



**State & Federal Contractors
Water Agency**

1121 L Street, Suite 806, Sacramento, CA 95814

June 13, 2012

Chairman Isenberg and Council Members
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

Dear Chairman Isenberg and Council Members:

The State and Federal Water Contractors Water Agency (SFCWA), on behalf of itself and its member agencies, appreciates the opportunity to comment on the 6th and final staff draft Delta Plan. Although the 6th draft is much improved over prior drafts, serious concerns remain to be resolved. These are outlined below and in the line-by-line comments and suggested edits included as an attachment to this letter.¹ We intend our comments and criticisms to be constructive and we strongly believe they are consistent with Legislative intent as memorialized in the Delta Reform Act. We incorporate here by reference our comments submitted in response to previous drafts insofar as they are still pertinent. In addition, we endorse the comments submitted on the 6th draft Delta Plan by the Ag-Urban Coalition facilitated by the Association of California Water Agencies.

SFCWA member agencies were strong proponents of the Delta Reform Act and hope to provide strong support for the adoption and implementation of the Council's final Delta Plan as a blueprint for moving forward more effectively to help secure California's water future. To garner such support, however, the Delta Plan must add value to resolving California's ongoing and vexing water management challenges related to the Delta. The Council and its Delta Plan simply cannot become another regulator while failing in its fundamental charge to coordinate, integrate and synthesize the activities of the various state agencies (and federal where possible) with jurisdiction or mission related activities in the Delta.

A primary concern since the first staff draft Delta Plan is the erroneous focus on §85021 ("reduced reliance") as THE central tenet and driving force of the Plan – a Plan that is unambiguously charged with the task of furthering the coequal goals of both *improved* water supply reliability and ecosystem restoration in the Delta. This 6th draft perpetuates the misappropriation of §85021 into the Delta Plan, when by that section's own terms it is a policy to be achieved through a "*statewide strategy of investment*" -- and the Delta Plan most definitely is not that. Section 85021 does not create in the Council, or any other agency, new regulatory authority. It is §85020 that identifies the strategies "inherent in the coequal goals for management of the Delta" which notably do NOT include any reference to the policy in the following - *different* - statutory section. Furthermore, neither §85021 nor

¹ Our line-by-line comments refer only to language in the body of the Draft Plan. However, where the comments would be applicable to similar language and concepts in the appendices, we apply them by reference here.

its policy is included or referred to in the Delta Reform Act's chapter (§85300 et. seq.) that provides the Legislature's detailed direction to the Council as to the contents of the Delta Plan.

Our view is that the Council should not seek to exert regulatory power through the misapplication of §85021 and instead "promote" (as the statute explicitly states) improved water management practices, including conservation, through recommendations and facilitating the development of "next steps" in that arena. Consequently, we believe WR P1 should be either deleted or, failing that, at minimum it should be changed to a recommendation promoting improved water supply planning and investments in alternative water supplies and water use efficiency. If it is to be retained as a "policy", we provide the following as suggested edits:

WR ~~P1~~ R1 Reduce Reliance on the Delta in Meeting Future Water Supply Needs

A ~~proposed covered~~ action is inconsistent with the Delta Plan if (1) ~~a region one or more water suppliers~~ that would receive water as a result of the proposed action ~~have~~ has failed to reduce ~~its their~~ reliance on the Delta and adequately contribute to improved regional self-reliance; (2) that failure has significantly caused the need for the proposed action; and (3) the proposed action would have a significant adverse environmental impact in the Delta.

Among the covered actions this policy applies to is a covered action ~~covers a "proposed action"~~ to export water from, transfer water through, or use water in the Delta.

For the purposes of this policy, "reducing reliance on the Delta ~~and~~ or adequately contributing to improved regional self-reliance" means (1) a significant reduction in net per capita water use; ~~(2) or a reduction in the percentage of Delta watershed water used, from the as a part of total water supply; , from the Delta watershed, which may be achieved 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, and at a minimum, must be achieved through~~ or (3) compliance with existing state laws regarding water conservation, water efficiency and urban and agricultural water management planning.

We believe these suggested changes more clearly maintain the intent underlying the State policy and account for the practicalities of a water management system that involves wholesalers as well as retailers. In addition, we restore the earlier draft's specificity related to defining reducing reliance on the Delta as reducing the percentage of water derived from the Delta watershed as part of an overall water supply portfolio. In addition, our suggested edits make it clear that compliance with state law is not "a minimum," with some potential to impose additional requirements not adopted by the Legislature, but in fact is sufficient to satisfy the "policy".

It is frustrating to us that the Draft's perspective on the water supply coequal goal stubbornly continues selective and incomplete citations to the State's foundational governing principles and laws that apply to water management. In particular, the Draft Plan ignores the Constitutional requirement to consider the "public interest" in the beneficial use of water. Article X, § 2 requires that "the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable [avoiding waste and unreasonable use], and that the conservation of such water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for

the public welfare.” The Legislature confirmed this in Water Code § 100 and the *Racanelli* opinion—the landmark opinion analyzing regulation in the Delta—determined that “the touchstone for the [SWRCB’s] actions is the ‘public interest’.” *United States v. SWRCB*, (1986) 182 Cal.App.3d 82, 113. The persistent exclusion of the public interest requirement in this and prior draft Delta Plans represents an apparent bias that a “more reliable water supply for California” is a less than coequal “coequal goal”. The pertinent Constitutional text of Article X, §2 should be included to truly reflect the coequal status of Californians’ public interest in the beneficial use of water along with environmental restoration in the Delta.

Additionally, with regard to the Public Trust Doctrine, often referred to by the Council and referenced in the Draft Plan, there is similarly selective and incomplete citation. The discussion of *Audubon* in the text presents only one side of the decision and thus can easily misinform the reader. To rectify this problem the following, which quotes the critical sentence from *Audubon*, should be included too: “The Court, however, also determined that as ‘a matter of practical necessity the state may have to approve appropriations despite foreseeable harm to public trust uses,’ and that the public trust was essentially a component of an assessment of the *public interest* which is ultimately the determinative factor in decision-making.” This was the precedential conclusion repeated in the *Racanelli* decision (cited above).

The Draft’s interpretation of the Council’s role vis-à-vis the Bay Delta Conservation Plan (BDCP) remains a troubling area of concern for SFCWA’s member agencies. While providing a “short form” consistency certification for BDCP projects is an improvement, logic would dictate if the BDCP is incorporated into the Delta Plan then by definition all of its activities are consistent with the Delta Plan and thus there is no need for any certification process. As for the concern that somehow an action would be undertaken pursuant to the BDCP that was outside its bounds is misplaced. Existing California law requires NCCPs, such as the BDCP, to include an implementation structure to monitor and ensure adherence to permit conditions and plan requirements, including affirmation by the resource agencies of all actions’ consistency with the NCCP. The Council itself is contemplated to have formal representation within the BDCP’s implementation structure. Consequently, another consistency determination requirement by the Council is redundant and would only provide an avenue for delay in furthering the achievement of the coequal goals. Moreover, the proposal to make DFG the arbiter of “presumed” consistency is inconsistent with the current thought in the BDCP. Under the governance structure contemplated in draft BDCP documents, the “Implementation Office” would be the proper entity to look to for “consistency”, as it “will also respond to questions or concerns raised by the Delta Stewardship Council regarding the implementation of the BDCP.” [Chapter 7, P 7, L 25 (Dec 2012).]

We reaffirm our objections to the appellate procedures specified in Appendix B regarding the BDCP, as we have since they first were drafted. As explained in letters from SFCWA and some of its individual members, Appendix B applies a legally incorrect standard of review to the Council’s potential appellate review of the determinations statutorily granted to Department of Fish and Game in Water Code §85320. (E.g. SFCWA letters dated July 28, 2010, August 3, 2010 and September 15, 2010 and the Metropolitan Water District letter dated August 26, 2010, which are incorporated here by reference.) Staff has stated that the Council will reopen and review the current Appendix B procedures late this summer or early this fall. The Draft Plan should explicitly recognize this commitment and clarify that the procedures will not be considered final until this review occurs.

We appreciate the improvements to the Water Quality chapter which now provides a more comprehensive discussion of Delta water quality issues, including the priority water quality concerns of nutrients, toxic contaminants and drinking water quality. As in previous drafts, this chapter stresses the

need to address Delta water quality concerns through the coordinated regulatory authority of other state agencies.

We appreciate the discussion of nutrients as a significant stressor. This is an area of intense research activity. More than a dozen peer reviewed journal articles on ammonium and nutrient ratio effects were published over the last 12 months. A list of new publications are included as Attachment 2. Inclusion of these recent research findings should be included in the next revision. (For your convenience, a CD with PDF copies of all the documents will be sent by mail.)

While most of the chapter includes balanced descriptions of water quality issues that reflect current scientific knowledge and areas of uncertainty, one notable exception is the salinity discussion. The discussion of the low salinity zone and "X2" perpetuates the aura of certainty related to hypothesized benefits to Delta smelt and other pelagic species despite the growing body of knowledge that there are other more critical stressors on the ecosystem, the reduction of which could provide more significant and sustainable fishery benefits. This is a complicated subject with a high level of uncertainty. A few paragraphs cannot describe the state of the science and we urge the Council to either remove the description of X2 or provide a much more thorough discussion that includes all the relevant scientific studies, properly reflects the uncertainty surrounding the benefits to pelagic species of targeting the specific geographic placement of the low salinity zone, and recognizes that this is an area of ongoing scientific study.

We applaud the 6th draft Delta Plan's increased emphasis on the Council's statutorily defined role as a coordinator, facilitator and synthesizer of activities in the Delta. Still, we believe the Council should go further when it comes to scientific activities related to improving Delta management. The current discussion regarding the coordination of various agency science programs does not sufficiently address the NRC's recent admonition regarding the lack of *integration* of scientific and restoration activities in those programs. We suggest adding language to the effect that the interagency implementation committee will also discuss the prioritization of the various agency work plans, rather than simply accepting agency priorities independent of the coordinated review and synthesis the Council is to facilitate. Moreover, the Council's Science Plan, presently under development, should become the "roadmap" for agency technical work to ensure the most effective and efficient scientific research and physical activities to contribute to achievement of, while reducing conflicts between, the coequal goals.

We are pleased to see that the 6th Draft reflects the Council's decision to not completely defer its statutory obligation to "recommend in the Delta Plan priorities for state investments" in Delta levees. However, we remain convinced that much is already known in this area and the 2015 target to complete this task is much too remote. We believe January, 1 2014 should be the latest date targeted for production of such a prioritized plan of investment; with July 1, 2013 being preferable and, we believe, doable. In addition, regardless of the timeline, there must be greatly improved coordination between the levee and ecosystem programs in order to maximize the progress toward the coequal goals. Merely indicating that the levee program will "consider" incorporating ecosystem enhancement as part of its efforts is missing a prime opportunity for integrated planning.

The Draft Plan's recommendation that a Delta Flood Risk Management Assessment District be formed by the Legislature is premature. Until there is a comprehensive assessment of what the State's priorities in the Delta are and the funding mechanisms available to implement them, there is no need for a new entity to be created with fee authority. In other words, an appropriate cost-sharing determination, including any related Executive Order pertaining to State agencies and their facilities, should not be sought until pertinent benefits and priorities of a levee investment program to meet the coequal goals are established.

The 6th Draft's oft-repeated concept related to statewide water management that California must seek to "better match water use to the amount of water available" should be removed. It is an apparently simple and worthy goal on its face but in the context of California water management it gives the misimpression that this is not already being done. In fact, urban water agencies do "match" water supply to demand every day of every year. In agricultural areas, water demand is "matched" to supply as well, though it might be achieved through fallowing lands that otherwise would be irrigated but for insufficient supply. Moreover, water management is predicated on a multi-year approach that utilizes storage to allow the use of more water than is made "available" in a given year – that is how droughts are buffered and environmental water flows are often provided even during dry years. The document itself states this fact in its description of the use of reservoirs to counter the vagaries of hydrology. In addition, the text also points out "the inherent variability in water demands and supplies across California" which contradicts the simplistic concept of "better matching" water demand to supply. The notion of improving water management generally and increasing certainty and reliability specifically is a worthy one for discussion. However, the use of the language "better match water use to the amount of water available" is not constructive or practical and it should be removed from the document.

Notwithstanding the above criticisms and concerns, we acknowledge the hard work the Council's staff has put into this process from the outset and particularly in making the significant changes from the 5th to the 6th drafts that have brought the product much closer to reflecting Legislative intent and providing value-added to Delta management. We also extend our congratulations to the Council's Executive Director, Joe Grindstaff, upon his pending retirement after shepherding this difficult project to what will be a final Council, as opposed to staff, Draft Delta Plan.

Thank you for your consideration.

Sincerely,



Byron M. Buck
Executive Director

Enclosure

Attachment I

State and Federal Contractors Water Agency
Line-by-Line Comments/Suggested Edits
6th Staff Draft Delta Plan

**STATE AND FEDERAL CONTRACTORS WATER AGENCY
LINE-BY-LINE COMMENTS/SUGGESTED EDITS
6TH STAFF DRAFT DELTA PLAN—14 MAY 2012**

EXECUTIVE SUMMARY

P 3, L 18-19: When the general public hears “the Delta” they generally think of the Primary Zone and not the “legal” Delta that includes the Secondary Zone. As noted later in the document, 98% of “the Delta’s” population lives in the cities of the Secondary Zone and not in the rural, pastoral Delta of the public’s mind. Consequently, when the document states that there are “a half million humans on a unique patchwork of mostly agricultural lands surrounded by an increasingly urban landscape” it can easily result in the reader forming a misimpression of where people live and does not inform them that the population of the Delta of popular understanding is not 500,000 but about 10-12,000. We suggest the following as a substitute for the last sentence: “The Delta is comprised of both a Primary Zone formed by a unique patchwork of mostly agricultural islands and the increasingly urban landscape of the Secondary Zone that includes the cities of West Sacramento, Stockton, Tracy and other communities. Of the Delta’s half million residents, about 98% live in the Secondary Zone.”

P 4, L 18: The reference to the Act’s language regarding reliance on the Delta is not complete. To be accurate and consistent, the sentence should be modified; “...required that Californians reduce their reliance on the Delta in meeting future water supply needs.”

P 5, L 7-8: The notion of seeking to “better match water use to the amount of water available” (repeated a number of times in the document) is an apparently simple and worthy goal on its face but in the context of California water management it gives the reader the misimpression that that is not already being done. The fact is by law we don’t use more water than is available to be used on a year-to-year basis. Moreover, water management is predicated on a multi-year approach that utilizes storage to allow the use of more water than is made “available” in a given year – that is how droughts are buffered and environmental water flows are often provided even during dry years. This is basically described explicitly on page 12 at lines1-3. To improve consistency in the document and to reduce potential confusion for the reader, we suggest the following substitution and necessary variants of it for this phrase throughout the document; “...avoid environmental conflicts and improve management of sometimes scarce water supplies while concurrently enhancing capabilities to adjust water demands in response to drought and scarcity with reduced economic and quality of life impacts.”

CHAPTER 1 INTRODUCTION

P 9, L 6: See comment re Executive Summary, P 3, L 18-19. We suggest adding a footnote attached to “half a million people” indicating 98% live in the Secondary Zone. In addition, it would seem apropos to add to the second paragraph’s discussion of the definition of the “the Delta” to explain that the “legal Delta” is comprised of a Primary Zone and a Secondary Zone and what differentiates them legally and from the standpoint of population etc.

P 13, L 11: “...river channels at times to run backward, and...”

P 14, Sidebar bullet 4: Suggest adding second sentence; “Approximately 98% of the Delta’s residents live in the Secondary Zone.”

P 21, L 8-14: See comment re P 5, L 7-8. Suggest substitution of current first sentence with, “Fundamentally, water supply reliability means that California must improve its management of sometimes scarce water supplies while concurrently enhancing capabilities to adjust water demands in response to drought and scarcity.” Notably, the discussion of the benefits of storage conspicuously fails to mention the most basic purpose of storage, i.e. to capture surplus flows and store that water for future use. The purpose and timing of that use is distinct from the ability to store the otherwise “lost” water in the first place.

P 21, L 19-21: This statement would be improved by also noting that an effective stressor reduction program would also likely implicate the amount of water flow that would be required to be “adequate” to foster fishery and ecosystem restoration. We suggest adding the following sentence at the end of the paragraph; “However, to most efficiently and effectively manage scarce water resources to achieve the coequal goals, it is also imperative to develop an improved scientific understanding of the interrelationships between reduced stressor impacts and the need for particular levels of water flow.”

P 23, L 17: “...seeks to first address declining water reliability...”

CHAPTER 2 THE DELTA PLAN

P 37, Table 2-1:

In the Delta Protection Commission section add “(RMP)” after “resource management plan” and add the following sentence at the end; “The RMP will be reviewed by the Council for consistency with the Delta Plan.”

The Delta Conservancy section should be revised to read; “Designated a primary state agency....” to be consistent with the Delta Reform Act.

The Central Valley Project includes much more than simply pumping water from the Delta, e.g. Tehema-Colusa Canal, Friant, etc. To be more accurate, suggest the following; “Operates the Central Valley Project, including the San Luis Unit which pumps water out of the southern Delta to serve the westside of the San Joaquin Valley as well as Silicon Valley. It also maintains more than 700 miles of Delta levees.”

The Army Corps of Engineers section should add something about its role in wetlands regulation.

P 39, Sidebar: Famiglietti is not an “advance” for water management. All the NASA Grace data shows is that there is space available in the groundwater basins that over time has grown. However, the data points and scale of this work need significant improvement to have value. Furthermore, aquifer space (what was measured) doesn’t have a necessary correlation to groundwater management or potential (critical) overdraft. USGS data would be better to cite as it reflects a smaller scale and is looking at actual subsidence and potential loss of storage capability. We suggest deleting this first bullet under “Water Supply Reliability” and substituting something else.

P 43, L 34-35: It is our understanding that the Council will be reviewing and reopening discussion of the current appellate procedures related to an appeal of DFG certification of the BDCP this late summer or fall. It would be appropriate to either note this or delete “in 2010”. We incorporate by reference our concerns and objections to portions of the current procedures as described in prior comments submitted in response to the Interim Plan and earlier drafts of the Delta Plan.

P 43, L 36-37: We suggest the following substitution for improved clarity; “...part of the Delta Plan and therefore proposed covered actions must be consistent with its implementation.”

P 47, L 1-3: While this represents an improvement from prior drafts with regard to interagency coordination, it does not sufficiently address the NRC’s recent admonition regarding the lack of ***integration*** of the scientific and restoration activities amongst the numerous state and federal agencies. We suggest adding language to the effect that the interagency implementation committee will also discuss the prioritization of the various agency work plans to further the coequal goals consistent with the Delta Plan, rather than simply accepting agency set priorities independent of the coordinated review and synthesis the Council is to facilitate; “Monitor progress of priority actions identified and integrated by the interagency implementation committee for Delta Plan implementation...”

P 47, L 21-24: The USACE is conspicuously absent from the listing of federal agencies. This should be rectified.

P 52, L 30-31: We remain concerned regarding the vagueness of the proposed definition of “significant impact” under Water Code section 87057.5(a)(4). The use of “cumulatively caused by a project” lacks clarity and in a situation where project proponents are not always going to be the same entity it is unclear how one can address this standard. It would seem to likely result in a race to the permit room door rather than measured and thoughtful planning.

P 53, L 19-20: We recognize the Council retains its covered action review authority over an action subject to regulation by another State Agency even though that Agency’s regulatory action is not itself a covered action. However, it is inaccurate to state that the DSC has “concurrent jurisdiction over” that covered action. This could be read incorrectly to say that DSC shares equal regulatory authority over the action. A more accurate statement would be “The Council continues to retain its covered action review jurisdiction when that action is regulated by another State Agency.”

P 53, L 36-37: The use of “unusual circumstances” raises questions in the mind of the lay reader as to what that means, however, it is our understanding that this is a term of art in CEQA practice. Consequently, we suggest that a footnote be added explaining what “unusual circumstances” means.

P 54, L 13-14: The Legislature is currently considering a bill that would statutorily-exempt routine dredging under certain circumstances. Thus, at this time the Council should not propose an administrative exemption for routine dredging. Furthermore, under certain circumstances routine dredging may have an impact on the achievement of the coequal goals under Water Code section 85057.5(a)(4) by negatively impacting fishery habitat, including that of delta smelt. Thus, a blanket administrative exemption covering routine dredging is not appropriate.

P 55, L 5-7: While providing a “short form” consistency certification for projects undertaken pursuant to the BDCP is an improvement, we remain of the position that if the BDCP is incorporated into the Delta

Plan then by definition all of its activities are consistent with the Delta Plan and thus there is no need for a certification process. Implicit in NCCP implementation, as will be the case with the BDCP, there will be an implementation structure that will include representation of the Council and affirmation by the resource agencies of all actions' consistency with the BDCP. Consequently, another consistency determination requirement by the Council is redundant and would only provide an avenue for delay in furthering the achievement of the coequal goals. Moreover, the proposal to make DFG the arbiter of "presumed" consistency is inconsistent with the current thought in the BDCP. Under the governance structure contemplated in draft BDCP documents, the "Implementation Office" would be the proper entity to look to for "consistency", as it "will also respond to questions or concerns raised by the Delta Stewardship Council regarding the implementation of the BDCP." [Chapter 7, P 7, L 25 (Dec 2012).]

P 57, L 14-15: This description of the need for a science plan leaves out the need for reassessing and prioritizing what subject matter and phenomena are actually studied as part of a more targeted, efficient and effective science effort.

CHAPTER 3 A MORE RELIABLE WATER SUPPLY FOR CALIFORNIA

P 68, Sidebar:

First section, see comment re P 5, L 7-8 regarding use of "matching" demand and supply. Note the correct statement at the end of the first bullet regarding the "inherent variability in water demands and supplies across California" which begs the question of how they could possibly be "matched".

In the second section the Draft Plan stubbornly continues the selective citation to some, but not all, of the governing principles and laws that must be considered. In particular, the Draft Plan ignores the Constitutional requirement to consider the "public interest" in the beneficial use of water. Article X, § 2 requires that "the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable [avoiding waste and unreasonable use], and that the conservation of such water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare." The Legislature confirmed this in Water Code § 100 and the Racanelli opinion—the landmark opinion analyzing regulation in the Delta—determined that "the touchstone for the [SWRCB's] actions is the 'public interest'." *United States v. SWRCB*, (1986) 182 Cal.App.3d 82, 113. The persistent exclusion of the public interest policy in this and prior draft Delta Plans represents an apparent bias that a "more reliable water supply for California" is a less than coequal "coequal goal". The pertinent Constitutional text of Article X, §2 should be included to reflect the coequal status of Californians' public interest in the beneficial use of water along with environmental restoration in the Delta.

Third section, the opening statement perpetuates the misuse of "match" and we suggest the following substitute language; "Water will be exported from the Delta pursuant to permits that reflect a more refined approach reflecting water year type and consistent...." 3rd line of 3rd bullet, "...with the ecosystem are less likely...." 4th line of 3rd bullet, it is not "Delta water" that is stored in project reservoirs, it is Sierra snowmelt and precipitation in the upper watersheds. We suggest the following substitute for the last sentence of the section; "Water that is stored during wet years will be available

for water users during dry years and seasons when more of the limited amount of available water must remain in the Delta to help stabilize the ecosystem.”

P 68, L 17: Substitute “supply needs” for “supplies” at the beginning of the line to be consistent with the Delta Reform Act.

P 69, L 12-13: See comment to the page 68 sidebar addressing the absence from the Draft Plan of the Constitution’s Article X, §2 “public interest” principle.

P 69, L 21: See comment re P 5, L 7-8 and use of “match”. We suggest the following substitute language; “...exports from the Delta will reflect a more refined approach consistent with California’s variable....”

P 69, L 26-27: Exports don’t really “support” “flow patterns” it’s the overall management of the system. We suggest substituting the following for the current sentence; “This shift in management should result in more natural flow patterns in the Delta that, in turn, will aid native species....”

P 75, L 26: ““Because the Delta conveys water supplies to approximately 25 million Californians ~~with some of their water supply and irrigates~~ and millions of acres of farmland, rising sea levels....”

P 75, L 34: It’s not just “water supplies” that would be hit, but also water used for environmental management. We suggest the following substitute language; “...amount of water available for water supplies and fishery management actions.”

P 75, L 8-11: The citation to the California Constitution is incomplete and the following portion of Article X, Section 2 should be included to inform the reader that there is also Constitutional direction regarding the use of water and not just prohibiting the waste of water: “...the general welfare requires that the water resources of the State be put to beneficial use *to the fullest extent of which they are capable.*” [Emphasis added.]

P 76, L 23-26: Discussion of *Audubon* presents only one side of the decision and thus would misinform the reader. The following sentence, also quoting from *Audubon*, should be included too: “The Court, however, also determined that as ‘a matter of practical necessity the state may have to approve appropriations despite foreseeable harm to public trust uses,’ and that the public trust was essentially a component of an assessment of the *public interest* which is ultimately the determinative factor in decision-making.” See also comment re sidebar on page 68 and particularly quotation from Racanelli decision.

P 76, L 29: “Over the last 160 years, ~~the~~ California’s water rights....”

P 76, L 33: “...there is insufficient water in California to ~~support~~ fulfill them all to their full extent.”

P 76, L 34-43: This paragraph should be deleted. It is irrelevant to the Delta Plan and results in confusion and misinformation for the reader. California’s water rights system is based upon priorities and the balancing of the public interest and is responsive to the vagaries of hydrology, which means that notwithstanding paper rights the system is often limited today. Water rights holders understand this and have planned and operated their systems to manage shortages when they arise.

P 77, Sidebar, L 2: “...there is insufficient water to ~~support~~ fulfill them all to their full extent.”

P 79, Sidebar: “Reliance on the Delta Varies by Region”

The statement that Kern County Water Agency (KCWA) “has the largest SWP import contract at 1.8 million acre-feet” is incorrect. KCWA is the largest SWP import contractor in the Tulare Lake Basin. This should be clarified. Also, KCWA’s Table A amount under its SWP contracts is 982,730 acre-feet, not the 1.8 MAF stated.

The water supply amounts for the San Francisco Bay appear to be misleading. In terms of the amount of developed water use, about 36% of the supply is surface and groundwater, not 55%. Based on developed water use, SWP/CVP exports are about 25% of the supply and imports from local projects are about 39%. It appears that the percentages shown may include instream flows that flow to the ocean, which are not typically represented as a use of developed water supply. The reference cited, Bulletin 160-2009, itself contains inconsistent numbers and does not indicate any instream flows in 1998, a record wet year.

This discussion would benefit from the graphic that was used in the Delta Vision report visually illustrating total water use in the Central Valley watershed and including percentage “arrows” of that use in basin along with export and outflow percentages.

P 82, Sidebar: Narrative says outflows to the ocean reduced by 50% yet the graphic says 67% is outflow (33% reduction)? Also graphic should be consistent with narrative and say “Delta-Suisun in-Delta use”. Does in-Delta include North Delta Aqueduct? If so it should say so. If not, where is it? With regard to two 11% export citations, where does the San Francisco Bay Area/Silicon Valley fall? It should be noted as an export area as well. For consistency, the description of “Wet Years” should include a statement that overall water demands are reduced; just as it is stated demands are higher during dry years.

P 83, L 12: “...used to rely upon San Joaquin River ~~water rights~~ water.” Technically, verbiage correct but confusing to lay reader and doesn’t really add anything.

P 83, L 40: There is a significant discrepancy between the descriptions of the development, facilities, and delivery components of the CVP and SWP with the latter being provided short shrift. The SWP information should be commensurate with that of the CVP.

P 84, L 19-21: This sentence is incorrect. There are currently no court orders controlling Delta operations. Since 2009, a court order has controlled operations only briefly, during the Fall of 2011.

P 85, L 8: Narrative says San Joaquin contributes 15%, though graphic on page 82 says 16%. Need to be consistent.

P 85, L 23: Narrative says outflows reduced by 50% but graphic on page 82 says 33%. Need to be consistent.

P 85, L 32-33, 36: This sentence should be deleted. It is an assertion without basis and impugns the SWP/CVP public agency contractor community. There are no “expectations” beyond what permits allow. The notion of the water delivery contracts being considered “promises” is also without basis as

the contracts all include conditional language regarding deliveries below contract amounts based upon various factors, including drought and environmental regulations. The contractors are well aware of, and have felt the effect of, shortages under their contracts and have planned, managed and operated their systems to manage those shortages. The real issue is that the reliability of the projects has been steadily declining as a consequence of misguided policies ostensibly targeted at ecosystem restoration but which have failed to do much despite decades of spending money and reducing exports as the only “strategy” for improving the environment. The BDCP hopes to rectify that situation.

P 87, Figure 3-2: The text on the graphic illustrating “Patterns of Delta Inflow and South Delta Exports” is incorrect with regard to present day operations of the projects and thus will mislead the reader into a conclusion that those figures represent an accurate picture of present Delta management. The dry years which are described as having diversions of 40% are all in years prior to the Bay-Delta Accord of 1994. Since the Bay-Delta Accord, average dry year exports are less than 40% and average wet year exports are higher than 10%. This graphic should be replaced or revised to accurately reflect the current management regime.

P 90 Sidebar, end of 1st ¶: The Council’s appellate role is not whether the BDCP will be included in the Delta Plan or not. That was decided by the Legislature in the Delta Reform Act. The Council’s potential appellate role is limited to review of the DFG certification of the BDCP satisfying the criteria set forth in the statute. We suggest the following substitute language: “Upon successful completion of the BDCP process, and if DFG determines that the BDCP meets specific requirements in Water Code section 85320(e), the BDCP must become part of the Delta Plan. The Delta Stewardship Council has a potential appellate role regarding the Department of Fish and Game’s certification of the BDCP satisfying the statutory criteria for inclusion in the Delta Plan.”

P 93, L 32: It would be beneficial to indicate that the \$1B in bond funds leveraged significant additional local dollars, probably in the range of \$1-2B. Leaving that out shortchanges local agencies’ contributions to improved water supplies and water use efficiencies.

P 94, Sidebar, San Francisco section: should be “mid-1970’s” not “mid-1970”. Also, while the “diversification” is true, it would be informative to state that the SFPUC is also spending upwards of \$4B to seismically upgrade its system, including a new, large tunnel under San Francisco Bay.

P 95, L 5-7: Is 2006 the most recent data available? If not, this should be updated. Also, how much of the state’s water deliveries are not covered by the 75% of agencies which have submitted their plans. That is, is this really a big problem if, hypothetically, the 25% failure represents less than 5% of the state’s water deliveries? Not that those agencies should be excused, but it is important to provide context when using such statistics.

P 95, Sidebar: This graphic indicates a 2005 per capita water use of approximately 215 gpd. However, on page 92, line 10 indicates a 2005 baseline of 192 gpd with regard to the 20x2020 requirement. This discrepancy should be explained someplace.

P 96, L 18: The discussion of overdraft needs to differentiate between managed overdraft as part of a groundwater management plan and critical overdraft which implicates groundwater mining. As noted, most of the problem in the Central Valley is in the Tulare basin, accounting for approximately 1/2 to 2/3

of the total. While this draft is improved in indicating that problems are relatively localized it still gives the impression that there is a widespread problem, which is not the case.

P 96, L 26-28: The first sentence of the ¶ should be deleted. The statement that groundwater use in California “is largely unregulated” is patently false. There is significant regulation and management at the local level throughout the state. That there isn’t centralized state regulation is not an indication of abdication of responsibility or management. Correlating an asserted lack of “oversight” with “incomplete information” is mixing apples and oranges. As noted, there is not a lack of oversight. Also, the issue of transparency and information is being addressed as a consequence of SBX X7. The third sentence in this ¶ should be revised by deleting the beginning of it; “~~The lack of State oversight means that~~ Limited and often incomplete information is available...”

P 97, Sidebar, chart: The “Central Valley Overall” line should be removed since it is misleading as a result of being so heavily skewed by and reflective of the status of the Tulare Basin. It perpetuates a false impression that there is significant overdraft throughout the Central Valley which is demonstrably not the case and reflected on the graph itself by the three lines across the top of the scale.

P 100, L 3-4: The Draft Plan makes the sweeping statement that “many water suppliers” have failed to comply with a policy that just recently went into effect and which was to be addressed by a “statewide strategy” that has yet to be developed. Further, considering as well that the “coequal goals” just became policy, the follow up statement that this purported failure is a “significant impediment” to achieving the coequal goals is little more than an ad hominem attack, again without citation to any evidence. This sentence should be deleted. If it is not, then it would be informative to know what percentage of the state’s water deliveries are provided by these “many water suppliers” as opposed to that percentage that are delivered by agencies that have UWMPs or AWMPs and participate in IRWMPs. There should be no place in the Delta Plan for “Chicken Little”.

P 100, L 7: The problem statement that there is a lack of “full participation” again begs the question of what that actually means and what percentage of the state’s water deliveries are not subject to appropriate management as defined in this “problem statement” and cries out for some factual backup.

P 100, L 15: This policy should use the statutory language rather than shorthand which can be misinterpreted. Substitute: “Reduce Reliance on the Delta in Meeting Future Water Supply Needs”

P 100, WR P1: Revise >

WR ~~P1~~ R1 Reduce Reliance on the Delta in Meeting Future Water Supply Needs

A ~~proposed~~ covered action is inconsistent with the Delta Plan if (1) a region ~~one or more water suppliers~~ that would receive water as a result of the proposed action ~~have~~ has failed to reduce its ~~their~~ reliance on the Delta and adequately contribute to improved regional self-reliance; (2) that failure has significantly caused the need for the proposed action; and (3) the proposed action would have a significant adverse environmental impact in the Delta.

Among the covered actions this policy applies to is a covered action ~~covers a “proposed action”~~ to export water from, transfer water through, or use water in the Delta.

For the purposes of this policy, “reducing reliance on the Delta ~~and~~ or adequately contributing to improved regional self-reliance” means (1) a ~~significant~~ reduction in net per capita water use; (2) ~~or a~~

~~reduction~~ in the percentage of Delta watershed water used, ~~from the as a part of total water supply;~~ ~~from the Delta watershed, which may be achieved 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, and at a minimum, must be achieved through~~ or (3) compliance with ~~existing~~ state laws regarding water conservation, water efficiency and urban and agricultural water management planning.

P 100, L 21-22: This sentence needs clarification. Does it intend to say that the policy applies *only* to actions to export water, or is it simply intended to specifically indicate such actions are covered, along with other potential types of actions? If it is the former it would not be consistent with Water Code Section 85021's application of a "statewide strategy," rather than just export areas, and to dependence on "water from the Delta watershed," rather than dependence on exports.

P 100, L 24-25: Shorthand needs to be more explicit and clear. We suggest substitute language as follows; "...means a reduction in net per capita water use or, in areas outside the Delta watershed, the percentage of Delta watershed water in an agency's total water supply portfolio which may be achieved..."

P 100, L 28-30: We suggest a period after "efforts" and substituting the following language; "...supply efforts. ~~and at a minimum, must be achieved through~~ Compliance with ~~existing~~ state laws regarding water conservation, water efficiency and urban and agricultural water management planning requirements will satisfy this policy."

P 101, L 14-22: Here again the Draft Plan picks and chooses the policies and laws it wants SWRCB to follow. The Constitutional public interest principle is ignored as are a number of statutes that specifically apply to SWRCB's evaluation of water rights, including Water Code §§ 1253-1259. This paragraph should be revised to recognize all of the policies and statutes that guide SWRCBs considerations, or to generally state that SWRCB should evaluate all applicable statutes and policies.

P 101, L 31-32: Substitute language; "...reduction in net per capita water use or, for those suppliers outside the Delta watershed, the percentage of Delta watershed water in an agency's total water supply portfolio."

P 101, WR R5: There needs to be more lead time between the development of the Water Supply Reliability Element guidelines and the implementation date. If the intent is to have agencies implement in 2015, the guidelines need to be completed no later than July 1, 2014 and ideally Jan 1, 2014.

P 102, L 13: Should be "85021" not "85201".

P 102, L 24: Substitute language; "In some many of these groundwater..." Don't overstate the problem.

P 102, L 29-34: This "Problem Statement" dramatically overstates the "problem", indicates ignorance on the part of the Council and its staff as to the actual status of groundwater management in California and is insulting to those in the vast majority that competently and proactively manage their basins. It is not that improvements cannot be made, they can; but the sky is not falling. This "Problem Statement" should be rewritten to state that best practices are not being utilized throughout the state and that information related to groundwater management needs to become more transparent and accessible.

Furthermore, better assessment of the status of the State's groundwater basins is an important step to improved management, including optimizing conjunctive use opportunities and remediating water quality problems.

P 103, L 40: add, "...become more predictable and reliable."

P 105, L 25-26: change language; "...other stakeholders should ~~to complete development of~~ develop a coordinated statewide system...."

P 106, L 10: Suggest adding a bullet to this section that there needs to be improved information and understanding of how investments in the upper watersheds, including improved forestry management practices, could increase water supplies and improve water quality for both the source areas and throughout the system.

P 108, L 5-6: This notion of Delta Water Delivery Predictability is misguided and conflates what is already done by the SWP's reliability reports and the SWRCB's permits (in combination with federal Biological Opinions). It should be deleted. The idea of "suggested levels of water exports" (by whom?) would work counter to providing increased certainty and reliability since it seems this would somehow overlay SWRCB permit terms? This concept should be vetted considerably more before it is contemplated for inclusion in the Delta Plan.

P 108, L 7: Delta water is not stored. Sierra snowmelt and runoff is stored in the projects' terminal reservoirs. It seems the intent is to track "exported" water to the areas outside the watershed. If that's the case, that's what it should say, though we reiterate our view this concept is not ready for prime time and should be deleted from the Delta Plan at this time.

P 108, L 14-15: substitute language; "a ~~significant~~ reduction in net per capita water use or, for those suppliers outside the Delta watershed, the percentage of Delta watershed water in an agency's total water supply portfolio."

P 108, L 28-29: The following language should be deleted; "~~making more water available to the Delta, through inflows and reducing pressure to export more water from the Delta.~~" This language presents a goal that reflects a bias against water supply since investments in water use efficiency and demand management are not solely focused on "making more water available to the Delta". These are often strategies for stretching supplies for application to beneficial uses by an agency and not as a way to be able to turn water back to the system. We suggest substitute language; "...least expensive strategy for increasing resiliency and management flexibility in the face of scarcity and to buffer potential shortages."

P 108, L 33-35: The statement that there is an "over-allocation of water rights" is nonsensical. Under our priority system there cannot be an "over allocation". The idea of opening up water rights in the Delta watershed is quixotic at best and a probable Pandora's box. The SWRCB is already empowered to deal with this issue if something relevant to it arises. Moreover, the Delta Watermaster's jurisdiction was legislatively limited to the Delta and he should be doing a more thorough job there. This bullet should be deleted.

P 109, L 17: "Progress toward meeting ~~the~~ California's conservation goal...."

CHAPTER 4 PROTECT, RESTORE, AND ENHANCE THE DELTA ECOSYSTEM

P 119, L 11-16: This paragraph should also highlight the impact of invasive and non-native species and other stressors as integral to the dynamics of conflict. In addition, we have altered and stabilized flows not just for water supply but also for fishery and ecosystem management. It is only recently that the variable salinity and flow pattern hypotheses have gained significant traction.

P 120, L 3: The Delta is not the source of export supplies. Substitute language; “Delta management will not inhibit more predictable and reliable water supplies...”

P 120, Sidebar: “...restoring more natural naturally patterned Delta flows...” This is more consistent with language throughout the document.

P 120, L 7: Delete “probably”.

P 124, Sidebar: Although the footnote text acknowledges that “natural” and “unimpaired” flow “are not the same” and could have “substantial” differences, the preceding sentence uses “best estimate” which a lay reader may interpret as a “good estimate” which is not the case. In fact, there have been multiple reports indicating that “natural flow” is considerably less than what would have been “unimpaired flow”, e.g. the USGS estimated that natural flows in the Central Valley are about 24% less than unimpaired flows, which is, as noted, a “substantial” difference (Professional Paper 1401-D). Other estimates of “natural flow” indicate an even larger reduction from the level of “unimpaired flows”. We suggest the following revision:

Natural flow is runoff that would have occurred had the landscape and waterways remained unaltered. Today, Our best estimates of what is considered the level of natural Delta inflow for management purposes is identified as “unimpaired flow,” i.e. the flow that would be expected if reservoirs were removed but the contemporary watershed and valley land uses remained. However, it is important to note multiple studies have indicated that true “natural flow” would be considerably less than what the models estimate as “unimpaired flow”. For example, the United States Geological Survey estimated that “natural flows” in the Central Valley are about 24% less than “unimpaired flows” (Professional Paper 1401-D). Other estimates of “natural flow” indicate the level could be even more reduced from “unimpaired flows”. However, Thus, natural and unimpaired inflow are not the same, and the difference between them could be substantial at times. As an ecosystem management tool, this is problematic when it comes to trying to accurately reflect a true “natural” hydrograph.

P 125, Sidebar: “Current Stressors” bullet – add “or mitigated” after “eliminated.”

P 125, L 22: Section on climate change would benefit from adding statement regarding potential/likely shift in habitats and species migration as a result, primarily as a consequence of temperature increases.

P126, L6: Text is limiting when only acknowledging the potential disruption in timing between pollinators and plants as a result of climate change. Other animals besides pollinators are dependent on specific plant cycles.

P126, L12: Add “and landforms” after the words “Delta hydrology.” Permanent modifications to landforms are a significant element in understanding the opportunities and limitations for restoration of the Delta.

P 126, L 23: Why are “nonnative species” called out as a desired community resulting from restoration? If they can coexist with the natives, so be it, but they should not be identified as a target feeding into the definition of restoration success. Delete the words “both” and “and nonnative”.

P 126, L 35-36: Delete this sentence. Use of “‘master variable’” is a bumper sticker that adds nothing to understanding and is a lightning rod for conflict. Instead, rewrite the sentence to indicate the meaning behind the term, i.e. flow affects most other stressors in the system and there are interrelationships between the two important for management decision-making. Poff et al.’s (1997) reference to river flow being a “master variable” is in the context of variability. Postel and Richter (2003) reference flow variability throughout a year and across many years. Neither of these references supports the idea that more flow is necessary. It is important to understand ecosystem services – spatially and temporally, and specifically not just generally – that are provided by various flow levels. Also, in an estuarine environment, flows can go both ways due to tides.

P 126, L 39-40: Delete this sentence or delete the words “natural” and “native”. The Delta no longer reflects “natural” or “native” flow, salinity and sediment levels so the fact is that current Delta species are adapted to unnatural flow, salinity and sediment levels.

P 128, Sidebar: First bullet, end of 2nd line, revise: “DFG collaborates with its federal wildlife fish agency partners,....”

P128/129: 3 section flow discussion -- These three subsections fail to provide a comprehensive picture of the historic nature of delta flows, factors that influence flow, and the linkages between flows and other variables such as historic tidal marsh and channel margin habitats.

P129, Lines 1-18: Although the first sentence in the paragraph states “Delta flows are primarily driven by tides.” the remainder of the paragraph only focuses on the CVP and SWP operational effects. No information is provided regarding the magnitude of the tidal influence. Revise text to more accurately include the tidal impacts.

P129, L 24: Delta outflow standards are currently based, not on the monthly average location of the low salinity zone, but the monthly average location of X2. These are not interchangeable terms.

P129, L35-36: Reservoir releases are also made to control salinity intrusion via the existing water quality standards.

P129, Lines 43-49: This text cobbles together several statements with corresponding citations as if they are related and demonstrate a comprehensive and consistent theme accurately portrayed when in fact

they do not. These statements are too conclusory and present a level of certainty as constants in the system that does not reflect the reality of variability and difference over time and space.

P129, L44: Because sediment is retained behind reservoirs, turbidity is largely derived from precipitation events causing sediment erosion in the watersheds below reservoirs. The extent to which this disrupts migration cues has not been established. Also, greater river flows will not lead to greater turbidity because it is associated with precipitation events rather than flow events.

P130, L9: At this point it is not well known exactly what “benefits” to species are attributable to flows. This reflects the fact that our understanding of the specific ecological functions provided by flow and what level of flow activates these functions is poor. This sentence should be revised consistent with the level of uncertainty related to the hypothesized relationship between flow and “species benefits”.

P 131, Sidebar: We suggest adding some language acknowledging the fact that there are limits to what flows can accomplish with regard to ecosystem functions when the system is subject to numerous stressors that are not necessarily responsive to flows. Related to that point, it should be noted in this discussion, as well, that flow is often an indirect method for dealing with a problem that would be better ameliorated or eliminated by direct action (e.g. wastewater discharges), and thus it could be “wasteful” to use flow instead. Finally, there is no mention of the systematic problem that while flows may help with one problem that use could be in conflict with a desire to use flow to address another issue at another time.

In addition, we reiterate our concern and objection to the uncritical use of “X2” in the discussion regarding flow management. As you know, “X2” is a controversial regulatory criterion, the application of which has been successfully challenged in federal District Court. We suggest removing “X2” and instead provide a general discussion of the importance of the “functions” of the mixing zone without reference to “X2” nor to the use of “outflow to position the low salinity zone”.

P 132, Sidebar:

2nd to last ¶: “If the DFG determines that BDCP is successful and meets specific requirements in Water Code section 85320(e), it must be included in the Delta Plan. The Council only has a potential appellate role regarding the inclusion of the BDCP in the Delta Plan the Department of Fish and Game’s certification of the BDCP satisfying the statutory criteria for inclusion in the Delta Plan.”

Last ¶: change “late 2012” to “early 2013” for BDCP completion, and “The Council ~~will be~~ is a Responsible Agency....”

P133, L 10: This sentence states implies that the BDCP “approval” is tied to the SWRCB updating the water quality objectives. This is not correct. Approval of the BDCP by the State and federal wildlife agencies and adoption by State, federal, and local agencies is not predicated on updated water quality objectives. Revise text.

P 133, L 15: To be more reflective of the text that follows, which covers a number of factors, suggest changing section heading – ~~Entrapment Is One~~ Effects of Altered Flows.

P 133, L 29-36: This ¶ ignores the fact that there is a significant predation problem independent of the existence of the projects and operation of the pumps. This seems to be an appropriate place to add

some general discussion of the predation problem and thus provide background for the recommendation to reduce the population of nonnative predator species in the system.

P 133, L 43: To reflect this as a challenge to the coequal goals, it would be appropriate to add; “While these actions are intended to help protect fisheries, there is a water supply cost to doing so. Since 2007 these regulatory actions have resulted in export reductions of approximately 3.7 million acre-feet.

P133, L45: Revision – “Although there are ~~numerous~~ approximately 2,200 small unscreened...”

P 134, L 1-2: The statement that “special-status fish” are “rarely found in the nearshore areas where pump intakes are located” needs a citation. Indeed, work by USGS biologists suggest that native fish congregate along the shore during the daylight hours. Given the number of unscreened diversions within the Delta, entrainment in these in-channel in-Delta pumping facilities may in fact pose a cumulatively significant problem.

P134, L7-13: Text after first sentence should be deleted. It does nothing to illustrate the message in the first sentence i.e., why expanding habitats for native species is an essential part of restoring the Delta’s ecosystem. Furthermore, it continues a myopic focus on the CVP and SWP project while ignoring the other efforts throughout the Delta. Revise text to discuss range of habitats that are important in the Delta, the basic principles of habitat diversity, restoration, and the vision the DSC has for habitat restoration.

P134, L14-17: Again this text suffers from a too narrow focus and doesn’t demonstrate the point that habitat is defined by a variety of variables. The paragraph should be revised to include a discussion about how functioning habitat for species is comprised of a suite of biotic and abiotic elements which are all important to support species survival.

P134, L30-39: This text is confusing. The underlying message is an important concept but is not well conveyed.

P136, L3-47: The Delta Plan identified 5 priority habitat restoration areas and as the text on this page indicates there are already restoration programs in the planning stage or underway for these areas. These areas also focus on aquatic-related restoration efforts. Given the charge of the DSC to develop a comprehensive plan to restore the Delta ecosystem what other areas are important to accomplish this mission? And what about other natural communities in the Delta that provide important habitat and natural functions to support Delta species? The current text seems to have only focused on the efforts of others and information easily available and fails to provide a roadmap for a comprehensive vision for the Plan. It would be appropriate and beneficial to at least add a sentence about how the DSC will prospectively undertake a “visioning” process as it moves forward with its important work in facilitating the integration, coordination and synthesizing of agency restoration actions in the Delta. Moreover, the text for the five key restoration opportunity areas should be expanded to explain why these areas are important and why they provide unique opportunities for helping achieve the coequal goals.

P139, L16: Provide citation for statement that non-native fish benefit more from later and lower flows with higher temperatures.

P140, L1: Riparian and Shaded Riverine Aquatic Habitat -- This is the only habitat type that has a focused subsection. There are many diverse natural communities that comprise the ecology of the

Delta. Either delete this subsection (and add at the beginning of this section a general discussion on the various habitat types throughout the Delta), or insert new subsections that provide text on the other key aquatic and terrestrial habitats. As is, the chapter seems incomplete. With regard to this particular text regarding SRA, it should be expanded to include information on how much of this habitat is left in the Delta, historical extent, and what types of plant and other natural elements make-up this habitat type.

P140, L21-27: The discussion on Safe Harbor Agreement seems out of place in this chapter. Further, Safe Harbor Agreements are part of the Federal ESA -- delete reference to State.

P140, L28: Why the focus on Suisun Marsh with no specific subsection on the other priority habitat restoration areas? Like with the Riparian and SRA Habitat subsection, the chapter provides an incomplete picture with no clear understanding as to the rationale for inclusion or exclusion of important elements of habitat restoration opportunities. Additional subsections describing the other priority restoration areas would be appropriate and improve comprehensiveness and clarity.

P 142, L 23: The section on “Bass and Sunfish” lists “Largemouth and smallmouth bass”. For the lay person, does that include striped and black bass or are they different? Either way, since striped and black bass are high in the public consciousness, they should be called out someplace.

P 142, L 40-43: While they may not be able to be eliminated this way, direct eradication of predators should be included as one of the “strategies” to “manage” them. The absence of it is conspicuous.

P 145, L 21-22: If there must be adaptation to “unmitigable stressors” does that mean there should be adapting expectations of recovery? It is important to identify that recovery in some cases may be as impossible as mitigating “unmitigable stressors”.

P 145, L 24-28: This ¶ is not as nuanced as it should be and is too flow centric. We suggest substituting the “Why is natural flow important” paragraph on page 131 in the sidebar about functional flows because that sets out in detail an accurate representation of why flow management is important in this system.

P 145, L 32: delete the word “natural” as that has not existed in the Delta system for well over a century.

P 145, L 33-35: The sentence stating there are “insufficient flows to protect the Delta” relies on the SWRCB flow criteria report as substantiation. This is inappropriate as that report was not looking at “protecting the Delta” but rather what level of flow, if there were no other uses that had to be met, would be desired to promote recovery of public trust resources. Substitute language; “...within and out of the Delta are not optimal for restoring the Delta ecosystem.”

P148, L15: Clarity is needed to understand what is meant by the phrase “Impacts to the opportunity to restore habitat...” Does the “impact” have to permanently preclude the ability to restore habitat onsite to require mitigation? What then constitutes “permanent” loss of opportunity? Or is some other level of loss sufficient to trigger the avoidance or mitigation requirement of this policy? Under what authority can mitigation be required of private entities for impacts to a hypothetical future use? Recommend reconsidering whether this policy as written is an appropriate mechanism to protect important restoration opportunity areas.

P152, L8: Verify that there is a State equivalent of the federal Safe Harbor agreements. If not, delete the reference to the Department of Fish and Game.

P152, L21: In addition to the recommendation to exempt Delta levees from the current ACOE policy, consider adding a recommendation for the ACOE and state agencies to work collaboratively to develop a new policy for Delta levees that provides for important levee stability while accommodating habitat for species.

P154, L18: Consider inserting the word “all” before “tagging”. Expanding the tagging program to cover all hatchery fish will aid in the identification of hatchery vs. native fish and provide increased understanding of the interactions between the two.

P154, after L18: Consider adding a recommendation for the state to implement a Mark Select fishery regulation for salmonids. This type of program has been beneficially used in other areas to accommodate the desire for commercial fishing and to increase protection for native salmonids.

P156, L10: The impact of predation on native fish is significant and warrants additional study. Recommend removing it as an “and/or” topic in this bullet and adding a new bullet focused solely on predation.

P156, L1-14: Although much information has recently been developed to increase our understanding of the role of ammonia/ammonium in affecting food production and other impacts to sensitive species, additional study is necessary. Consider adding an additional bullet to address this outstanding science gap. It could be a more general bullet related to understanding the food-web and the fundamental building blocks of the ecosystem, with the ammonia/ammonium issue as an example of an area of inquiry.

CHAPTER 5 “DELTA AS AN EVOLVING PLACE”

P 170, L 35: “...live primarily along the periphery of the Delta in the Secondary Zone, with the remainder....”

P 175, L 10-28: Why does Bethel Island qualify as a “legacy community”? Seems like it has only relatively recently developed, has significant flood management problems and risks, and the historic connection to the Delta that other legacy communities have is seemingly absent. We question its inclusion in this important and meaningful delineation and suggest it should be removed from the category of “legacy communities”.

P 176, L 27-29: There should be a statement included here that the DPC’s LURMP will be reviewed by the Council for consistency with the Delta Plan and it must remain so into the future.

P 180, L 3: With regard to DPC recommendation regarding new agency to manage Delta Investment Fund, the Delta Plan should express the Council’s views about the proposal and how it would see its role and how it would engage stakeholders etc., rather than leaving it up in the air.

P 182, L 33-34: There are islands in the central Delta subsided up to 25-30 feet. Using 12-15 feet soft-pedals the true depth of the problem.

P 184, L 23-27: This ¶ regarding in-Delta agriculture and water quality and the DPC’s unsubstantiated “scenarios” should be significantly rewritten to focus on the issue of concern in a factual and straightforward manner. The first sentence should simply be deleted as it is essentially irrelevant and highly speculative. We suggest the following substitute language for the second sentence; “The potential for a sustainable agricultural economy in the Delta will depend, in part, on access to water of sufficient quality and other policy initiatives related to agricultural infrastructure, services and land management. Chapter 6 contains....”

P 197, L 28: “...efforts, guided by the DPC’s ESP to a significant degree consistent with the Delta Plan.” It is important to not imply DPC activities can trump the Council or the Delta Plan.

P 199, L14: “...including adequate mitigation measures to avoid or minimize adverse effects.”

CHAPTER 6 “IMPROVE WATER QUALITY”

P 207, L 8-10: This sentence implies the Council’s role is the same as that of the SWRCB. In fact, the Delta Reform Act explicitly reserved all powers of the SWRCB to the SWRCB. Consequently, this sentence should be revised. We suggest the following substitute; “The Council’s role with respect to water quality is to synthesize agency priorities and facilitate coordinated activities to improve water quality for beneficial uses consistent with the coequal goals.”

P 211, Sidebar: While we agree water quality control efforts addressing organophosphate pesticides were successful in reducing violations of water quality standards, this may not be the best example to highlight. Where use of organophosphate pesticides has been phased out, use of pyrethroid pesticides has substantially increased, and monitoring and research programs have documented their occurrence at toxic levels.

P 212, L 11: Change "Delta" to "San Francisco Bay region".

P 216, L 20-41: These paragraphs and discussion of “X2” should be deleted because, as the document itself correctly states, this parameter is “not clearly understood”.

P 217, L 38-43: This paragraph should also introduce the Central Valley Salinity Alternatives for Long-Term Sustainability Program (CV-SALTS), and describe the program objectives, schedule and progress to date. This is needed to provide background for WQ R7 on page 229.

P 218, L 15-17: Revise sentence to read: "Sea level rise, levee failure, salinity variability, agricultural water use, and increased wastewater discharges and urban runoff due to population growth in the watershed all pose a threat to drinking water quality."

P 221, L 11-12: The last sentence in the "Ammonium" bullet should be deleted and replaced with a sentence reflecting current scientific information. ~~It is not known, however, how much this inhibition extends to freshwater algae in the Delta.~~ "Ammonium impacts on phytoplankton have also been observed in the Sacramento River below the Sacramento Regional WWTP. Parker et al. (2012a; 2012b)

observed not just an inhibition of nitrate uptake, but also an inhibition of nitrogen uptake and a decline in primary productivity when ammonium concentrations are greater than about 4 µmol/L."

P 226, L 3-4: The ¶'s first sentence should be deleted. The paragraph at lines 19-23 says that the discharges have been reduced significantly from the levels identified in the 2000 report, and start the ¶ with "Sources of selenium loading in San Francisco Bay include oil refineries...." Leaving it as it is confusing, provides a mixed message, and outdated.

P 228, L 8-10: This sentence should be deleted. Stating "salinity in the Delta is dominated" by diversions and operation of the projects' pumps is not consistent with the actual dominance of the tides. While diversions and project operations, including reservoir releases, do affect salinity and its distribution in the Delta, this sentence is misleading and inaccurate.

P 228, L 11: substitute word; "...flows under their water ~~rights~~ quality authority." The Board's water rights authority is the tool by which responsibility to meet water quality standards to protect "beneficial uses" is allocated among users.

P 228, L 13: "Salinity affects export water quality and Delta agricultural, municipal...."

P 228, L 15-16: The power of tides to determine Delta salinity is conspicuously absent in this sentence too.

P 228, L 22: substitute language; "...rely on the Delta to convey their ~~as a~~ drinking water supply...."

P 228, L 33: "Delta and export drinking water supplies are degraded...."

P 229, L 38-39: The date for development of the nutrient policy for Inland Surface Waters should be revised to 2013, to be consistent with the State Water Resources Control Board schedule, as noted in the materials on their web site.

P 230, L 1-7: The target date of January 2018 to adopt and implement nutrient objectives for the Delta and Suisun Marsh is too long. The San Francisco Bay Regional Water Quality Control Board and the State Water Resources Control Board both have policy development programs underway to develop nutrient objectives, and the analysis of nutrient impacts in the Delta and Suisun Bay is an active area of current research. The Water Boards should be able to adopt nutrient objectives for the Delta and Suisun Marsh before 2018. We urge the Council to work with the Water Boards to identify a much earlier date for development of nutrient objectives that is more consistent with all of the progress in this arena to date.

P 230, L 33-38: Work with the Water Boards to identify and include a target date for implementation of the Delta Regional Monitoring Program.

P 234, References: Add the following references to the list.

Parker, A.E., R.C. Dugdale, and F.P. Wilkerson. 2012a. Elevated ammonium concentrations from wastewater discharge depress primary productivity in the Sacramento River and the Northern San Francisco Estuary. *Mar. Pollut. Bull.* doi:10.1016/j.marpolbul.2011.12.016 (in press).

Parker, A.E., V. E. Hogue, F.P. Wilkerson, and R.C. Dugdale. 2012b. The effect of inorganic nitrogen speciation on primary production in the San Francisco Estuary. *Estuarine, Coastal and Shelf Science* doi:10.1016/j.ecss.2012.04.001 (In press).

CHAPTER 7 “REDUCE RISK”

P 245, L 9: “...water conveyed through ~~supplied from~~ the Delta...”

P 245, L 28: “...water supplies conveyed through ~~from~~ the Delta...”

P 248, L 21-23: Why is there no mention of the “midland fault” that has been discovered running through the heart of the Delta? This seems a conspicuous omission.

P 250, L 9: There are islands subsided as much as 25-30 feet. The use of 12 to 15 feet soft pedals the depth of the problem.

P 254, L 29: “...influence the reliability of ~~its~~ water supplies...”

P 261, L 12-13: “~~Although~~ While these long-term priorities...improvements are being developed...”

P 261, L 30: “...financial assistance ~~by~~ over several decades...”

P 270, L 29-32: This Executive Order should not precede the completion of the prioritization of State investments in strategic levee improvements in the Delta. In addition, simply having everyone protect everything isn’t consistent with the infrastructure corridor concept that is under study as you might end up moving facilities that were just recently “protected” and thus waste significant funds in the process.

P 271, L 7: The 2015 date for the Council’s establishment of funding priorities for strategic State levee investments is too remote. Millions of dollars of limited funds may well be wasted by waiting so long to identify priorities and act when it is already known where important ecosystem improvements need to be made that implicate the intersection of improving levees and enhancing habitat in the Delta. We believe this task should be completed no later than January 1, 2014, and preferably by July 1, 2013.

P 275, L 27-30: Recommendation RR R7 should be revised to add stakeholder participation in the process to “develop criteria to define locations for future setback levees”. In addition, we strongly suggest that the USGS (i.e. Jon Burau) be part of the effort.

CHAPTER 8 “FUNDING PRINCIPLES”

P 286, L 17-18: substitute language; “Annually, an estimated \$400 million in federal, State and local agency funding has been spent.”

P 286, L 32: “...balances are not fungible; that is, the authorizing statutes ~~statute dictates~~ generally dictate the specific types...”

P 286, L 1: This ¶ will need to be removed or revised to reflect that the current bond measure is likely to be pushed back to a potential ballot appearance in 2014.

P 291, L 16-18: This bullet should be deleted. It is unnecessary and the point is covered in the first bullet on the page describing the concepts of beneficiaries and stressors pay. Including “amount of water used” and “volume of contaminants discharged” is premature without significantly more vetting and discussion. There is no basis provided as to why these categories were chosen. This is a too complex and important subject to put such off-the-cuff ideas out as conclusions.

Attachment II
State and Federal Contractors Water Agency
Nutrient Articles

Attachment 2: Nutrient Articles since 2010

1. Dugdale, R., F. Wilkerson, A. Parker. 2011. Brief report in response to selected issues raised by Sacramento Regional County Sanitation District in petition for review of discharge permit issued by the Central Valley Regional Water Quality Control Board. May 4, 2011.
2. Glibert Declaration 2011. Brief report in response to selected issues raised by Sacramento Regional County Sanitation District in petition for review of discharge permit issued by the Central Valley Regional Water Quality Control Board.
3. Glibert, P.M. 2012. Ecological stoichiometry and its implications for aquatic ecosystem sustainability. *Current Opinion in Environmental Sustainability*, in press.
4. Glibert, P.M. and J.M. Burkholder (2011) Harmful algal blooms and eutrophication: “strategies” for nutrient uptake and growth outside the Redfield comfort zone. *Chinese Journal of Oceanology and Limnology*: 29:724 -738.
5. Glibert, P.M., D. Fullerton, J.M. Burkholder, J.C. Cornwell, and T.M. Kana. 2011. Ecological stoichiometry, biogeochemical cycling, invasive species, and aquatic food webs: San Francisco Estuary and comparative systems. *Reviews in Fisheries Science*, 19(4):1-60.
6. Glibert, P. M., Z. Mingjiang, Z. Mingyuan, M.A. Burford. 2011 Preface to the special issue on eutrophication and HABs: the GEOHAB approach. *Chinese Journal of Oceanology and Limnology*, 29(4): 719-723.
7. Glibert, P.M., Madden, C.J., Boynton, W., Flemer, D., Heil, C., and Sharp, J., 2010. Nutrients in Estuaries: A Summary Report of the National Estuarine Experts Workgroup 2005–2007. EPA contract numbers 68-C-02-091 and EP-C-07-025.
8. González, A.L., J.S. Kominoski, M. Danger, S. Ishida, N. Iwai, and A. Rubach. 2010. Can ecological stoichiometry help explain patterns of biological invasions? *Oikos*. 119: 779–790.
9. Kendall, C., P. Lehman, S.R. Silva, M.B. Young, and M. Guerin. 2011b. Tracing sources of nutrients fueling *Microcystis* blooms in the Sacramento-San Joaquin Delta using a multi-fingerprinting approach. Draft report to California Department of Water Resources (unpublished).
10. Kimmerer W.J., A.E. Parker, U.E. Lidström, and E.J. Carpenter. 2012. Short-Term and Interannual Variability in Primary Production in the Low-Salinity Zone of the San Francisco Estuary. *Estuaries and Coasts* ,35:913–929.
11. Lancelot, C., P. Grosjean, V. Rousseau, E. Breton, and P.M. Glibert. 2012. Rejoinder to “Perils of correlating CUSUM-transformed variables to infer ecological relationships (Breton et al. 2006; Glibert 2010)”. *Limnol. Oceanogr.*, 57(2): 669–670.
12. Lehman, P.W., S.J. The, G.L. Boyer, M.L. Nobriga, E. Bass, and C. Hogle. 2010. Initial impacts of *Microcystis aeruginosa* blooms on the aquatic food web in the San Francisco Estuary. *Hydrobiologia* 637:229-248.
13. Parker, A.E., R.C. Dugdale, and F.P. Wilkerson. 2012a. Elevated ammonium concentrations from wastewater discharge depress primary productivity in the Sacramento River and the Northern San Francisco Estuary. *Mar. Pollut. Bull.* 64: 574–586.

14. Parker, A.E., V. E. Hogue, F.P. Wilkerson, and R.C. Dugdale. 2012. The effect of inorganic nitrogen speciation on primary production in the San Francisco Estuary. *Estuarine, Coastal and Shelf Science* doi:10.1016/j.ecss.2012.04.001.
15. Parker, A.E., W.J. Kimmerer, and U.U. Lidström. 2012. Reevaluating the Generality of an Empirical Model for Light-Limited Primary Production in the San Francisco Estuary. *Estuaries and Coasts* 35:930–942.
16. The, S. 2011 Final Report submitted to the CVRWQCB.
17. Xu, J., P.M. Glibert, H. Liu, K. Yin, X. Yuan, M. Chen, and P. J. Harrison. 2012. Nitrogen Sources and Rates of Phytoplankton Uptake in Different Regions of Hong Kong Waters in Summer. *Estuaries and Coasts*, 35:559–571.
18. Yuan, X., P. M. Glibert, J. Xu, H. Liu, M. Chen, H. Liu, K. Yin, and P. J. Harrison. 2012. Inorganic and Organic Nitrogen Uptake by Phytoplankton and Bacteria in Hong Kong Waters. *Estuaries and Coasts*, 35:325–334.