in the South Delta. While allegedly done to address the Governor's drought emergency, this outrage occurs – again - approximately 2 years after a failed attempt by a State Board enforcement team to enforce the law (D-1641) against the state and federal water projects. As the prosecution team in that case wrote in their 2006 letter to the Board: "Government should be held accountable for environmental protection to the same extent as private parties and should be held to the same enforcement standards." Of course, that noble sentiment, and the law behind it, went out the window when the State Board ignored its own order and enforcement standards to politically please the Governor and the water projects.

For the aforesaid reasons, we ask the State Board to convene a hearing on the waiver of the agricultural water quality standards and in the meantime reinstate the permanent standards. As the Cease and Desist hearing record indicates, the projects can meet the standards by releasing water from reservoirs on the San Joaquin side of the Delta and by limiting pumping at the state and federal export projects.

An appropriate hearing on this issue would consider and adopt a land retirement program for drainage impaired agricultural lands in the two projects area of water use. Table 1 portrays a rough estimate of the potential water savings associated with the retirement of lands within the San Luis Unit, Delta-Mendota Canal Unit, and the San Joaquin River Exchange Contractors of the Central Valley Project that are expected to require drainage service. The purpose of this analysis is to estimate an amount of CVP water that could be obtained from the retirement of drainage-impacted lands in the 3 units of the CVP. The water savings would then be dedicated to increase north of Delta storage to offset instream fishery flows required to prevent fish and habitat extinction in the

Bay/Delta watershed. The reduction in project use power needs would also reduce power demands.

The total land with drainage problems is 376,751 acres in the water districts identified below in Table 1, but other problem areas also exist outside of the SLU and DMC areas, as identified in Table 2 below. The analysis below shows that land retirement could save 793,056 AF in total CVP contracted water, which would have been an actual reduction in demand of 568,373 AF in 2002. Permanent land retirement and dedication of water to other CVP project purposes would result in significant benefits from reduced pollution from drainage water, reduced CVP project power usage, increased ability to meet various water quality standards, increased water storage, increased M&I water supplies, and more water for environmental needs.

Table 1 from the Draft Trinity River Fishery Restoration Supplemental Environmental Impact Report (Trinity County 2004, as amended 1/24/05 and 2/16/05)

	Acres	Acres Requiring Drainage Service	% of District Requiring Drainage Service	Max CVP Contract Amount (AF)	Max CVP Contract Water Savings (AF)	2002 CVP Contract Deliveries (AF)	2002 CVP Water Savings (AF)
Broadview Water District	9,515	9,515	100.00%	27,000	27,000	18,588	18,588
Panoche Water District	39,292	27,000	68.72%	94,000	64,593	66,743	45,863
Westlands Water District	***604,000***	***298,000***	***49.34%***	***1,154,198***	***569,455***	***776,631***	***383,172***
Eagle Field	1,438	1,435	99.82%	4,550	4,542	2,869	2,864
Mercy Springs	3,589	2,417	67.35%	2,842	1,914	4,679	3,151
Oro Loma	1,095	,1095	100%	4,600	4,600	3,173	3,173
Widren	881	881	100%	2,990	2,990	2,094	2,094
Firebaugh	23,457	23,457	100%	85,000	85,000	85,000	85,000
Cent. Cal ID	149,825	4,951	3.30%	532,400	17,569	532,400	17,569

Charleston Drainage District (portion of San Luis WD with drainage problems)	4,314	3,000	69.54%	8,130	5,654	Not avail	Not avail
Pacheco Water District	5,175	5,000	96.62%	10,080	9,739	7,137	6,896
Total	842,581	376,751	NA	1,925,790	793,056	1,499,314	568,370

Table 1 above was derived by obtaining acreage information for each district through Chris Eacock at the Bureau of Reclamation (USBR) in Fresno. The number of acres requiring drainage by 2050 was taken from estimates in the San Luis Drainage Feature Evaluation, Plan Formulation Report, USBR, December 2002 (pages 2-5 and 2-6). The maximum water savings associated with the retirement of these lands was calculated by multiplying the maximum contract amounts for each district by the percent of that district requiring drainage. Contract amounts were taken from a list of CVP contracts provided by Reclamation. Each district's total contract amount was calculated by adding all of its water contracts if more than one contract exists.

According to information we have received from the Environmental Working Group, water and crop subsidies to Westlands in 2002 amounted to over $100 million. If approximately half of Westlands, as well as those impacted lands in other drainage-problem districts such as Broadview, Widren, Mercy Springs, Panoche, Pacheco and others were retired, it would free up hundreds of thousands of acre-feet of water, as well as significantly reduce water and crop subsidies by tens of millions of dollars a year. Full analysis of such an alternative would provide meaningful disclosure to decision makers and the public about the true costs of delivering water to these problem lands.

Table 2

	Total Irrigated croplands in 2002(acres)	Drainage Impaired acreage in 2000 (acres)	% of County Requiring Drainage Service	Estimated Contract Amounts (AF)	Estimated Water Savings (AF)
Tulare County	**652,385**	**291,000**	**44.60%**	**1,304,770**	**581,927**
Kern County	**811,672**	**313,000**	**38.56%**	**1,623,344**	**625,961**

Total	**1,464,057**	**604,000**	**N/A**	**2,928,114**	**1,207,888**

Table 2 above portrays a very preliminary estimate of water savings in Tulare and Kern County within the SWP service area. The acres of irrigated croplands was taken from the USDA farm census statistics report in 2002. The acreage of drainage-impaired acres is derived from a report by CA Dept of Water Resources, the 2000 San Joaquin Valley Drainage Monitoring Program. The acreages identified are for lands with high groundwater within 20 feet of the surface. The contract amounts were figured by estimating 2 acre-feet per acre irrigated, most likely an underestimated amount. Further investigation is needed to verify and refine these numbers, but clearly there is adequate justification to remove these lands from irrigation due to continuing drainage problems and salinization of land, in violation of Cal. Constitution, Article 10, Sec. 2 and Water Code Section 100- Wasteful and Unreasonable Use of Water.

4. Comprehensive Review of the Bay Delta Plan, Water Rights and Other Requirements to Protect Fish and Wildlife Beneficial Uses and the Public Trust

The State Board adopted the Bay Delta Plan in 1995 and waited until 2003 to initiate a review that took almost three years until adoption in 2006. We note that a triennial review should be conducted every three years. In the interval, the Delta became increasingly polluted, salmon and pelagic fish populations crashed while exports significantly increased. Despite a collapsing estuary, the State Board limited itself to largely cosmetic modifications to the 1995 Plan and postponed addressing critical threats to the Delta until the future. It now appears that these urgent issues that include the enforcement of Delta water quality standards, consideration of the reasonableness of current Delta diversions, examination of whether application of water to impaired lands is a beneficial use and interim actions to protect fisheries, water quality and the public trust must wait until the State Board considers, in what will assuredly be the granddaddy of all evidentiary proceedings, the proposals resulting from the BDCP and Delta Vision processes. In other words, the State Board appears to be saying that it does not anticipate consideration of the CSPA/CWIN public trust, unreasonable use and method of diversion petition until it addresses the peripheral canal/isolated conveyance projects. This is an unreasonable and unacceptable abdication of the State Board's public trust responsibilities.

5. Activities to Ensure that the SWP's and CBP's Methods of Diversion are Reasonable, Beneficial and Protect the Public Trust

Water Code section 13550 provides a means for administrative enforcement of the reasonable use mandate. The State Board can seek

enforcement through a number of statutory provisions. Among those statutory provisions is the reserved jurisdiction clause in water rights permits issued by the State Board. (Water Code Section 1394). It retains for the State Board the power to revoke permits if a permittee should violate a permit term or condition. (23 C.C.R. 764.6)

The State Board's most expansive powers to enforce the law derive from Water Code Section 275, empowering the Board to take those actions necessary to eliminate water waste and to promote reasonable use. The State Board's decision as to whether to take action pursuant to Water Code Section 275 or to conduct investigations pursuant to Water Code Section 183 or 1051 is entirely up to the Board. The Draft Strategic Plan intends to allow other agencies and stakeholders in the Bay Delta Conservation Plan and Delta Vision to exercise these statutory functions and leaves the State Board as a minor player whose only function is to evaluate and rubber-stamp whatever decision these processes produce. Such a plan is a sham and is not what the people of California deserve from the State Board. The reasonableness proceeding should be one of the first actions taken by the Water Board in the next year to provide the parameters for BDCP and Delta Vision, not the other way around. That was the purpose of the CSPA and CWIN reasonable use complaint.

6. <u>Water Right Investigation, Enforcement and Other Activities to Ensure Flows</u>

Federal law (the CVPIA) waives federal sovereign immunity from state enforcement in regard to the CVP. Below is language from Section 3406(b) of the Central Valley Project Improvement Act (Public Law 102-575): (b) FISH AND WILDLIFE RESTORATION ACTIVITIES. "The Secretary, immediately upon the enactment of this title, shall operate the Central Valley Project to meet all obligations under state and federal law, including but not limited to the federal Endangered Species Act, 16 U.S.C. s 1531, et seq., and all decisions of the California State Water Resources Control Board establishing conditions on applicable licenses and permits for the project."

The United States Congress made it very clear that the State Board can regulate the United States Bureau of Reclamation just like any other water rights permit holder in its operation of the Central Valley project. There is no excuse for the State Board to fail to examine the reasonableness of the method of diversion of the CVP and SWP, nor is there any immunity from California and federal law for these projects. The Strategic Plan should be amended to hold such an enforcement proceeding early in the proposed five-year process to change the project water rights in response to the continuing environmental crash in the Bay/Delta.

In order to determine what water flow is necessary to remedy inadequate flow in the San Joaquin River, the State Board should examine the Bureau

of Reclamation's permits at Friant Dam. Bureau permits presently allow the diversion of massive amounts of San Joaquin River water at Friant Dam away from the lower river and the Bay/Delta and send the water into the Kern/Friant canal for use by water users outside the San Joaquin watershed. The State Board should also investigate the damage done to the lower reaches of the Tuolumne River and the Bay/Delta from the present exports diverted around the Bay/Delta by the City of San Francisco.

7. <u>Water Use Efficiency</u>

CSPA and CWIN believe that the current Draft Strategic Plan is part of a long-standing and continuing attempt by the State Board to increase exports from the Bay/Delta watershed while appearing to investigate and modify the water rights of in-watershed users. The State Board is continually contravening basic rules of water law. Watershed of Origin statutes and the corresponding first in time, first in right seniorities held by upstream water users are being reversed in favor of export water suppliers. The focus of water use efficiency should be on the major water users no matter where they are geographically in California. The Governor recently proposed a 20% cut in per capita water use statewide by 2020. The fact that the State Board Strategic Plan focuses solely on water supply, at the expense of any meaningful analysis of export demands, highlights the flaws of the draft. Even the destructive CalFed process recognized that the environmental damage caused by dams, diversions, and export uses played a significant role the damage done to California's aquatic environment.

This Strategic Plan should be re-drafted to concentrate on water demand as well as water supply. In most urban settings in California, more than 60% of water use is for outside uses, including water for lawns, pools, car washing, and other non-food or environmental uses. All of this information can be found, if the State Board cares to address it, in the Governor's own water plan. It appears that the Water Board has never considered the possible remedies to the ever increasing export water demands contained in DWR's Bulletin 160-05. Could it be that the State Board is moving so slowly to allow Bulletin 160-05 to quietly expire before it can be used to reduce demands on water diversions from the Bay-Delta? After all, if the 3 million ac/ft of conservation water identified in the State Water Plan for urban areas is purposefully left out of this plan, maybe the notion of water efficiency and conservation will disappear completely, allowing exporters another opportunity to circumvent state and federal law in the Bay-Delta.

IV. Conclusion

The State Board in this Draft Strategic Plan is again failing to use its ample legal authority to protect California's environment and economy and is again failing to enforce

the California Constitution and statutes, including Article 10, Section 2. The State Board is evidently unwilling to investigate damage done by permit holders under applicable Water Code sections regarding water rights and water quality, and thus is neglecting its duties as the state water quality regulator under the federal Clean Water Act and the California Porter-Cologne Act. The State Board has an "affirmative duty" to regulate the conditions of water rights and water quality to prevent the destruction of the public trust. There is very little in this Draft Strategic Plan that will lead to compliance with the law. Unfortunately, this plan does not contain the requisite analysis or strategy to improve the California environment, nor convince permitted water diverters that the future of California water enforcement will be anything more than "business as usual." CSPA and CWIN urge the State Board to amend this proposed plan to meaningfully enforce California law for the protection of the environment.

Respectfully Submitted,

Bill Jennings, Executive Director
California Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204
(209) 464-5067
deltakeep@aol.com
www.calsport.org

Carolee Krieger, President
California Water Impact Network
808 Romero Canyon Road
Santa Barbara, CA 93108
(805) 969-0824
caroleekrieger@cox.net
www.c-win.org

California Sportfishing Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

June 10, 2009

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-2000
commentletters@waterboards.ca.gov

Subject: 2009 Periodic Review Staff Report Comments

The California Water Impact Network (C-WIN) and the California Sportfishing Protection Alliance (CSPA) have reviewed the State Water Resources Control Board's (State Water Board) Draft Staff Report for the Periodic Review of the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and we respectfully submit the following comments.

California has both state and federal clean water laws, state and federal Endangered Species Acts and a water code that specifies in great detail how water is to be allocated, reallocated, and put to maximum and reasonable beneficial use. The present reality of a disintegrating Delta ecosystem, seriously polluted waterways and collapsing fisheries, coupled with over 500 million acre-feet of water rights in a state that has an average runoff of 77 million acre-feet[1] is a searing indictment of the failures of the State and Central Valley Boards to enforce the law.

The State Water Board adopted the Bay-Delta Water Quality Control Plan in 1995 and waited until 2003 to initiate a review that took almost three years until adoption in 2006. We note that a triennial review should be conducted every three years, but is now treated by the State Water Board as a "periodic review." In the interval, the Delta became increasingly polluted, salmon and pelagic fish populations crashed while exports significantly increased. Despite an obviously collapsing estuary, the State Water Board limited itself to largely cosmetic modifications to the 1995 Plan and postponed addressing critical threats to the Delta until the future. It now appears that these urgent issues that include the enforcement of Delta water quality standards, consideration of the reasonableness of current Delta diversions, examination of whether application of water to impaired lands is a beneficial use and interim actions to protect fisheries, water quality and the public trust must wait until the State Water Board considers, in what will assuredly be the granddaddy of all evidentiary proceedings, the proposals resulting from the BDCP and Delta Vision processes.

In other words, the effect of State Water Board inaction appears to mean that it does not anticipate considering the C-WIN/CSPA public trust, unreasonable use and method of diversion petition until the Bay-Delta Conservation Plan process more fully develops the peripheral

[1] Face value of water rights and average runoff data are found online at: http://www.waterboards.ca.gov/water_issues/hot_topics/strategic_plan/docs/final_draft_strategic_plan_update_090208.pdf, page 10, second paragraph, fifth sentence. Accessed June 5, 2009.

canal/isolated conveyance projects. By then it will be too little too late for the Pelagic Organism Decline and the collapsing Central Valley salmon runs, as well as for ocean species like the southern resident killer whale. Delay and inaction by the State Water Board is an unreasonable and unacceptable abdication of the State Water Board and its public trust responsibilities to these natural resources.

While we support many of the analyses and priorities in the draft staff Periodic Review report, we find little solace that the outcome will result in positive changes for beneficial uses, particularly the Public Trust fishery resources of the Bay-Delta. The State Water Board's consistent lack of water rights and water quality enforcement as well as its weak NPDES permitting requirements continues to ensure that the Board will utterly fail to remedy the problems of the Bay-Delta Estuary, with its preventable ecological death we fear is both inevitable and imminent.

The Governor's February 2009 Drought Proclamation makes a mockery of both the meaning of the word "drought" and efforts to protect beneficial uses and meet federal and state water quality requirements. Not only has CEQA been suspended for various legislatively unauthorized and environmentally illegal projects (namely, the Board's recent approval of the 2009 Drought Water Bank and the Central Valley Project/State Water Project Place of Use Consolidation), but also the very state law upon which this water quality planning effort is based has been suspended—Water Code Section 13247.

Furthermore, the Periodic Review outlined in the draft Staff Report recommends no action on two key issues with a strong federal nexus—fish screens on the Central Valley Project/State Water Project pumps and development of an implementation plan for the salmon doubling narrative. The screens are required in the CalFed Record of Decision, and authority for the Central Valley Project pumping plant screens is contained in the Central Valley Project Improvement Act (P.L. 102-575, Section 3406(B)(4)). The salmon doubling narrative in the 2006 Water Quality Control Plan Water Quality Control Plan is a federal mandate of Central Valley Project Improvement Act (Section 3406(b) (1), as well as State Law (Fish and Game Code Section 6902).

These issues are also brought up in the recent National Marine Fisheries Service's Final Biological Opinion on the Central Valley Project/State Water Project Operations Criteria and Plan (Salmon Biological Opinion), along with many other related issues discussed below.

Recommendations

Therefore, given the total failure of the 2006 Water Quality Control Plan to protect fisheries, and as discussed in the attached detailed comments, C-WIN and CSPA recommend that, there should be a complete revision of the 2006 Water Quality Control Plan, so that the State Water Board will:

1. At a minimum, incorporate the Reasonable and Prudent Measures contained in the Salmon and Delta Smelt Biological Opinions. These represent the MINUMUM requirements for survival of the species. They do not provide for recovery of listed or non-listed species.
2. Eliminate the Vernalis Adaptive Management Program and at a minimum, a return to the 1995/D-1641 San Joaquin River pulse flows. Examination of the recent Salmon Biological Opinion suggests that much higher flows are warranted for survival of listed species.

3. Evaluate how much water is necessary for Bay-Delta ecosystem health
4. Develop and implement fish screen criteria that results in installation of state-of-the art fish screens at the federal and state pumps—coupled with comprehensive monitoring to ensure the screens work to achieve the planned outcomes for fish protection.
5. Develop and adopt an implementation plan for the fish doubling narrative.
6. Conduct a hearing to rescind the waiver of the agricultural water quality standards, order the Central Valley Board to rescind the July 2006 waiver for agricultural discharges, and instead impose WDR's for all agricultural dischargers. As part of this proceeding, the State Water Board would reinstate the permanent standards, with responsibility borne by the federal and state projects by releasing water from reservoirs on the San Joaquin side of the Delta and by limiting pumping at the state and federal export projects.
7. Consideration and adoption of a land retirement program for drainage impaired agricultural lands in the two projects' areas of water use. C-WIN and CSPA continue to contend that irrigation of these saline seleniferous lands is a wasteful and unreasonable use of water in violation of Article X, Section 2 of the California Constitution.
8. Include water right investigation, enforcement and other activities in the Water Quality Control Plan monitoring program to ensure adequate river flows and water quality for fisheries.
9. Determine that there will be fish passage at Central Valley watershed rim dams.
10. Provide dedicated cold water storage in rim reservoirs to sustain suitable temperatures for salmon and delta fisheries per the recent National Marine Fisheries Service (NMFS)[2] and U.S. Fish and Wildlife Service Biological Opinions[3] on the Central Valley Project/State Water Project Operations Criteria and Plan.
11. Conduct an interim evidentiary hearing to investigate salt loading caused by delivery of Delta water to the San Joaquin Valley and impose terms and conditions in permits to control salt loading to the San Joaquin River and Delta.
12. Prevent redirected impacts to the Trinity River and other tributaries from Delta operations.
13. Conduct an interim evidentiary hearing to investigate increased exports and reverse flows in Old and Middle Rivers and consider terms and conditions in permits to protect the Delta ecosystem from the effects of the increased export of, so called, "surplus" water.
14. Direct, as an immediate enforcement matter, the Department of Water Resources to halt all Delta diversions until such time as approval from the California Department of Fish and Game under the California Endangered Species Act is obtained.
15. Conduct an evidentiary hearing to receive evidence and recommendations from fishery and water agencies on how to minimize the impact of warm water discharges from rim dams on salmon and other affected species, including interim emergency measures.
16. Develop Selenium standards for acute and chronic fish and animal tissues addressing concerns about bioaccumulation raised in US Fish and Wildlife Service research[4] and REQUIRED by the Biological Opinion for the California Toxics Rule by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.[5]

---

[2] See http://swr.nmfs.noaa.gov/ocap.htm

[3] See http://www.fws.gov/sacramento/es/documents/State Water Project-CVP_OPs_BO_12-15_final_OCR.pdf

[4] Also see http://www.calsport.org/toxicityofSeleniumtoSalmonids-for.pdf

[5] U.S. Fish and Wildlife Service and National Marine Fisheries Service. Biological Opinion on Final Rule for the Promulgation of Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California. March 24, 2000.

17. Develop a focus on water use efficiency, rather than water supply development, to both reduce demand and improve water quality.
18. Create a comprehensive monitoring program for the Bay-Delta

Conclusion

As noted, the draft staff Periodic Review report contains many good analyses and recommendations, some which address our recommendations above; yet some do not. C-WIN and CSPA believe that the State Water Board is complicit in a plan to increase exports from the Bay/Delta watershed, subverting its ecological health while appearing to investigate and modify the water rights of in-watershed users. In so doing, the State Water Board repeatedly contravenes basic rules of water law from upholding water right priorities to flow and quality regulation, to acceding to "emergency" suspension of its environmental planning authority. Watershed of Origin statutes and the corresponding first in time, first in right seniorities held by upstream water users are being reversed in favor of export water suppliers because of their tremendous political influence.

The State Water Board focus is narrow and technical- solely on process, rather than keeping its eye on water policy substance, at the expense of any water regulation and policy vision, and political relevance to the desires of the people of California for flowing rivers with healthful and productive ecosystems. Even the destructive CalFed process recognized at a minimum that the environmental damage caused by dams, diversions, and export uses played a significant role in the damage done to California's aquatic environment. The State Water Board seems to take only a drowsy interest in such things at present.

The State Water Board in this "periodic review" is again failing to rouse itself to use its ample legal authority to protect California's environment and economy and is again failing to enforce the California Constitution and statutes, including Article 10, Section 2. The State Water Board appears unwilling to investigate damage done by permit holders under applicable Water Code sections regarding water rights and water quality, and thus neglects its duties as the state water quality regulator under the federal Clean Water Act and the California Porter-Cologne Act. The State Water Board has an "affirmative duty"[6] to regulate the conditions of water rights and water quality to prevent the destruction of the public trust.

We have little confidence that this Periodic Review of the 2006 Water Quality Control Plan will lead to widespread compliance with California water law and protection of beneficial uses. Unfortunately, this plan does not contain the requisite analysis or strategy to improve the California environment, nor convince permitted water diverters that the future of California water enforcement will be anything more than "business as usual." C-WIN and CSPA urge the State Water Board to vigorously enforce California water law for the protection of the environment as suggested above and discussed in detail in the attached comments.

We also note that the requirement to provide 15 copies of comments on a DRAFT Staff Report can only be construed as a deliberate effort to prevent or deter public participation. Even for enormous water rights hearings, only five copies are required. In an electronic age it is absurd to require hard copies of comments on a DRAFT staff report for a Triennial Basin Plan Review.

[6] See National Audubon Society vs. Superior Court http://www.monobasinresearch.org/legal/83nassupct.html

C-WIN/CSPA Comments on Staff Report for Periodic Review of the 2006 WQCP for San Francisco Bay/Sacramento-San Joaquin Delta Estuary

Absent meaningful enforcement by the State Water Board, we are left with little recourse but to encourage the U.S. Environmental Protection Agency to rescind California's authority under the Clean Water Act for the Bay-Delta, and to promulgate and implement its own Bay-Delta Water Quality Control Plan and assure NPDES permitting authority for the State of California.

Respectfully submitted,

Carolee Krieger, President
California Water Impact Network
808 Romero Canyon Road
Santa Barbara, CA 93108
(805) 969-0824
caroleekrieger@cox.net

Bill Jennings, Chairman
California Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204
(209) 464-5067
deltakeep@aol.com

cc: Governor Arnold Schwarzenegger
Senator Dianne Feinstein
Hon. George Miller, 7th District, US Congress
Hon. Lois Capps, 23rd District, US Congress
State Senator, Lois Wolk, 5th Senate District, State of California
Hon. Fran Pavley, Senator 23rd District
Hon. Jared Huffman, 6th Assembly District, State of California
Lisa Jackson, USEPA Administrator
Laura Yoshi, Acting Regional Administrator, USEPA Region IX
Rodney McInnis, SW Regional Administrator National Marine Fisheries Service
Lester Snow, Director, California Department of Water Resources
Donald Glaser, Regional Director, Mid-Pacific Region, US Bureau of Reclamation
Ren Lohoefener, Regional Director, US Fish and Wildlife Service
Barbara Vlamis, General Manager, Butte Environmental Council
Barbara Barrigan-Parrilla, Executive Director, Restore the Delta
Dante J. Nomellini, Counsel, Central Delta Water Agency
John Herrick, Counsel, South Delta Water Agency

DETAILED COMMENTS ON PERIODIC REVIEW OF 2009 WATER QUALITY CONTROL PLAN

I. Background

It is the generally accepted view in the environmental and fishing communities, shared by C-WIN and CSPA, that the State Water Board has failed to properly carry out its constitutional and statutorily duties to both protect the public trust, and to prevent waste and unreasonable use of water in California. Over the course of many years, the State Water Board has chosen to act as a secondary player in the on-going saga of water supply and environmental problems in the State. As noted by the Governor's Delta Vision Task Force, the State Water Board "*enforces its own laws and regulations poorly or not at all*."

As will be clear by our specific comments contained herein, our experience before the State Water Board is that the Board's continued failures to properly enforce the Water Code and environmental laws is directly responsible for the present pelagic organism crash and that it is mostly responsible for the looming failure of the California water supply system.

We agree with these words of the Delta Vision task force:

> *"With respect to the water system, California already possesses a strong constitutional and statutory foundation for carrying out the recommendations of the [Governor's Delta] Vision. Yet key agencies and institutions too often lack consistent political support for certain missions, or are simply under-funded. As a result, the existing water governance structure enforces its own laws and regulations incompletely, unevenly, and on the basis of insufficient information.*
> *Measurement, reporting, and enforcement capabilities are all inadequate. In a state where the "reasonable use" of water is mandated by the Constitution itself, this is an unacceptable state of affairs."*
>
> Delta Vision Strategic Plan draft p. 13, lines 20-27.

In an attempt to help remedy these long-standing failures, in March of 2008, C-WIN and CSPA filed a complaint with the State Water Board's complaint division to provide sufficient information to cause the State Water Board to investigate the State Water Project and the federal Central Valley Project for public trust and unreasonable use and unreasonable methods of diversion violations at their respective diversion facilities in the Delta. While we have dropped our litigation on that complaint, our concerns remain and we will use every opportunity available to point out the failures of the State Water Board regarding wasteful and unreasonable use and method of diversion by the Central Valley Project and State Water Project. We reiterate our request for such a hearing in this letter.

Again, as the Governor's Delta Vision Task Force makes clear:

> *"With respect to the ecosystem, enforcement of laws and regulations is driven more by court decisions than by any comprehensive long-range plans for ecosystem recovery. This introduces great uncertainty into water management and ecosystem management alike. It also tends to force environmental management agencies into a reactive posture focused on legal compliance rather than on proactive restoration of a*

badly degraded ecosystem"

Delta Vision Strategic Plan Draft, p.13, lines 29-34.

This strongly suggests that California's current water regulation regime resembles the condition the state faced by 1913, when its water bodies were plagued by wide-spread lawsuits in the absence of a coherent system of water regulation. Since 1914, we have had a Water Code, and since the late 1940s there has been some form of water pollution control regulation; yet here we are.

Our skepticism comes from problems that are already well established: the State Water Board organization's clear administrative problems, the fragmented nature of regulatory oversight affecting water resources in general in the State, the lack of qualified State Water Board staff, and the lack of resources from the Governor and other state officials in charge of budgets- and now additional staffing cuts due to the State budget deficit. What the proposed Periodic Review of the 2006 Water Quality Control Plan will not do is solve any of California's well-documented water problems; it simply proposes various slow responses while accepting a largely failed regulatory framework dating back to the Bay-Delta Accord of 1994. We now believe the failure of the Accord and CalFed is obvious in the record of the Pelagic Organisms Decline and the commercial salmonid fishery closures of 2008 and 2009. The Board's torpor on this obvious situation testifies to its apparent indifference to California's water and ecological problems.

II. C-WIN and CSPA's General Comments On The Staff Report for Periodic Review of the 2006 Water Quality Control Plan.

The proposed Periodic Review in the Staff Report describes a suite of activities the State Water Board will undertake over the next three years to amend the Water Quality Control Plan better to protect beneficial uses of water, as required by the federal Clean Water Act (Section 303(c) (33 U.S.C., § 1313(c)) and the California Water Code (Section 13240).

Unfortunately, the proposed Periodic Review and the board's continued dismal performance (such as continued lack of enforcement against the Bureau of Reclamation and the California Department of Water Resources for violation Cease and Desist Orders No. 262.31-16 and 262.31-17 of Delta salinity standards contained in the Water Quality Control Plan) evidences little appreciation or understanding of the gravity or nature of the accelerating disintegration of the Delta's ecosystem and is essentially a justification for the status quo. It implies or promises progress where little exists, ignoring reasonable interim actions that would ensure collection and development of information critical to the success of any long-term programs, let alone ensure protection from clear and present dangers to Delta ecosystems.

The State Water Board seems to have largely decided on a business-as-usual approach while waiting for the Bay-Delta Conservation Plan (BDCP) and Delta Vision processes to be finalized. It is likely to be a long wait. BDCP represents the most complicated and ambitious habitat conservation plan ever envisioned in the nation coupled with a massive scheme to hydrologically modify the core of California's water circulation system. BDCP's anticipated time schedule is absurdly optimistic and the unprecedented effort will almost certainly be substantially delayed, if it survives at all. California's fisheries may not survive in the interim. Moreover, the Bay Delta Conservation Plan is premised on a balancing of economic with ecological concerns, and is thus a demotion of ecological protection in light of the substantive authorities the State Water Board has available to it to enforce in its jurisdiction. The State

Water Board waiting for the Bay Delta Conservation Plan proceeding's outcomes is akin to the Board proceeding with a hand tied behind its back and one eye covered. The Bay Delta Conservation Plan in this light resembles more a calculated effort to design effective extirpation of vulnerable Delta ecosystems and listed species, likely outcomes of the co-equal position, as compared with analyses by the Public Policy Institute of California's team in their July 2008 report on *Comparing Futures for the Sacramento-San Joaquin Delta*. There, the coequal position of economic and ecological concerns in the Delta led clearly to a substantially reduced likelihood of long-term survival by vulnerable fish species. The State Water Board must not remain a conscientious objector to actions necessary to ensure the survival of species already languishing on the brink of extinction.

The proposed Periodic Review for the Water Quality Control Plan ignores crucially needed emergency measures to address the current crisis in Delta fisheries. It is silent on each of the following questions:

1. How much water does the Delta really need?

There is no effort outlined in the Periodic Review or contemplated in parallel proceedings (Delta Vision, BDCP, SDIP, etc.) to determine how much water the Delta requires to maintain a stable ecosystem or how various levels of reduced exports would affect south-of-Delta water users. Indeed, the Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (Bureau) have strenuously resisted calls by resource agencies and the environmental and fishing community to determine how much water the Delta needs before embarking on projects to increase water exports.

The State Water Board should schedule an interim evidentiary hearing to collect evidence on how much water is required to maintain the Delta ecosystem and what impacts potential reductions on exports would have on water users. If such information is unavailable, the State Water Board should order Department of Water Resources and the Bureau to undertake such studies in a timely manner as a condition of their permits. C-WIN and CSPA believe that the evidence submitted for the hearings on D-1630 (draft order) and its predecessor, the **October 1988 Draft Water Quality Control Plan for the San Francisco Bay/ Sacramento-San Joaquin Delta Estuary**[7] would provide ample information on the water needs for a healthy Delta.

2. How Will the Board Create and Manage a Comprehensive Delta Monitoring Plan?

With the exception of salt and mercury, there is a paucity of reliable information on the concentration, fate and transport of contaminants in the Delta, despite the fact that many of these pollutants are highly toxic and bioaccumulate in fish and wildlife. These pollutants also pose a threat to human health. Water quality has been identified by the POD workgroup as one of the three likely causes of the decline of pelagic species. An understanding of the fate and transport of these pollutants is critical to both the restoration of fisheries and any future projects that contemplate a modification of the hydrologic regime. Historical environmental analyses have focused almost exclusively on salt and several drinking water contaminants. The present lack of information on the array of toxic contaminates present in the Delta precludes any legally defensible environmental analysis of future projects. CSPA has long urged both the State and Central Valley Boards to establish a comprehensive Delta-wide monitoring program similar to

[7] See http://www.fishcalendar.net/cac/SWRCBs_1988_draft_Bay-Delta_water_quality_plan.pdf

those conducted by the San Francisco Estuary Institute in San Francisco Bay and the Sacramento River Watershed Program in the Sacramento River, and should strive to integrate the Delta program with its up- and downstream cousins to help establish the tracking needed to assess fate and transport issues.

The State Water Board should schedule an interim evidentiary hearing to collect evidence and recommendations on the scope of an adequate contaminant monitoring program for the Delta. The Department of Water Resources, Bureau and other beneficiaries of Delta exports should be directed to timely establish the Delta monitoring program, as a condition of their permits.

3. When Will Necessary State-Of-The-Art Fish Screens Be Required On Delta Export Pumps?

Screening of agricultural diversions on Delta tributaries accomplishes little if the Banks and Jones pumping plants subsequently destroy fish bypassing agricultural screens. New fish screens at the export pumps would drastically reduce entrainment of virtually all of the pelagic and salmonid listed pursuant to state and federal endangered species acts. New state-of-the-art fish screens were required mitigation measures in the CalFed Record of Decision. Evaluation of the success of the *installed* new fish screens was to occur *before* further consideration of a peripheral canal. The new screens at the Contra Costa intake have only recorded the entrainment of a single Delta smelt since they were constructed (much different than the 26,000 Delta smelt killed by the project pumps between June 1 and June 24 of 2007). The screening project was mothballed after MWD and the State Water Contractors, the beneficiaries of the State Water Project and Central Valley Project, stated that they would not pay for them. The first units of the new screens would have been in place today had the water contractors not refused to pay for them. Had they been in front of Clifton Court Forebay, which would have eliminated most of the current predation occurring in the Forebay (Forebay predation is the largest cause of mortality for most species “taken” by the pumps), and significantly improved salvage and survivability of many other species presently in precipitous decline, including salmon, steelhead, splittail, threadfin, American shad, longfin, striped bass, etc.

The required state-of-the-art screen project also encompassed improved new salvage facilities, transportation methods and improved release methods and new release areas. The new screens would have significantly reduced the approach velocity of water and new screen openings would have been reduced from the present one-inch to a couple of millimeters (thereby preventing most smelt from going down the DMC to Los Angeles).

A component of the new screen project would have been an accelerated and intensified effort in improving survivability of smelt. Indeed, survival rates of salvaged Delta smelt are improving. Recent results from Pit-tag (passive integrated transponder tags) monitoring show that approximately 33.3 percent of Delta smelt salvaged survives collection, transport and release back into the Delta (14 percent at the Central Valley Project). Unfortunately, most smelt that reach the present screens pass through them and are never diverted to the salvage buckets.

As previously noted, under CalFed an evaluation of the success of the installed new fish screens was to occur before further consideration of a peripheral canal. Clearly, it cannot be claimed that money is an obstacle to construction of new screens, considering the estimated costs of proposed new reservoirs and a peripheral canal. The State Water Board should mandate the timely installation of state-of-the-art fish screens as mandated by the CalFed

Record of Decision as a condition of water exports out of the Bay-Delta estuary, and the Water Quality Control Plan should include this element under issues recommended for further review.

4. What New Conditions On Export Pumping Will Be Implemented In Light Of Increased Water Exports And Resulting Reverse Flows To Protect The Bay/Delta Ecosystem?

The average of State Water Project and Central Valley Project exports in the 1970s were 1.430 MAF and 2.141 MAF, respectively. Exports in the 1980s averaged 2.425 MAF (State Water Project) and 2.519 MAF (Central Valley Project). During the 1990s, average exports were 2.305 MAF (State Water Project) and 2.219 MAF (Central Valley Project). Exports dramatically increased between 2000 and 2007 to an annual average of 3.251 State Water Project and 2.590 MAF (Central Valley Project).

Additionally, average annual exports to Contra Costa Water District and the North Bay Aqueduct significantly increased from 90 TAF and 0 TAF, respectively, in the 1970s to 121 TAF and 49 TAF in the 2000s. In other words, total average annual exports from the South Delta increased from 3.662 MAF during the decade following approval of the subject water rights to an annual average of approximately 6.008 MAF between 2000 and 2007.

The dramatic increase in the level of exports, beginning in 2003 coincided with the crash in pelagic species populations. For example, exports in 2003, 2004, 2005, 2006 and 2007 were 6.323 MAF, 6.145 MAF, 6.470 MAF, 6.315 MAF and 5.806 MAF, respectively. More recently, in water year 2008 during a second year of low unimpaired flows and regulatory and judicial intervention into the Pelagic Organism Decline, Delta exports slowed to 3.741 MAF.

The availability of water for these increased exports apparently came from “surplus” water made “available” by the Monterey Agreement, signed by DWR and contractor parties in 1994; resulting amendments took effect over a number of years but were mostly executed by 1999. The Third District Appellate Court ruled the Monterey EIR invalid in 2000. When the State Water Board issued D-1641, it could not have been aware that exports would dramatically increase in the ensuing years and could not have anticipated the environmental consequences resulting from the significant increase in exports.

The State Water Board should conduct an interim evidentiary hearing to investigate increased exports and reverse flows in Old and Middle Rivers and consider terms and conditions in permits to protect the Delta ecosystem from the effects of the increased export of, so called, “surplus” water.

5. Addressing Current Salt Loading to the San Joaquin River and Delta

Delta salinity standards continue to be violated with impunity. Both the 1995 Water Quality Control Plan for the Delta and D-1641 directed the Central Valley Board to move the salt compliance point upstream of Vernalis. Fourteen years later, the Central Valley Board has still not released the proposed upstream salinity objectives.

The State Water Board assigned Department of Water Resources and the Bureau the responsibility for meeting salinity objectives in the 1979 Delta Plan, D-1485 and the 1995 Delta Plan and D-1641. Salinity standards continue to be routinely violated. The San Joaquin River Salinity and Boron TMDL assigns responsibility for controlling salt delivered to the San Joaquin Valley from the Delta to the Bureau. The Bureau’s salt load reductions are to be addressed

through a joint Management Agency Agreement with the Central Valley Board. Unfortunately, despite signing the Management Agency Agreement, the Bureau is still claiming sovereign immunity (despite a specific waiver of sovereign immunity in Central Valley Project Improvement Act (P.L.102-575) Section 3406(b)) and, while promising some level of cooperation, refuses to accept specific enforceable load limits that will actually lead to reductions in salt loading to the San Joaquin River. The State Water Board had indicated in D-1641 that source control is the preferred method of addressing Southern Delta salinity, yet the Board's actions do not correspond with this. Instead, the State Water Board seems truly dedicated to avoiding source control.

To resolve this impasse, the State Water Board should conduct an interim evidentiary hearing to investigate salt loading caused by delivery of Delta water to the San Joaquin Valley and implement terms and conditions in permits to control salt loading to the San Joaquin River and Delta. This will resolve any question of whether the Regional Board has the authority to issue WDRs or require the Bureau to commit to specific reductions in salt loading. Meaningful reductions in salt loading of the San Joaquin River will also lead to a reduction in the use of New Melones water to meet the Vernalis objective, thereby freeing up clean Stanislaus River water for beneficial uses, not the dilution of pollution.

6. When Will Water Storage Levels Be Increased to Protect River Flows and Temperatures for Fish Protection in the Likely Event of Dry Water Years in the Future?

Water storage in Shasta and Oroville were recently at historic lows and would be much lower if not for late season storms. While storage levels in 2009 have recovered somewhat, the principle cause of this earlier shortfall is the cannibalization of north-of-Delta storage over the last several years to provide unrealistic water allocations during 2 years of drought and to supply south-of-Delta storage in Semi-Tropic and Kern water banks and Diamond Valley Reservoir. The State Water Board and the Department of Water Resources should require these facility owners to report their storage levels using real-time methods for uploading online, so that more realistic and honest appraisals of the state's water supply picture can occur as the Department and the U.S. Bureau of Reclamation develop their allocation forecasts each year. Unless the approaching water year proves to be extremely wet, next years' instream flows on the Feather, Sacramento and Yuba rivers are likely to approach record lows with accompanying high water temperatures. The Trinity River can also expect high water temperatures in the event of another dry year. These low flows and high temperatures will likely cause and contribute to increased pre-spawn mortality and reductions in spawning and rearing habitat, temperatures lethal to salmonid eggs and larvae and increases in pollutant concentration. Given the dramatic crash of pelagic species and the recent acceleration in the long-term decline in salmonid escapement, these expected low flows with poor water quality and low temperatures could trigger a catastrophic disaster to fisheries already hovering on the edge of extinction.

The State Water Board should immediately schedule an evidentiary hearing to receive evidence and recommendations from fishery and water agencies and the general public on possible interim emergency measures that may be implemented to reduce or mitigate this potential disaster to already depressed fisheries.

7. When will the Department of Water Resources obtain CESA Clearance for its Delta Pumps?

Department of Water Resources continues to operate the State Water Project pumps without appropriate clearance from the Department of Fish and Game under the California Endangered Species Act (Fish and Game Code Section 2081 et seq). As determined by Judge Frank Roesch in Alameda County Superior Court, the Department of Water Resources has no CESA approvals to "take" Delta smelt. The State Water Board should condition continued Delta exports upon receipt of a "2081" permit from CDFG. The Board missed an opportunity to do so when it issue Order WR 2009-0033 in late May 2009 amending Department and Bureau permits to consolidate the places of use of water in their projects.

III. Survey of Failed State and Regional Board Programs

The State Water Board's 2006 Water Quality Control Plan for the Bay-Delta is a case history of how and why the Delta's ecosystem is imploding. Beyond the big questions we pose in the previous section, there are numerous problems, gaps and leadership failures in State and Regional Water Board programs that bear on the Periodic Review of the 2006 Bay-Delta Water Quality Control Plan. For example:

1. **Water Quality and Contaminant Control**

The State Water Board pays lip service to the control of the largest sources of water quality impairment and controllable pollutant loading into the Delta and its tributaries. While recent information (including research reviewed in the draft Periodic Review staff report) has, perhaps, refined our understanding of these issues, the causes and sources of these problems and the actions necessary to reduce or eliminate them have been known for decades. The State and Regional Water Boards identified salt and selenium impairment of the San Joaquin River and Delta, organophosphorus (OP) pesticides in the Sacramento and San Joaquin Rivers and Delta, low dissolved oxygen in the Stockton Ship Channel, agricultural pollution and the problems of municipal wastewater and stormwater discharges many, many years ago. The sources and actions necessary to address and eliminate them have also been long known. The statutory authority and regulatory tools to address them have existed since the 1970s.

Unfortunately, what has been absent is the political will to meaningfully attack these problems. The State Water Board continually avoids opening its own regulatory toolbox, minimizing long-overdue regulatory enforcement and focusing instead on historically ineffective stakeholder and voluntary processes. This continues a long-standing State and Regional Waterboard policy of denial and delay. The Periodic Review now before the Board essentially foreshadows business-as-usual. The refusal to control pollution at its sources (including "nonpoint" sources as they occur in the drainage problem lands of the San Joaquin Valley) undermines any claims that the State Water Board has a serious commitment to protect and restore the Delta.

Meanwhile, the Delta and its tributary waters continue to receive increasing loads of an array of pollutants, many already identified as "impairing" beneficial uses. Indeed, the Central Valley Regional Board now proposes a 303(d) delisting of a portion of the San Joaquin River and Salt Slough for selenium. Selenium concentrations are below the current standard of 5 ppb, but U.S. Fish and Wildlife Service and National Marine Fisheries Service have identified that 2 ppb of Selenium would be required to protect endangered fish and wildlife.[8]

[8] U.S. Fish and Wildlife Service and National Marine Fisheries Service. Biological Opinion on Final Rule for the Promulgation of Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California. March 24, 2000.

Additionally, the Central Valley Board is proposing a 303(d) delisting of the San Joaquin River below Vernalis for electrical conductivity (salinity), even though examination of USGS recording stations show ongoing violations of the electrical conductivity standard.

a. **NPDES Program.** The State Water Board continues in denial and silence about failures of the NPDES permitting program controlling discharge of almost two billion gallons per day into the Delta watershed (1.2 BGD in the actual Delta) from some 64 municipal wastewater treatment plants and 62 industrial dischargers. The Central Valley Board is allowing flow limits and, in many cases, the mass loading of pollutants to be increased in many, if not a majority, of permit renewals (every five years). Frequently, these renewed permits allow for increases in loading of pollutants identified as actually "impairing" a water body. This travesty, if allowed to continue, will only worsen as the Delta region urbanizes further.

State and federal antidegradation requirements are routinely ignored. For example, over the last three years, the Central Valley Board has allowed increased discharge of impairing pollutants into the Delta from Stockton, Manteca, Tracy and Lodi, among others. Indeed, they even issued a new permit to the new city of Mountain House to discharge impairing pollutants into Old River, one of the most degraded areas of the Delta.

The State Water Board continually fails to acknowledge or discuss the failure of the municipal stormwater programs to reduce mass loading of toxic and impairing pollutants. Not a single municipality discharging stormwater pollutants into the Delta or its tributaries can document or quantify any reductions in the mass loading of pollutants over the last twenty years. Neither has the Central Valley Board incorporated enforceable TMDL waste load allocations developed in TMDLs in recently issued MS-4 permits.

b. **Irrigated Lands Program.** Agricultural dischargers are the largest source of pollution to Central Valley waterways. The Periodic Review fails to acknowledge or discuss the failure of the Irrigated Lands Program to reduce the mass loading of toxic and impairing pollutants. The Irrigated Lands Program is implemented through waivers of Waste Discharge Requirements (WDRs). The Irrigated Lands Program is, perhaps, the single most graphic example of the failure of the State and Central Valley Boards to protect water quality.

Monitoring data collected by the Central Valley Board, University of California at Davis researchers, and agricultural coalitions, among others, establishes that discharges from irrigated lands represent the largest source of toxic and other pollutants to Central Valley waters. In 2007, The Central Valley Board released a landmark draft report presenting the first region-wide assessment of data collected pursuant to the Irrigated Lands Program since its inception in 2003. Data collected from some 313 sites throughout the Central Valley reveals that: 1) toxicity to aquatic life was present at 63 percent of the monitored sites (50 percent were toxic to more than one species), 2) pesticide water quality standards were exceeded at 54 percent of sites (many for multiple pesticides), 3) one or more metals violated criteria at 66% of the sites, 4) human health standards for bacteria were violated at 87 percent of monitored sites and 5) more than 80% of the locations reported exceedances of general parameters (dissolved oxygen, pH, salt, TSS). While the adequacy of monitoring (i.e., frequency and comprehensiveness of monitoring) varied dramatically from site to site, the report presents a dramatic panorama of the epidemic of pollution caused by the uncontrolled discharge of agricultural wastes.

Since conditional waivers were originally adopted in 1982, and subsequently in 2003/4 and 2006, the Central Valley Board has been unable to identify a single improvement in water quality or, indeed, a single pound reduction in the mass loading of agricultural pollutants that has been achieved by the Program (other than a reduction in application of organophosphorus pesticides as farmers switched to more potent and less expensive pyrethroids).

Under the agricultural waivers, the Central Valley Board does not know:

- who is actually discharging pollutants,
- the points of discharge,
- the quantities or concentrations of discharged pollutants,
- the actual impacts of those discharges on local receiving waters,
- whether any management measures (e.g., best management practices) have been applied,
- Or whether applied best management practices are effective.

The monitoring programs established by agricultural coalitions are grossly deficient and incapable of identifying "bad actor" dischargers. Unfortunately, since the Central Valley Board does not know the actual identities of dischargers or the quantities or concentration of discharged pollutants, it must depend upon the goodwill of agricultural coalitions over which it has no enforcement powers other than the appropriate but now politically difficult step of revoking a waiver covering thousands of farms spread over millions of acres (Note: Cleanup & Abatement Orders, Cease & Desist Orders and Notices of Violation can only be issued to actual dischargers).

It should be noted that the waivers essentially ignore the required elements of the state's Nonpoint Source Control Program. These mandated requirements include: 1) a description of best management practices, the process used to select or develop best management practices and the process used to ensure and verify best management practice implementation; 2) specific implementation time schedules and quantifiable milestones to measure progress; 3) sufficient feedback mechanisms to ensure proper evaluation and determine whether additional best management practices are required and; 4) specific consequences for failure to achieve goals.

CSPA and San Francisco Baykeeper appealed the Central Valley Board's July 2006 adoption of agricultural waivers to the State Water Board. State Water Board technical staff reviewed the appeal and, in a series of draft reports concluded that: 1) discharges from irrigated agricultural lands have violated water quality standards; 2) agricultural coalitions have failed to comply with conditions of the waiver; 3) the Central Valley Board cannot or will not enforce fundamental waiver conditions; 4) the monitoring and reporting program is deficient; 5) the waivers lack specific time schedules for key elements of the program; 6) waiver conditions do not ensure pollution reductions by individual farms; 7) the size of coalitions is unmanageable and should be limited to subwatersheds; 8) the waiver should address groundwater protection; 9) the waiver is not consistent with the state's nonpoint source policy and; 10) the waiver should be remanded back to the Regional Board for recommended amendments.

However, in an astonishing disregard of the public trust and water quality, senior board management informed staff that they didn't want the waivers remanded and directed staff to prepare a final report upholding the waivers. CSPA and Baykeeper subsequently filed a lawsuit that is pending.

The State Water Board should order the Central Valley Board to rescind the July 2006 waiver for agricultural discharges and instead impose WDR's for all agricultural dischargers, perhaps even *before* a judge orders them to.

c. **Lack of staff resources.** The draft staff Periodic Review report fails to discuss or acknowledge the fact that the state has deprived the Central Valley Board of sufficient resources to carry out their statutory responsibilities to control discharges of toxic and other pollutants into the state's waters. We provided the information below to you last year, and to the best of our knowledge, we're unaware of conditions having meaningfully improved since that time.

The Executive Officer of the Central Valley Board, Ms. Pamela Creedon, acknowledged in a August 2007 presentation to the State Water Board title *State of the Central Valley Region* that the Board has only: a) 12 percent of the staff minimally necessary to regulate stormwater discharges (NPDES), b) 37 percent of those necessary to control municipal wastewater discharges (NPDES), c) 26 percent of those necessary to issue WDRs and d) 16 percent of those required to regulate dairies, e) 22 percent of the staff crucial to enforcing conditions of the controversial agricultural waivers, and f) only 11 of the 38 people necessary for the basin planning unit to update the Basin Plans that are fundamental to all Board actions. The Board's surface water ambient monitoring program has only 2 person-years (PYs), its enforcement unit is assigned only 3.5 PYs, the water quality certification unit has only 2.6 PYs to process more than 400 certifications annually.

Further, the underground storage tanks unit has only 17 of 41 staff needed for several thousand cases, the timber harvest unit has only 9.2 PYs to regulate and monitor discharges from thousands of timber projects covering 45 percent of the state's harvested timber and the Title 27 unit has only 40 percent of those needed to regulate leaking landfills and surface impoundments. And finally, the Board has only 16 PYs to develop, implement and monitor TMDLs covering over 300 waterbody/pollutant combinations identified as "impaired" throughout the Central Valley.

Given these serious staffing shortages, the Water Boards cannot claim to be serious about controlling the pervasive degradation of the Delta caused by increasing loads of a vast array of pollutants. Especially, as they have embraced more intractable stakeholder or voluntary programs throughout the Strategic Periodic Review. Stakeholder-driven voluntary programs require far more staff resources and considerably longer timeframes than direct regulatory permit issuance and enforcement. The history of water quality regulation in the Central Valley is littered with failed stakeholder programs. The plain fact is that neither the State nor Regional Board can identify a successful stakeholder process that has documented quantifiable reductions in pollutant loading and improvements in water quality. However, the Boards can point to regulatory successes that do result in documented quantifiable reductions in pollution (for example, Grassland WDRs and the Rice Herbicide Prohibition).

d. **Total Daily Maximum Loads (TMDLs).** The factual history of TMDL development and implementation in the Central Valley undermines the claims and goals for the 2006 Water Quality Control Plan. The State Water Board's descriptions of the goals and implementation of TMDLs resemble fiction more than fact. Adopted TMDL implementation plans rarely have enforceable load and waste load allocations. Indeed, the State and Central Valley Board have frequently employed TMDLs as "rabbit holes" in an effort to avoid the political repercussions that would likely accompany prompt direct action.

An example of such a "rabbit hole" is the Board's refusal to comply with the explicit requirements of the Bay Protection and Toxic Cleanup Program. In 1989, the California Legislature mandated a program requiring the State and Regional Boards to identify and clean up toxic hot spots (Water Code §§ 13390 et seq.). Ten years later, in 1999, the State Water Board belatedly identified the Delta as a toxic hot spot for mercury, low dissolved oxygen in the Stockton Ship Channel and pesticides from agricultural return flows and dormant spray runoff. The Sacramento and San Joaquin Rivers were identified as Toxic Hot Spots because of pesticides in agricultural return flows and dormant spray runoff. Stockton and Sacramento urban waterways were identified as Toxic Hot Spots because of pesticide runoff and low dissolved oxygen.

The Central Valley Board was granted variances for the pesticide cleanup plans. Following a successful lawsuit by Bill Jennings and Deltakeeper, revised pesticide cleanup plans were adopted in 2003. However, rather than comply with specific mandates to, within one year, reevaluate and revise WDRs of dischargers identified as causing or contributing to Toxic Hot Spots in order to prevent or eliminate these hot spots (Water Code § 13395), the Water Boards elected to implement the program through TMDLs. Little has changed in the ten years following adoption of the cleanup program; i.e., Toxic Hot Spots continue to plague the Delta and its tributaries.

Despite adopting TMDLs for selenium and boron, the State Water Board refuses to look realistically at land retirement and the issue of wasteful and unreasonable use related to irrigation of drainage problem lands in the western San Joaquin Valley. A graphic example is implementation of the San Joaquin River's Selenium TMDL. Despite a 2009 deadline for compliance with 5 ppm selenium (4 day average) standard for the Grasslands Bypass Project discharges into Mud Slough and the San Joaquin River, it appears that the State Water Board and Central Valley Board are more than willing to grant a 10-year delay through an upcoming Region 5 Basin Plan Amendment.

The additional 10-year waiver of the 5 ppb/4 day average selenium standard in the TMDL is proposed because neither technology nor funding is available to treat the toxic contamination created by irrigation of saline, seleniferous lands. Currently, discharges from the Grasslands Bypass Project (GBP) contain a monthly average discharge of 54 ppm of selenium. It also contains high levels of salt, boron and mercury. The GBP Draft EIS/EIR did not contain any alternative examining land retirement, as well as requirements for mandatory inclusion for all landowners within the GBP. The State Water Board and Regional Board refuse to examine the root cause of the drainage problems—applying good water to bad land. Now that Proposition 50 funding for the GBP's treatment (reverse osmosis) plant is not forthcoming due to the State budget, there is no justification for further leniency in implementing the TMDL other than to maintain the status quo. Land retirement remains the most feasible option here.

Numerous government studies identify the high economic and environmental cost of continuing to irrigate these lands, and that the only reliable solution to reverse the drainage problem is to halt irrigation of these lands. The National Economic Development analysis for the San Luis Drainage Feature Re-Evaluation found the alternative with the least amount of land retirement (In-Valley Groundwater Quality Land Retirement) had a negative benefit/cost summary amounting to $15.603 million/year in 2050 dollars, or a negative $780.15 million over the 50 year life of the project. Conversely, the alternative with the greatest amount of land retirement

(In Valley Drainage Impaired Land Retirement) had a positive benefit/cost summary of $3.643 million/year in 2050 dollars, or a positive $182.15 million over the 50 year life of the project.[9]

The U.S. Geological Survey[10] has been clear that any solution to drainage problems must include land retirement. In relation to the San Luis Feature Re-Evaluation and subsequent settlement negotiations convened by Senator Feinstein, the USGS has stated that

> "*Land retirement is a key strategy to reduce drainage because it can effectively reduce drainage to zero if all drainage-impaired lands are retired."*
>
> USGS also stated that
>
> "*The treatment sequence of reverse osmosis, selenium biotreatment and enhanced solar evaporation is unprecedented and untested at the scale needed to meet plan requirements.*"

The State Water Board implies that TMDLs will achieve compliance with Basin Plan water quality standards. While the "technical TMDLs" adopted by the Water Boards are scientifically defensible, the crucial implementation plans are sadly lacking. To date, there have been no documented and quantified reductions in pollutant loading attributable to TMDL implementation. The only identified reductions in the mass loading of any impairing pollutant has only come about as a result of growers shifting from organophosphate (OP) pesticides to more potent and less expensive alternatives like the pyrethroids.

Unfortunately, there is no comprehensive monitoring program for pyrethroids comparable to the major monitoring effort launched by the Regional Board to identify the fate and transport of OP pesticides that began in the late 1980s and continued through the 1990s. Pyrethroid toxicity has become pervasive throughout the Central Valley but a Pyrethroid TMDL remains elusive.

The State Water Board creates the misimpression that effective, enforceable TMDL loading allocations are being incorporated into NPDES permits. The reality is that the Regional Board has failed to include TMDL wasteload allocations in a number of adopted and renewed NPDES wastewater permits. These include, Stockton, Manteca, Modesto, Tracy, Lodi and Mountain House for discharges directly into the Delta, as well as numerous permits for municipalities discharging into tributaries of the Delta. Nor has the Regional Board incorporated enforceable wasteload allocations in adopted MS-4 permits regulating urban stormwater discharges. While wasteload allocations in MS-4 permits are implemented through management measures, EPA regulations require they must still be achievable and enforceable.

The Central Valley Board has chosen to implement TMDL load allocations to agricultural dischargers through waivers of WDRs in the Irrigated Lands Program. The blatant failures of the Irrigated Lands Program are discussed above. Five years after adoption of the 2003 waiver, the Board cannot demonstrate that a single pound of pollutant loading has resulted from the program. Specific TMDL load allocations, incorporating the specific control elements of the state's Nonpoint Source Control Program, have yet to be assigned to the agricultural coalitions.

---

[9] See http://www.usbr.gov/mp/nepa/documentShow.cfm?Doc_ID=2240. Page N-17

[10] See **U. S. Geological Survey Open File Report 2008-1210**, p1 Executive Summary http://pubs.usgs.gov/of/2008/1210/

C-WIN/CSPA Comments on Staff Report for Periodic Review of the 2006 WQCP for San Francisco Bay/Sacramento-San Joaquin Delta Estuary

The draft Staff report seriously mischaracterizes the San Joaquin River Salinity and boron TMDL. The SJR Salt TMDL is a poster child for the failures of the TMDL program to secure improvements in water quality. Salinity problems on the river have been recognized for over a century. The long-delayed salt TMDL is the first 100-foot TMDL in the nation's history, only protecting a short stretch of river below the San Joaquin's confluence with the Stanislaus River. Water quality violations continue to occur upstream of the confluence and downstream below Vernalis: this despite the fact that EPA regulations and the Central Valley Board's Basin Plan require that standards must apply throughout a waterbody, not simply at a single compliance point.

While TMDL implementation plans must ensure attainment of water quality standards, the salt TMDL contemplates a 19 percent exceedance of standards in critical years and a 7 percent exceedance in dry years. The TMDL fails to reserve any assimilative capacity, thus depriving downstream farmers of the ability to irrigate and discharge return flows. Although the State Water Board has expressly directed the Central Valley Board to control salt loading from municipal and industrial dischargers, the Board routinely allows massive increases in salt loading in recently adopted NPDES permits. An example of the Central Valley Board's inability to meaningfully address salt is the City of Modesto's NPDES wastewater permit renewal issued in April 2008. The permit does not require compliance with final salt limits until July 2022 or July 2026. The SJR TMDL assigns load allocations to agricultural coalitions operating under the irrigated lands waiver but fails to incorporate the control elements of the Nonpoint Source Control Program, thus ensuring failure.

The San Joaquin River Dissolved Oxygen TMDL is yet another poster child for the failures of the Central Valley Board's TMDL program. The causes and solutions to the chronic oxygen deficits in the Stockton Ship Channel have been known since, at least, the 1970s. Following the Central Valley Board's refusal to comply with the explicit requirements contained in the Bay Protection and Toxic Cleanup Program, the Board embarked on a convoluted process to develop a TMDL. Over a span of five years the process entailed:

1) more than ten updates, workshops or hearings by the Central Valley Board;
2) four draft plans circulated for comment,
3) a four-year stakeholder process involving more than 150 meetings of the steering and technical committees and
4) millions of dollars in special studies.

Since then, no meaningful actions have been taken to address the causes of the oxygen deficit, other than a state financed project to construct a demonstration aeration experiment at the Port of Stockton.

The Central Valley Board's Mercury TMDL is under development. While the technical work has been superb, there is major disagreement over the actual water quality objective and implementation plan. The outcome remains problematic. As presently proposed, the objective is not protective of subsistence fishermen and their families, those with impaired immune systems, pregnant women or children. Most dischargers are strenuously lobbying for loopholes, i.e., "offsets" to avoid having to implement source control or treatment measures. A number of local agencies and the Department of Water Resources are opposing the TMDL because it may regulate wetlands, which have been found to methylate Mercury (the most physiologically absorbable form of mercury). In fact, Department of Water Resources, in a strongly worded letter, claims "*The proposed BPA and implementation plan could seriously curtail agencies'*

ability to help with the recovery of endemic and specially protected species by limiting projects that could restore wetland habitat and provide seasonal food sources for such species."

Apparently, the possibility that species inhabiting such habitat might bioaccumulate mercury and pose a threat to both protected species and human health is of little concern to the state and regional water boards. Given increasing opposition, it is uncertain whether the proposed Mercury TMDL will lead to significant reductions in mercury concentration and methylation in Delta waterways.

e. **Once-through cooling.** Evincing its relaxed approach to resource protection, the State Water Board's 2008 Strategic Periodic Review acknowledges concern that once-through cooled electrical generating facilities in the Delta impinge and entrain significant numbers of fish and aquatic organisms and pelagic organisms and other threatened and endangered species. It then inexplicably proposes to address these imminent threats to listed species through development of a statewide policy. Presumably, the Central Valley Board will, following adoption of that policy and subject to some unspecified timeline, reissue NPDES permits for the power plants. The potential threats posed by these plants have been known for many years. The Mirant facility in Contra Costa County received an NPDES permit in 2001 that expired in April 2006. The State and Regional Boards have long had ample authority under the Water Code to require whatever studies were necessary to evaluate impacts to fisheries and to adopt measures protective of beneficial uses.

The State and Regional Board have known for decades that the Thermal Plan was inadequate. Indeed, Central Valley Board staff acknowledged as far back as the 1980s that the Delta-5 temperature standard is not protective and that biologically-based temperature criteria were necessary. Despite the fact that excessive temperatures have been identified as a serious limiting factor for listed species throughout the Central Valley, no funds have yet been provided to develop biologically-based temperature criteria. While we appreciate the fact that the State and Regional Boards are belatedly moving to address the once-through-cooling problem, we note that these problems have been known for a long time, should have been address years ago and will be deficient without biologically-based temperature criteria.

f. **Sediment Quality Objectives** Another example of the State Water Board's ambivalence in protection of public trust resources is the stop-and-go effort in developing sediment quality objectives. Toxic or potentially toxic sediments have been identified at a number of Delta locations.

In 1989, the California Legislature, as part of the Bay Protection and Toxic Cleanup Program, mandated that the State Water Board develop and adopt sediment quality objectives. The Board prepared a conceptual Periodic Review in 1991 but soon abandoned efforts to develop sediment objectives. However, in 1999, the Sacramento Superior Court ordered the Board to resume development of sediment objectives, pursuant to a lawsuit brought by Bill Jennings and Deltakeeper. The State Water Board elected to pursue development of sediment quality objectives through a lengthy and cumbersome stakeholder process. The majority of environmental participants withdrew in protest over the direction of the project, i.e., potentially responsible parties were insisting on a degree of monitoring and evaluation that was so extensive and expensive that it would be likely that only the very worst sites would ever be addressed. The developed approach envisions an extremely complicated three-pronged approach involving assessment of toxicity, bioaccumulation and biological assemblages. A scorecard will ultimately determine whether thresholds have been exceeded requiring cleanup.

Unfortunately, the complexity of the evaluation coupled with the substantial amount of expensive monitoring and assessment necessary to reach a conclusion means that potentially serious problems in the Delta may remain unaddressed. For example, fish tissue collected by DFG and analyzed by the San Francisco Estuary Institute revealed that catfish and largemouth bass caught in Stockton's Smith Canal contained concentrations of PCBs that exceeded OEHHA levels of concern. Results from a subsequent sampling demonstrated that the sediments were toxic and bioaccumulative. However, it is questionable whether anyone will ever be required to conduct the replicate sampling necessary to compel a cleanup.

g. **Invasive Species Management** The Bay-Delta estuary has been identified as the most "invaded" estuary in North America. Invasive species are one of the three major suspected causes of the pelagic species crash in the Delta. In the late 1990s, Bill Jennings and Deltakeeper petitioned the Central Valley Board to begin development of a general order addressing the increasing impacts caused by invasive species. The petition described the 212 confirmed exotics and 123 suspected exotics that had already invaded the estuary. It laid out the State Water Board's regulatory authority over ballast water discharges and proposed specific actions that would potentially reduce the accelerating increase in the number of invasive species establishing a foothold in the estuary. The petition was ignored. Both the State and Central Valley Boards opposed our repeated efforts to have the Delta and tributary waterways identified on the state's CWA 303(d) List of Water Quality Limited Segments as impaired by invasive or exotic species. Finally, the State Water Board acquiesced and included the Delta as an impaired waterbody because of exotic species on the 2006 list. The Board's belated acknowledgement of the damage caused by invasive species is appreciated. However, the proposed program and the one person-year allocated to the project (split between the three water boards) are seriously inadequate and betray a fundamental lack of concern regarding this serious threat to the Bay-Delta ecosystem.

h. **Blue Green Algae.** The toxicity of blue green algae poses a threat to both the Delta ecosystem and human health. The spatial distribution of these algal blooms has been rapidly expanding in the Delta over recent years. This expansion is likely fueled by increases in temperatures and nutrients and reduced flow. All three of these factors may be related to a failure to control nutrient loading into the Delta or provide necessary outflow to the Bay. Efforts to establish a monitoring and reporting program in order to better understand the fate and transport and environmental and human health effects are welcome. Unfortunately, the allocation of only one-third of a person year to this serious task is likely to prove seriously inadequate.

i. **Characterize Discharges from Delta Islands.** The discharge of some 430,000 acre-feet of return flow from approximately 680,000 acres of Delta farmland involving some 1800 diversions and hundreds of discharge points clearly suggests a management challenge to water quality regulation in the Delta. "Characterization" of the pollutants in these discharges is fundamental to any serious effort to protect Delta water quality. However, the proposed project is a searing indictment of both the Central Valley Board and the irrigated lands program. Had requirements to submit Reports of Waste Discharge not been waived for agricultural dischargers, outflow from Delta islands would have been "characterized" years ago. Similarly, had the Board insisted that agricultural dischargers, coalitions and water districts comply with the same monitoring requirements it routinely demands from virtually every other segment of society, i.e., municipalities, industries, businesses (even mom-and-pop operations), discharges would have already been "characterized." Indeed, had the Board complied with its regulatory responsibility

to protect the water quality and the public trust values of Delta waterways, the receiving waters would also have been fully "characterized" by now.

While the State Water Board seems focused on agricultural discharges in the Delta, it inexplicably ignores the agricultural discharges from millions of acres of farmland along waterways upstream of the Delta. Presser and Luoma[11] found that the aquifers of the western San Joaquin Valley contain so much selenium that even if the San Luis Drain were built and new additions of selenium halted (no irrigation), with an annual discharge to the Bay of 43,500 pounds of selenium per year it would still take 63 to 304 years to eliminate the accumulated selenium from the aquifers. Pollutants from these upstream discharges gather in the Delta and likely represent a far greater pollutant mass than those coming from Delta farmers. Targeting Delta farmers for their agricultural drainage discharges while ignoring those who discharge upstream is simply and obviously hypocritical. The State Water Board should direct the Central Valley Board to immediately issue 13267 letters requiring ***all*** agricultural dischargers to "characterize" their discharges immediately. This willed ignorance must cease.

III. C-WIN and CSPA's Specific Comments On The Staff Report for Periodic Review of the 2006 Water Quality Control Plan.

For the most part, C-WIN and CSPA agree with (and intend to participate in) the staff recommendations on Water Quality Control Plan issues previously identified for further review and the additional issues identified for further review in the draft staff Periodic Review report. C-WIN and CSPA also identify below additional issues that we believe warrant staff time. However, we retain little faith that State Water Board action will result in meaningful improvements to beneficial uses such as fisheries.

Again, we disagree strongly with the staff recommending no further review of fish screens and biological criteria (implementation plan for salmon doubling narrative in Water Quality Control Plan). Given all of the State and Central Valley Boards' failures noted above, C-WIN and CSPA believe it is time for U.S. Environmental Protection Agency to step in to promulgate its own water quality standards and implement them.

A. Issues Previously Identified for Further Review:

Evaluation of Southern Delta Salinity Objectives and Evaluation of San Joaquin River Flow Objectives

While we agree this is an issue warranting staff time and a potential Water Quality Control Plan amendment, Board member Art Baggett's 2008 temporary waiver in Order WR 2008-0029-EXEC of southern Delta salinity standards in D-1641, without hearings or evidence, indicates that the State Water Board is not interested in enforcing Southern Delta Salinity standards against the state and federal water projects in the South Delta. The 2009 request by Central

---

[11] Theresa S. Presser and Samuel N. Luoma. 2007. **U.S. Geological Survey Professional Paper 1646. Forecasting Selenium Discharges to the San Francisco Bay-Delta Estuary: Ecological Effects of a Proposed San Luis Drain Extension.** http://pubs.usgs.gov/pp/p1646/

Valley Project and State Water Project operators to waive compliance while not complying and the State Water Board's inaction on those documented violations again supports that finding.

While allegedly done to address the Governor's drought emergency, this outrage occurs — again—just 2years after a failed attempt by a State Water Board enforcement team to enforce the law (D-1641) against the state and federal water projects. As the staff prosecution team in that case wrote in their 2006 letter to the Board: "*Government should be held accountable for environmental protection to the same extent as private parties and should be held to the same enforcement standards*." Of course, that noble sentiment, and the law behind it, went out the window when the State Water Board ignored its own order and enforcement standards to politically please the Governor and the water projects.

For the aforesaid reasons, we ask the State Water Board to convene a hearing on the waiver of the agricultural water quality standards and in the meantime reinstate the permanent standards. As the Cease and Desist hearing record indicates, the projects can meet the standards by releasing water from reservoirs on the San Joaquin side of the Delta and by limiting pumping at the state and federal export projects.

Much more could be done to address south Delta salinity problems and San Joaquin River flow objectives. As D-1641 found, high salinity at Vernalis is caused by surface and subsurface discharges to the San Joaquin River of high saline water from agricultural lands and local wetlands. Below Mendota, the Department of Water Resources in 2006 attributed 67 percent of these saline flows to Grassland and northwestern areas of the western San Joaquin Valley. D-1641 clearly stated that regional management of drainage water is the preferred method of meeting these objectives.

The State Water Board has authority to initiate some effective actions toward this end. First, C-WIN and CSPA recommend that the Water Quality Control Plan be amended to eliminate the Vernalis Adaptive Management Program and reinstate the original D-1641 flow regime from 1995's Water Quality Control Plan. It is clear that the Vernalis Adaptive Management Program is a complete failure, as evidenced by continuing declines in San Joaquin River Chinook salmon stocks and the overall Pelagic Organism Decline.

Second, an appropriate hearing on this issue would also consider and adopt a land retirement program for drainage impaired agricultural lands in the two projects area of water use. C-WIN and CSPA hold to our position that irrigation of these saline seleniferous lands is a wasteful and unreasonable use of water in violation of Article X, Section 2 of the California Constitution.

The Pacific Institute, in its report *More With Less: Agricultural Water Conservation and Efficiency in California*[12] identified 1.3 million acres of drainage problem lands that could be retired, yielding up to 3.9 MAF in water savings. We believe that the State Water Board should initiate evidentiary hearings that study this problem and amend water right permit conditions so that these lands are no longer irrigated with imported surface water. Most of these lands were originally dry-farmed, or may have been irrigated with local sources of water.

According to information we have received from the Environmental Working Group, power subsidies to Westlands in 2002 and 2003 amounted to approximately $70 million each year[13].

[12] http://www.pacinst.org/reports/more_with_less_delta/more_with_less.pdf p 7, pp1
[13] http://www.ewg.org/node/20989

Water subsidies to Westlands in 2002 amounted to over $110 million[14]. If much of Westlands, as well as those impacted lands in other drainage-problem districts such as Broadview, Widren, Mercy Springs, Panoche, Pacheco as well as other lands within the State Water Project area were to be retired, it would free up 3.9 million acre-feet of water, as well as significantly reduce water and crop subsidies by tens of millions of dollars a year. Full analysis of such an alternative would provide meaningful disclosure to decision makers and the public about the true costs of continuing to deliver water to these problem lands.

Further investigation is needed to verify and refine these numbers, but clearly there is adequate justification to remove these lands from irrigation due to continuing drainage problems and salinization of land, in violation of Cal. Constitution, Article 10, Sec. 2 and Water Code Section 100- Wasteful and Unreasonable Use of Water.

B. Additional Issues Identified by Staff for Further Review

Delta Outflow Objectives- C-WIN and CSPA agree that this warrants a commitment of staff resources for a Bay-Delta Water Quality Control Plan. The Delta Smelt BO identifies that the Delta Outflow IS the habitat for smelt. It's not just a flow that "assists" fish traveling through, it's the only flow that's not subject to the influence of the Delta pumps, and IS the habitat for pelagic fish including Delta smelt, and certain life stages of longfin smelt

Export/Inflow Objectives- C-WIN and CSPA agree that this warrants a commitment of staff resources for a Bay-Delta Water Quality Control Plan. There are certain times of the year, for San Joaquin River fish, that there is a substantial additional inflow requirement necessary for them to be able to emigrate out through the Delta. It's therefore critical during the March through May salmon outmigration period from the San Joaquin River that the inflow number be 4 with export 1, in order for smolts to get past the Delta pumps and out through the Delta. This requires examination of the latest model runs from the California Department of Fish and Game (See appendix 5 of the June 4, 2009 Salmon Biological Opinion for more information). Particular attention should be made to recommended releases from Folsom, as recommended in the Salmon Biological Opinion.

The SWRCB should also consider significantly reducing summer Sacramento River inflows pursuant to recommendations in the Salmon Biological Opinion in order to improve outmigration of San Joaquin River salmon, maintain cold water storage in rim reservoirs and ensure that significant dewatering of Sacramento River Chinook redds does not continue.

Delta Cross Channel Gate Closure Objectives- C-WIN and CSPA agree that this warrants a commitment of staff resources for a Bay-Delta Water Quality Control Plan Amendment. There is a recommendation in the Salmon Biological Opinion that the gates be closed more often and in real time when the fish are moving.

Suisun Marsh Objectives - C-WIN and CSPA agree that this warrants a commitment of staff resources for a Bay-Delta Water Quality Control Plan. Operation of the salinity management gate on Montezuma Slough should be evaluated in the context of climate change.

Reverse Flow Objectives (Old and Middle River Flow Objectives) - C-WIN and CSPA agree that this warrants a commitment of staff resources for a Bay-Delta Water Quality Control Plan. It's clear that the existing flow objectives are inadequate to protect, let alone restore San

[14] http://www.ewg.org/reports/westlands

Joaquin River salmon. There are reverse flow objectives in both the salmon and smelt Biological Opinions, by the National Marine Fisheries Service and U.S. Fish and Wildlife Service, respectively.

Floodplain Habitat Flow Objectives- C-WIN and CSPA agree that this warrants a commitment of staff resources for a potential Bay-Delta Water Quality Control Plan Amendment. The recent Salmon Biological Opinion contains specific recommendations in this regard. However, the issue of mercury contamination needs to be closely examined to be sure that another problem is not being created in the name of creating habitat.

Changes to the Program of Implementation- Changes to the Monitoring and Special Studies Program - Comprehensive Monitoring Program

C-WIN and CSPA agree that the State Water Board's Comprehensive Monitoring Program warrants a commitment of staff resources for a Bay-Delta Water Quality Control Plan Amendment. However, CSPA has long pleaded with both the State and Central Valley Boards to establish a comprehensive Delta-wide monitoring program similar to those conducted by the San Francisco Estuary Institute in San Francisco Bay and the Sacramento River monitoring program conducted by the Sacramento River Watershed Program in the Sacramento River. In 2004, Bill Jennings and Dr. G. Fred Lee presented the State and Central Valley Boards with a report titled *Overview of Sacramento-San Joaquin River Delta Water Quality Issues*[15] that described the Delta's water quality problems and the need for a comprehensive monitoring program. As that report has been presented to the Board, we incorporate it by reference. Unfortunately, no serious monitoring program focused on chemical contaminants has been developed. The State Water Board needs to expedite development of a monitoring program funded by dischargers and exporters.

With the possible exception of salt and mercury, there is a serious lack of reliable information on the concentration, fate and transport of contaminants in the Delta, despite the fact that many of these pollutants are highly toxic and bioaccumulate in fish and wildlife. A comprehensive monitoring program is critical to improving water quality, restoring fisheries or evaluating the potential impacts of future projects that contemplate a modification of the Delta's hydrology. Water quality and water quantity are irrevocably connected and can be characterized as flip sides of the same coin, nowhere more so than in the Bay-Delta Estuary and its watershed. Alterations of flow inevitably alter assimilative capacity. Changes in assimilative capacity directly affect habitat and water quality.

3. Issues Not Recommended by Staff for Further Review

Ammonia Objectives- C-WIN and CSPA agree with staff that ammonia should be dealt with on a statewide basis, not in this Water Quality Control Plan. In regard to the effects of Ambient Ammonia Concentrations on Delta Smelt Survival and Algal Primary Production**, w**hile, the project to designed to identify the effects of pervasive ammonia concentrations is welcome, it is woefully underfunded and likely would not have been necessary had the Central Valley Board rigorously complied with state and federal antidegradation requirements and restricted ammonia pollutant loading. This issue points to an extremely serious and growing threat to Central Valley waterways: concentrations of pollutants that are deemed to be below water quality standards or at levels not perceived to be harmful are later revealed to be serious threats to beneficial uses. The Central Valley is one of the fastest growing areas of the state. Waters from north of

[15] See http://www.gfredlee.com/SJR-Delta/Delta-WQ-IssuesRpt.pdf

Redding to south of Fresno gather in the Delta. Renewals of municipal wastewater NPDES permits routinely allow significant increases in pollutant mass loading; often exceeding the identified assimilative capacity of receiving waters.

Therefore, not only are statewide water quality objectives for ammonia necessary, but a stricter NPDES permitting regime is also necessary for compliance and meaningful water quality improvement. C-WIN and CSPA have little confidence that this is nothing other than another meaningless paper exercise.

Toxicity objectives- C-WIN and CSPA agree that toxicity objectives should be dealt with on a statewide basis, not in this specific Water Quality Control Plan. Nonetheless, the Delta has experienced significant increase in the ambient concentration of a vast array of contaminants; some exceeding water quality objectives, some below the threshold. The potential harmful consequences of synergistic and additive interactions, bioaccumulative toxins, sublethal or chronic impacts and the cumulative effects of multiple stressors remain largely unidentified and unaddressed. Further, it is an inescapable fact that water quality standards have never been promulgated for a large number of known and potentially harmful constituents. Only by restricting the increase in pollutant loading through application of antidegradation requirements can we hope to avoid the emergence of a multitude of "new" water quality problems in the future.

Furthermore, we note that the Biological Opinion for the California Toxics Rule[16] requires U.S. Environmental Protection Agency to develop aquatic tissue criteria for selenium, mercury and other toxic substances. U.S. Environmental Protection Agency has yet to develop such criteria for selenium, and as a result, the California Toxics Rule is in violation of the federal Endangered Species Act. The lack of acute and chronic tissue criteria is resulting in erroneous recommendations to delist the San Joaquin River under Clean Water Act Section 303(d) for selenium.

Fish Screen Objectives—As stated above in great detail, C-WIN and CSPA strongly disagree with staff that this issue does not require additional review. If the CalFed Record of Decision's requirement to screen the federal and State pumps in the southern Delta, things might be very different for the Delta Smelt and other species. The CalFed Record of Decision required that these screens be installed, at the expense of the water contractors, ***prior*** to consideration of a Peripheral Canal. Now the canal is on the table, yet the pumps continue to take millions of fish.

Biological Indicators—The Salmon Doubling Narrative in the 2006 Water Quality Control Plan is merely lip service to both federal and state mandates to restore fisheries by 2002 to twice the levels found in salmon and steelhead during the period 1967-1991.[17] Instead, we find that salmon and steelhead have continued their decline, to the point that ocean fisheries dependent on Sacramento River Fall Chinook have been subject to unprecedented closures in 2008 and 2009. The Pelagic Organism Decline and the commercial salmonid fishery closures of 2008 and 2009 speak for themselves.

[16] U.S. Fish and Wildlife Service and National Marine Fisheries Service. Biological Opinion on Final Rule for the Promulgation of Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California. March 24, 2000.

[17] See California Fish and Game Code Section 6900-6924 and Public Law 102-575, Section 3406(b)(1), the Central Valley Project Improvement Act of 1992.

It is therefore imperative that the State Water Board develop an implementation plan for the Salmon Doubling Narrative found in the 2006 Water Quality Control Plan. Absent the commitment of funding to devising and implementing such a plan, it is evident that the State Water Board is not meeting its federal responsibilities under the Clean Water Act to protect beneficial uses. We think it warrants—along with the many other examples we list here—stripping the State Water Board of its Clean Water Act authorities by the U.S. Environmental Protection Agency

An implementation plan for the salmon doubling narrative would include activities to ensure that the State Water Project's and Central Valley Project's Methods of Diversion are Reasonable, Beneficial and Protect the Public Trust. Water Code Section 13550 provides a means for administrative enforcement of the reasonable use mandate. The State Water Board can seek enforcement through a number of statutory provisions. Among those statutory provisions is the reserved jurisdiction clause in water rights permits issued by the State Water Board (Water Code Section 1394). It retains jurisdiction for the State Water Board to revoke permits if a permittee should violate a permit term or condition. (23 C.C.R. 764.6)

Water Code Section 275 provides the State Water Board with expansive discretionary powers to take those actions necessary to eliminate water waste and to promote reasonable use. The State Water Board's decision as to whether to take action pursuant to Water Code Section 275 or to conduct investigations pursuant to Water Code Section 183 and/or 1051 is entirely up to the Board. The State Water Board's 2008 Strategic Plan intends to allow other agencies and stakeholders in the Bay Delta Conservation Plan and Delta Vision to exercise these statutory functions and leaves the State Water Board as a minor player whose only function is to evaluate and rubber-stamp whatever decision these processes produce. Such a plan is a sham and is not what the people of California deserve from the State Water Board. The reasonableness proceeding should be one of the first actions taken by the Water Board in the next year to provide the parameters for BDCP and Delta Vision, not the other way around. That was the purpose of the C-WIN and CSPA reasonable use complaint, which we filed in March 2008.

An implementation plan for the salmon doubling narrative would require water right investigation, enforcement, and other activities to ensure adequate fishery flows. As discussed previously, federal law (the Central Valley Project Improvement Act) waives federal sovereign immunity from state enforcement in regard to the Central Valley Project. Section 3406(b) of the Central Valley Project Improvement Act (Public Law 102-575):

> 3406(b) FISH AND WILDLIFE RESTORATION ACTIVITIES. "*The Secretary, immediately upon the enactment of this title, shall operate the Central Valley Project to meet all obligations under state and federal law, including but not limited to the federal Endangered Species Act, 16 U.S.C. s 1531, et seq., and all decisions of the California State Water Resources Control Board establishing conditions on applicable licenses and permits for the project*."

The United States Congress made it very clear that the State Water Board can regulate the United States Bureau of Reclamation just like any other water rights permit holder in its operation of the Central Valley project. There is no excuse for the State Water Board to fail to examine the reasonableness of the methods of diversion of the Central Valley Project and State Water Project, nor is there any immunity from California and federal law for these projects. The State Water Board should hold such an enforcement proceeding immediately to change the project water rights in response to the continuing environmental crash in the Bay/Delta.

In order to determine what reservoir releases are necessary to remedy inadequate flow (to improve the changes of the salmon doubling requirements in law) in the San Joaquin River, the State Water Board should also examine the Bureau of Reclamation's permits at Friant Dam. Bureau permits presently allow the diversion of massive amounts of San Joaquin River water at Friant Dam away from the lower river and the Bay/Delta and send the water into the Kern/Friant canal for use by water users outside the San Joaquin watershed. The State Water Board should also investigate the damage done to the lower reaches of the Tuolumne River and the Bay/Delta from the present exports diverted around the Bay/Delta by the City of San Francisco.

A component of an implementation plan for the Salmon Doubling Narrative in the 2006 Water Quality Control Plan should include Delta tributary water quality objectives and implementation through water rights for Salmon. Only the Sacramento River below Keswick Dam has Basin Plan water quality objectives protective of salmon which are implemented through a water rights order. The Trinity River has similar water quality objectives in the Water Quality Control Plan for the North Coast Region, but they have yet to be implemented through a water rights order, despite such a commitment made 20 years ago by the SWRCB in Water Quality Order 89-18.[18]

Despite the fact that there are Basin Plan objectives for all of the Sacramento River salmon runs, which are implemented through Water Rights Orders 90-05 and 91-01, the State Water Board has dismally failed to protect Central Valley salmon, whose populations have utterly collapsed. A program which provides real benefits to salmon would also include multi-year management of the cold water pools in rim reservoirs to ensure that there will be adequate cold water resources to ensure survival of the various Central Valley salmon and steelhead runs and races especially through multi-year droughts. It was only by luck in 2009 that spring storms brought up cold water storage in Shasta and Trinity reservoirs enough to possibly avoid disaster for returning salmon.

Water Use Efficiency- The focus of water use efficiency should be on the major water users no matter where they are geographically in California. The Governor recently proposed a 20 percent cut in per capita water use statewide by 2020.

This State Water Board should include in its Bay-Delta water quality control planning efforts adopted state policy on water demand as well as water supply in order to protect water quality and beneficial uses. In most urban settings in California, more than 60 percent of water use is for outside uses, including water for lawns, pools, car washing, and other non-food or environmental uses. All of this information can be found, if the State Water Board cares to address it, in Department of Water Resources' Bulletin 160-05. It appears that the Water Board has never considered the possible remedies to the ever increasing export water demands contained in Department of Water Resources' Bulletin 160-05. Could it be that the State Water Board is moving so slowly to allow Bulletin 160-05 to quietly expire before it can be used to reduce demands on water diversions from the Bay-Delta? After all, if the 3 MAF of urban conservation water and the 2 MAF of agricultural conservation water identified in Bulletin 160-05 for urban areas is purposefully ignored, does the State Water Board hope these California water plan objectives will just go away, allowing exporters another opportunity to circumvent state and federal law in the Bay-Delta?

[18] http://www.swrcb.ca.gov/board_decisions/adopted_orders/water_quality/1989/wq1989_18.pdf p 18

In addition to urban water conservation, the State Water Board should be acting to ensure that agriculture does its part. The report on agricultural water conservation by the Pacific Institute[19] identified millions of acre-feet of water conservation from a variety of methods, including 3.9 million acre-feet from permanent retirement of drainage problem lands in the Western San Joaquin Valley. Investigation of both salt loading and implementation of a land retirement program would provide both water quality and water supply benefits to the Bay-Delta.

[19] http://www.pacinst.org/reports/more_with_less_delta/more_with_less.pdf

California Sportfishing Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

6 December 2010

Jeanine Townsend
Clerk of the Board,
State Water Resources Control Board
Cal/EPA Headquarters
1001 "I" Street, 1st Floor
Sacramento, CA 95814
Sent via email to commentletters@waterboards.ca.gov

Subject: SJR Technical Report Comments

Dear Ms. Townsend, and Board Members:

The California Sportfishing Protection Alliance (CSPA) and California Water Impact Network (C-WIN) have reviewed the State Water Resources Control Board's (Board) Draft San Joaquin River Technical Report (Technical Report) and appreciate the opportunity to submit comments. Our comments include a review of the Technical Report prepared for CSPA by fishery biologist Carl Mesick, PhD, and supporting documents, including:

Mesick, C. 2010. Comments on the Draft Technical report on the Scientific Basis for Alternative San Joaquin River Flow and South Delta Salinity Objectives, 3 December 2010. 5 pages.

> In his comments, Dr. Mesick states that the State Water Resources Control Board omits from the draft technical report the important role of managing instream flow releases for temperature protection of salmon smolts in San Joaquin River tributaries, the need for fall pulse flows to minimize straying by returning San Joaquin River tributaries' salmonid spawners to Sacramento River basin streams, and to address potential fish losses at the state and federal Delta pumping facilities given that both a physical head of Old River barrier is not an available option any longer, and the bio-acoustic fish fence performed poorly in 2010. The most important flows are in the late winter through early spring period, and if flows need to be reduced for alternatives development by the State Board, then it can be most safely done with respect to salmon outmigration in the months of May and June. In addition, in the fall, pulse flows and Delta export rates should be managed to protect salmon, particularly when escapement numbers are low. Dr. Mesick also recommends flow management procedures for dry and critically dry years when salmon escapement numbers are low, while also balancing base flow releases to provide minimally required habitat for spawning and egg incubation in all years for spring flows and fall pulse flows.

Mesick, C. 2010. The High Risk of Extinction for the Natural Fall-Run Chinook Salmon Population in the Lower Merced River due to Insufficient Instream Flow Releases, 30 November 2010, 110 pages.

Mesick, C. 2009. The High Risk of Extinction for the Natural Fall-Run Chinook Salmon Population in the Lower Tuolumne River due to Insufficient Instream Flow Releases, 4 September 2009, 43 pages.

> These two studies present Dr. Mesick's evaluation of the risk of extinction for natural fall-run Chinook salmon populations in the Tuolumne and the Merced rivers, based on well-established academic literature on fishery biology. His research finds that declines in escapement for the salmon populations on these rivers is due to inadequate minimum instream flow releases from La Grange and Crocker-Huffman dams in late winter and spring during non-flood years when daily maximum water temperatures exceed the USEPA temperature threshold of 59 degrees F for smoltification. Fish that fail to outmigrate typically die from warming waters and disease in these rivers. These studies include extensive supporting databases.

Mesick, C. 2010. Instream Flow Recommendations for the Stanislaus, Tuolumne, and Merced Rivers to Maintain the Viability of the Fall-Run Chinook Salmon Populations, 14 February 2010, 29 pages.

> This paper is CSPA Exhibit 11 from the State Water Resources Control Board's Delta flow criteria proceeding last winter, and is accessible at the Board's web page supporting the proceeding. The exhibit provides instream flow recommendations specific to the Stanislaus, Tuolumne, and Merced rivers by water year type as inflow to the mainstem San Joaquin River.

United States Environmental Protection Agency, Office of Water. 2003. EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards. EPA 910-B-03-002, April 2003, 57 pages.

> Dr. Mesick's recommendations and comments on the draft staff technical report point to Table 1 (page 16) as scientifically comprehensive guidance for managing instream flows to protect salmon smolts.

United States Fish and Wildlife Service. 2005. Recommended Streamflow Schedules to Meet the AFRP Doubling Goal in the San Joaquin River Basin, 27 September 2005, 31 pages.

> These recommended flow schedules were modeled and written by Dr. Mesick during his employment with the US Fish and Wildlife Service. It presents ten analyses used to justify and determine flow schedules for the Stanislaus, Tuolumne, and Merced Rivers that would be needed to achieve the Anadromous Fish Restoration Program's goal to double salmon and other fish populations relative to their 1967-1991 average population

levels, pursuant to the Central Valley Project Improvement Act of 1992. These flow recommendations span the February through May period, and cover wet, normal, and dry water year types for all four major rivers in the San Joaquin River Basin.

National Marine Fisheries Service. 2009. Endangered Species Act Section 7 Consultation. Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project. June 2009, 219 pages composed of excerpted sections 1 and 6.6.

These excerpts of the NMFS 2009 salmon biological opinion on the state and federal Operations Criteria and Plan (OCAP) are resubmitted as part of Dr. Mesick's and C-WIN and CSPA's comments because it still represents the best summarization of the endangered status of salmonids and anadromous fish (including steelhead and green sturgeon), as well as of Delta inflows by water year types, of Delta export rates by facility and water year type, and of fish entrainment operational dynamics and magnitudes based on modeling of Old and Middle River flows (using both particle tracking and CalSIM II). NMFS analyses provide much-needed context for Mesick's recommendations concerning the importance of timing pulse flows and temperature management to benefit smolt outmigration and survival through what is at present an exceedingly hostile and highly altered estuarine environment in the Delta.

National Marine Fisheries Service. 2010. Letter to USEPA: Comment on the State Water Resources Control Board's "Do Not List either the San Joaquin River or its tributaries, the Merced, the Tuolumne and the Stanislaus for Temperature, 15 November 2010, ten pages.

Lee, G. Fred. 2010. Comments on Water Quality Issues Associated with SWRCB's Developing Flow Criteria for Protection of the Public Trust Aquatic Life Resources of the Delta, 11 February 2010, 5 pages.

This paper is CSPA Exhibit 22 from the State Water Resources Control Board's Delta flow criteria proceeding last winter, and is accessible at the Board's web page supporting the proceeding. The exhibit is included to highlight the total absence of any discussion in the Technical Report regarding the effects of flow on the concentration and residence time of pollutants in the San Joaquin River and Delta estuary, with the exception of salt. Salt is a conservative constituent and cannot be employed as a surrogate for the universe of impairing and bioaccumulating pollutants.

Our comments, in addition to the above cited comments and attachments, are as follows:

Purpose and Use of the Report

The Introduction to the Technical Report states that the Board is reviewing the objectives and program of implementation for San Joaquin River flow and southern delta salinity contained in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) and will be considering amendments to the Bay-Delta Plan. The Board

will comply with CEQA by preparing a Substitute Environmental Document (SED). The purpose of the Technical Report is to serve as the information and tools to provide the Board with the scientific information and methodology necessary to establish San Joaquin River flow and southern Delta salinity objectives and a program of implementation to achieve the objectives.

The Technical Report is, however, unclear as to exactly how the Board will use it. Is it a scoping document pursuant to the California Environmental Quality Act? Is it intended to help provide a factual basis, in tandem with the eventual release of the SED for upcoming evidentiary hearings? Is it intended to support replacement for the Vernalis Adaptive Management Plan or new salinity standards in the Delta? How does it fit into the schedule leading up to the eventual adoption of a revised Bay-Delta Water Quality Control, scheduled for 2012? At what point does the State Board intend to finalize this report? The Technical Report needs to include more specific information regarding its purpose and the procedures and timelines involved in preparing and considering potential amendments to the Bay-Delta Plan.

Problem Statement

The Technical Report's problem statement concerning fisheries is inadequate and incomplete. There is little discussion of historical fisheries, a chronology of their decline or a river-by-river analysis regarding the effects that dams and diversions have had had on the hydrograph, water quality and fisheries. With respect to salinity, the problem statement is simply absent and should include a discussion of the sources, duration and magnitude of water quality standard exceedance and the historical failure to secure compliance with objectives.

Temperature

While the Technical Report identifies appropriate temperature needs of salmonids and provides a general discussion of temperature as a limiting factor to restoration of fisheries, it fails to specifically describe the spatial and temporal extent of water temperature problems in specific river reaches or address the specific sources of identified temperature impairment. This information needs to be included in any defensible Technical Report.

Upstream Flow Contributions

Omission of instream flow contributions from the upper San Joaquin River (the river upstream of its confluence with the Merced River) goes unexplained and unjustified. This omission augurs a repeat of the upper San Joaquin River's omission and implied exemption from contributing instream flows to the draft D-1630 water rights decision. The Technical Report must incorporate a full analysis of historical and potential instream flow contributions from the upper San Joaquin River. If not, a discussion of why the upper San Joaquin River is excluded from the analysis must be provided.

Range of Alternatives

The flow analysis in the Technical Report fails to offer or consider an adequate range of alternatives. While Figure 3-9 shows simple exceedence plots representing 100%, 60%, 40% and 20% of Vernalis unimpaired flows, only three of these plots represent alternatives that could actually be evaluated in the SED. The Board's report titled *Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem*, 3 August 2010, recommended 75% unimpaired flow for the Sacramento River (albeit for a different seasonal period than on the San Joaquin River). While staff initially recommended the same percentage for the San Joaquin River, the draft report, as released, only recommended a 60% criterion for San Joaquin River inflows. There was no discussion or justification for the difference. The Technical Report should address the discrepancy and include and analyze a 75% unimpaired inflow scenario for the San Joaquin River.

Salinity

The salinity analysis of the Technical Report assumes the reader grasps the conversation already under way about South Delta salinity. The salinity analysis needs to provide both a problem statement and a baseline of salinity trends in the South Delta. It needs to discuss the historic salinity condition of South Delta channels before major Delta export pumping and Westside irrigation return flows to the San Joaquin River occurred and describe, in some detail, present conditions. The Central Valley Regional Water Quality Control Board staff published an extensive evaluation of salinity problems in the Central Valley in 2006. We recommend staff consider building on this document to provide a more comprehensive analysis in this Technical Report.

A simple mass balance analysis was used to determine the relative contribution of urban salt loading as a percentage of salt loading entering the head of Old River. We disagree with Technical Report characterization of this percentage as "small." We believe a 5-13% load is significant considering that salinity standards are routinely violated and South Delta channels lack adequate circulation and experience significant null zones. The Technical Report should include a similar mass balance analysis for salt loading from the various upstream sources to provide appropriate context.

In justifying the use of monthly averages in the mass balance analyses to understand the relative importance of contributing factors, the Technical Report claims, "beneficial uses are affected more by longer term salinity averages…" (page 74). This claim requires further elaboration, as excessive salinity levels at critical periods may well have disproportionate impacts.

The centerpiece of the Technical Report's salinity effects evaluation is a 2010 report prepared by Dr. Glenn Hoffman entitled *Salt Tolerance of Crops in the Southern Sacramento-San Joaquin Delta*. This highly controversial report has not been peer-reviewed. It makes numerous assumptions in concluding that existing salinity levels in South Delta channels are suitable and suggesting that present water quality standards could be relaxed. However, it acknowledges that

additional modeling is needed and recommends further studies. While detailing at length Dr. Hoffman's conclusions and recommendations, the Technical Report ignores the considerable controverting evidence and comments presented by South Delta farmers and experts. The Technical Report should explicitly identify the additional needed modeling and studies that will be required before significant weight-of-evidence can be accorded to the Hoffman Report and should propose a formal peer-review of the Report.

Recent information suggests that high levels of salinity in the South Delta may have an effect on fish "homing" on fresh water flows. The Technical Report should discuss and analyze potential impacts of salinity on fish migration.

If the purpose of the salinity analysis in the Technical Report is to provide the technical basis and rationale to enable the Board to propose amendments to the Bay-Delta Plan regarding steps necessary to achieve compliance with existing salinity standards, it is an initial step in the right direction. If, however, it is intended to serve as the technical support and rationale for changing present salinity standards, it is seriously deficient. It should include any comprehensive antidegradation analysis that would be required if salinity standards were proposed to be relaxed.

Water Quality

The Technical Report inexplicably ignores the universe of chemical constituents other than salinity. Water quality and water quantity are flip sides of the same coin; increases or decreases in flow result in changes in constituent concentration and residence time, which in turn impacts beneficial uses.

Consequently, the Technical Report and SED must address the effects and consequences of altered flow regimes on the suite of constituents found in the San Joaquin River, its tributaries and the Delta. These evaluations must extent beyond the 303(d) List of Impaired Waterbodies and encompass increased or decreased additive/synergistic effects and chronic/sublethal impacts. They must include potential impacts caused by increase residence time on bioaccumulative pollutants and oxygen demanding constituents. The Technical Report should include the information necessary to support an antidegradation analysis for any proposed alternative that would increase concentration or residence time and lower water quality.

Water Supply Impact Analysis

We appreciate that the Technical Report seeks to coordinate fishery flows with flows that would help control salinity problems in the South Delta. We also acknowledge and appreciate that the flow analysis continues use by the State Water Resources Control Board of a percent of unimpaired flow approach that mimics the natural hydrograph in all its natural complexity. This approach received substantial scientific support during the Board's Delta flow criteria proceeding. However, this approach does not go far enough.

The Water Supply Impact Analysis states, "[t]his analysis compares flow output from a CALSIM II model run of current conditions in the San Joaquin watershed against estimates of flow needed to satisfy a particular set of SJR flow and southern Delta salinity objective alternatives, and calculates the amount of additional water needed to attain these objectives." Additional needed water will then be "compared against CALSIM II estimates of total diversions from the three eastside tributaries (Stanislaus, Tuolumne, and Merced Rivers) and the portion of the SJR between Vernalis and its confluence with the Merced River." It acknowledges that neither this analysis nor the SED will "address specifically from where the additional water will be provided within the SJR watershed" but serves only to "demonstrate that water is physically available within the watershed.

First, as previously noted, this analysis unacceptably ignores flows from the upper San Joaquin watershed and places an unreasonable burden on water users that depend upon the Stanislaus, Tuolumne and Merced Rivers. Second, this approach, while a necessary initial step, provides little of the information needed to develop a protective flow regime other than to estimate whether 20, 40, 60 or some greater percent of total unimpaired basin runoff is necessary to protect fisheries and water quality. What is critically missing is an evaluation of the specific:

1. requirements necessary to protect fish in each tributary, and
2. impacts to specific water users in specific tributaries from implementation of whatever flow regime is identified to be sufficiently protective.

We believe a more robust and appropriate approach would be to begin to answer these questions now and not wait until some future evidentiary hearing before the Board. While an evidentiary proceeding is the proper place to ultimately "balance" competing needs, resolving the "facts" is an appropriate goal for the Technical Report and SED.

Modeling and CalSim II

Models are complex simulations that, at their best, only represent an idealization of actual field conditions. They must be used with extreme caution to ensure that the underlying model assumptions hold for the site-specific situations being modeled. Subtle changes in coefficients, assumptions or input data can dramatically alter output. It is crucial that models be properly calibrated and verified. Since models only represent an idealization of reality, they're generally better at comparative analyses than absolute analysis: i.e., they're better able to produce a reasonably reliable estimate of relative change in outcome than generate a reliable absolute prediction. Unfortunately, defining where and when a particular constituent will comply with a numerical water quality standard requires reliable prediction.

A critical problem arises when decision makers attribute more precision to modeling results than is warranted and where a model's output is misused to make definitive predictions. As G.E. P. Box noted, "[a]ll models are wrong, but some are useful."

CalSim II is a highly complex simulation model of a complex system that requires significant expertise to run and understand. Consequently, only a few individuals concentrated in DWR,

USBR and several consulting firms understand the details and capabilities of CalSim II. State Water Board staff cannot run CalSim II.

The formal peer-review of CalSim II in 2003 (*Strategic Review of CALSIM II and its USE for Water Planning, Management, and Operations in Central California,* 4 December 2003) was highly critical and detailed numerous inadequacies in the model. Among these was the opinion that CalSim II "has not yet been calibrated or validated for making absolute predictions values" (page 9). The 2006 peer-review of the San Joaquin River module (*Review Panel Report San Joaquin River Valley CalSim II Model Review,* 12 January 2006) was even more critical and found that "large uncertainty remains in the new representation due to large unaccounted for flow and salt loads (closure terms) and bias in the salinity model," page 2. The review noted that the San Joaquin module, "retains significant gaps present in the old model, particularly the lack of groundwater representation" (page 9) and it "requires more data for mainstem inflows and diversions of water and salts than is currently available," (ibid). It pointed out that the new model, "systematically underestimates salinity," (ibid). It observed that, "present documentation and testing alone are not sufficient to provide users of the model or model results with a complete reasonable basis for understanding the general accuracy and limitations of CalSim II results. Many assumptions are made without adequate justification and without assessment of their impact on model results," (page 10). While acknowledging that the model is an improvement over its predecessor, the review states, "[m]odel developers also appear to agree that the current representation should be used preferably for comparative purposes and that model output *is not ideal to forecast an absolute condition*" page 48.

We note that Figure 5-2 (page 80) is presented as representing an adequate calibration of CalSim II for purposes of evaluating water supply impacts. Actually there are at least 11 different areas in the figure where CalSim II results vary dramatically in magnitude and occurrence from the observed Vernalis data. These discrepancies appeal to amount as much as 100-200 umho/cm. No explanation is offered in the draft technical report for these numerous and significant variances from actual data. Figure 5-2 is not a winning endorsement for CalSim II's modeling capability. We suspect that a similar calibration comparison focused on the Old River in the South Delta would reveal even greater discrepancy between predicted versus observed values (also applies to DSM2), which is why the Technical Report employees a regression analysis to model salinity impacts.

While a simple regression analysis of Vernalis data versus South Delta data many serve to evaluate water supply impacts, we question whether it is sufficiently accurate to predict compliance with specific water quality standards. We note that the regression analysis comparing salinity at Vernalis versus Old River at Tracy (Figure 4-2) is more scattered than the analysis of Vernalis/Brandt Bridge (Figure 4-4), perhaps because of the null zones in Old River. The Technical Report should discuss the lack of water circulation in the South Delta and the regression analyses should be subject to peer-review.

The CalSim II estimate of flow at Vernalis depicted in Figure 5-1 (page 79) indicates that the model can underestimate winter flow by as much as 150-250 TAF. Perhaps this difference can

be attributed to reservoir flood releases or spills but changes in reservoir operation might make this water available during other needed periods. We reiterate that focusing on Vernalis flows can only be an initial step and the Technical Report should extend its analyses to the specific tributaries, including the upper San Joaquin River.

To the extent that results from CalSim II modeling are relied upon by the Technical Report, it is important that the assumptions behind model runs and limitations of model output be made explicitly clear in layman's terms to all parties, especially as staff is unable to run the model. CalSim II should be employed for relative comparative analyses and not relied upon to predict specific results; i.e., whether a potential action will achieve water quality standards or ensure that specific temperature criteria are met. We recommend that all models and the actual modelers be made available for questions and that proposed alternatives to be modeled be discussed and agreed upon by interested parties.

Thank you for considering our comments, suggestions and recommendations. Our organizations look forward to participating actively in the upcoming January 2011 workshop on issues facing the San Joaquin River and South Delta river channels and sloughs.

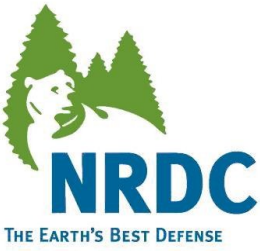
Sincerely,

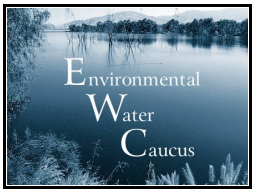
Bill Jennings, Chairman
California Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204
(209) 464-5067
deltakeep@aol.com

Carolee Krieger, President
California Water Impact Network
808 Romero Canyon Road
Santa Barbara, CA 93108
(805) 969-0824
caroleekrieger@cox.net

ENVIRONMENTAL, ENVIRONMENTAL JUSTICE, AND FISHING COMMUNITY JOINT SCOPING RECOMMENDATIONS FOR THE DELTA STEWARDSHIP COUNCIL

January 25, 2011





CA Save Our Streams Council

Sacramento River Preservation Trust

Philip Isenberg, Chair
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA
95814

January 25, 2011

Re: **Notice of Preparation for the Completion of an EIR on the Delta Plan**

On behalf of a broad coalition of environmental, environmental justice and fishing groups, we are pleased to submit scoping comments in response to the Council's December 10 Notice of Preparation. This is an important moment for the Council and the Bay-Delta ecosystem. The Delta's ecosystem is in a state of ongoing collapse and there are concerns regarding the long-term physical stability of the Delta. Drafting a visionary and effective Delta Plan will require the careful consideration of a wide range of alternative actions, including significant new directions in water management.

We respectfully urge the Council to consider the attached detailed recommendations, which address water management and ecosystem restoration issues. These recommendations are intended to be the beginning of a dialogue with the Council. They represent our initial thoughts on the steps necessary to develop an adequate plan, and we are committed to working with you to refine and improve these recommendations in the coming months. **In the near future, we will submit additional recommendations for inclusion in the Delta Plan, addressing water quality, environmental justice, governance, finance and other issues.**

We recommend that the Council use the following broad recommendations to guide the development of the draft Delta Plan and a draft EIR that analyzes an appropriately broad set of alternatives.

- **Restoring Adequate Flows for the Delta and Fisheries**: The Council should clearly recognize that the Bay-Delta system is over-appropriated and that ecosystem restoration will require stronger flow standards and reductions in average annual diversions. The evaluation of alternative Delta conveyance facilities (see the following recommendation) must be consistent with the best available peer reviewed science and include a protective operational scenario guided by the State Water Board's flow criteria.
- **Analyze a Full Range of Conveyance Facilities**: The Council should clarify the meaning of the term water supply reliability. Specifically, the Council should clearly state that the purpose of state and federal investigations of a Delta isolated facility is to decrease the physical vulnerability and increase the predictability of Delta supplies, not to increase average annual Delta exports. Investigations of new Delta water conveyance facilities must evaluate a full range of capacities (3,000-15,000 cfs), operations, and costs at a common level of detail, as well as an alternative that would not include a new conveyance facility.
- **Reducing Reliance on the Delta and its Watersheds**: Recognize that California has dramatic opportunities to invest in regional water supplies (e.g. agricultural and urban conservation, wastewater recycling, groundwater management and urban stormwater capture) that can allow the state to meet its future needs, while simultaneously facilitating the restoration of the Delta ecosystem and its watersheds.
- **Restoring and Protecting Habitat**: Include an ambitious, large-scale habitat restoration effort in the Delta and upstream, undertaken through a phased approach and a process that includes local communities in the planning process. Habitat restoration and protection must complement, not replace, improvements in flow conditions. A similar approach to phasing can help in other areas as well, such as strengthening flow requirements and investing in regional self-reliance.
- **Enforcing Existing Water Pollution Control Laws.** Commit to full implementation and enforcement of state and federal laws to protect both surface water and groundwater quality. The state is failing to meet existing standards to protect Bay-Delta surface water and groundwater quality, and is lagging in the

development of new standards and pollutant loads needed to ensure the health of the estuary's waters. Contaminants such as salt, selenium, mercury, nutrients and pesticides pollute drinking water and damage the health of the Delta, and the damage is mounting. See http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml for the latest information on impaired surface waters.

- **Grounding the Delta Plan in Biological Objectives**: Base the Delta Plan on the development of SMART (specific, measurable, achievable, relevant to the goal, and time bound) biological objectives to guide and measure ecosystem recovery. These objectives should be developed using the "logic chain" and the April 29, 2010 federal "White Paper on Application of the 5-point Policy To the Bay Delta Conservation Plan." Those objectives should serve as the foundation for designing projects, analyzing the effects of major decisions, monitoring, and adaptive management. Finally, these objectives should include a full range of species (e.g. doubling fall-run salmon) and ecosystem functions, not just listed species.
- **Basing the Plan on the Best Available Science**: Include a strong emphasis on science, particularly on ensuring that the results of the best available science are actually incorporated into decision-making. In the past, careful scientific reviews have frequently not been incorporated into key agency decisions.
- **Incorporating Economics and Financing**: Include a strong focus on economics and a "beneficiary pays" approach to financing. We offer three specific examples. First, investigations of Delta facilities should consider cost-effectiveness, not just maximum diversions. A "beneficiary pays" approach to a Delta facility requires that export water users pay for the costs associated with planning, capitalization, finance, operations and maintenance, and mitigation. Second, a package of targeted water fees is essential to accomplish ecosystem restoration and Delta flood management improvements. Third, a reduction in subsidies and movement toward full-cost pricing can significantly improve water use efficiency.
- **Establishing Equitable Governance**: Ensure that major Delta decisions are reached through efforts designed to include all stakeholder groups with a legitimate stake in the outcome. In the past, all too often, water exporters have dominated key decision-making forums and some groups have been excluded.
- **Achieving Environmental Justice**: Assure that all policies are designed to comply with environmental justice standards by avoiding negative impacts and assuring equitable benefits to environmental justice communities. Achieving environmental justice must be founded on engagement of EJ communities in the planning and development of the plan and any mitigation plans that are necessary.

Thank you for considering the above and the attached comments. We look forward to providing additional comments and to working with the Council in the development of the Delta Plan.

Sincerely,

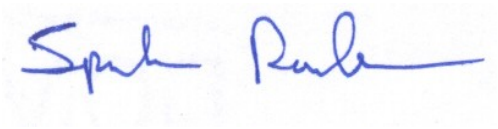
Jim Metropulos
Senior Advocate
Sierra Club California

Barry Nelson
Senior Policy Analyst
Natural Resources Defense Council

Kim Delfino,
California Program Director
Defenders of Wildlife

Jonas Minton
Senior Water Policy Advisor
Planning and Conservation League

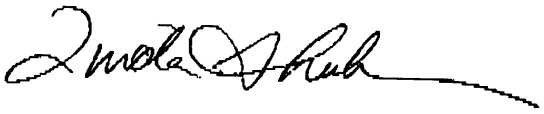
Nick Di Croce
Environmental Water Caucus



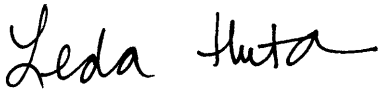
A. Spreck Rosekrans
Economic Analyst
Environmental Defense Fund

Carolee Krieger
Board President and Executive Director
California Water Impact Network

Steve Evans
Conservation Director
Friends of the River

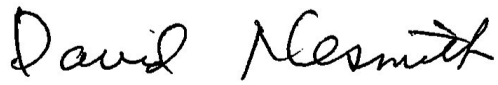


Linda Sheehan
Executive Director
California CoastKeeper Alliance



Leda Huta
Executive Director
Endangered Species Coalition

Jennifer Clary
Water policy Analyst
Clean Water Action

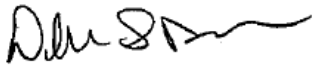


David Nesmith
Facilitator
Environmental Water Caucus

Gary Bobker
Program Director
The Bay Institute

Barbara Barrigan-Parrilla,
Executive Director
Restore the Delta

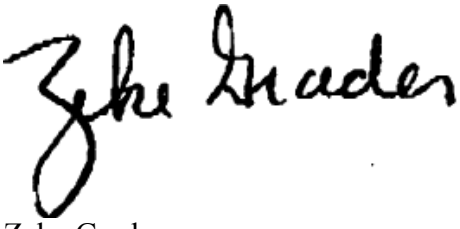
Bill Jennings
Executive Director
California Sportfishing Protection Alliance



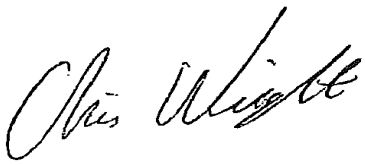
Debbie Davis,
Legislative Analyst
Environmental Justice Coalition for Water

Conner Everts
Southern California Watershed Alliance
Desal Response Group

Byron Leydecker,
Chair
Friends of Trinity River



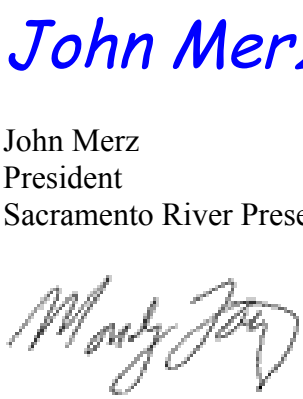
Zeke Grader
Executive Director
Pacific Coast Federation of Fishermen's Association



Chris Wright
Executive Director
Foothill Conservancy

Barbara Vlamis
Executive Director
AquAlliance

Lloyd Carter
President, Board of Directors
California Save Our Streams Council



John Merz
President
Sacramento River Preservation Trust

Mondy Lariz
Director
Santa Clara County Creeks Coalition

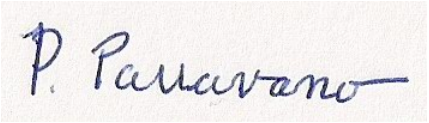
Anne-Marie Bakker
President
Northern California Council
Federation of Fly Fishers

Larry Hanson

Larry Hanson
Manager
Northern California River Watch

Michael Schweit
President
Southwest Council
Federation of Fly Fishers

Nadananda
Executive Director
Friends of the Eel River



Pietro Parravano
President
Institute for Fisheries Resources

Dan Bacher

Dan Bacher
Editor
FishSniffer Magazine

ENVIRONMENTAL, ENVIRONMENTAL JUSTICE, AND FISHING COMMUNITY JOINT SCOPING RECOMMENDATIONS FOR THE DELTA STEWARDSHIP COUNCIL

January 25, 2011

ECOSYSTEM RESTORATION

Findings

The major environmental objective of the Delta Plan is to recover the health of the Delta. The recent Delta Flow Criteria Report produced by the State Water Resources Control Board clearly indicated the need for increased flows through the Delta in order to protect public trust resources and to recover Delta ecosystems. As stated in the report, one purpose of the flow criteria is "to inform planning decisions for the Delta Plan."

The health of many species that spend a portion of their lifecycle in the Delta is dependent on conditions in the upstream tributaries; therefore a healthy Delta ecosystem requires healthy conditions in those upstream tributaries.

Policy Recommendations for Delta Flows

1. Develop SMART (specific, measurable, achievable, relevant to the goal, and time bound) biological objectives using the logic chain approach developed by the Bay Institute and others and the April 29, 2010 federal "White Paper on Application of the 5-point Policy To the Bay Delta Conservation Plan." Those objectives should serve as the foundation of the analysis of the effects of major decisions in the Delta as well as of adaptive management efforts. These objectives should include a full range of species (e.g. fall-run salmon doubling) and ecosystem functions and not be limited to listed species.
    - Develop enforceable assurances and enforcement mechanisms to ensure the achievement of the above biological objectives.
2. Implement stronger flow protections through a phased approach to making continuous progress toward ecosystem restoration:
    - The initial phases should include the current smelt and salmon BOs, along with improved flows on the lower San Joaquin River, to be developed by the SWRCB.
    - Establish stronger subsequent protections to be adopted by the SWRCB, including increased spring outflows and San Joaquin River pulse flows. Adopt new requirements by 2012, with implementation beginning no later than 2015.
    - Over the longer term, establish a policy of fully achieving the SWRCB and DFG recommended flows – to be modified as necessary, if the Delta's fundamental flow patterns are physically modified.
    - Once the ecosystem has recovered and additional restoration programs are implemented (e.g. the completion of wetland and floodplain habitat restoration and improvements in water quality), the SWRCB may consider whether modest adjustments in flow requirements, consistent with flow protections, are justifiable while maintaining ongoing achievement of biological objectives.

3. Create enforceable mechanisms to ensure that water exports from the Delta and water transfers are consistent with protective Delta flow standards.

Policy Recommendations for Tributary Flows

1. Provide stream flows in tributary rivers that are necessary to protect public resources; direct the SWRCB and DFG to complete recommendations for instream flows for high priority rivers by 2015 and for all major rivers and streams by 2020.
2. Ensure that upstream water operations and diversions are consistent with the updated flow and temperature standards, including management of reservoirs to maximize cold-water pools for later downstream releases.
3. Evaluate dam removal and improved fish passage opportunities and, wherever feasible, provide effective fish passage for all salmonid species. Prioritize efforts to benefit tribal communities (e.g. on the McCloud River) that have lost access to historic fisheries.
4. Integrate floodplains with rivers and streams and salmon restoration programs.
5. Support the full implementation of the Trinity River Record of Decision in a manner that respects Native American rights and aids Humboldt County in implementing in-basin fish restoration actions.
6. Support the full and timely implementation of the San Joaquin River restoration agreement, including the full restoration of specified flows from Friant Dam to the Delta.

Policy Recommendations for Physical Habitat Restoration

1. Aquatic habitat restoration of wetlands, marshlands and riparian areas and floodplains is a necessary complement to adequate restoration flows; habitat is not a substitute for flow nor is flow a substitute for habitat.
2. As the Delta is both a man-made and natural place, habitat for endangered terrestrial species is the result of the reclamation of Delta agricultural lands. A balance should be achieved to protect present terrestrial habitat that is agriculture dependent while embarking on aquatic habitat restoration projects.
3. Implementation of the Delta Plan must contribute to implementation of the Central Valley Joint Venture' habitat goals in order to protect, restore, and enhance wetlands for waterfowl as well as for numerous other wetland dependent species.
4. To the greatest extent possible, habitat restoration within the Delta and its watershed must be based on sound science and community viability. Specifically, in-Delta and upstream interests must be full partners in developing and implementing habitat restoration programs so that a desirable mix of aquatic habitat restoration and sustainable agriculture is achieved.
5. Aquatic habitat restoration programs should be incentivised so as to encourage the involvement of landowners. In-Delta interests should be brought to the table to identify, create, prioritize, implement, monitor and evaluate restoration projects.
6. Habitat restoration should be accomplished through "willing seller / willing buyer" provisions and should avoid condemnation proceedings.
7. To the maximum extent practical integrate habitat restoration with sustainable farming practices and flood management activities in the Delta and its watersheds.
8. Incorporate rigorous scientific input and review in the identification, prioritization, monitoring and evaluation of projects and establish a robust program for learning from

evaluations and applying lessons-learned to future management activities. A clear and explicit adaptive management strategy must be integrated into the Plan from the outset; its description cannot be left undefined until or left as a "next step".

9. Develop clear connections between proposed restoration activities and the goal/objective statements that will allow evaluation of the activity in the context of the overall plan and post-implementation learning and evaluation of success.
10. Recognize that habitat restoration upstream of the Delta is a necessary component for restoration of species dependent on the Delta and its watersheds. Develop clear goals and objectives for habitat restoration upstream of the Delta.
11. Develop a restoration plan that contains a schedule for restoration and identifies priority areas that science suggests provide the greatest benefit for achieving restoration objectives. The plan should be reviewed and modified periodically to accommodate new information learned as a result of implementation and subsequent monitoring and research.
12. Recognize that habitat restoration will be accomplished in phased stages and will take a long period of time, probably 40 to 50 years to fully implement.
13. Habitat restoration should be fully funded to accommodate monitoring, evaluating and reporting provisions.
14. Annually evaluate progress towards achieving habitat objectives and targets and conduct a formal review of restoration priorities every 5 years as part of the Delta Plan update process.

System-wide Policy Recommendations

1. Develop recommendations and legislation recognizing protective instream flows as a water right for the protection of public trust uses, including permanently protecting water needed to ensure ecosystem health. Consider Oregon's system as a possible model.
2. Discourage mechanisms, such as the Environmental Water Account, which require the public to purchase water for bedrock environmental compliance purposes and that interfere with ecosystem restoration and science-based adaptive management.
3. Water Transfers.
    - Establish a comprehensive process for evaluating permanent, and serial short-term water transfers, specifically with regard to potential Delta, groundwater and upstream impacts. These long-term transfers raise issues that are different from true short-term transfers.
    - Perform and independent evaluation of potential groundwater management impacts and the relationship between groundwater and proposed permanent surface water transfers.
    - Ensure that water transfers do not result in harm to source areas groundwater aquifers or aquatic resources.
    - Recommend policies and legislation that would require the reallocation of a portion of the amount of water transferred in any permanent or serial water transfer, in order to reduce over-allocation problems and assist with ecosystem restoration efforts.
    - Develop and implement policies that minimize third party impacts to disadvantaged communities, particularly disadvantaged rural communities, tribes and to subsistence fishing activities.
    - Where third party impacts are unavoidable, consult with impacted communities in the development of a mitigation plan and ensure the policy implementation is contingent on funding for implementation of the mitigation plan.

WATER MANAGEMENT

Findings

In view of continuing population pressures, economic development and climate change – which will reduce natural water supplies – the major challenge facing California water users is to manage existing supplies more efficiently. Greater efficiency has the proven potential to save water and actually reduce total demand, despite increasing population and development.

Defining Water Supply Reliability

To guide the Council's work to "provide a more reliable water supply for California" (Water Code Sec. 29702(a), it is important to define the term "water supply reliability." The assurance of a reliable water supply is a common goal for all water districts, whether they are urban or agricultural water suppliers. But the Council's definition must recognize that it is not possible for the Delta alone to meet the state's water needs. Improving the reliability of water supplies from the Delta means decreasing the vulnerability of Delta water supplies to disruption from natural disasters (e.g. earthquakes, sea level rise, floods and levee failures), and increasing the predictability of those supplies. Improving water supply reliability does not require increasing, or even maintaining, current levels of diversions. As a result, it is perfectly possible to increase the reliability of supplies from the Delta, reduce diversions, reduce reliance on Delta supplies and restore the Delta ecosystem.

This definition of reliability is reflected in the Council's November 15 letter to Byron Buck, which clearly confirmed that the mandate to reduce reliance on Delta supplies "includes all current water supply needs *as these needs will continue into the future"* (emphasis in the original). That letter also confirms that the legislature intended to "reform *current* unsustainable uses in the Delta" and that "(p)rudent and resilient management must seek to redesign the system in ways that allow for the probability of reduced exports." Finally, the letter concludes, "the legislature expects our water supply system, and the economy that relies on it, to be more resilient and <u>less reliant</u> on the Delta."

The Council can also work to "provide a more reliable water supply for California" (Water Code Sec. 29702(a)) through a focus on tools that are broader than a narrow focus on Delta water management. In developing water supply reliability recommendations that reach beyond the Delta, the Delta Plan should include provisions that reflects the following:

- It is not possible for the Delta and its watersheds to meet all the state's water needs.
- All of California's water systems are inter-linked and it is imperative that solutions for the Delta include consideration of statewide implications.
- The state's aquatic ecosystems and fisheries also need reliable water supplies, and as such should hold rights as the most senior water users.
- We have reached – and exceeded – the amount of water can be responsibly diverted from the Bay-Delta, groundwater and other surface water sources statewide.

- Improving water supply reliability begins with a responsibility to use water reasonably, efficiently and to increase that efficiency over time.
- Although the state must plan for a water supply adequate to meet the needs of Californians and the state economy, the state itself does not have the obligation to provide all of those supplies. The state cannot and should not assume responsibility to provide all of the water demanded by all water users in all locations. Water users bear a responsibility to take steps to plan responsibly and implement appropriate water supply programs.
- The state has a responsibility to ensure that disadvantaged communities can have access to safe and affordable drinking water.
- Climate change is likely to reduce the amount of water available from existing surface and groundwater sources.
- Ongoing and historic contamination threatens ecosystem health, human health and the reliability of water supplies.
- Planning a more reliable water supply requires a focus on cost-effectiveness and a "beneficiary pays" approach to financing within biological and hydrologic constraints.
- Planning a more reliable water supply means planning for periods of shortages. It is not possible to provide supplies that are not subject to some uncertainty, for example, from prolonged or severe droughts.
- Different uses require different levels of reliability. Because of the higher economic value of water in urban uses, along with a lower level of flexibility in comparison with agricultural uses, urban water use requires a higher level of reliability.
- There is no silver bullet to providing a reliable water supply. The winning approach will include a portfolio of investments, emphasizing tools such as efficiency, water recycling, improved groundwater management, Low Impact Development and conversion of drainage-impaired lands.

System-wide Policy Recommendations

1. Develop alternatives designed to implement the state's existing policy of reducing reliance on Delta diversions. Each alternative should include a program of specific water management actions designed to achieve this goal.[1]
2. Recommend incorporating the goal of reducing reliance on Delta supplies by promoting regional self-sufficiency in every region of the state.
3. Require mandatory reporting to the State Board of all surface and groundwater diversions by 2012.
4. Support legislation to strengthen the State Board's ability to detect and prosecute illegal diversions.
5. Enact legislation to require all urban and agricultural water agencies to integrate more aggressive tiered pricing into their rate structures, with lifeline provisions for low income residential customers.
6. Establish clear responsibility for coordinating and monitoring accomplishment of the enhanced conservation targets.

[1] Los Angeles County Economic Development Corporation (LAEDC). 2008. Where Will We Get the Water? Assessing Southern California's Future Water Strategies. P 6. http://www.mwdh2o.com/BlueRibbon/pdfs/Water_SoCalWaterStrategies.pdf

7. Reform water contracts and water rights to reduce the current over-appropriation of the Bay-Delta system
    - Modify CVP and SWP contracts to reflect realistic levels of water delivery, compatible with ecosystem restoration.
    - The Delta Stewardship Council should recommend that the SWRCB make an official finding on the extent of over-appropriation of the delta watershed by season and water year type; this should be accomplished by 2014. In the interim, the SWRCB should not issue any new water rights in the watershed.
    - Over the long-term, the SWRCB should undertake a program to modify existing water rights to incorporate comprehensive, new flow requirements, the likely impacts of climate change and realistic total diversions from the Delta and upstream tributaries.
9. Support the Delta Watermaster's call for the establishment of a Reasonable Water Use Unit within the State Water Resources Control Board's Division Of Water Rights.[2]
10. Implement forecast-based flood releases with needed downstream channel improvements in order to provide increased flood protection and increased water storage.[3]
11. Evaluate the potential for surface water storage for multiple purposes within the Tulare Lake bed.
12. Increase flood plain restoration to provide water storage benefits.
13. Analyze the energy use impacts and associated greenhouse gas emissions of each proposed conveyance alternative, a full range of projected water export levels, as well as alternative water supply strategies.[4]
14. Evaluate the potential for the State Water Board to evaluate a mandatory water "loading order" that would make conservation and efficiency improvements the highest priority investments.
15. The Delta Stewardship Council should recommend a package of reforms to reduce subsidies and move to full-cost water pricing to encourage efficiency.

Policy Recommendations for Urban Water Use

1. Integrate full implementation of the 20/20 plan into the Delta Plan and IRWMPs.
2. Establish a more ambitious long-term urban water conservation target to succeed the 20/20 goal.
3. Advance the date by which all urban water agencies must be fully metered to 2017 – from the current deadline of 2025.
4. Require statewide volumetric pricing for wastewater service for the 70% of residential customers that currently pay a flat rate for sewer service.
5. The State Water Board should develop regulations by 2013 to allow for non-potable indoor use of captured rainwater.
6. The State Water Board should establish by 2015 quantified statewide goals for infiltration and direct use of urban runoff.

---

[2] Craig M. Wilson, Delta Watermaster. The Reasonable Use Doctrine & Agricultural Water Use Efficiency. 2010. P. 14.

[3] Aris Georgakakos. Reducing Vulnerability with Probabilistic Hydrological Forecasts and Modern Decision Support Systems, Sixth Annual California Climate Change Research Symposium, 2009

[4] 2008 Water-Energy Sector Summary, AB 32 Scoping Plan, GHG Emission Reduction Strategies

7. By 2012 require all state agencies, including Caltrans, to integrate low impact development into retrofits for all state facilities, leading to a state wide LID retrofit requirement for all major facilities in California.

Policy Recommendations for Agricultural Water Use

1. Establish a statewide agricultural water conservation target of 1 MAF by 2020, 2.5 MAF by 2030 and 3.5 MAF by 2040.
2. Establish programs to assist farmers in meeting water conservation goals.
3. Require, through legislation, all agricultural water districts to prepare and update agricultural water management plans that meet the conservation objectives and time frames established in the final plan.
4. Explore mandatory water application and consumption rates for principal crops and soils.
5. Establish a specific State Water Board definition, which will evolve over time, of "water waste". Immediately begin "waste and unreasonable use" hearings that fully implement the mandates of Water Code Section 275 and California Constitution Article X; water rights being exercised for wasteful or unreasonable uses should be considered for termination and allocation to appropriate uses under the law,[5] including meeting instream flow criteria.
6. Establish user-friendly web-based tools to allow farmers to improve their ability to make real time weather-based irrigation decisions.
7. Establish mandatory minimum performance criteria for management and maintenance by agricultural water suppliers, e.g. scheduling "on demand" deliveries, leak prevention, delivery efficiency and measurement.
8. Pursue the conversion of a minimum of 380,000 acres of drainage impaired farmlands in export areas.[6] Include a mitigation plan for displaced workers and disrupted communities and make implementation contingent on funding for the mitigation plan.
9. Encourage federal agencies, the CPUC and other state agencies to provide incentives for the voluntary installation of solar facilities on drainage-impaired land in the Central Valley.

Policy Recommendations on Groundwater Management

1. Create a statewide system of regional mandatory groundwater management programs addressing both quantity and quality by 2015. The state should establish minimum requirements for groundwater management plans and empower local agencies to write and implement those plans, while assuring that the plans have broad representation from all interest groups.
   - Empower the State Water Board to intervene and write management plans if regional plans are not adequate or completed by 2015.
2. Require mandatory reporting of infiltration and extraction from groundwater basins.
3. Require scientifically based evaluations of intact aquifers in order to maintain their integrity and ensure that problems in one region are not transferred to another region.

---

[5] Legislative Analyst Office, California's Water: An LAO Primer. Ch. 6. Oct. 2008.

[6] US Fish & Wildlife Service. Fish & Wildlife Coordination Act Report, San Luis Drainage Feature Reevaluation Project. March 2006. P. 63. http://www.usbr.gov/mp/nepa/documentShow.cfm?Doc_ID=2236

Policy Recommendations on Water Recycling

1. Develop policies to strengthen, accelerate and implement the state's water recycling targets.
2. Establish a new state target of 1.5 MAF of recycled water by 2015.
3. Assure the current Department of Public Health deadlines of 2013 for uniform water recycling criteria for indirect potable reuse and 2016 to adopt criteria for surface water augmentation.
4. By 2014, require all large wastewater treatment plants that discharge to salt or brackish water to prepare, in cooperation with local and regional water supply agencies and the Regional Water Quality Control Boards, a feasibility report regarding recycling opportunities that comply with water quality laws.

Policy Recommendations on Delta Conveyance Facilities

1. Explicitly state that the purpose of the evaluation of any Delta facility is to decrease the physical vulnerability and increase the predictability of Delta supplies, not to increase Delta diversions.
2. Analyze, at an equal level of detail, facility capacities from 3,000 cfs to 15,000 cfs as well as alternatives that would utilize existing conveyance without major new conveyance facilities, such as the Delta Corridors Plan or other non-structural alternatives.
3. Analyze a full range of operations, including an environmentally preferred alternative scenario developed using the SWRCB flow criteria.
4. Focus this analysis on designing a cost-effective project that is compatible with achieving maximum ecosystem protection, rather than achieving maximum diversions.
5. Ensure the preparation of scientifically credible effects analysis prior to any decision on facility size or operations.

California Sportfishing Protection Alliance
"An Advocate for Fisheries, Habitat and Water Quality"
3536 Rainier Avenue, Stockton, CA 95204
T: 209-464-5067, F: 209-464-1028, E: deltakeep@aol.com, W: www.calsport.org

28 January 2011

Terry Macaulay
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814
deltaplanscoping@deltacouncil.ca.gov

RE: Notice of Preparation for the Completion of an EIR on the Delta Plan

The California Sportfishing Protection Alliance (CSPA) has reviewed the Notice of Preparation for the EIR on the Delta Plan and, on behalf of its thousands of members statewide, respectfully submits the following comments. We look forward to working with the Council over the coming months in analyzing various proposed components of the Delta Plan and developing an effective final Plan that will meaningfully address the collapse on the Sacramento-San Joaquin Delta estuary and California's water supply problems.

We incorporate by reference the comments by the Environmental Water Caucus and the joint letter by CSPA, the California Water Impact Network and Center for Biological Diversity previously submitted at the scoping meeting in Stockton on 25 January. These supplemental comments focus primarily on defined goals, alternatives, supply interruption, over appropriation of water, water quality and the use of CalSim II.

We offer a word of caution. The Delta is an incredibly complex estuarine ecosystem and only in our hubris do we believe we understand the intricacies of its hydrological and biological tapestry. Virtually every previous EIR prepared for hydro-modification projects have promised benign or beneficial results. All exacerbated existing conditions. Almost every physical change comes with unintended consequences. Adaptive management must be an integral component of any Delta Plan. But, adaptive management has a checkered history in this estuary. Managers have all too frequently rejected the "adaptive" recommendations made by scientists, biologists and technical review teams. For adaptive management to play a meaningful role, scientists must have the authority to "adapt."

Over mere decades, construction of the Central Valley and State Water Projects have deprived the Delta estuary of half its flow; turned the natural hydrograph on its head, reduced temporal and spatial variability; eliminated crucial habitat, complexity and diversity and deprived the estuary of dilution necessary to assimilate increased pollutant mass loading. It is not surprising that an ecosystem that developed and prospered under a

state of nature has been brought to the brink of destruction. No estuarine ecosystem in the world has survived this level of abuse.

The EIR will fail the mandate of fair disclosure if it does not comprehensively discuss the causes, extent and history of the decline of fisheries and water quality in the estuary.

The EIR Must Better Define "Coequal Goals"

The definition of the "coequal" goals of ecosystem protection and water supply reliability begs for further elaboration in the EIR and Delta Plan. These goals must be considered in the context of a degraded estuary, existing facilities, the California Water Code and how water is actually put to use in California. For example:

1. How do we prioritize water use in terms of coequal goals?
2. What does water supply reliability mean in an arid state where we have granted rights to far more water than actually exists?
3. Does water supply reliability apply to both public trust resource needs and consumptive uses (i.e., should fish have water rights)?
4. Are statutory requirements to protect water quality and listed species equivalent to water supply reliability for lawns or surplus and non-food crops?
5. Is the standard by which we measure water supply reliability the same for junior and senior appropriators?
6. Does efficient use of water have higher priority over waste and inefficient use?
7. Do we prioritize consumptive use on the basis of economic value?
8. Does health and safety take precedence over certain agricultural uses of water?
9. Are food crops more important than non-food commodities?
10. Is it reasonable that Kern County, representing a fraction of one percent of the state's population and economy should be accorded rights to water equal to the South coast, with almost half the state's population and economy?
11. Is protection of a "national treasure" and one of the world's great estuaries more valuable to society than irrigating impaired soils, that by the nature of being irrigated, discharge prodigious quantities of toxic wastes back to our waterways?
12. If an entity discharges pollutants that eliminate "assimilative capacity" and "beneficial use" of downstream waters, should the degraded water be deducted from the water supply provided that entity?
13. Should water supply reliability be conditioned upon specific requirements to maximize reclamation, reuse, conservation and development of alternative local sources of water?
14. Do uses of water that require vast public subsidies have the same priority to uses that don't require subsidy of public funds and are uses that internalize adverse impacts equal to uses that externalize them?

We believe answers to these questions are foundational to resolving California's water conundrum and must be addressed in the EIR.

The EIR Must Include a Full Range of Alternatives

The fundamental purpose of an EIR is to make fair disclosure and analyze potential impacts and alternatives to a proposed project to enable decision makers to make informed decisions on whether the project will be effective in meeting its stated goals, will comply with regulatory requirements and be in the best interests of society. In that vein, the EIR must evaluate a range of reasonable alternatives.

Given the present degraded condition of the Delta estuary, the over allocation of water rights and the statutory goal of reducing dependence on the Delta, CSPA believes the EIR must consider a no export and reduced export alternative, along with evaluation of a range of flows for any new Delta water conveyance facility. Evaluation must be at a common level of detail and include a broad socio-economic analysis of each alternative, as well as potential effects of each alternative on identified beneficial uses.

The California Legislature, in SB-1 (Seventh Extraordinary Session), tasked the State Water Resources Control Board (SWRCB) to gather the best available science and develop flow criteria for the Delta ecosystem necessary to protect public trust resources, including the volume, quality, and timing of water needed under different conditions. The Legislature also directed the California Department of Fish and Game (DFG) to identify quantifiable biological objectives and flow criteria for species of concern in the Delta. Together, those reports represent the best scientific information on minimum flows and objectives needed to protect the estuary's public trust resources. As such, the EIR should analyze and discuss the degree to which each alternative meets the flows and criteria identified by the SWRCB and DFG as necessary to protect the estuary.

The EIR Must Better Define "Doomsday"

The dire predictions of inevitable earthquake and sea rise have been repeated ad nausea. Earthquakes may occur, the sea will rise and levees are likely to fail. In fact, all levees have already failed and, at times, multiple levees have failed in the same event(s). However, with several small exceptions, islands have been reclaimed. We note that should we have a return of the 1860 storms, the Central Valley will become an inland sea and the issue at hand will be moot.

The doomsday chroniclers fail to discuss the duration of disaster. Should the prophesized failure of levees occur, how much time would transpire before the Delta returned to equilibrium and export pumping could be resumed? When Jones Tract failed, pumping resumed within a few days despite dire predictions of extended interruption. If a catastrophic event occurs in December, what would be the extent of the impact? If it happens in summer, how long would it take for increased tributary flows and reservoir releases to restore equilibrium? A relatively simple mass balance analysis should be able to answer these questions. The EIR must fully analyze and discuss the expected duration and costs of interrupted water delivery.

What are the potential economic and social costs arising from a limited interruption? Is sufficient south-of-Delta storage available to handle M & I needs in the interval? Would impacts to irrigated farmland be similar to or less than what would occur during an extended drought? Is it worth spending tens of billions of dollars to address an event that may or may not occur once in a lifetime? The EIR must address the economic and social impacts and costs of limited interruption in water delivery compared to the costs of massive new infrastructure for alternative conveyance.

There is a serious difference of opinion regarding the fragility of Delta levees between the engineers who work on Delta levees on an ongoing basis and the theoretical academics that predict disaster. Can levees be strengthened to reduce the potential impacts of earthquakes and raised to withstand sea level rises likely to occur within the next fifty years for a fraction of the cost of alternative conveyance? Again, the EIR must address the costs of improving levees as opposed to the costs and consequences of new export facilities and massive changes in the Delta's hydrology.

The EIR Must Address the Elephant in the Room

California's modern water code is the result of more than a hundred and fifty years of legislation and legal precedent. Riparian water rights are the most senior and superior rights, followed by pre-1914 appropriative rights and, lastly, post-1914 appropriative rights, as determined by the seniority requirements of first-in-time-and-use. Failure to follow the explicit mandates of the water code has led to a massive, long recognized over appropriation of water in the Central Valley.

The EIR must include a discussion of the water rights system in California, the protections accorded senior users and counties of origin, the extent to which water has been over appropriated and how these protections and over allocations relate to the coequal goals of ecosystem protection and water supply reliability.

In the 1930s and 1940s, staff within the Department of the Interior and the old State Water Rights Board advocated an adjudication of water rights prior to construction of the Central Valley Project. Both Governor Earl Warren and State Water Rights Board Chairman Henry Holsinger testified during the Clair Engle's Congressional hearings in 1951 that a complete adjudication of water rights on the Sacramento River should have occurred prior to the completion of the Central Valley Project. In fact, the Engle committee concluded that, "[t]hat for all practical purposes, the developed water supplies of the Sacramento River are overcommitted and oversubscribed." This was prior to approval and construction of the State Water Project. And, as DWR Bulletin No. 76 acknowledged, the State Water Project was predicated on obtaining some 5,000,000 acre-feet of water annually from north coastal streams. With the exception of some Trinity River flows, the anticipated water from the north coast never materialized.

Responding to a request from the Delta Vision Blue Ribbon Task Force, State Water Resource Control Board (SWRCB) staff submitted a document that briefly discussed

water rights and water use in the Delta watershed.[1] It stated"

1. The "total face value of the approximately 6,300 active water right permits and licenses within the Delta managed by the State Water Board, including the already assigned portion of state filings, is approximately 345 million AFA."
2. Face value "does not include pre-1914 and riparian water rights."
3. That "the total face value of the unassigned portion of state filings for consumptive use (excluding state filings for the beneficial use of power) within the Delta watershed is approximately 60 million AFA."

The SWRCB has no idea of how much water is actually being used. Even accounting for limits on usage because of availability, multiple rights covering the same water (i.e., consumptive vs. non-consumptive uses) or return flows where water is not consumed; it is indisputable that more rights to water have been issued than actual unimpaired runoff in the basin. This massive over appropriation exists without even addressing the fact that the SWRCB does not know the extent of senior riparian or pre-1914 water rights or the amount of consumptive water rights in permits that have not been exercised (for example, DWR and the Bureau's pending petitions for extensions of time to put many of their water rights to beneficial use).

Further exacerbating the issue is the fact that climate change is likely to alter the timing and reduce the volume of runoff. PG&E's Chief Hydrologist, Gary Freeman has documented the shift in runoff timing and the annual decrease of 264-279 TAF of water in the Feather River watershed. Add the increased coldwater pools necessary to maintain water temperatures below rim dams to the estimates by the SWRCB and Department of Fish and Game of the increased inflow and outflow necessary to protect rivers and the Delta public trust resources and it becomes clear that the coequal goal of water supply reliability cannot be defined as maintenance of existing levels of supply from the Delta.

The EIR must discuss the coequal goals and proposed alternatives in context of the vast over appropriation of water, legal requirements of the water code, public trust doctrine and legal precedent.

The EIR Must Address the Fact That Increased Diversions or Alternative Conveyance Will Exacerbate Delta Water Quality

Water quality and water quantity are flip sides of the same coin and increases or decreases in flow alter assimilative capacity and residence time and change the fate and transport of contaminates. Hydrologic changes modify constituent concentration and bioavailability, which in turn can adversely impact the aquatic ecosystem and other beneficial uses.

Water from the Sacramento River is significantly less polluted than water flowing into the estuary from other tributaries. Sacramento River water drawn across the Delta to the

[1] SWRCB. 2008. Water Rights Within The Bay/Delta Watershed. Letter to Delta Vision Blue Ribbon Task Force. 26 September 2008. 4 Pages.

export pumps is a major reason water quality in the South Delta is better than it would otherwise be. Diversion of this relatively good quality water around the Delta will increase the concentration of existing constituents. It will also increase the residence time of water in the Delta thereby enhancing the opportunity for bioaccumulation and oxygen depletion to occur. The EIR and Delta Plan must fully analyze and discuss the likelihood of degradation of Delta water quality caused by alternative conveyance or increased exports.

Previous efforts to evaluate potential water quality impacts from proposed projects in the Delta have either ignored water quality, with the exception of salt, or relied upon models that track "particles" to evaluate water quality. However, the majority of pollutants identified as impairing the estuary are non-conservative dissolved forms of pesticides, mercury, nutrients or oxygen demand constituents. Conservative constituents like salt are unacceptable surrogates for the universe of chemical constituents and pathogens impairing in the Delta. CalSim II and various particle-tracking models are unable to model potential impacts to water quality from non-conservative constituents. Other models and methods must be utilized in assessing the effects of project alternatives on water quality.

The SWRCB's 2010 Integrated Report, Clean Water Act Section 303(d) List/305(b) Report identifies the Delta as impaired and incapable of supporting identified beneficial uses.[2] For example, the Report documents the:

1. Northern portion of the Delta as impaired because of chlordane, chlorpyrifos, DDT, diazinon, dieldrin, Group A pesticides, invasive species, mercury, PCBs and unknown toxicity.
2. Northwestern portion as impaired by chlorpyrifos, DDT, diazinon, electrical conductivity Group A pesticides, invasive species, mercury and unknown toxicity.
3. Western portion as impaired by chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, invasive species, mercury and unknown toxicity.
4. Central portion as impaired by chlorpyrifos, DDT, diazinon, Group A pesticides, invasive species, mercury and unknown toxicity.
5. Southern portion of the Delta as impaired by DDT, diazinon, electrical conductivity, Group A pesticides, invasive species, mercury and unknown toxicity. (Old River in the South Delta is further identified as impaired by salinity, low dissolved oxygen and chlorpyrifos)
6. Export area is impaired by chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, invasive species, mercury and unknown toxicity.
7. Eastern portion as impaired by chlorpyrifos, DDT, diazinon, Group A pesticides, invasive species, mercury and unknown toxicity.

[2] SWRCB. 2010. 2010 Integrated Report, Clean Water Act Section 303(d) List/305(b) Report, "California 2010 303(d) combined list."
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

8. Stockton Ship Channel as impaired by chlorpyrifos, DDT, diazinon, dioxin, furan compounds, Group A pesticides, invasive species, mercury, organic enrichment/low dissolved oxygen, PCBs, pathogens and unknown toxicity.

Tributaries connecting with the Delta are also listed. For example the:

1. Lower Sacramento River (Knights Landing to the Delta) is identified as impaired by chlordane, DDT, dieldrin, mercury, PCBs and unknown toxicity.
2. Suisun Bay is identified as impaired because of chlordane, DDT, dieldrin, dioxin compounds, furan compounds, invasive species, mercury, PCBs and selenium.
3. Lower San Joaquin River (Stanislaus River to the Delta) is identified as impaired by chlorpyrifos, DDE, DDT, diuron, electrical conductivity, pathogens, Group A pesticides, mercury, toxaphene and unknown toxicity. U.S.EPA has recently stated that it intends to add temperature to the list of identified impairments on the San Joaquin (as well as the Stanislaus, Tuolumne and Merced Rivers).
4. Lower Mokelumne River (eastern portion, Delta waterways) is identified as impaired by chlorpyrifos, copper, mercury, dissolved oxygen, unknown toxicity and zinc. The lower Calaveras River is identified as impaired by unknown toxicity, chlorpyrifos, diazinon, mercury, organic enrichment/low dissolved oxygen and pathogens.
5. Smaller tributaries; including Duck Creek, Five Mile Slough, French Camp Slough, Marsh Creek, Sand Creek, Mosher Slough, Mountain House Creek, Pixley Slough, Tom Paine Slough and Walker Slough are further listed as impaired.

As constituents respond differently to changes in flow and residence time, the EIR must evaluate the impacts of potential hydrologic modifications on a pollutant-by-pollutant basis.

The identified impairments on the 303(d) list are only the tip of the iceberg. There are impairments in the Delta that are "caused by total organic carbon, nutrients and other contaminates for which there are no federal or state water quality criteria. In addition to a lack of promulgated water quality criteria for many common water pollutants, there are situations in which the current water quality criteria/standards are well recognized as not being protective of aquatic life resources. For example, the water quality criterion for selenium in the SJR and Delta is not protective of some aquatic life.

Existing water criteria fails to address many issues that must be considered in considering impacts on aquatic life. For example:

1. Existing criteria fails to consider additive and synergistic properties of regulated chemicals that occur in concentration below criteria. For example, Delta water frequently contains a cocktail of as many as 15 pesticides, many of which interact additively or synergistically.
2. Adverse impacts to sensitive species, such as zooplankton, were not included in the development of many criteria.

3. There is limited information on chronic exposure to sublethal impacts of chemicals and mixtures of chemicals. Numerous studies in the scientific literature demonstrate adverse effects of chemical exposure well below water quality criterion.
4. Water quality criterion fails to address the chronic effects of multiple stressors acting on an already weakened aquatic ecosystem.
5. Chemical degradants, a product of chemical breakdown in the environment, are little understood but are frequently highly toxic.
6. Water quality criteria have been developed for only a small subset of the chemicals found in these waters. Of the approximately 100,000 chemicals registered for use in the United States, only about 200 are regulated with respect to water quality. The Priority Pollutant List is an artifact of a legal settlement several decades ago, has never been peer-reviewed and is an inadequate surrogate for the maelstrom of chemicals found in waterways today. These include pharmaceuticals and personal care products, industrial chemicals and other potentially hazardous constituents that have been identified as carcinogens, reproductive toxins, endocrine disruptors and immune suppressors, etc.
7. Criteria are frequently insufficiently protective for pollutants that bioconcentrate and/or bioaccumulate in tissue.
8. Many drinking water criteria are economically based and not health risk based.

As noted above, relocation of export facilities to the Sacramento River will increase residence time in the Delta. This increased residence time may encourage the growth of toxic blue-green algae, which has become a serious problem in recent years. Bioaccumulating constituents like selenium and methyl-mercury or pollutants like DDT and dioxin will have more opportunity to work their way up the food chain. Increases in the concentration of mercury in fish tissue would further threaten the health of the Delta's large subsidence fishing community. Longer residence times will increase the timeframe for oxygen demanding constituents to reduce oxygen levels in channels already identified as impaired because of low dissolved oxygen.

An alternative conveyance facility and reduction in Sacramento inflow will impact dissolved oxygen in the Mokelumne River and Stockton Deep-Water Ship Channel. Presently, flow from the Sacramento is drawn into the ship channel via reverse flows in the San Joaquin River. Further exacerbating the problem will be an increase in nutrient loading into the ship channel. Since the recent Biological Opinion required the removal of the head of Old River barrier, a significant percentage of the high nutrient load in the San Joaquin River that previously reached the ship channel has been drawn down Old and Middle Rivers and exported south.

Elimination or reduction of this "siphon" effect would also affect numerous other pollutants in the South Delta. Presently, some part of the pollutant load in the San Joaquin River is drawn to the pumps and exported south. Elimination of this siphon mechanism would likely increase the spatial distribution of water quality impacts into the

Central Delta. For example, selenium concentrations might increase to levels comparable to those found in wildlife in Suisun Bay.

An alternative conveyance facility and the elimination of dilution flows will increase the concentration of salt in the South Delta channels further impacting the yield of Delta agriculture. It will also reduce salinity variability and encourage the spread of certain undesirable invasive species.

To summarize, the Delta and its tributary streams are formally identified as impaired by a broad suite of pollutants. Water quality criteria have been developed for only a very small subset of the chemicals found in these waters. These criteria fail to adequately consider additive/synergistic, bioaccumulative and chronic/sublethal effects or multiple stressors acting on an already weakened aquatic ecosystem. Increased diversion or routing of good quality dilution flows around the estuary will result in increased concentration and residence time of pollutants. Increased residence time exacerbates the effects of toxic and bioaccumulative pollutants. Reduced diversion and increased Delta flow enhances flushing of pollutants and decreases pollutant concentration.

The EIR must comprehensively analyze and address potential impacts to fish, wildlife and human health from reduced water quality caused by loss of dilution and increased residence time. Since the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act incorporate specific antidegradation policies, the EIR must include a comprehensive antidegradation analysis.

"All Models are Wrong, Some are Useful." Statistician E. P. Box

Models are complex simulations that, at their best, only represent an idealization of actual field conditions. They must be used with extreme caution to ensure that the underlying model assumptions hold for the site-specific situations being modeled. Subtle changes in coefficients, assumptions or input data can dramatically alter output. It is crucial that models be properly calibrated and verified. A critical problem arises when decision makers attribute more precision to modeling results than is warranted and where a model's output is misused to make definitive comparisons and predictions. While models can be employed to inform analysis, they cannot provide near-certain conclusions that significant environmental effects will or will not occur or will or will not be mitigated, especially where common sense and existing knowledge indicate otherwise.

The EIR, like virtually other environmental review document of the last decade, is likely to employ CalSim II modeling to evaluate proposed alternatives. We offer a cautionary tale that illustrates that CalSim II is like Aladdin's Lamp; it grants wishes to whoever rubs it.

In response to the SWRCB's Delta Flow Report, the State and Federal Contractors Water Agency submitted an analysis to the Board, using CalSim II and prepared by MBK Engineers, that purported to show that implementation of the recommended flow objectives would be "catastrophic" for water supply and result in a 5,500,000 acre foot

average annual reduction in water available for consumptive use. This amounts to a "69% reduction of water use from the Delta watershed." In a recent evidentiary water rights hearing before the SWRCB, applicants for a new 45,000 acre foot water right on the Sacramento River submitted an analysis to the Board, using CalSim II and also prepared by MBK Engineers, that demonstrated that additional water would be available for the cities of Woodland and Davis, even if recommendations in the Delta Flow Report were implemented. Implementation of the SWRCB's Delta Flow Report cannot result in a catastrophic reduction of 69% of the water supply from the Delta watershed and, at the same time, provide water for new diversions.

A problem with CalSim II is that it can be manipulated to produce desired results. Even properly operated it is only as accurate as the data and assumptions that are plugged into the model. It has previously been used to project a false certainty that impacts will be minor. For example, it has been used to show that salmonid mortality will increase by a specific percentage and discussion of possible error or of ranges of possible outcomes has been entirely absent. The model cannot possibly produce such certainty. At best it can predict, given a certain set of data and assumptions, a range of possible outcomes, with some outcomes potentially more probable than other, and with all predictions limited by both known and unknown sources of error.

CalSim II is a highly complex simulation model of a complex system that requires significant expertise to run and understand. Consequently, only a few individuals concentrated in the Department of Water Resources, U.S. Bureau of Reclamation and several consulting firms understand the details and capabilities of the model. SWRCB staff cannot run the model. To the extent CalSim II is relied upon, the EIR must be transparent and clearly explain and justify all assumptions made in model runs. It must explicitly state when findings are based on post processing and when findings are based on direct model results. And results must include error bars to account for uncertainty and margin of safety.

As an optimization model, CalSim II is hardwired to assume perfect supply and perfect demand. The notion of perfect supply is predicated on the erroneous assumption that groundwater can always be obtained to augment upstream supply. However, the state and federal projects have no right to groundwater in the unadjudicated Sacramento River basin. Operating under this assumption risks causing impacts to ecosystems dependent upon groundwater basins in the areas of origin. The notion of perfect demand is also problematic, as it cannot account for the myriad of flow, habitat and water quality requirements mandated by state and federal statutes. Perfect demand assumes water deliveries constrained only by environmental constraints included in the code. In other words, CalSim II never truly measures environmental harm beyond simply projecting how to maximize deliveries without violating the incorporated environmental constraints. It assumes foresight and compliance by project operators. However, this cannot satisfy CEQA's mandate to analyze and disclose the full spectrum of potential environmental impacts caused by a project vis-à-vis a no-project and other alternatives. A report produced by the National Heritage Institute summarizes this flaw by "call[ing] into question the use of CalSim II as a tool for environmental impact assessment, since it is

changes in the environment associated with specific projects and the satisfaction of arbitrary constraints which is the critical focus of environmental review."[3]

A formal peer-review of CalSim II was highly critical and detailed numerous inadequacies in the model. Among these was the opinion that CalSim II "has not yet been calibrated or validated for making absolute predictions values."[4]

The University of California at Davis conducted a comprehensive survey of members of California's technical and policy-oriented water management community regarding the use and development of CalSim II in California. Detailed interview were conducted with individuals from California's water community, including staff from both DWR and USBR (the agencies that created, own, and manage the model) and individuals affiliated with consulting firms, water districts, environmental groups, and universities.[5]

The results of the survey, which was funded by the CalFed Science Program and peer-reviewed, should serve as a cautionary note to those who make decisions based on CalSim II. Among numerous criticisms, the study found:

1. "Many interviewees feel that using CalSim II in absolute mode is risky and/or inappropriate…"
2. "…only a few individuals concentrated in DWR, USBR, and several consulting firms understand the details and capabilities of CalSim II."
3. "All users agree that CalSim II needs better documentation of the model, data, inputs, and results. CalSim II is data-driven, and so it requires numerous input files, many of which lack documentation."
4. "There is considerable debate about the current and desirable state of CalSim II's calibration and verification."
5. "Its representation of the SWP and CVP includes many simplifications that raise concerns regarding the accuracy of results."
6. "Many interviewees are concerned that CalSim II's monthly time step cannot capture hydrologic variability adequately and thus does not compute water exports and export capacity accurately, both of which are significant factors in system operations."
7. "The model's inability to capture within-month variations sometimes results in overestimates of the volume of water the projects can export from the Sacramento- San Joaquin Bay-Delta and makes it seem easier to meet environmental standards than it is in real operations."
8. "Interviewees cannot always determine the parameters to which CalSim II is highly sensitive or its overall stability and sensitivity. They feel that the linear

---

[3] Payne, J. and Purkey, D. 2005. An Environmental Review of CalSim-II: Defining "Full Environmental Compliance" and "Environmentally Preferred" Formulations of the CalSim-II Model." Page 14.

[4] Close, A, et al. 2003. A Strategic Review of CALSIM II and its Use for Water Planning, Management, and Operations in Central California, Submitted to the California Bay Delta Authority Science Program, Association of Bay Governments, Oakland, California. 4 December 2003. Page 9.

[5] Ferreira, Ines C., et al. 2005. Musings on a Model: CalSim II in California's Water Community, published in San Francisco Estuary & Watershed Science. March 2005. 13 Pages.

programming formulation allows multiple solutions, which can differ considerably."

9. "Many interviewees indicate that CalSim II represents demands simplistically using out-of-date values and calculations."
10. "Small changes in CalSim II input can result in large changes in model results, causing difficulties in impact analyses and the defensibility of model results. In addition, some users note that the multiple layers of regulations and operational agreements included in CalSim II may obscure the effects of the change to the system being modeled."
11. "Many claim that CalSim II's hydrology uses data and methods that are decades out of date and rely on too coarse a geographic scale."
12. "Model users express general frustration with CalSim II's commercial linear programming (LP) solver. They contend that it provides little information on the location of infeasibilities, so that even a knowledgeable individual may need many days to debug a run. In addition, the solver sometimes produces non-unique solutions and running identical scenarios on different computers seems to generate different results."

The study concluded by observing, "CalSim II is being used, and will continue to be used, for many other types of analyses for which it may be ill-suited, including in absolute mode."

To the extent that the EIR relies upon modeling results, it must be transparent in revealing modeling assumptions, input data and uncertainty. It must recognize the limitations of models and not impugn to them an accuracy that does not exist in the real world. Modeling output should be regarded as but one of a broad suite of tools to inform the process and cannot be a substitute for empirical observation, hard data and common sense.

We appreciate the opportunity to submit scoping comments for the preparation of the EIR on the Delta Plan. If you have questions or require clarification, please don't hesitate to contact us.

Sincerely,

Bill Jennings, Executive Director
California Sportfishing Protection Alliance