STATEMENT AVAILABLE FOR RELEASE – THURSDAY, JULY 18, 2013

Federal Agency Comments Received on the Bay Delta Conservation Plan (BDCP) Second Administrative Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS)

The federal lead agencies for the BDCP EIR/EIS, the U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, and National Marine Fisheries Service, provided their state partner, the California Department of Water Resources (DWR) and the environmental consultants with comment memos on the Consultant Second Administrative Draft EIR/EIS (Admin Draft), released on May 10, 2013. These comments are offered to improve content and readability of the Admin Draft. State and federal lead agencies for the BDCP EIR/EIS are confident that the issues identified in the comment memos will be resolved in the ongoing development of the BDCP and environmental review process, including the public review draft EIR/EIS scheduled for release this October and the final EIR/EIS.

"These comments are intended to be helpful and underscore the good collaboration that exists in this complex planning process," said Will Stelle, NMFS West Coast Salmon Coordinator. "We anticipate that, like the issues that are currently being discussed in relation to the draft habitat conservation plan, these issues can be dealt with in a manner that is acceptable to both the state and federal agencies involved."

"Securing California's foundational water supply for two-thirds of the state against the certainty of sea level rise and earthquakes remains a top priority of the Brown administration," said Natural Resources Agency Deputy Secretary Jerry Meral. "In context, it is important to remember that regulatory agencies by their nature do not give out 'gold stars' for work, but roadmaps for improvement. We will continue to follow that map, because our water security relies on it. After meeting for two days with the federal and state agencies working on this project, we are confident that we can produce a good draft plan and EIS for the public to review, and that all the issues raised in the comments can be successfully resolved in the coming months."

The comment memos outline areas in the Admin Draft that may need further consideration. The release of this information is part of an ongoing and unprecedented effort to promote an open and transparent environmental review process for BDCP, a habitat conservation plan under state and federal endangered species laws that is designed to improve habitat in the Bay-Delta ecosystem and improve water supply reliability for 25 million Californians.

The Admin Draft reflects the significant downsizing of the proposed conveyance project that occurred in 2012 in direct response to federal and state wildlife agency comments. That downsizing includes a reduction in the number of intakes from five to three, a reduction in the maximum diversion capacity from 15,000 to 9,000 cubic feet per second, and a change to gravity-flow tunnels that would not require pressurization and additional pumping plants to move water. The environmental documents also include additional commitments that provide mechanisms to address water quality concerns raised by local water districts. In response to comments from federal agencies, the draft environmental documents will be revised to include

additional modeling that further refines the analysis of sea level rise and climate change effects. The public draft EIR/EIS will reflect that work.

"We have made significant progress in improving the overall integrity and accuracy of these draft environmental documents in the last year," said DWR Director Mark Cowin. "Clearly, there is more work to be done, and our team has already taken up the challenge to improve and enhance these documents in order to meet the ambitious deadline agreed to by the Governor and Secretary of the Interior."

The Admin Draft reflects improvements in analysis to show geographic-specific impacts, additional mitigation measures, and environmental commitments that extend beyond the scope of required mitigation actions under CEQA. This Admin Draft will undergo further necessary revisions, based on comments received to date, as part of the ongoing development of the Public Review Draft EIR/EIS scheduled to be released in October 2013. State and federal lead agencies will open a formal public comment period and, as part of completing the process, respond in writing to all public comments that are received.

In addition to the federal lead agency comments, BDCP is also making available comments provided by federal cooperating agencies – the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. Numerous state and local agencies are recognized as cooperating agencies under NEPA and responsible agencies under CEQA and have been actively involved in providing initial comments on the Admin Draft.

The EIR/EIS documents are available for review at www.baydeltaconservationplan.com.

Bureau of Reclamation

Reclamation's List of Key BDCP Adm. Draft EIR/EIS Issues

July 5, 2013

Clarification Added: July 16, 2013

- The language and content of the BDCP Adm. Draft EIR/EIS are advocating for the project.
  - From a NEPA standpoint, the language should be neutral to meet the regulatory requirement of a "full and fair discussion of significant environmental impacts…." 42 CFR 1502.1.
  - Global review to adjust such language should be made.

- The identification of adverse and beneficial impacts is very subjective and appears to be based on a misreading of NEPA regulations.
  - NEPA regulations require identification of adverse impacts that cannot be avoided should the proposal be implemented and means to mitigate adverse impacts. Otherwise, all effects should be identified as absolutes rather than as subjective judgments as to whether an effect is beneficial or adverse. These effects and their significance should be explained considering both context and intensity.
  - In many areas, the document contains a CEQA analysis to which a few NEPA terms have been added to call it a NEPA analysis. For instance, in at least some chapters the consultant has created criteria, analogous to significance criteria under CEQA, for determining whether an impact is adverse under NEPA. This method of analysis is not consistent with NEPA.

- Reclamation is listed as a Lead Agency, but the whole of Reclamation's actions is not analyzed (i.e. Delta vs whole CVP).
  - Document scope not inclusive of all CVP actions
  - The whole of Reclamation actions in the Delta are analyzed, but not Reclamation's actions outside the Delta.
  - Analysis of upstream affects may not be sufficient to serve as NEPA compliance for Reclamation to accept BiOp depending on the outcome of pending 9th circuit appeal filed by NRDC specific to NEPA analysis of RPA prior to implementation by Action Agency.
  - The EIR/EIS should clearly and fully "finish the thoughts" regarding the Reclamation actions and the issuance of ITPs by including these topics directly in the discussion of alternatives and by stating that the multiple decision documents will ultimately result from the EIR/EIS.

Clarification: *The current BDCP analysis assumes no operational impacts to upstream reservoir operations. Reclamation will continue to evaluate resulting upstream operational changes as necessary within the new operating regime under BDCP. If additional effects, outside of what has already been evaluated are identified, Reclamation will analyze those under a supplemental NEPA*

process prior to accepting and implementing the BDCP Biological Opinion. Reclamation does not believe this will affect the BDCP schedule.

- The document is vague about the relationship between the various agency actions that compose or relate to the BDCP, including how these actions will be sequenced and the time/manner of environmental analysis for each.
    - Some of the federal actions are expected to be future considerations/decisions and will need additional NEPA analysis.
    - It would be helpful for the document to summarize how, in time and in relationship to one another, all of the federal and state decisions are expected to occur.

- Ongoing Modeling and Operational refinements associated with CM1 need to be incorporated in the draft EIR/EIS as additional information becomes available.
    - Chapter 30 distinguishes between operational scenarios by indicating whether Fall X2 is included or excluded and little else. These operational scenarios vary by more than the Fall X2 and should be described.

- Need to determine how to address potential COA implications associated with implementation of CM1 operating criteria.
    - The analysis should be more explicit about the assumptions made in terms of COA implementation, as well as other assumptions regarding the water to be made available to the CVP and SWP.
    - Chapter 5 does not attempt to analyze affects to water supplies other than CVP and SWP supplies. There is a cursory statement in the beginning that changes to operation of the CVP and SWP cannot affect senior water rights holders and that none of those supplies would be affected. It would be helpful to have more information to support that conclusion or to explain why no other supplies are addressed. There is also no discussion of other water users who might utilize state or federal facilities through Warren Act contracts or other arrangements that have the potential to be affected by a change in facilities or operations.
    - The assumptions regarding the allocation of water between CVP and SWP users are not explained. There seems to be an assumption that if CVP deliveries increase north of the Delta that it will automatically mean a reduction in availability of CVP water south of the Delta. Not sure that this is consistent with COA.
    - At a minimum, the following should be added to Chapter 5 and Appendix 5A addressing the COA issue: *"The changes in facilities and operating criteria should trigger a review of the agreement. A review may result in changes in sharing of water supplies and responsibilities. Although the changes are unlikely to affect operations of facilities in the Delta, the future shares of SWP/CVP water supplies may differ from the quantities shown in the modeling results."*

- Changes in operation of the CVP in the near-term, prior to new facilities being in place and operational, need to be clarified.
    - Reclamation's understanding has been that the existing/remanded BOs would govern operations until new facilities are operational.
    - The statement below requires clarification. It addresses changes in operation of the CVP in the near-term, prior to new facilities being in place and operational. On the bottom of page 148 in Chapter 3 it says - "*The existing CVP facilities described in this section would be operated under both the BDCP near-term and long-term implementation, but with differing operating criteria following completion of new facilities. The BDCP near- and long-term operational criteria and adaptive operational range are described in Section 3.6.4.2, and include descriptions of operations of CVP facilities in the Plan Area.*"
    - Is there some expectation that we would change operation of the CVP/SWP prior to operation of the new facilities in accordance with that outlined in Section 3.6.4.2?
    - Perhaps it's just outdated language? If so, we ask that any reference to near-term operations be deleted from the EIR/EIS.
    - Text in the BDCP and EIR/EIS documents should make it clear that the existing/remanded BOs will govern operations until new BDCP facilities are in place.

U.S. Environmental Protection Agency

BDCP EIR/EIS Review Document Comment Form

Document: ***BDCP EIS Administrative Draft—***

Comment Source: U.S. EPA (contacts: Stephanie Skophammer, Erin Foresman)
Submittal Date: 07-03-13

Comment #	Chapter	Page	Line #	Comment	ICF Response
1	**2**		General	A more detailed discussion of delta ecosystem health and productivity, water reliability, and the role of water demand would substantially improve support for the Need Section of the Purpose and Need Chapter. This information includes aquatic life population trends and anticipated water demand. Some of this information is documented (e.g. in Ch 5) and readily available and should not be a cumbersome task to include in the Need section.	
2	**3**	3-3		Section 3.1.1 – is the Preferred Alternative also preferred under NEPA or just CEQA?	
3	**3**	3-3	16–1 9	This sentence refers to Alternative 4 of the BDCP. Is it really CM1 Alternative 4 that is being discussed in the sentence or BDCP Alternative 4?	
4	**3**	3-3	16–1 9	We recommend adding text to this section that explains the apparent difference in opinion about scientific knowledge regarding the relationship between Delta outflows and restoring ecosystem processes and fish populations and Delta outflows resulting from the preferred alternative operational scenario. The preferred Alternative 4 results in minor changes, -1% to 5%,[1] to Delta outflow relative to existing conditions. This suggests that BDCP applicants consider these changes sufficient to meet the ESA Section 10 requirement of "contributing to recovery of endangered and threatened species." There is broad scientific agreement that existing Delta outflow conditions are insufficient for protecting the aquatic ecosystem and multiple fish species, and that both increased freshwater flows and aquatic habitat restoration are needed to restore ecosystem processes in the Bay Delta and protect T & E fish populations.[2] This includes statements from lead federal agencies.	

[1] Tables 5-7 and 5-8, Chapter 5 Water Supply Administrative Draft EIS for BDCP.
[2] (a) Public Policy Institute of California (2013) Scientist and Stakeholder Views on the Delta Ecosystem

				If there is sound scientific information that supports the perspective that increased Delta outflows are not needed and habitat restoration alone would be able to restore ecosystem processes and protect fish species, it should be presented in this DEIS.	
5	**3**	3-3	16–1 9	The phrase "...DWR considers to be an optimal balance between ecological and water supply objectives" in reference to Alternative 4 implies that DWR is optimizing a balance between the aquatic ecosystem and water supply and throughout the entire water delivery system. We recommend modifying this sentence to more precisely communicate that a portion of the water supply system is being modified to improve reliability and that Alternative 4 is intended to optimize ecological and water supply objectives under a portion of the CVP-SWP delivery system. This would better communicate that adjusting deliveries north of the Delta is not included as a potential method of optimizing ecological and water supply objectives.	

"*a strong majority of scientists prioritizes habitat and flow management actions that would restore more natural processes within and upstream of the delta*" (p. 2).
http://www.ppic.org/content/pubs/report/R_413EHR.pdf
(b) State Water Resources Control Board (2010) Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Flows Report, p.7. "*both flow improvements and habitat restoration are essential to protecting public trust resources [defined as "native and valued resident and migratory species habitats and ecosystem processes*" p. 10].
(c) National Academy of Sciences Natural Resource Council Committee on Sustainable Water Management in California's Bay-Delta (2012) Report: Sustainable Water and Environmental Management in California's Bay-Delta "*…sufficient reductions in outflow due to diversions would tend to reduce the abundance of these organisms ["these organisms" = 8 Bay Delta aquatic species at various trophic levels].*" Page 60 and "*Thus, it appears that if the goal is to sustain an ecosystem that resembles the one that appeared to be functional up to the 1986-93 drought, exports of all types will necessarily need to be limited in dry years, to some fraction of unimpaired flows that remains to be determined.*" Page 105
(d) NMFS Progress Assessment and Remaining Issues Regarding the Administrative Draft BDCP Document http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/NMFS_Progress_Assessment_Regarding_the_BDCP_Administrative_Draft_4-11-13.sflb.ashx; and NMFS February 4, 2011 Phase I Scoping Comments "*Inadequate flow to support fish and their habitats is directly and indirectly linked to many stressors in the San Joaquin river basin and is a primary threat to steelhead and salmon.*" available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts020811/010411dpowell.pdf
(e) U.S. Fish and Wildlife Service Staff BDCP Progress Assessment. April 3, 2013 http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/U_S_Fish_and_Wildlife_Service_Staff_BDCP_Progress_Assessment_4-11-13.sflb.ashx; and "*Interior remains concerned that the San Joaquin Basin salmonid populations continue to decline and believes that flow increases are needed to improve salmonid survival and habitat.*" USFWS May 23, 2011 Phase I Scoping Comments, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts052311/amy_aufdemberge.pdf
(f) California Department of Fish and Wildlife (2010) Quantifiable Biological Objectives and Flow Criteria "*…current Delta water flows for environmental resources are not adequate to maintain, recover, or restore the functions and processes that support native Delta fish.*" Page 1 in Executive Summary

6	**3**	3-11	17-19	The reasons for eliminating these alternatives should be more clearly identified. The document refers to the screening analysis appendix but these decisions should be highlighted in the DEIS.	
7	**3**	3-17	Table 3-2	Are the activities to reduce the effects of methylmercury contamination also focused on minimizing transport of methylmercury? The text here only refers to formation.	
8	**3**	3-20	7	Will near term CMs include acquisition of terrestrial and wetland habitat only or will they include restoration actions too? If so, we recommend including restoration actions in this sentence. It appears that the action is only to acquire the land but not to actively restore it for benefits to fish and wildlife in the near term.	
9	**3**	3-30	6-9	What are the reasons for assuming that regulating the ratio of exports to imports would not apply to the north of delta intakes?	
10	**3**	3-31	28-29	Why is 55% unimpaired flow from **February** to June evaluated instead of a range of unimpaired flows from **January** to June as it is suggested in the State Water Board 2010 Flow Criteria Report? Is this a typographical error or is it really February to June 55% unimpaired flow? If so, why does it not include January?	
11	**3**	3-33	Table 3-6	The comparison among operational elements of the nine CM1 alternatives presented in this table appears to show that the operational elements of the nine alternatives are very similar to one another. This can be seen in Tables 5-5, 5-7, and 5-8 where we see that Delta Outflow varies between -2% to 14% relative to existing conditions. We anticipate high potential for positive and negative CM1 impacts on aquatic communities to be a direct result of the operational elements of the CM1 alternatives. Predicted water quality exceedences for all the alternatives are potentially a product of having very similar operational elements in the alternatives. One way to expand the operational elements would be to determine operational scenarios that mitigate water quality exceedences below the level of water quality standards or other relevant benchmarks.	
12	**3**	3-37	Whole section	Does the No Action Alternative include D-1641 spring flows at Vernalis or VAMP flows?	
13	**3**	3-158	Table 3-13, 3-14, and 3-15.	Information about historical flows should be provided with these tables to provide a frame of reference for understanding the North Delta Intake Bypass Flow Criteria, Post-Pulse criteria, and OMR flow criteria. This could be done using cumulative flow distributions that show how often flows identified in the operational rules are in the Rivers	

				at given locations, during certain times of the year. This information should be available for comparisons for all of the Scenarios.	
14	**3**	3-103	27-39	Are upgrades to the Fremont Weir part of the proposed project (p. 3-103) OR part of the No Action (p. 3D-19)? It seems like they cannot be both.	
15	**3**	3-100	Whole section	How often/how much would the Yolo Bypass be flooded across the different water year types and life of the permit?	
16	3	3-182	Table 3-23	Adaptive management should include operational elements that result in a broader range of freshwater flows through the Delta than are currently identified in H1-H4.	
17	**3**	3-181	General	Has an adaptive management strategy with targets been identified for any of the other alternatives?	
18	**3A**	3A	General	This screening analysis is relevant to a programmatic document and should be in a DEIS chapter directly instead of being placed in an appendix.	
19	**3A**		General	This is the first time EPA has reviewed this screening document. These screening criteria were not evaluated or agreed upon by EPA previously. We were not requested to provide any comments or suggestions prior to this review. These comments represent a first initial review of this document and are not likely to include all comments that emerge from a comprehensive reading of the entire document. In particular, we emphasize that our review and comments should not be read as agreeing that these screening criteria are being used appropriately to identify the alternative most likely to contain the Least Environmentally Damaging Practicable Alternative (LEDPA) at a programmatic level, consistent with the 404(b)(1) Guidelines at 40 CFR Section 230. We would like to meet with the lead and cooperating federal agencies to discuss how these criteria were developed and applied to determine whether or not they are consistent with NEPA and other regulatory requirements for evaluating project alternatives, the 404(b)(1) Guidelines in particular.	
20	**3A**	3A-14	12-33	The Purpose and Need statement in Appendix 3A is different from the statement in ADEIS/EIR Chapter 2 Purpose Statement (Chapter 2, page 2-4 and 2-5). Which version of the purpose statement was used for screening?	
21	**3A**	3A-14	13-38	The text should be clear about whether or not the screening process eliminated alternatives because they did not meet the these elements of the purpose statement in Appendix 3A:	

				"reducing the adverse effects to certain listed species of diverting water by relocating the In takes of the SWP and CVP." This element limits alternatives to only those that build new SWP and CVP pumps in the north Delta. This would eliminate Alternative 9, but that one was carried forward. "up to full contract amounts"	
22	**3A**	3A-17	16-36	Are these bullets the Third Level Screening Criteria? The topic sentence says the bullets below are "considerations reflected in the Third Level Screening Criteria." The Third Level Screening Criteria should be contained in one table with the metrics used to determine whether or not criteria are met.	
23	**3A**	3A-23	8-35	We would like to discuss this screening criterion with the lead federal agencies and discuss their perspective on how it is consistent with NEPA: "Would the potential alternative result in the impairment of existing senior water rights in the Sacramento-San Joaquin Rivers watershed who are not applicants for incidental take authorization through the proposed Bay Delta Conservation Plan?"	
24	**3A**	3A-23	8-35	We are concerned that the above criterion may result in the elimination of alternatives that are less damaging to the aquatic environment, which presents a substantial CWA Section 404 permitting problem because CWA Section 404 permits are restricted to the LEDPA.	
25	**3A**	3A-71	13-38	Unlike the preferred alternative for CM1, which would only minimally change flows through the estuary, this alternative would substantially increase flows through the estuary and provide greater protection for resident fishes. It is important to demonstrate that eliminating this alternative did not eliminate a potentially less environmentally damaging practicable alternative. If such documentation does not already exist, a more complete analysis of this alternative may be required for a CWA permit.	
26	**3A**	3A-84	Table 3A-1	Is there a quantitative definition of "most" that was used in the screening process? Is this greater than 50% of the criteria? Are all criteria considered equal?	
27	**5**	5-4	24	Information about water demand and population growth should be expanded to describe the relationship between water demand and population growth and the reasons it is assumed that demand will grow. Similarly, a discussion	

				about agricultural water use and estimated future changes in the use of SWP/CVP water is also appropriate to describe. This information would also be very useful as support for the Need Statement in Chapter 2.	
28	**5**	5-85	Also table 5-7	North of Delta M&I would increase up to 85% compared to existing conditions. This seems like a very large increase from past trends, and further explanation and support is needed for such an increase. If this is related to population growth, that should be explained here, too (related to table 30-6). And is this 85% increase included in the No Action as well as Alt 4? (p. 5-45).	
29	**5**	5-11	8-15	It may be more straightforward to use the words "shorten the route of Sacramento River Water to the export facilities" instead of "improve the transfer." Readers not familiar with the system will not understand how the transfer is improved by reading that and the word "transfer" can be confused with "water transfers" which are a very different concept than shortening the route of water from the Sac River to the export facilities.	
30	**5**	5-11	8-15	It would also be equitable to explain here that there are some negative impacts to the ability of adult San Joaquin River salmon to successfully navigate back to the San Joaquin River when Sacramento River Water is relocated into the south Delta including San Joaquin River channels.	
31	**7**	7-32	31-41	The topic sentence of this paragraph says that there will be minor changes in water supply availability that are equal to 2% of current groundwater production. Are these changes an increase or a decrease?	
32	**7**	7-81; 7-82	36-39; 1-12	Alternative 4 is compared to Alt 1 and Alt 2A. This is confusing to the reader because impacts should be directly stated and compared to the baseline. (ie No Action and Existing Conditions). H3 is said to represent the impacts of Alternative 4, but an explanation for why this is so is not provided here.	
33	**7**	7-53	Table 7-7	Why is this table not in the water supply chapter?	
34	**7**	7-83	34-36	Does it make sense to use H3 to represent all of Alt 4 just because it represents the original Alt 4? The operational criteria of H1 and H4 are very different, and yet, the impacts are not discussed in the following paragraphs.	
35	**7**	7-86	39-40	Why the comparison to 6A??	
	7	7-46	31-32	What kinds of contaminants can be expected to be discharged with this water? If it's in Ch 8, where is it located there (p.#)?	
36	**7**	7-47	27-28	Is this information unavailable at this time?	

37	**7**	7-50	23	Shouldn't this be described here first and the reference included secondly on the next page?	
38	**7**	7-48	14-17	What is the current status of seepage now at Byron tract forebay? This is not discussed in existing conditions. What kinds of land would potentially be impacted by seepage around the construction of a new intermediate forebay? Would the size of the forebay be smaller for Alt 4 (less intakes)	
39	**7**	7-49	41	These design features should be described in much more detail since they form the basis for the no adverse impact conclusion.	
40	**7**	7-110	37-41	What is the difference between those projects included in the cumulative impacts and those included in the No action alternative? (ie Grassland project is mentioned for the No Action (line 28) and for the cumulative impacts (table 7-8)	
41	**8**	General		Is there a section that explains how the 72 water quality constituents identified in Table SA-11 "WQ constituents for which detailed assessment were performed" (page 8C-40) were narrowed into the 15 WQ metrics evaluated for CM1?	
42	**8**	General		A table that shows how each CM1 alternative meets or exceeds narrative and numeric water quality standards for the water quality constituents that received more detailed analysis should be created. This comparison is important for NEPA disclosure and for permits, authorizations, and certifications that will be needed to build CM1.	
43	**8**	8-53	17-26	This discussion should include text that discloses concerns scientists have with existing selenium criteria not being protective enough of aquatic life (see discussion on page 17 in *US EPA Bay Delta Action Plan* available at http://www2.epa.gov/sites/production/files/documents/actionplan.pdf), and plans to update selenium criteria. A useful example of this information is on pages 32 and 33 of *US EPA Unabridged Advance Notice of Proposed Rulemaking for Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Delta* available at http://www2.epa.gov/sites/production/files/documents/baydeltaanpr-fr_unabridged.pdf	
44	**8**	8-394	19-43	Further describe the relationship between hydrodynamics and open water aquatic habitat such as year-round anticipated changes to the salinity gradient, quality and quantity of the low salinity zone, continuity of San Joaquin river water from Vernalis to the Delta and migratory corridors for returning adult salmon, and continuity of dissolved oxygen levels along that corridor. Aquatic habitat discussion may be better organized	

				into Chapter 11 but this section on Delta Hydrodynamics is connected and relevant to the relationship between WQ elements and the quality and quantity of open water habitats. It could be much more robust than the information presented, which is focused on meeting WQ objectives due to hydrodynamics changes. If this discussion is not included here, a reference should be provided to such a discussion in Chapter 11.	
45	**8**	8-395	1-10	This section should provide all of the changes to outflow associated with each alternative H1-H4 relative to existing conditions and no action alternative (some of this is in Ch 5 but since it is referenced here it should be discussed). It should also provide the percent change for H1-H4 relative to existing conditions and no action alternative.	
46	**8**	8-395	6-10	The conclusion that the preferred alternative results in increased sea water intrusion in all years in addition to conclusions about EC levels in the southern Delta (see page 8-425 and -426) shows a high potential for substantially negative impacts on the quality and quantity of open water aquatic habitats such as the low salinity zone (0.5-6 ppt salinity), and migratory corridors for salmonids. An analysis of changes to the salinity-gradient and the quality and quantity of open water aquatic habitats is necessary for evaluating impacts to aquatic resources that use specific zones along these gradients as part of their primary habitat for all of part of their life cycle.	
47	**8**	8-397	Table 8-67	We recommend making comparisons to the 2009 draft EPA ammonia aquatic life criteria.	
48	**8**	8-407	7-11	The project impacts from bromide to drinking water supplies appears to exceed water quality standards by reducing water quality for the municipal beneficial use below appropriate protection levels.	
49	**8**	8-413	22-26	Making beneficial use impairments measurably worse and exceeding chloride objectives presents significant challenges for concluding that the preferred alternative protects aquatic life and/or the Delta ecosystem. These conclusions also present a significant permitting challenge for CM1. Granting a CWA Section 404 permit is prohibited for projects that violate State Water Quality Standards (40 CFR 230.10(a)(b)(1) "no discharge of dredged or fill material shall be permitted if it causes or contributes, after consideration of disposal site dilution an dispersion, to violations of any applicable State water quality standard").	

50	**8**	8-432	14-17	The topic sentence concluding that there would be no substantial, long-term increase in mercury or methylmercury concentrations or loads in the Delta is inconsistent with the preceding sentence that states that the potential for methylmercury creation in the Delta is adverse and previous statements in this section that the Delta does not have any assimilative capacity for increased loads of methylmercury transported to the Delta or formed within the Delta. The CEQA conclusion also appears to be inconsistent with the general understanding that restoring 20K acres of seasonal wetlands in Yolo Bypass will methylate mercury in the sediments and could become the largest source of methylmercury to the Delta when the bypass is flooded. Further explanation of the reason for this conclusion would be helpful. Or perhaps the topic sentence in the CEQA conclusion paragraph is an error?	
51	**8**	8-723		Please explain why the conclusions about cumulative water quality analyses are different than conclusions about water quality impacts from preferred operations: examples include dissolved oxygen, pesticides, mercury, and selenium.	
52	**8**	8-425 and 426	41-44 and 1-9	Making beneficial use impairments measurably worse and exceeding EC objectives present significant challenges for concluding that the preferred alternative protects agriculture and aquatic life beneficial uses and the Delta ecosystem. These impacts are also significant CWA permitting challenges, see previous comment on chloride and bromide.	
53	**8**	8-426	12-15	We recommend modifying the text to explain why mitigation measures are not available to the applicant. It seems that increasing flows is a mitigation measure that is available to the project applicant. Although doing so may mean that operations change enough to be considered a separate alternative, but the action of increasing flows is possible. This sentence suggests that the action is not something that could be done. It can be done, which makes the negative impact something that can be mitigated. It would be useful to remind the reader of the selection criterion in Chapter 3A which restricts operational elements of the CM1 alternatives to those that do not require changes to water rights other than CVP/SWP contractors. This seems to be the primary reason increased flows are not chosen as a potential source for mitigation.	

54	**8M**	8M-19	Table 5M	The Kd values used (see Table 5M at page 8M-19) are too low; this tends to underestimate bioaccumulation. The values range from 1000 to 1760 for models 1 -8, and then 2840 for Model 9. EPA uses using Kd values of between 3000 and 5900 for EPA delta modeling (the actual range is much larger – approx. 1,300 – 13,000).	
55	8	8-89; 8-90	Tables 8-28, 8-29, para 4	The comparison of the tables underscores how little information we have about water quality in the Delta. This is acknowledged in the narrative. It must be remembered that assumptions are being made with no more than a snapshot of one day's measurements in some cases. These point strongly to the need to act conservatively until current conditions are better understood through more robust monitoring, and the impacts of the project alternative can be predicted with reasonable confidence.	
56	8	8-90	Para 4	The San Joaquin River currently contributes total ~10-15% of the flow to the Delta. The question is how much will that percentage change as a result of the project? Lower Sacramento River flow will increase the impact of higher selenium concentrations from the San Joaquin.	
57	8	8-93	Para 2	The food web preference of bass for insects explains why there was "….no difference in bass selenium concentrations in the Sacramento river at Rio Vista and in the San Joaquin River at Vernalis…" The statement that "…the reasons for this difference are unknown" suggests a lack of understanding of the basic assumptions of the selenium ecological model, i.e., that different food webs biomagnify selenium to greater or lesser extents.	
58	8	8-459	Para 6	The comment is made that nonpoint selenium sources in the San Joaquin Valley will be controlled through a TMDL. While it is true that the flows from the Grassland Bypass Project have reduced selenium inputs to the San Joaquin and, thus, the Delta, they have not yet achieved the TMDL limits. The project has had two extensions thus far, and has a "due date" of 2019. Besides the Grassland Area, the Westlands Area, which has not been able to discharge to the San Joaquin for many years, will receive drainage service by the US Bureau of Reclamation. The outcome is not certain for either of these areas to be able to meet TMDL limits that were set many years ago. Again, great progress has been made in the Grassland Area, but to imply that that the San Joaquin source will not continue to be an issue is rather speculative. The uncertainty	

				around the issue should be acknowledged in the analysis.	
59	8	8-460-462	Impact WQ 26, Mitigation Measure WQ 26	It is well established that wetlands and other water bodies where flows are impeded by physical and biological barriers increase residence time and thus the likelihood of increasing the biotransformation of selenium sources. Proposing that the wetlands might be the problem implies that non-natural means (reducing access by wildlife, reducing organic matter build up) would be better suited as mitigation measures. This places the emphasis on the effect, rather than the cause. The Delta needs good quality water to support a healthy, non-selenium impacted ecosystem. Discussion of potential source-related solutions, such as delivering more low selenium water from Friant Dam to the San Joaquin River would be more realistic from an environmental perspective than developing wetlands where wildlife would not be welcome.	
60	**8M**	8M-19		The species used are largemouth bass which are not good bioaccumulators and are not particularly sensitive to selenium in their diet. A more sensitive species that bioaccumulates selenium, e.g., salmon or trout (both very toxicologically sensitive to selenium) would be a more appropriate indicator.	
61	**11**	11-1	2	The title of this chapter, Fish and Aquatic Resources, suggests it will include an assessment of impact to aquatic habitat; however, aquatic habitat is evaluated in "Chapter 12 Terrestrial Biology." The quality and quantity of aquatic habitat seems an important element of protecting T & E fish species. Why is the quality and quantity of aquatic habitat evaluated in the Terrestrial Biological Resources Chapter? This is confusing.	
62	**11**	11-1 and 11-2	28-34 and 1-24	This section describes aquatic habitat in the Delta and Suisun with a minor discussion about the salinity gradient and how it defines quality and quantity of aquatic habitat for target fishes. This section and this chapter should include an analysis of impacts to important open water aquatic habitats defined by the salinity gradient, e.g, marine and low salinity zones, and migratory corridors. These habitats should be included in the "Areas of Potential Environmental Effects" and included in the analysis of impacts to aquatic resources. The Low Salinity Zone is minimally described in this section but the quality and quantity of this habitat is not evaluated as primary and migratory habitat for target species.	

				The salinity gradient, as approximated by X2, has an inverse relationship with many bay and estuarine species. For many species, fish populations go down as X2 goes up (salinity intrusion into freshwater increases). Estimating changes to the salinity gradient for each operational scenario is important for understanding how the quantity and quality of estuarine habitats and fish populations change under CM1 operational scenarios A through G. This can be done using one-dimensional equations that calculate X2. Has X2 been calculated, seasonally or year round, for each of the operational scenarios A through G? A more holistic approach is using three-dimensional modeling (more equations) that maps the salinity gradient within the estuary. This makes it possible to estimate the size and location of salinity zones, such as the low salinity zone, under different operational scenarios.	
63	**11**	General		Estimates of relative fish population changes (increases or decreases relative to baseline) or estimates of absolute changes to fish populations are not estimated or disclosed in this section. Were these estimates generated? These evaluations are necessary for informed decision making regarding actions that contribute to recovery of endangered species and/or meet the biological goals and objectives in the HCP.	
64	**11**	General		Freshwater flow may be the best tool available to improve fish population response and protect aquatic life beneficial uses prior to the completion of planned restoration projects. Relative fish population responses to freshwater flow can be estimated using regression equations provided in the peer reviewed literature cited below. We recognize that these equations do not directly include the effects of tidal marsh and floodplain restoration on fish populations; however, we recommend that these tools be acknowledged in the EIS, with a explanation of why they were not used to estimate fish population responses to the proposed actions. Kimmerer, W. J. 2002. Effects of freshwater flow on abundance of estuarine organisms: Physical effects or trophic linkages? Marine Ecology Progress Series 243:39-55	

				United States Fish and Wildlife Service, September 27, 2005, Recommended Streamflow Schedules To Meet the AFRP Doubling Goal in the San Joaquin River Basin (FWS 2005), pp. 27 available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/docs/sjrf_spprtinfo/afrp_2005.pdf Scientists will have improved ability to measure effects on fish populations as a function of tidal marsh and floodplain restoration projects after restoration projects are started and measurements and monitoring data become available.	
65	**11**	General		Comparing impacts on fish populations from project alternatives to existing conditions does not reflect the fact that existing conditions are very poor for fish populations and there is general agreement among scientists that native and migratory fish populations need to increase in order achieve self-sustaining population levels. Comparisons of fish population responses to project alternatives should be made to biological goals and objectives so that project alternatives can be distinguished from one another.	
66	**11**	General		Aquatic life benefits from the northern intake bypass flows are not clear and/or appear to be minimal. It appears that there is minimal improvement in fish entrainment and loss from operating a new Delta Conveyance because the times and conditions during which the entrainment effects of the present facilities are of greatest concern will continue to occur after the Delta Conveyance facilities are operating, since use of the northern intakes will be limited to times of higher Sacramento River flows per the North Delta Bypass criteria. At these times, entrainment at south Delta facilities has historically been low. South Delta intake facilities will continue to operate at times when Sacramento River flows are not high enough to operate the Sacramento intakes, which includes the conditions when entrainment effects of the south Delta facilities are greatest for T & E species.	
67	**11**	General		Estimated environmental benefits from dual diversion points (north and south Delta) may be reduced by issues that are not addressed in CM1. The current trash racks, fish screens and diversion facilities in the south Delta are not proposed to be changed. Invasive aquatic weeds and deferred maintenance have greatly impaired the effectiveness of the fish screens for much of the	

				last 20 years. Redirecting diversions to these facilities will expose fish to the threats of salvage operations and ineffective screens. In addition, the impact of an invasion of Dreissenid mussles into the Delta, specifically to the southern Delta, is not addressed in CM1. The invasion of these mussels is very probable and the southern Delta provides suitable habitat for Dreissenid mussels. Impacts from these mussels on freshwater diversions in the Great Lakes and Lake Mead would be informative.	
68	**12**	1	2	Title of the chapter is confusing when compared to the content of the chapter. For example, the majority of natural communities evaluated are aquatic habitat, e.g, "tidal perennial aquatic." The majority of the species evaluated are terrestrial. Potentially renaming it or reorganizing some of the information in this chapter to other chapters would be more appropriate. Chapter 11 is the Fish and Aquatic Resources but it does not evaluate changes to aquatic habitat that are evaluated in the Terrestrial Biological Resources Chapter.	
69	**12**	Part 3 12-21	10	A comprehensive frame of reference for impacts should be provided. Each of the impact assessments states the percent impact of BDCP CMs compared to the amount of each natural community remaining. The example here is, "These modifications represent less than 1% of the 82,266 acres of the community that is mapped in the study area." This gives the impression that BDCP impacts are not very much to this natural community. However, it is not apparent to readers without knowledge of historical aquatic habitat losses, that the majority of Bay Delta natural aquatic communities have been eliminated. The recent Historical Delta Ecology Report provides estimates of pre-development natural communities in the Delta. These estimates should be provided to give the reader a more ecologically appropriate frame of reference in which to understand the estimated impacts from the proposed project. This would make it apparent that project impacts, whether they are a small or large percentage of existing natural community distribution, are in addition to large-scale impacts of actions that occurred in the past.	
70	**12**	Part 3 12-22	1-15	Actions that result in impacts to the aquatic natural communities described in this section and the other aquatic communities are not detailed. The Mapbook does not provide much more detail than the narrative description. Details regarding project impacts should include things such as: estimated impacts to waters of the US (acres and/or linear	

				feet) from project activities that are specifically described (e.g., grading, dredging, trench and fill, boring, spoils piles, levee work, excavation, etc..), volume (yd3) of sediment proposed for disposal sites, volume (yd3) of sediment removal from waters for project impacts and expected maintenance dredging.	
71	**12**	Part 3 12-21		Table 12-4-1 and other aquatic natural community tables, especially 12-4-5 & 12-4-6. Impacts to aquatic communities seem fairly low. Evaluating the mapbooks verifies very few aquatic communities mapped on Bouldin and Bacon Islands. There are Corps of Engineers CWA 404 project-level delineations for these islands for the Delta Wetlands Project that show a much greater amount of aquatic habitat.	
72	**12**	Part 3 12-23	27 & 28	We recommend adding text that explicitly states that other federal regulations under Section 404 of the CWA restrict permits to the alternative that maximizes avoidance and then provides compensatory mitigation.	
73	**12**	P3 12-23	28	Here and other places in the document, aquatic natural community restoration is discussed with respect to eliminating any adverse affects under NEPA, assuming that the restoration is 100% successful. Is there an operating assumption that conservation CMs will be 100% successful? Is there an assumption of a success rate for any of the restoration projects? If so, those assumptions should be disclosed with supporting documentation. If not, a discussion of the success rate among restoration projects for each of the natural community types would be appropriate to provide the reader with context for understanding the potential success of restoration.	
74	**12**	P3	All	Why are CEQA conclusion paragraphs identified and NEPA conclusion paragraphs are not titled?	
75	**12**	P3 12-25	5-9	Is there information that tells us how much more often flows will be in the bypass and these floodplains will be activated? If so, could it be provided here to help the reader understand how often the bypass will be flooded and these benefits will be available for fish?	
76	**12**	P3 12-32	21-23	Table 12-4-3 – Do estimates of impacts here and in the other aquatic habitat natural community tables include impacts from spoils and tunnel muck or other material that is dug up for the tunnel alignment and discharged in adjacent areas that may have wetlands or waters of the US?	
77	**12**	P3 12-38	22-36	Are there quantitative estimates or details that support the conclusion that ongoing operation of new Delta conveyance would have no adverse	

				effect on tidal freshwater emergent wetland natural community? The topic sentence of the paragraph indicates that operations and maintenance could alter acreage of this community by changes in flow patterns. Can this be explained in further detail, including how these changes in flow will not have an adverse affect on the habitat of species that depend on it?	

National Marine Fisheries Service

NMFS "Big Picture" Issues for 2013 Admin Draft BDCP EIR/EIS

July 5, 2013

The National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) requires that Federal agency decision makers, in carrying out their duties, use all practicable means to create and maintain conditions under which people and nature can exist in productive harmony and fulfill the social, economic, and other needs of present and future generations of Americans. NEPA provides a mandate and a framework for Federal agencies to consider all reasonably foreseeable environmental effects of their proposed actions and to involve and inform the public in the decision-making process.

In meeting the requirements of NEPA, it is NOAA's policy to:

a) fully integrate NEPA into the agency planning and decision-making process;
b) fully consider the impacts of the proposed actions on the quality of the human environment;
c) involve interested and affected agencies, governments, organizations and individuals early in the agency planning and decision-making process when significant impacts are or may be expected to the quality of the human environment from implementation of proposed major actions; and
d) conduct and document environmental reviews and related decisions appropriately and efficiently.

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Administrative Draft Environmental Impact Statement (ADEIS) and concludes that it is currently insufficient and will need to be revised prior to formally publishing it as a DEIS with NMFS as a co-lead agency. Several results and conclusions need to be changed to reflect the current analyses and best available science. Unlike the draft Habitat Conservation Plan (HCP) document, the Federal agencies have direct responsibility for the content of the EIS as we (NMFS) are a co-lead and therefore must independently evaluate the EIS prior to its approval and take responsibility for its scope and content (40 CFR 1506.5 (c)). We have already begun providing line by line edits to the CA Department of Water Resources and the consultant (ICF) and will submit the remainder of those comments by July 31, 2013. Below are the "big picture" issues that highlight key areas that need to be addressed in the document.

We look forward to continuing our close collaboration with all of the involved parties to resolve these issues and complete this planning process. The current collaboration is a good example of a complex planning process working as it should. We anticipate that, like the issues that are currently being discussed in relation to the draft HCP, these issues can be dealt with in a manner that is acceptable to both the State and Federal agencies involved.

ISSUE AREA 1: There remains a lack of incorporation of and reference to the federal proposed action of issuing an incidental take permit by NMFS and the U.S. Fish and Wildlife Service (FWS). There is also no alternative that shows a different action to the proposed action of permit issuance. Descriptions of the alternatives throughout the ADEIS refer to the BDCP project only. The alternative descriptions must include the federal proposed action of issuing an incidental take permit (ITP). The document as a whole needs to incorporate the federal proposed action better. NMFS has repeatedly made this comment on previous drafts and the comment continues to go unaddressed. The CEQ NEPA regulations state that alternatives, including the proposed action, must be included in an environmental impact statement (40 CFR 1502.14). The alternatives analysis section should provide a clear basis for choice among options by the decision maker and the public. The manner in which the alternatives are currently described does not reflect an option that can be implemented in a Record of Decision because none of the alternatives describe the federal proposed action. In addition, the proposed duration of the incidental take permit needs to be discussed more. The proposed duration is 50 years, and it is mentioned only a few times in the ADEIS.

NMFS has also noted that it would be advisable to have an alternative that contains a different action to the federal proposed action of issuing a 50-year ITP, e.g. the issuance of a 25-year ITP, or an ITP with fewer numbers of covered species. Typically, NEPA documents for ITPs contain these types of alternatives.

Recommendation for Resolution:

- Please include a description of the federal proposed action of permit issuance in each of the 15 alternative descriptions and the no action alternative.
- Please include a discussion of the proposed permit term in each of the alternative descriptions and throughout the document.
- The EIR/EIS refers to the alternatives as the "BDCP alternatives" rather than the action alternatives. Referring to the alternatives as "BDCP alternatives" only reflects DWR's action of the BDCP and not the other agencies' actions. Please change all references of "BDCP alternatives" to "action alternatives."
- Consider the addition of alternatives to the federal proposed action of issuing a 50-year ITP (e.g. issuance of a 25 year ITP, issuance of an ITP for fewer covered species). NMFS would also like to work with the State and contractors to see if these components could be added to the existing alternatives.

ISSUE AREA 2: Some sections and analyses do not state whether or not an impact is adverse or significant. For those that do state there will be an impact, further details are not provided on the impact or how the conclusion was made.
Some analyses state there are impacts or changes, but the analyses do not provide details on those impacts or changes. Some sections also do not state how the conclusions of impacts were made. The analysis methodology for determining impacts is sufficient but some sections do not follow the methodology described in the document. The impacts or changes need to be described in detail. See NMFS line by line comments for specific details.

Recommendation for Resolution:

- Please state whether or not an impact is adverse and/or significant for all impacts.
- Please follow the methodology described in the document to determine adverse and/or significant impacts.
- Please ensure that the document provides evidence and support for the conclusions of impacts.
- See NMFS line by line comments for specific details.

ISSUE AREA 3: Both the language and the content of the ADEIS are advocating for the project and could be perceived as biased. The language should be more neutral to meet the regulatory requirement of a "full and fair discussion of significant environmental impacts…" 42 CFR 1502.1. The inclusion of certain plan elements into some alternatives and not into others seems to be skewing the impact analysis to favor certain alternatives. It is preferable to compare alternatives with similar beneficial impacts. For example, only Alternative 4A has a pipeline/tunnel diameter of 44 feet, which provides a "*conveyance system designed to use gravity flow to maximize energy efficiency and to minimize environmental impact"* while the other alternatives do not have the option of this benefit. This may provide an unequal analysis of the alternatives.

Recommendation for Resolution:

- The language, structure and analysis of alternatives must be more neutral and not favor a specific alternative.

ISSUE AREA 4: All outstanding biological and analytical issues associated with the HCP also apply to this document. Key areas need to be resolved and incorporated into the EIR/EIS as well.
Effects Analysis (EA): Chapter 3 states "The full Draft EIR/EIS should be understood to include not only the EIR/EIS itself and its appendices but also the proposed BDCP documentation including all appendices." It is understandable that the ADEIS would rely on the analytical methods and conclusions developed in the BDCP EA. Though the Federal agencies have had significant input into the EA, it is still a consultant drafted document guided by the permit applicants with several unresolved issues related to the analytical methods and resultant conclusions regarding project effects on covered species. The Federal agencies have responsibility for the content of the EIS as we (NMFS) are a co-lead and therefore must fully support the methodology and conclusions reached in the document. The EA is not a Federal agency document, it is still under review, and we have not accepted all of its methodology and conclusions.

Adaptive Limits: Some discussion of what such parameter-by-parameter limits might be has already occurred, but neither the concept of adaptive limits nor a draft example of them is included in the current draft BDCP or ADEIS. If the intent is to have assurances addressed through adaptive limits, then the effect of those limits should be analyzed in the draft EIS.

Recommendation for Resolution:

- The issues related to this NEPA document must be resolved in a 3-step process. First, there needs to be a resolution of the issues in the BDCP HCP document. Next, those resolutions must be incorporated into the analysis and conclusions in the HCP effects analysis. And finally, those changes to the HCP effects analysis and conclusions must be reflected and incorporated into the NEPA and CEQA analyses and conclusions.

ISSUE AREA 5: NEPA documents should be clear, concise, and understandable. The CEQ NEPA regulations (40 CFR 1502.8) require environmental impact statements to be written in plain language so that decision makers and the public can readily understand them. Federal government agencies are also required to prepare documents using plain language as required by the Plain Writing Act of 2010. The NEPA analysis and conclusions are not kept together for each species by river and by life-stage. The current configuration severely diminishes the readability of this document. In addition, the document refers the reader to multiple chapters and multiple appendices, but some of that information should be summarized in the text of the main document.

Recommendations for Resolution:

- Keep CEQA analysis and conclusions grouped together separately from the NEPA analysis and conclusions. There is constant alternation between NEPA and CEQA in the document that makes it hard to logically follow the discussion especially if the reader is specifically interested in either NEPA or CEQA.
- Include summaries of relevant and important information in the text of the EIR/EIS rather than in an appendix. Use less scientific terminology that the average reader will need a dictionary to understand the meaning. Use numbers and detailed data instead of "some." Include tables to summarize information and the impacts of each alternative.
- The document should also be rearranged so that the NEPA analysis and conclusions for a species by river and by life-stage are all kept together.

ISSUE AREA 6: The cumulative impacts analysis needs to analyze the impacts of the no action alternative. CEQ NEPA regulations 40 CFR 1502.14 require that each alternative be objectively evaluated and substantial treatment be given to each alternative. Each alternative needs to be analyzed in the same manner.

Recommendation for Resolution:

- Analyze the cumulative impacts of the no action alternative.

ISSUE AREA 7: The ADEIS provides a project specific analysis of Conservation Measure 1 (Water Facilities and Operation) and programmatic analyses for the other 21 conservation measures. This approach is acceptable from a NEPA legal perspective and has been the current trajectory for some time. NMFS raised concerns at the time this decision was made, and has continued to raise concerns about the slower time frame for restoration and lack of detail on the habitat components and challenges that this is likely to create. For purposes of this memo, there are two consequences of this approach that should be generally understood: 1) It is likely that the limited detail provided for CMs 2-22 will result in the need for NMFS to similarly limit the scope of the NEPA analysis and ESA coverage afforded to the current project for these conservation measures, which could result in the need for future supplemental NEPA processes and ESA consultations on plan elements that are not sufficiently detailed in this document and the draft HCP document (e.g. habitat components); and 2) notwithstanding the lack of project specific detail in this document, NMFS will want to make sure that sufficient detail is provided for CM 2-22 to allow us to make the necessary findings under ESA Sections 10 and 7 that the effects of the project have been mitigated to the maximum extent practicable and that

jeopardy is avoided. We will likely need additional detail and assurances that restoration will be permitted and implemented and/or permit terms would need to create these assurances.

Recommendation for Resolution:

- ICF should prepare more detail on habitat components as soon as possible, including making sure that NEPA compliance is started for all habitat components.
- This issue should be raised and discussed at the Principals level so that consequences of the current approach are fully understood.

ISSUE AREA 8: There are numerous technical issues that need to be resolved, including factual, consistency, and methodological and analytical issues. NMFS has highlighted these in Attachment A, as well as in its line by line comments.

Recommendation for Resolution:

- See attachment A for specific concerns and line by line comments for suggested edits and resolution approaches.
- Work with NMFS on resolving outstanding issues.

ISSUE AREA 9: Several results and conclusions in Chapter 11 need to be changed to reflect current analyses and the best available science. There are numerous changes that are necessary to get this chapter ready for public release (see attachment B). Numerous details regarding the effects to salmonids and sturgeon must be addressed.

Recommendation for Resolution:

- See attachment B for specific concerns and NMFS line by line comments for suggested edits and resolution approaches.
- Work with NMFS on resolving outstanding issues.

ISSUE AREA 10: The lack of analysis of upstream operations and related effects may render this document insufficient to provide NEPA compliance for the full suite of actions necessary to integrate the BDCP into CVP operations. Recent Federal court rulings require (pending ongoing appeal) that the U.S. Bureau of Reclamation conduct a NEPA analysis of the major actions required under the RPAs in the Biological Opinion for their CVP operations. It is NMFS' understanding that this document is intended to fulfill those NEPA requirements for new CVP actions that would be integrated with the BDCP program.

Recommendation for Resolution:

- Determine if current upstream analyses are sufficient for NEPA compliance related to CVP operations.
- Continue to resolve progress assessment comments related to reservoir operations upstream for ESA purposes.

Attachment A: Factual and Methodological Issues for Resolution in the ADEIS

1. Terminology and factual errors:

1.1 The grammar and terminology used in the document is often confusing and is sometimes incorrect. See NMFS line by line comments for more details.

1.3 Some items referred to as requirements under NEPA and/or the CEQ NEPA regulations are incorrectly stated as requirements. In addition, throughout the document procedures that are in the NEPA statute are referred to as CEQ NEPA regulations, and procedures that are in the CEQ NEPA regulations are referred to as NEPA requirements. The CEQ NEPA regulations implement the NEPA statute. See NMFS line by line comments for specific details. Please ensure the correct regulation is cited, either NEPA or the CEQ NEPA regulations. Please ensure that references are correctly stated as NEPA or CEQ NEPA regulations or regulatory requirements.

1.4 Some sections state DWR will mitigate impacts and other sections state the BDCP proponents will mitigate impacts. Is this correct that in some cases DWR will be responsible for mitigation and in other cases the BDCP proponents will handle mitigation? Is this a typo and the document should state that the BDCP proponents will be responsible for mitigation?

2. Consistency

2.1 It was decided that 2009 would be the year used for describing baseline conditions. However, in some instances the EIR/EIS describes baseline conditions for 2006 or 2007. Please maintain consistency in the reference year of 2009 to describe baseline conditions.

2.2 The document fails to maintain consistency among the conclusions and the analytical results behind those conclusions. There are often seemingly illogical conclusions for an alternative, especially when those conclusions are compared to conclusions in another alternative. For example, there is a 20-25% reduction in green sturgeon entrainment in Alternative 5 and the conclusion made is "beneficial", yet there is a 75-99% reduction in entrainment in Alternative 8 and the conclusion made is "not adverse". Additional examples of these types of inconsistencies are included in the NMFS line by line comments.

2.3 The inconsistent application of the E/I ratio to the different alternatives (and sub alternatives) is a noted issue with the BDCP. In light of this, the claim (Ch. 3, p. 3-32) that north Delta diversion bypass rules have a similar effect as the E/I ratio of limiting exports relative to outflow is a mischaracterization of the way those rules were applied. The North Delta bypass rules were focused on setting diversion rates as a proportion of Sacramento River flow and not necessarily as a proportion of outflow.

2.4 Information in various chapters contradicts each other. This is especially a concern when chapters have related content and reference each other. Please ensure information in the document is consistent. Authors of each chapter should coordinate with each other to ensure information is consistent. See NMFS line by line comments for specific details.

2.5 Some cumulative impacts sections include a table of projects that are considered for cumulative impacts and a summary of those impacts, but other sections do not include a table. This table of considered projects needs to be included in all of the cumulative impacts sections so the reader knows what actions are part of the cumulative impacts analysis.

3. Alternatives

3.1 Alternative 4 has four potential water operations, though usually only two are discussed in the assessment of impacts. These are intended to "bookend" potential effects of Alternative 4. This approach makes it impossible to discern the actual impact of any specific sub-alternative. Given that these sub-alternatives are components of the preferred alternative, we suggest that results for all four scenarios (H1-H4) be presented when evaluating impacts.

3.2 Climate change and catastrophic seismic risks are analyzed for some of the resources for the no action alternative only. It is unclear why climate change and catastrophic seismic risk are not analyzed for each resource and for each alternative. CEQ NEPA regulations 40 CFR 1502.14 require that each alternative be objectively evaluated and sustainable treatment be given to each alternative. Each alternative needs to be analyzed in the same manner. Climate change and catastrophic seismic risks need to be analyzed for each resource under each alternative.

3.3 If the alternatives will result in water rate increases that information needs to be included in the document.

4. Water Quality (Ch.8)

4.1 We have concerns with the accuracy and applicability of the analytical methods used in the Chapter 8 Water Quality analysis because none of the models used are true water quality models. CALSIM and DSM2 were used for all constituents (with additional organism tissue models for selenium and mercury). However, DSM2 only directly models electrical conductivity (EC) and dissolved organic carbon (DOC). Other constituents were modeled as relationships to EC or using mass-balance calculations and outputs from CALSIM and DSM2 with the assumption that the constituents act in a conservative manner throughout the system, which is not universally applicable and could lead to inaccurate results. This method also results in a hybrid analysis which produces numerical output (seemingly quantitative) that is actually intended to be considered "qualitative" for several very important parameters such as DO, nitrogen, phosphorus and turbidity (see Table 8-61). This approach also does not take into account the likely interaction of constituents, such as that between DO and DOC, or DO and temperature. We suggest that additional analytical methods be explored that will provide better characterization of anticipated water quality conditions in the system. These could even be smaller-scale models that focus on particular areas of concern.

4.2 Chapter 8 does not evaluate water temperature. Instead, the reader is referred to Chapter 11 Fish and Aquatic Resources "because the primary concern of water temperature is effects on fish and aquatic organisms." However, numerical water temperature criteria have been developed by the State Water Resources Control Board (State Board) in Water Rights Order WR-90-5 (for the Sacramento River); since such standards are regulatory regardless of whether the regulation exists for the benefit of humans or aquatic organisms, they should be addressed in Chapter 8. Additionally, Chapter 11 does not provide quantitative results on temperature, only narrative discussions of how impacts that incorporate temperature are affected by the project. We recommend that Chapter 8 include an analysis of project effects on the ability to meet water temperature requirements set forth in NMFS' biological opinions and by the State Board, and that Chapter 11 more explicitly discuss the effects of temperature changes on the different AQUA impact assessments.

5. More recent information

5.1 There are many dated references used thorough the document. Some references used are 50 or more years old. The document needs to use more recent information, if available.

Attachment B: Technical Issues for Resolution in Chapter 11

Analyses

1. Criteria used to determine adverse impacts in Chapter 11 need to incorporate the significance criteria outlined in NOAA's NEPA Implementing Procedures (NAO 216-6 Section 6.01b). These criterion include: Introduction or spread of an invasive species and impacts to critical habitat.

2. The Delta section provides an inadequate level of analysis for a project that proposes to put major new diversion intakes in the main migratory route of several listed species. Analysis of impacts for fish passing the intakes and using the migratory corridors downstream of the proposed intakes should be a major focus of this document. The Effects Analysis still lacks a transparent method of assessing how the diversions and resulting flow alterations impact juvenile survival, existing wetland benches, and predation related mortality. Below are some suggestions for improving the analysis:

- We are seeing significant problems with the conclusions derived from the output of the Delta Passage Model, especially regarding the effects of south delta pumping on the survival of San Joaquin salmonids. The DPM output indicates *higher* survival rates for alternatives with *higher* south Delta diversions (as compared to an isolated facility or the other "reduced export" alternatives). These results are counter-intuitive and require further explanation.
- Predation associated with the new intakes should be assessed as part of the migration of juvenile salmonids and not part of the "entrainment" analysis. The HCP effects analysis has included some of the necessary analysis, such as a range of potential mortality rates at the north delta intakes; this should be included in the Delta migration sections.
- The positive correlation between the AFRP outflow criteria for April-May and greater sturgeon year-class success should be given greater emphasis and applied to both green and white sturgeon. Currently, the analysis is overly complicated, the results are inappropriately downplayed in the conclusions on Delta migration of sturgeon, and it is only applied to white sturgeon.
- Improved conditions for San Joaquin R. basin fish such as reduced or eliminated south Delta entrainment, and indirect benefits from positive OMR flows are not reflected in the conclusions for the alternatives that provide these benefits (isolated facility or the other "reduced south delta export" alternatives). This can be addressed by separating results/conclusions by river basin.
- There are several flow-survival and flow-abundance relationships available that should be considered for use in this analysis. Several studies of fish populations have shown strong positive correlations between flow and abundance or survival (E.g., Perry 2010, Newman 2003, Kjelson et al. 1982).
- There is too much emphasis on adult attraction flows and olfactory cues that NMFS has not cited as a concern.

3. On page 373 of Chapter 11- Part 1, Table 11-1A-8 gives the "Difference and Percent Difference in the Percentage of Months during April–June in which Water Temperatures are outside the 59°F to 68°F Water Temperature Range for Striped Bass Spawning, Embryo Incubation, and Initial Rearing." Presenting results as the "Difference and Percent Difference in Percentage of Months" that some threshold is exceeded is not very helpful. Presenting the actual number and then the difference between the baseline and the alternative would be much better, as knowing how close you are to meeting a criterion in the baseline can be critical when determining the significance of the change.

4. The Chapter 11 summary does not always specify if the results apply to the CEQA analysis, NEPA analysis, or both. Because of this, it is often difficult to determine how much of the effect of an alternative is due to climate change, or which adverse effects are due to climate change and which to the project. E.g., the summary of flows in CM 1 under Alt

7 mentions changes in several rivers that could impact salmonids (pg. Sum-67), but does not specify if the baseline is No Action Alternative or EC. Please clearly and consistently specify which baseline condition is being compared to an alternative.

5. Do not group predation associated with new North Delta intakes into the Entrainment category. Entrainment of salmonids should be focused on south Delta entrainment and predation associated with entering Clifton Court Forebay. It could include agricultural diversion entrainment but this likely will be similar between all alternatives. This should make the entrainment analysis simpler and lead to logical conclusions on adverse, not adverse or beneficial effects.

6. The same level of results should be presented for each alternative in Chapter 11. Alternative 1 is missing results charts such as: SacEFT results, Entrainment results, DPM model results, Salmonid and Egg Mortality results, sturgeon criteria outflow results, etc. This is important as all the other alternatives are compared to Alternative 1. Additionally, separate the section on Environmental Setting/Affected Environment apart from the analysis of Alternative 1. You should keep the review of Alternatives in the same format for easier comparison and quality control to make sure they all have similar information/results summaries.

7. QA/QC is needed, especially on the total export and Delta outflow levels in the Chapter 11 summary document, as these often both increase or both decrease in the same alternative. E.g., pg. Sum-66, for Alternative 7, the average annual delta exports substantially increase while the average annual delta outflow also had a large increase. Other examples are included in NMFS line by line comments.

8. Trinity River changes are weighed against changes in Central Valley rivers, even though the fish that would be affected by Trinity River conditions are in a completely different ESU/DPS.

9. In the Chapter 11 Summary Document, there is too much comparison of each alternative to Alt 1A, and sometimes the more important comparison to NAA or EC is missing.

Conclusions and determinations

1. Many of the conclusions in Chapter 11 are not well supported by the corresponding analyses or are based on a very superficial level of analysis. See NMFS line by line comments on Chapter 11 for examples and recommendations for resolution.

2. There is too much benefit to steelhead smolts assumed from habitat restoration in the Delta. The HCP effects analysis uses a scale for juvenile salmonids, where fall-run and winter-run fry are assumed to spend the most time rearing in the Delta, while at the other end of the spectrum steelhead smolts spend very little time rearing in the Delta. This is a good approach, and should be used in this document instead of assuming all the species have the same behavior and will derive the same benefit from the restored delta habitat.

3. The benefits to covered fish assumed for CM15 *Localized reduction of predatory fishes* are not well supported by the information provided in the document, given that the measure is described (appropriately) as a pilot study. Until the study results show that this CM has potential to actually improve survival of covered fishes, little or no benefit should be assumed from it.

4. The current grouping of effects for all rivers together causes the current conclusions to be incorrect and/or misleading. An assessment of population drivers separated into the main river basins would give much more consistent, coherent, and transparent results. For example, sturgeon populations are primarily supported by Sacramento River production, yet in Chapter 11 an inordinate level of emphasis is given to Feather River production – for which there is no year-class production documented. Recommendations:

- Change the Summary of Results tables (E.g., Table 11-1A-SUM2. Results of Flow-Related Effects on Fish) so there are separate conclusions for San Joaquin River Basin fish and Sacramento River Basin fish, then describe conclusions for Sacramento, Feather, and American rivers separately.
- Separate fall-run from late-fall run in the summary section
- Separate the four categories of Spawning, Rearing, Migration, and Entrainment in the following way:
  - *Spawning:* Leave as is
  - *Rearing:* Split into two categories, with one category for upstream rearing and another category for Delta rearing
  - *Migration:* Split into adult migration (separate again into immigration and emigration) and juvenile emigration (separate into upstream and Delta).
  - *Entrainment:* Keep entrainment results/conclusions specific to South Delta entrainment/predation and do not include North Delta predation effects in this category (see related comment in Analysis section).

5. There is repeated use of modifying language that softens the negative conclusions of impacts to fish, while this same language is not applied to other impacts. E.g., pg. Sum-7, lines 16-28, the results of the salmon models that show negative impacts are modified with the words “potentially”, “suggests”, and “somewhat”. The language used here should be equivalent to that used in the conclusions on entrainment on page Sum-6 (e.g. , “would be”, “will be”). Just state the results of the models.

6. It is unclear how large a change in flow or other variable is needed for an impact to be deemed significant. E.g., American River flow changes of -5% and -8% in Alternative 2A were considered “small” and “would not adversely affect” the spawning habitat. There’s no analysis to back up this conclusion. These species are threatened or endangered, and the current conditions are often poor, so even seemingly small changes may be detrimental to the population. More consideration of the current conditions for temperature, flow, spawning conditions, etc. need to be included in the determination of how significant a change might be to a population or species.

U.S. Fish and Wildlife Service

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NEPA provides for an analysis of the environmental effects of a proposed action and possible mitigation of potential harmful effects of such actions. As required, agencies are obligated to a range of reasonable alternatives in enough detail so that a reader can compare and contrast the environmental effects of the various alternatives. As a disclosure document, the ADEIS must provide adequate information to enable the decision maker to make an informed decision on any given alternative. This ADEIS is has been designed to provide a *project specific* analysis of CM1 (water facility portion of BDCP) and *programmatic* analyses for the other 21 conservation measures.

The FWS believes that the draft BDCP ADEIS is insufficient at this time as a disclosure document and is not yet adequate in providing all information and analyses necessary for a decision-maker to make an informed choice between alternatives.

This document summarizes several key issue areas identified in our review. We have already provided a large number of specific comments via the comment form preferred by ICF, and a substantial number of red-line strikeout edits in the ADEIS chapters. We expect to provide additional edits between the date of this document and end of the review period on July 31st. Our review thus includes three forms of response. All three are important. Together, they identify issues that will need to be resolved before the plan and EIS are completed, provide an approach to resolving them, and in many cases provide the actual edits that are needed. A subset of the issues we have identified will need to be resolved before the public draft is released. We look forward to working with DWR on resolving BDCP and DEIS issues as we move forward.

Issue Area 1: The ADEIS contains analysis and language that can be read as biased, favoring the preferred project; furthermore, it relies on similar analysis and language in the BDCP that has not yet been rectified.

Our April 2013 staff progress assessment of the BDCP (see Appendix) identified several factual errors and significant analytical defects in Chapters 3 and 5. All of the outstanding issues we identified in our April 2013 progress assessment of the BDCP are issues for this document as well. The key issues in the BDCP should be resolved, and the resolution propagated into the DEIS. In addition to factual and analytical errors, in certain cases ICF has treated the scientific information it presents unevenly, elevating information that is favorable to the preferred outcome and disparaging information that does not support it. Information and analysis used in the HCP and ADEIS should be presented in a neutral, even-handed way. Where necessary, the analysis in the BDCP should be edited in both substance and tone.

The Service has provided red-line strikeout edits to key sections of both documents to aid in making these corrections, and is prepared to work with DWR and ICF to ensure that other instances of these flaws are corrected. These fixes are important to the characterization and disclosure of the potential effects of the BDCP and its alternatives.

Both the language and the content of the ADEIS advocate for the CEQA proposed project. The language should be more neutral to meet the regulatory requirement of a "full and fair discussion of significant environmental impacts…" 42 CFR 1502.1.

The following examples illustrate the sort of advocacy language that should be avoided. The first quote is taken from a comparison of Alternative 1 to the NAA:

- *While the effects on rearing habitat are potentially adverse, several conservation measures would reduce these effects to some extent. These measures include CM2 (Yolo Bypass Fisheries Enhancement), CM4 (Tidal Natural Communities Restoration), CM5 (Seasonally Inundated Floodplain Restoration), CM6 (Channel Margin Enhancement), and CM7 (Riparian Natural Community Restoration). This restoration would provide suitable spawning and rearing habitat adjacent to areas currently occupied by delta smelt. Assuming all the habitats restored under Alternative 1A are fully utilized by delta smelt, there would be minimal change (<5%) in the abiotic habitat index compared to NAA when averaged across water year types.* [pg 1-11-172]

The above quote was taken from a comparison of delta smelt fall habitat in Alternative 1 to the NAA, which had the higher modeled fall habitat suitability of the two alternatives. There are several word choices and phrases in this quote that we think represent unjustified advocacy language. The first instance is the use of the phrase "potentially adverse" to describe the model results. The modeling method is based on peer-reviewed science (Feyrer et al. 2011) and the FWS has already determined in its 2008 BiOp that higher fall X2 contributes to adverse modification of delta smelt's Critical Habitat. The quote goes on to state that several conservation measures "would" offset the impact "to some extent". Through its use of the word "would", this claim overstates the certainty that habitat restoration would compensate for lower outflow, and "to some extent" is ambiguous. Measures CM2 and CM5 are floodplain actions, and Central Valley floodplains are generally upstream of areas smelt occupy in the winter and spring, and they are virtually never inundated during September-November. Thus, it is not clear how CM2 and CM5 could compensate the effects of for lower fall outflow through the mechanisms described. We agree that channel margin and riparian habitat improvements should improve overall riverine and terrestrial species habitat conditions in the Plan Area, and are good for migratory salmonids, but the implied linkage to delta smelt habitat is not supported. This is a comment that we also made in our comments on Chapter 3 of the HCP.

The various restoration strategies may increase spawning habitat for delta smelt, though as we noted in our HCP comments, this has not been effectively demonstrated through analysis – it has instead been assumed to occur. However, with regard to the quote above, delta smelt do not spawn in the fall, so it

is not relevant to the issue being analyzed whether or not restoration will increase the availability of spawning habitat: the issue is rearing habitat for *sub-adult* fish. Next, the analysis provides an alternative result based on a best possible assumption about the performance of habitat restoration in support of delta smelt rearing during fall. This might be appropriate if results based on more modest assumptions were also presented (without implying that the optimistic result is "better" or "more likely" than some other assumption), but this was not done. Last, the modeling of this best-case result generated predictions that fell within 5% of results for the NAA. However, as shown in Feyrer et al. (2011), the relationship between X2 and delta smelt's fall habitat index is sigmoidal, with important thresholds. The thresholds mean that some 5% differences matter more than others, so absent the consideration of those thresholds, the result may be misleading even if the reader accepts its foundational assumption that 100% of restored habitats are useful and utilizable by delta smelt.

- *Average Delta outflow under Scenario H3 would be similar (<10% difference) to NAA in all months from January-June, except for April, when outflows would be 11% lower averaged for all years and 17% lower in above normal years. Under Scenario H1, Delta outflows would be similar between to baseline conditions during all months of the longfin smelt rearing period, except April when flows would be 10% lower. Under Scenario H4, April outflow would be increased and overall winter-spring flows would be similar (<10% difference) to NAA.* [pg 3-11-16]

- *Although there may be small decreases in estimated longfin smelt abundance indices, the predicted reductions would be minor and do not take into account the potential benefit of habitat restoration. Once larval smelt reach rearing habitat in the west Delta and Suisun Bay, they would likely benefit from habitat restoration actions (CM2, CM4, CM5, CM 6, and CM7), which would provide additional food production and export to longfin smelt rearing areas.* [pg 3-11-18]

The above quotes come from an assessment of Delta outflow during winter and spring as it pertains to longfin smelt. The assessment starts with a statement that < 10% differences in Delta outflow among scenarios are "similar". Given the documented importance of spring flows to native California fishes (Meng et al. 1994; May and Brown 2002; Moyle 2002) and how much spring outflows have already been impaired by surface water development in the Bay-Delta watershed (Kimmerer 2002), a 10% (or nearly 10% reduction) could be important to the viability of the covered fish species. The quote goes on to report even larger outflow reductions in April of some water-year types and sub-alternatives.

Despite the "similar" modeled Delta outflow results, the biological models for longfin smelt that were applied to these modeled flow results predicted declines in longfin smelt abundance (Stevens and Miller 1983; Jassby et al. 1995; Rosenfield and Baxter 2007; Thomson et al. 2010). Rather than simply reporting these results, it was concluded that the predicted declines were "minor". The Service recently determined that longfin smelt is warranted for listing under the ESA. Any additional threats or further declines in the status of the species must be evaluated carefully. Then, it is implied, as it was in the delta smelt example, that habitat restoration is a solution. Some of the proposed habitat restoration

may positively benefit longfin smelt; however what this sentence should say is that to succeed, Alt 4 management alternatives H1 and H3 would need to rely on a greater contribution from habitat restoration on longfin smelt than H2 or the proposed ("high outflow scenario") operations to compensate for the predicted lower abundance caused by lower modeled Delta outflow. We agree that CMs 2 and 4 can plausibly contribute to longfin smelt given the timing of their reproduction and their primary distribution in the estuary; however, the implied linkages of the other CMs are unsupportable, as we noted in our comments on Chapter 3 of the HCP. Further, if CMs 2 and 4 were to improve conditions for longfin smelt, it would not be in Suisun Bay, it would be in the ROAs themselves; the implication that restored habitats "would" provide a food subsidy to the open water bays in which most longfin smelt rear, is not currently supportable based on available scientific information and should be qualified as substantially uncertain.

ICF had previously proposed that model outputs that differ by ≤ 5% would not be considered to represent real differences. We have previously advised the consultants that this was not a reliable way to screen or compare results because there might be a few instances (e.g., water temperature in the Sacramento River) where a 5% increase could be extremely problematic, but much more often there would be situations where large percent differences may be meaningless (e.g., predicted ag diversion entrainment increasing 300% from 0.001% of particles lost to 0.004%). Our advice was (and is) to define a biologically appropriate threshold difference for each metric and to use it consistently. As is evident in several of the quotes pasted above, the draft document frequently discounts differences in flow metrics as "similar" at levels of 10% or more which may nevertheless reflect model results that are different enough to be of concern (e.g., when they lead to predictions of lower longfin smelt abundance in some Alternatives and sub-Alternatives). We request again that ICF refrain from attempting to use a "one size fits all" percentage difference and subjective comparison terms (e.g., "similar") to describe numerically different thresholds. We would prefer if the data were simply reported using neutral, simple statements e.g., "Delta outflow would be X% lower in [condition] in Alternative Y vs. Z. It is concluded that this change would/would not be adverse."

Issue Area 2: The ADEIS is Missing a Clear, Full and Complete Project Description of the Proposed Action and Detailed Information Needed to do a Complete Project Specific Level Impact Analysis for CM1. Additionally, the ADEIS does not Provide an Equal Level of Analysis of All Alternatives.

2.1 The ADEIS does not address structural issues raised in our review of the BDCP

The ADEIS does not address issues raised in Issue Area 6 of our April 2013 progress assessment of the BDCP. In particular, it does not resolve the role of adaptive limits, or limits on the adjustment of water operations and habitat restoration conservation measures, that would be permissible through the action of adaptive management over the term of the permit. The alternatives considered in the ADEIS cover a wide range of Delta flows and other parameters, but absent explicit adaptive limits it is unclear what portion of those ranges would be the responsibility of the permit-holder(s), and unclear how the

potential implications of those ranges for achievement of plan biological objectives over the term of the permit should be evaluated.

2.2 The ADEIS should be edited to reflect **agreement that the "high outflow scenario" version of** Alternative 4 will be proposed as the initial BDCP operations

The description and analysis of alternative 4 (Proposed Action) should reflect agreement that the "high outflow scenario" version of CM1 will be proposed to be permitted as the initial BDCP operations. The description should reflect that the lower-outflow "decision tree" alternatives are being developed in the plan as management alternatives to be investigated through a focused adaptive management program. It should also reflect that a comprehensive review of new findings, including an assessment of habitat restoration effectiveness to date, will be conducted immediately prior to commencement of CM1 operations. That review will inform a new determination of outflow criteria that are sufficient to meet the plan's biological objectives for covered fish species. In addition to changes to the ADEIS, changes to the BDCP are needed to implement this agreement, and should be made.

2.3 Incomplete Project Description

The ADEIS will need a clear and concise project-level description of the water conveyance facilities (CM1 – Proposed Action and 15 alternatives), including a description of the physical, chemical, and biological changes resulting from CM1. As mentioned above, the proposed operations and management alternatives for future investigation have not been adequately described.

The FWS recognizes current project definitions are changing, including the size of the forebay, power line placement, and the terrestrial species impact analyses. This new information when finalized will need to be revised for each of the alternatives and re-analyzed. In addition, the information currently provided in the ADEIS does not align with the most recent version of terrestrial effects in the BDCP HCP and will need to be updated.

Since the size of the forebay and power line placement has not been finalized, a complete and accurate project- level analysis of impacts is not included in the ADEIS. This is a concern for addressing impacts from the conveyance facilities on the Stone Lakes National Wildlife Refuge (SLNWR). The applicant had not been closely coordinating with the SLNWR until very recently. The SLNWR has been provided general and limited information over the past few years, which has made it challenging to evaluate and provide informed constructive comments to address project- level, site- specific impacts to the SLNWR and its associated wildlife. For instance, the FWS is still unclear about the exact size, routing and need for above-ground transmission lines and whether transmission could be placed underground to minimize strike impacts to migratory birds. It is also not clear if tunnel muck material temporarily deposited on wildlife compatible farmland will be suitable to use for growing similar crops.

There does not appear to be a complete project-level analysis that identifies mitigation for CM1 components for the 15 alternatives in the ADEIS. Until all the changes to the construction footprints have been finalized, additional minimization and mitigation measures may be necessary especially for

localized impacts including effects to terrestrial biological resources that use the SLNWR. The target acreages defined within the BDCP conservation strategy have been carried over into many of the ADEIS alternatives. However, there may be some instances where impacts from the CM1 components may require additional mitigation measures in the ADEIS from what is identified in the BDCP conservation strategy due to differences in the conveyance option footprints from the tunnel alignment identified in the HCP. For instance, impacts to the White Slough giant garter snake (GGS) population along the eastern Delta associated with the eastern alignment alternatives may warrant different mitigation than is currently identified in the BDCP conservation strategy, which includes mitigation for the tunnel alignment and conservation for the species. The FWS recommends that the ADEIS team work with the agencies to develop adequate minimization and mitigation measures for all alternatives under analysis. Since much of this information does exist in the terrestrial Conservation Strategy associated with the BDCP HCP, we recommend referencing that information in the ADEIS.

To meet the FWS's needs, the CM1 project level alternative information must be broken down into specific components such as: project footprint, storage areas, avoidance areas, stockpiling and borrow areas, work windows, waste sites, construction access, dust, construction equipment and techniques, erosion and sedimentation controls, construction of cofferdams, dredging, placement of rip-rap, operations & maintenance (*e.g.*, noise, lighting), vegetation clearing, staging and laydown areas, permanent vs. temporary impacts, duration of "temporary" impacts, etc.

2.4 Alternative Comparisons - Incorrect and/or Insufficient Information and Analyses

The ADEIS does not provide a sufficient and equal level of information and analysis of the Proposed Action and alternatives. As a result, many of the impacts of some alternatives weren't completely identified, resulting in unequal treatment in alternative analysis and comparison. Our key concerns are outlined below:

- As a result of combining programmatic and project-level alternative definitions and analyses in the DEIS, it's not apparent that either was provided completely or correctly.
- The No Action Alternative is not fully defined in Chapter 3, is internally inconsistent in Appendix 3D and is inconsistent with discussions in Chapter 5.
- Alternative 4 is not completely described or analyzed. There are pieces of definitions scattered in the document but no single compiled location. Alternative 4, Scenario 3 has been completely omitted from the analyses. In other areas of the document there is a tendency to point to the results of other alternatives as a surrogate for a complete analysis of alternative 4 and its four scenarios.
- Alternatives 1-9 and the No Action Alternative are not clearly nor completely defined in Chapter 3. Chapter 3 contains numerous cross-references between components of alternatives that are not completely comparable (e.g., incomplete information or use of 5 intakes as a surrogate in explanations for alternatives with less than 5 intakes, etc.). The alternative component tables in Chapter 3 should be provided for all alternatives. The DEIS contains scattered alternatives

definitions throughout; however, no single location exists where each alternative is fully described and compared to other alternatives.

- Alternatives are not evaluated completely or adequately. When analyzing an alternative there were typically multiple references to the results of analysis of other alternatives. These other alternative analyses were at times only marginally comparable to the alternative being evaluated, and in some cases did not seem to be comparable at all (oversimplification of analysis). For example, tables in Appendix 12E with conveyance-related terrestrial impact information do not explain how that information relates to the components of alternatives, are not complete for all alternatives and do not match the same results found in Chapter 3 or Appendix 12D.

2.5 Aquatic Questions of Primary Importance to Address

The document does not include an "equal level" of analysis for all the alternatives. Because CM1 is intended to reflect a project specific level of analysis in the ADEIS, there are three questions that are of primary importance to the covered aquatic species that need to be clearly and credibly answered: (1) How much does modeled Delta outflow change across alternatives for each month of the year? (2) How much total entrainment (south Delta + north Delta + NBA + in-Delta ag) of delta smelt, longfin smelt, and splittail are expected in each of the alternatives? (3) How much Yolo Bypass flooding (in acre-days) is expected in each of the alternatives? We have provided guidance below as to how to promptly and effectively answer these questions, and we look forward to working with our partners to bring these technical summary issues to resolution in time for their inclusion in an executive summary.

The data to answer question 1 should be available from existing modeling. We suggest that the best method of summarizing and presenting the results would be to generate twelve exceedance plots for Delta outflow (one for each month); each plot would have a line depicting the exceedance curve for the NAA and a line depicting the exceedance curves for every alternative and subalternative that was modeled. This would provide the reader with a clear visual summary of results for one of the key habitat attributes of the estuary that is potentially affected by variations in CM1. Delta outflow provides a different suite of mechanistic contributions to fish habitat that varies each month of the year (Jassby et al. 1995; Kimmerer 2002; Feyrer et al. 2011. Results based on these published studies should be reported.

The primary rationale for including CM1 as a conservation measure rather than only as an element of the Project Description was that south Delta export operations would be structured to reduce the entrainment of covered fish species below what is expected with current water project geometry under the current RPAs. The plan includes numerical entrainment Objectives that CM1 is designed to achieve in order to contribute to longfin smelt and delta smelt recovery. The ADEIS needs to clearly and credibly show whether or not these outcomes would be achieved. The draft ADEIS reports some south Delta entrainment results, but it does not provide an equal level of analysis everywhere. Further, it does not provide a clear, quantitative synthesis across *all sources of fish entrainment* (a blend of CM1, CM4, and CM21) across *all alternatives*. This can and should be done using existing modeling by (1) using existing

south Delta entrainment estimates derived through the methods discussed in BDCP technical appendices; (2) estimating ag diversion entrainment as a function of modeled E:I ratios using the DSM2-based relationship shown in Kimmerer and Nobriga (2008) and including a reasonable range of reductions expected from decommissioning diversions as part of CM4 and CM21; (3) making a range of reasonable assumptions about entrainment/impingement loss of delta smelt, longfin smelt, and splittail at the proposed north Delta intakes; and (4) incorporating a range of reasonable assumptions about entrainment/impingement at the existing and proposed NBA intakes. The resulting estimates of total entrainment should then be summarized using exceedance curves as described above for Delta outflow – with the exception that seasonal summaries rather than monthly summaries are appropriate.

The third question reflects our continued uncertainty about the cumulative Yolo Bypass results (meaning the blend of CM1 and CM2). The modeling exists to report Yolo Bypass inundation results in summed "acre-days" meaning acres flooded times the number of days the acreage remains flooded. This is critical because flooded acreage can change up to 100% per day (Sommer et al. 2004). Table 11-4-74 indicates an increase in acres flooded, but Table 11-4-73 indicates some potential trade-offs in the duration of inundation events duration among water year types. The best way to present differences in Yolo Bypass inundation across alternatives for the benefit of a reader of the ADEIS is to generate monthly exceedance plots of acre-days of Yolo Bypass flooding in a manner analogous to what we outlined above for presenting Delta outflow results.

2.6 New Information and/or Analysis to Include in the Project Description

A new diversion is identified in CM1 that would provide Sacramento River water to Solano County. This new diversion would augment supplies diverted at the existing Barker Slough facility. However, there is no clear explanation of how both diversions would be operated to minimize species impacts or to maximize water supply benefits to associated SWP contract quantities. Since many BDCP conservation measures are being designed to increase habitat values for covered species in the northern Delta, there is a need to evaluate whether continued operations at Barker Slough will have new detrimental impacts to listed aquatic species.

It is our understanding that continued long-term operation of the Suisun Marsh Salinity Control Structure (SMSCS) will be an on-going requirement for the SMPA and OCAP agreements. We are also of the understanding that the SMSCS is not represented in any of the hydrologic modeling that has been used to date to evaluate the effects of the projects or of any models used to compare operational scenarios (other than the NAA). The FWS will require an analysis that accurately represents the effect of the SMSCS since this structure, when operated, can have impacts to salinities and flows in the western Delta and Suisun Marsh that will affect project operations and the meeting of water quality standards in the Marsh.

Issue Area 3: The ADEIS is subjective in how it reports model outputs and makes comparisons against the NAA and across alternatives.

3.1. It will be necessary for the BDCP Effects Analysis tools to be chosen or constructed in a way that the differences between scenarios be detectable using those tools. Since we still do not have a sensitivity analysis for the BDCP Effects Analysis tools suite, we cannot say with confidence what the accuracy or precision of the analysis methods are. Until we know how sensitive our tools are we cannot know if the Effects Analysis will accurately depict a difference between alternatives, will be unable to resolve differences between alternatives (thus rendering all alternatives "equal"), or will be so sensitive that even similar alternatives will be judged vastly different. We suggest that the simplified schematic that depicts how each model has been used in relation to other models within the analysis that is shown in the plan technical appendix also be included in the ADEIS with the following addition. As part of this schematic, an estimate of the relative or absolute error should be depicted, and an overall sum or other mathematical accumulation of error estimate should be included.

3.2. The ADEIS Modeling Technical Appendix 5A must include Section D. This section is intended to be a compilation of detailed information that describes the development of the analytical tools, the limitations and uncertainty in the analytical approach, additional details on the components of the analytical tools, background information on climate change modeling and any sensitivity analyses performed in support of the overall analysis. There are numerous sensitivity studies that may have been done related to the various non-hydrologic models. Appendix 5A Section D is where all the caveats and justifications should be housed, so the reader can judge the value of the modeling upon which much of the effects analyses rests. This information is critical to the defensibility and transparency of the foundational modeling, and should be included in the ADEIS.

3.3. Section D should provide information that justifies or provides rationale for the following assumptions that are used for the hydrological analysis in the DEIS, including:

1. Why demands for water will not increase state-wide between 2020 and 2060.
2. Why given the significant effects of sea level rise and climate change, there will be no change in cropping patterns, water use efficiency, reservoir flood control diagrams, relaxations in regulatory standards during critically dry periods. Why, in essence, there will be no adaptation to sea level rise and climate change.
3. Representation of export operations with a monthly timestep, particularly when comparing NAA to ALT6.
4. The additional effects of daily variability are not significant when compared to the monthly time-step values for CALSIM within Alternatives.

Issue Area 4: Significant Water Quality Conflicts Exist for Restoration-Related Conservation Measures

4.1. Managing legacy mercury and selenium is a challenge in the Delta, particularly within wetland habitats where physical conditions tend to increase the bioavailability of these contaminants to fish, wildlife and humans. Restoration sites will be chosen to maximize the likelihood that they will contribute

to covered species needs but many sites will also overlay areas of the Delta with higher mercury deposition (e.g. Yolo, Cosumnes). Human health and drinking water criteria are the principal drivers in managing Delta contaminants, especially mercury. BDCP has proposed to manage mercury and selenium in future restoration sites, unfortunately many of the tools available to minimize contaminant exposure directly conflict with the natural ecological processes of aquatic and wetland ecosystems. The following describe restoration water quality challenges and conflicts within the Conservation Measures.

Conservation Measure 12: Mercury Management. There is no indication that the kinds of habitat restoration that can meaningfully contribute to estuarine fish viability can be created or restored without also methylating the ubiquitous mercury in the system because the management tools available conflict with these fishes' habitat needs. Minimization of water depth and reduction of turbidity to control mercury methylation conflict with the direct habitat needs of delta and longfin smelt and will in some locations favor invasive species such as sunfishes and water hyacinth. However, minimization of water depth and turbidity will maximize the potential for algal production and algal production will generate dissolved organic carbon (DOC). If, as the ADEIS implies, restoration sites will also be designed to minimize the export of DOC from restoration sites to minimize anoxic conditions (reducing methylation opportunities) these designs will also reduce their potential food web benefits. The magnitude of the restoration proposed, the limitations of available modeling tools, variability of mercury concentrations within the Delta, and the complex biochemistry of mercury limit our ability to predict with reasonable confidence the resulting methylmercury conditions in large-scale habitat restoration. However, the plan does not identify this high level of uncertainty or adequately explain how this challenge will be addressed to meet BDCP biological goals and objectives.

Conservation Measure 4: Tidal Natural Communities Restoration. An expected increase in contribution of San Joaquin River water to the Delta will increase selenium loading in the Delta, especially in the southern Delta and Suisun Bay where bioaccumulation by bivalves is assured (Stewart et al. 2004). This in turn represents an increased risk of deleterious reproductive effects caused by selenium accumulation in fish and wildlife. As with mercury, the scale of the restoration, the variability of selenium concentrations within the Delta, limited modeling, high overbite clam biomass in Suisun Bay, and delayed TMDL compliance limit our ability to predict selenium conditions in large-scale habitat restoration and the potential for its propagation through the food web. The ADEIS does not explain how this challenge will be addressed to meet BDCP biological goals and objectives.

Turbidity inconsistency between ADEIS and HCP. Planned management of turbidity within the HCP and ADEIS is inconsistent. NEPA Alternative 4, "Impact WQ-30: Effects of turbidity from CM2-CM22" states that total suspended solids and turbidity levels in the affected channels will not be substantially different from levels under Existing Conditions or the No Action Alternative. This contradicts the claim made by CM4 that wind resuspension in shallow, tidal wetland will increase turbidity and benefit native estuarine fishes and the conclusion (in Chapter 5 of the plan) that the NDDs would remove 8-9% of the Sacramento River sediment supply. It is not credible to claim that BDCP can simultaneously maintain

the status quo, increase turbidity within the Delta for estuarine fishes with CM4 while reducing turbidity at restoration sites to improve photodegradation of methylmercury.

4.2. Water quality mitigation conflicts within the ADEIS/EIR for drinking water

The ADEIS fails to relate the concomitant effects of the use of restoration sites for drinking water mitigation to the overall benefit of the Conservation Measures to covered species. In addition to the restoration water quality conflicts and challenges that occur in the HCP, mitigation of two water quality parameters for drinking water directly conflict with covered species habitat needs in the ADEIS. Due to existing Delta conditions there is no "assimilative capacity," or room to increase concentrations, and still meet Delta beneficial uses for, selenium and mercury. The following are descriptions of these conflicts.

Dissolved Organic Carbon (DOC): "Alternative 4, Mitigation Measure WQ-18 (p. 8-442)" proposes to reduce DOC, by designing wetlands to decrease "net Delta loading," thereby reducing the concentration of disinfection byproducts for drinking water. Irrespective of the fate of that carbon, it does not seem feasible that 65,000 acres of tidal habitats could be restored for the purpose of enhancing the estuarine food web without increasing the production of organic carbon of all size fractions. The HCP's purported benefit of habitat restoration is an increase in primary productivity, which is itself a source of organic carbon as well as the base of the food web for covered species (BDCP, Chapter 5.4, 5.5, et al.). Thus, reductions in DOC within or from restoration sites to improve drinking water quality would reduce the potential ecological benefit upon which BDCP aquatic habitat restoration is premised.

Selenium: Alternative 4, Mitigation Measure WQ-26 (p. 8-431-463) includes three approaches to reduce selenium to meet drinking water criteria. These approaches include the sequestration of selenium at restoration sites using surface flow treatment wetlands, reducing organic matter and associated anoxic aquatic conditions to reduce selenium bioavailability, and managing water and vegetation to reduce concentrations and bioavailability. Sequestration of selenium in wetlands would result in an unquantifiable increase in bioaccumulation and exposure to fish and wildlife. Management of wetlands to exclude birds would be infeasible and negate an essential benefit of habitat provided by the restoration. DOC reductions are undesirable for reasons previously stated and managing vegetation and water levels are not practical for most tidal and flood-prone restoration sites, especially those connected to open channels. The ADEIS does not specify if acreages used as surface flow treatment wetlands will be counted as part of the restoration committed in CM2-CM6 or in addition to the 85,000+ acres planned.

The Service requests the following:

- Describe the uncertainty of methylmercury and selenium analysis, effects and management for CM2-CM6.
- Provide details of how CM12 will manage methylmercury among the conflicting needs of covered species, ecosystem restoration and human health within the context of high uncertainty.
- Explain how BDCP CM2-CM6 will provide the purported increase in habitat area for covered species and the ecological services that would be provided by restoration in light of the

uncertainty with mercury methylation and selenium accumulation. If restoration sites produce untenable concentrations of mercury or selenium, how will the Conservation Measures adapt? How will restoration goals and the biological objectives of the plan that depend on restoration be achieved? If restoration areas are used for drinking water mitigation, how will compensation occur to ensure that the ecological services and habitat area commitments for covered species are met?

- Correct inconsistencies and conflicts within and between the BDCP and the NEPA document (e.g. NEPA conclusion that turbidity will not change from the Existing Condition but BDCP claims a benefit of wind suspended sediment for delta smelt in the and Conservation Measure 4 (BDCP 3.4-108)).

Issue Area 5: Inconsistencies in the ADEIS with the HCP, lack of a qualitative discussion of the effects, and need for greater incorporation by reference of the HCP into the ADEIS.

5.1. Inconsistencies between the HCP and DEIS were found in the species life history and habitat criteria descriptions, methods, and effects analysis approach. The ADEIS uses a different method for determining beneficial effects of the Alternatives than was used for terrestrial species in the HCP. The methods section does not accurately reflect the methods that were used in the current draft of the ADEIS, e.g., Page 1—12, lines 37-39, incorrectly states that the ADEIS analysis of the environmental consequences for terrestrial species uses the same methods as the HCP. The FWS recommends that the ADEIS adopt the terrestrial species account descriptions, methods, and effects analysis approach used for analyzing and reporting effects to terrestrial species that the FWS and consultants developed while drafting the HCP. Given the differences between alternatives, this will need to be augmented as appropriate.

The approach taken for reporting terrestrial species effects for all Alternatives does not provide an adequate description of all of their impacts and focuses primarily on quantitative analysis. The document lacks the necessary broader analysis that will require a qualitative assessment of the effects consistently for all the Alternatives. In order to improve the effects analysis, refer to the approach the HCP has taken for reporting qualitative effects which includes consideration of connectivity, fragmentation, size, heterogeneity, buffers from sources of mortality, and proximity to other protected areas. For those Alternatives that share similar effects, the FWS recommends incorporating the HCP by reference into the ADEIS. For the remaining dissimilar Alternatives, the EIS team will need to determine what qualitative analyses will be necessary and then complete those analyses for each Alternative to attain equal level of detail.

5.2. Inconsistencies exist in the species life history and habitat criteria descriptions. For instance, the ADEIS considers "developed" lands to be a "natural community type" in Table 12-1, which is inconsistent with the HCP. For example, Table 12-2 (page Part 1 12-25 through Part 1 12.-35) of the ADEIS indicates developed lands are habitat for giant garter snake, but Table 3.3-3 (page 3.3-89 through 3.3-91) of the

HCP does not. The Service recommends a full QA/QC to assure that the species life history and habitat criteria descriptions in the ADEIS match those in the HCP. If developed lands were included in the habitat suitability models for GGS and other terrestrial species, they will need to be updated to be consistent with the models used in the HCP.

Another example of inconsistencies between the HCP and the ADEIS relates to their treatment of GGS impacts in the Yolo Bypass (Impact BIO-49 (Part 1-12-242). The ADEIS current description of impacts only reports the modeled habitat overlay results (impact numbers). It does not provide a more complete evaluation that would include the qualitative analysis of flooding impacts that was included in the HCP. In addition, the HCP updated its analysis of impacts to rice production in the Yolo Bypass and its commitment to rice conservation, which benefits GGS. This updated information needs to be included in the ADEIS. For Alternatives that are not sufficiently similar in their project description to the HCP, the EIS team still needs to estimate those impacts and report them for each Alternative at an equal level of detail.

As a final example of inadequate analysis, there is no evaluation of the additional impacts of the eastern alignment to the White Slough population of GGS. The canal could impact the viability of that population by removing its ability to distribute within its habitat and connect to other populations. As with other analytical issues, this impact needs to be analyzed across Alternatives, at an equal level of detail.

Issue Area 6: Cumulative Effects Analysis.

6.1. The terrestrial biological resources cumulative effects section 12.3.3.17 needs to include a greater discussion of a reasonable analysis of the significant cumulative impacts. The ADEIS should incorporate a more robust discussion on the past, present, and reasonably foreseeable actions within this section. Section 12.3.3.18 of the DEIS contains a very robust discussion of the effects of the other surrounding conservation plans. The remainder of the programs, projects, and policies in Table 12-6 need to be addressed at a similar level of detail. It is also unclear to the Service how the larger list of programs, projects, and policies were condensed to the list reported in Table 12-6. The FWS would like to meet with the ICF ADEIS consultants and develop an approach to dealing with the cumulative impacts in the ADEIS document. Looking at example sections for NEPA documents from other conservation plans in northern California dealing with similar past, present, and reasonably foreseeable actions could serve as a starting point in the discussion.

Issue Area 7: The ADEIS Does Not Meet the Readability Test Under NEPA.

7.1. In order to adequately inform a decision-maker and the public under NEPA, an EIS needs to identify and analyze differences between the alternatives (e.g., why is one better than another?) by clearly and

independently defining the alternatives, their impacts and benefits, and providing comparisons for the reader in a "readable" fashion. 42 CFR 1502.8 requires that EIS's be written in plain language. In addition, CEQ regulations state that agencies "shall reduce paperwork and the accumulation of extraneous background data".

The ADEIS is very difficult to read. Without clear and complete descriptions of the Proposed Action and its alternatives, the reader does not have the ability to review and compare the Proposed Action and its reasonable alternatives as compared to the NAA. The alternative definitions and analyses are long and the methods and analyses used to define, display and analyze alternatives have resulted in a very difficult document to navigate and comprehend. Oversimplification of analysis through numerous instances of the cross-referencing of marginally-comparable analyses has contributed to the unequal analysis of alternatives in the ADEIS.

More effort should be provided to simplify, summarize and provide complete descriptions and analyses of alternatives, including providing a separate section that allows for comparison of each of the project-level CM1 alternatives. Combining the NEPA and CDEQA analyses makes the document difficult to follow, affecting its readability. We recommend separating the NEPA and CEQA information into separate sections of the ADEIS. This will help provide the necessary additional clarity for the reader.

END

U.S. Army Corps of Engineers

U.S. Army Corps of Engineers (USACE) Comment Form
Review of Second Administrative Draft BDCP EIS/EIR

#	Chapter	Page	Line #	Comment	Agency	Commenter Name
1		OVERALL		Even with the user's guide, this is a difficult document to review, having to hunt and peck around to find anything specifically relevant for the Corps (404/10). To me, that in itself is a fatal flaw, especially if DWR and USBR want us to adopt the EIS for Regulatory Program purposes.	USACE/SPD Regulatory	Wade Eakle
2		OVERALL		CEQ Regulations (40 CFR Part 1502) state: Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses…40 CFR (Section 1501.1). Section 1502.2 states: (a) Environmental impact statements shall be analytic rather than encyclopedic. (b) Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues… (c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA…. Length should vary first with potential environmental problems…then with project size… Section 1502.21 states: "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described." Although the document contains an extensive amount of useful information it is encyclopedic. Some of the, material could be incorporated by reference and project level analysis could be part of a tiered EIS document.	USACE-SPK Regulatory	Clark
3	1	OVERALL		In nearly every chapter the Clean Water Act and Rivers and Harbors Act of 1899 are described differently.	USACE-SPK-- Regulatory	Nepstad
4	1	OVERALL		In this chapter or chapter 4 or chapter 32, you could add more information on how USACE could use this EIR/EIS, as follows: (stuff from our white paper on Corps program and on how we would use document-use same language as in our whitepaper): *The Corps will likely have jurisdiction over actions associated with the implementation of some BDCP covered activities under Section 404 of the Clean Water Act (CWA 404), 33 U.S. Code 1344, and Sections 10 and 14 of the Rivers and Harbors Act of 1899 (RHA 10 and 14), 33 U.S. Code 403 and 33 U.S. Code 408. Actions that involve a discharge of dredged or fill material in waters of the U.S. under CWA 404 and/or structures or work located in, on or over navigable waters under RHA 10 require a Department of the Army (DA) permit under the Corps' Regulatory Program, 1which is administered by the District's Regulatory Division. For actions that affect*	USACE-SPK Regulatory	Nepstad

				5Federal projects, permission under RHA 14, also known as "Section 408," is required. S6ection 408 is administered by or processed through the District's Operations Branch de7pending on the type of action. Because the Corps' jurisdiction and scope is not the ent8ire BDCP, the Corps will not make one permit decision on the BDCP as a whole. Instead, the Corps may have jurisdiction over the implementation of some of the BDCP covered activities and/or conservation measures such as CM1. These actions will require Corps authorizations under CWA 404 and RHA 10 (also referred to as the 404/10 process) and/or Section 408. After the completion of the BDCP EIR/EIS, if there are no unresolved issues, the BOR, USFWS and NMFS will sign RODs and USFWS and NMFS will issue permits under Section 10 of the ESA. At that time, if the BDCP EIS/EIR contains sufficient information and analysis, the Corps plans to adopt the EIR/EIS, consistent with the requirements of 40 C.F.R. §1506.3, and complete a ROD addressing its statutory requirements and covered activities that fall under the Corps' jurisdiction. The Corps' findings in the ROD would include: (1) using the EIS/EIR to facilitate future permit decisions, noting subsequent NEPA analysis may be necessary and (2) using the alternatives in the EIS/EIR and associated analysis for CM1 to provide a context for the practicable alternatives that would be evaluated under the 404(b)(1) guidelines. The ROD would also discuss the permit review process for CMs, including the specific permitting approach ("phases") for CM1. Because the EIS/EIR will not provide sufficient engineered designs, no findings for Section 408 would be made in the ROD. However, the ROD may articulate the status and timing of BDCP engineering design and potential Section 408 actions.		
5	1	1-14	3-11	As previously discussed during a variety of meetings, if the implementation of CM1 is contingent upon approval of CM2-22, project level details may be necessary to show any effects on the Federal project (section 408). Perhaps there is built in flexibility to CM2-22 to not affect the Federal project and therefore the connection to CM1 may be acceptable. It is not apparently clear in the document.	USACE-SPK-Operations	Adam Riley
6	1	1-20	Table 1-2	Under USACE permit, decision, approval, or other action: EO 11988 was left out of this list and does need to be considered and addressed with any Section 408 action	USACE	Adam Riley
7	1	1A-7	30	Define pelagic (for public review draft), or just insert a parenthetical reference on this line—"(open water)", rather than below 1.A.2.7 line 26 below	USACE-SPK Regulatory	Clark
8	1	1A-11	13	Define entrainment (for public review draft)	USACE-SPK Regulatory	Clark
9	1	1A-25	6-29	Some of the information on Section 1.A.6.1.1 lines should be footnoted or placed in an Appendix in the public review draft. The academic terms can be difficult for the reader to grasp (D-1641 requirement and x-2 concept). Page C.3-1, lines 23-36 of the BDCP outline the D-1641 objectives and could be inserted here to simplify this discussion. Portions of page C.3-1, lines 21-32 of the BDCP could be inserted here. This information well-defines x-2 export/inflow ratio, its objectives, and relationship	USACE-SPK Regulatory	Clark

				with SWP/CVP water exports.		
10	1			Sections 1A.6.1.1 through Section 1A.6.1.3 should be combined and summarized using simple language. Needs to be clearly articulated.	USACE-SPK Regulatory	Clark
11	1	1A-28	28	Spell out EWA	USACE-SPK Regulatory	Clark
12	1	1A-31	17	Define smolt for public review draft	USACE-SPK Regulatory	Clark
13	1	1-2	4-8	Add the following statement, "The BDCP, EIR/EIS and tiered environmental documents (EIS/EIR; EA) will provide the basis for decisions concerning the applications for issuance of endangered species incidental take permits (ITPs) for restoration activities and facility and operational changes in the State Water Project (SWP) and authorizations related to operational changes in the federal Central Valley Project (CVP).	USACE-SPK Regulatory	Clark
14	1	1-2	34-35	This EIR/EIS may not provide enough detailed project level information and analysis for CM1 (i.e., varying designs for infrastructure, screens, levees, locations, and operational scenarios for water conveyance facilities proposed under CM1).	USACE-SPK Regulatory	Clark
15	1	1-12	37-38	Tiered project-level NEPA documents may be required prior to issuance of permit for CM1 (and for section 7 consult w/FWS and NMFS).	USACE-SPK Regulatory	Clark
16	1	1-13, 1-14	40-44 1-2	The existing BDCP EIR/EIS may *not* have the project level detail for CM1 necessary to make decisions regarding issuance of permits for CM1	USACE-SPK Regulatory	Clark
17	1	1-15	32	Change to Section **14** of the Rivers and Harbors Act of 1899, or 33 U.S.C. § 408)	USACE-SPK Regulatory	Clark
18		1-19	15-16	USACE is expected to use this NEPA document and other associated NEPA documents produced to analyze effects of CM1 and all other CMs.	USACE-SPK Regulatory	Clark
19	1	1-25	3-5	What is meant by the "BDCP" specifically? This EIR/EIS, or this document and all other tiered NEPA documents that will be completed to provide the basis for the issuance of regulatory authorizations associated with the operations of SWP and CVP, and other CMs?	USACE- SPK Regulatory	Clark
20	1	1-19	Table 1-2	FWS and NMFS will conduct an intra-service consultation under section 7, too. Explain that process.	USACE-SPK Regulatory	Clark
21	1	1-20	Table 1-2	USACE (lead federal agency for CM1) will consult with FWS and NMFS under section 7 for Corps permit actions. USACE will conduct a NHPA section 106 consultation with SHPO and tribes as federal lead agency for CM1.	USACE-SPK Regulatory	Clark
22	1	1-23	Table	Include in "Other" tribes. NHPA requires that, in carrying out the requirements of Section 106, each federal agency must consult with any American Indian tribe that attaches religious and cultural significance to historic properties that may be affected by the agency's undertaking.	USACE-SPK Regulatory	Clark
23	1	1-25	6-10	The current version of the BDCP EIS/EIR (if this is what is referenced here) may not	USACE-SPK	Clark

				provide the detailed information and analysis necessary to provide coverage under take authorizations (or other regulatory authorizations and permits) to "cover issuance of regulatory authorizations under the ESA and the NCCPA for a broad range of ongoing and anticipated activities in the Plan Area that are associated with the operations of the SWP and CVP." The range of actions described here may not be permitted until more detailed information and tiered NEPA analyses are completed for the BDCP (in addition to what is included in the current admin draft of the BDCP EIS/EIR). Additional information and design detail, and effects of proposed actions and construction activities may be required before permits can be issued. Detailed information is required for section 7 intra-service consultation and section 7 consultation requirements for issuance of Corps permits.	Regulatory	
24	1	1-25	16-17	The objectives in the Delta Plan include improved conveyance and storage of water and water supply reliability. Reliability objectives include implementation of water efficiency and water planning laws (and reduced reliance on the Delta). Is it inferred here that reliability objectives in the BDCP equate to increased water export? Chapter 5 should include (or provide reference to) a master list of all sources and current exports, compared with actual contracted amounts (including amounts not yet utilized but available per contracts).	USACE-SPK Regulatory	Clark
25	2	2-4	10-33	The overall purpose of project stated in #3 is confusing. Isn't the amount of water diverted dependent upon the analyses of the alternatives in the EIS/EIR? Why would we consider providing up to existing contracted amounts of water when the NEPA/CEQA analysis needs to first show how much water is necessary to protect fish? In #2 is says the objective is to "reduce the adverse effects on certain listed species due to diverting water" and then in #3 it says we will continue to provide a certain quantity of water. Until the analysis is completed, and new EPA finalized, it's hard to say if you can provide existing contracted amount of water--the two objectives are contrary to one anther it seems. As stated in Chapter 1 (page 1-2, lines 41; pages 1-3, line3) it says DWR could pay for conservation measures and reallocate benefits of a new Delta conveyance by "amending the SWP long term water supply contracts" This should be considered across the alternatives for quantities of water exports out of the delta; thereby relating water reliability with water conservation (and habitat conservation). ("Restore and protect the ability of the SWP and CVP to deliver up to **full contract amounts**, when hydrologic conditions result in the availability of sufficient water, consistent with the requirements of state and federal law and the terms and conditions of water delivery contracts…") Does this purpose statement reflect the intent to advance the coequal goals set forth	USACE-SPK Regulatory	Clark

				in the Sacramento–San Joaquin Delta Reform Act of 2009 of and the current Delta Plan of "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem" ? On page 2-19 lines 1-9 states "…if the reduced dry season flows into the Delta and increased sea level due to global climate change occur.., they will combine to cause salt water intrusion and tidal influence to shift farther upstream. This shift will likely affect biological processes that are dependent on salinity (e.g., rearing habitat for delta native fishes). Reduced flow into the Delta during summer and fall could lead to substantial increases in residence time during those seasons, which would increase water temperature and reduce dissolved oxygen levels to the detriment of native fish and other organisms…" Please clarify--The purpose stated in #3 seems to say that a "reliable" water supply equates to ensuring that a specific quantity of water must be delivered to contractors regardless of the effects on the fish. In chapter 5, the preferred alt shows an increase in water export—may be "up to" contracted amounts that currently exceed what's actually delivered.		
26	2	2-5	7-10	This is the basis for the need statement…"The Delta is now widely perceived to be in crisis." Although, earlier in the document this is described, either re-word or clarify/specify what aspect(s) of the delta is/are in crisis (Does this refer to the FWS/NMFS jeopardy opinion—adverse impacts to listed species and their habitat? flood control issues? subsidence? salinity issues?) Citations should be inserted to support the statements. See page 2-1, lines 29-37 which summarizes at risk conditions in delta. Insert similar verbiage and or refer to Appendix A.	USACE-SPK Regulatory	Clark
27	3	3-2	28-29	Maintenance of CM1 facilities should be analyzed at the project level. For 408, we would need to understand how these structures impact current O&M requirements.	USACE-SPK-Operations	Adam Riley
28	3	3-24	11-14	What are the short term and long term Hydraulic impacts associated with the temporary cofferdams and the permanent cofferdams? How do the cofferdams interact / affect the levee and levee performance?	USACE-SPK-Operations	Adam Riley
29	3	3-25	3-4	Need details of tie-ins and new setback levees. Are these new levees to replace Federal levees and therefore are the expected to be accepted into the Federal project? I wasn't able to find much information on this proposed action.	USACE-SPK-Operations	Adam Riley
30	3	3-25	37	Tunnels: tunnels under Federal levees will require borings, geotechnical data, and identification of impervious layers, plans, and depth/cover. Figure 3-20 indicates that the top of pipe will be about 60' below ground, which may not be sufficient depending on specific site conditions. Lack of specific site condition information. We will need detailed designs of the proposed project	USACE-SPK-Operations	Adam Riley
31	3	3-27	26-27	Are minor levee modifications of Federal levees, local levees, or both. Clearly identify which Federal levees are being modified and how. This may be available	USACE-SPK-Operations	Adam Riley

				when preliminary designs are complete but it's unclear where and how much of the Federal project is being affected.		
32	3	3-27	34	Figure do not depict locations of batch plants; this can be said for most of the construction activities, e.g. temporary docs, road widening/refortification, etc. How might these affect the Federal levee? Where exactly are they going to be located?	USACE-SPK-Operations	Adam Riley
33	3	3-29	29-30	How does the change in operational characteristics of the channels effect the current flood control operations?	USACE-SPK-Operations	Adam Riley
34	3	3-73	13	Operations and Maintenance: Discussion lacks how does O&M change for Federal Levees at location of intakes? In general, O&M requirements and changes from existing conditions as they pertain to Federal structures is not addressed.	USACE-SPK-Operations	Adam Riley
35	3	3-73	38-42	For each proposed intake, SPK will need detailed information on design plans, including how much the intake encroaches into the waterway and it's hydraulic performance with this encroachment.	USACE-SPK-Operations	Adam Riley
36	3	3-74	43-44	As written, it is too general. More details in chapter 6 do not provide much more detail or support. Further analysis is necessary	USACE-SPK-Operations	Adam Riley
37	3	3-82	27	Figure would help the reader understand this measure. Also, how might these barriers affect the flood control system?	USACE-SPK-Operations	Adam Riley
38	3	3-100	19	Yolo Bypass Fisheries Enhancement (CM2): Need detailed review of CM2 at the project level. It is unclear if CM1 relies on approval of CM2 (or any of the other CMs for that matter); it appears that some components of CM2 are necessary for CM1.	USACE-SPK-Operations	Adam Riley
39	3	3-101	41	"prior to construction for each project" indicates that individual project will be proposed, but we should also look at the cumulative effects on the Federal project.	USACE-SPK-Operations	Adam Riley
40	3	3-102	30	Should be no net impacts to functioning of the flood control features. "Minimizing impacts" is too open ended and implies impacts are acceptable without putting a bound on them.	USACE-SPK-Operations	Adam Riley
41	3	3-115	36-40	Good. furthermore, all of these actions require project level details	USACE-SPK-Operations	Adam Riley
42	3	3-175	25-28	How/where is hydraulics assessed? How do operational flows impact the flood control project at a project site, downstream, and upstream?	USACE-SPK-Operations	Adam Riley
43	3	3-179	1-7	If CM 1 approval is contingent upon this, USACE needs to know how or if there are impacts to the Federal project.	USACE-SPK-Operations	Adam Riley
44	3	App 3A-Att 05 and App 3F		The documents indicates that the selection of locations for the intakes did not evaluate or consider: a comparison of impacts of the setback levees required for each intake (as mentioned in chapter 6), a comparison of impacts to navigation during construction and after construction of the intakes, including operations of the intakes, for each intake; a comparison of impacts of maintenance dredging for each intake; and a comparison of the impacts in raising floodwaters during and after construction of each intake.	USACE/SPK Regulatory	Nepstad

45	3			There is no description of any impacts associated with the one or more setback levees mentioned in chapter 6 as a part of each of the action alternatives. Setback levees could have considerable impacts to waters of the United States, transportation, endangered species, cultural resources and other public interest review factors. The omission of setback levees in the analysis precludes the Corps from using the alternatives in the EIS/EIR and associated analysis for CM1 to provide a context for the practicable alternatives that would be evaluated under the 404(b)(1) guidelines (as described in my comments for chapter 1 above).	USACE/SPK Regulatory	Nepstad
46	3	App. 3A 3A.1	Lines 22-26	Further information and clarification is needed regarding seismic risk and the current conveyance system. Insert citations supporting the statement, "Recent DWR evaluations indicate a higher degree of risk to Delta levees from earthquakes than was previously understood during reparation of the CALFED analysis. The higher potential for levee failure could result in substantial sea water intrusion in the Delta channels that would increase the risk of water supply availability for the SWP and CVP, as well as for Delta water users and the Delta ecosystem." In a study conducted by the Seismological Earthquake Engineering Research Institute, Seismological Society of America, CA Governor's Office of Emergency Services, US Geological Survey conducted a comprehensive simulation of the 1906 earthquake in the Bay Area and an analysis of potential losses due to the occurrence of such an event today. According to findings 10 million Northern CA residents would be affected. Delta levees (not properly engineered or maintained) are vulnerable to the effects of ground failure and could inundate large tracts of land. The findings also indicate that BART (Bay Area Rapid Transit) subsurface tube/tunnel, and associated infrastructure is vulnerable and an earthquake could cause damage and system failure. Bridges, levees, and other structures have a degree of vulnerability despite retrofitting. Further study/simulation of infrastructure vulnerability and associated costs should be completed to determine if constructing new conveyance or retrofitting old infrastructure is most beneficial to the public and the delta environment. In the Delta Mendota Canal/California Aqueduct Intertie EIS (USBR 2009), the analysis of the proposed action (pumping plant and subsurface pipeline) includes a geological/seismic risk discussion disclosing that the risk if surface fault rupture would be high, and that a large earthquake on nearby faults and earthquake epicenters, could cause moderate ground shaking in the project area. The shaking could result in liquefaction and associated ground failure (lateral spreading) which could increase risk of structural loss and, injury and earth. However, proposed mitigation for risk (i.e., Implement UBC Seismic Hazard Zone and CBSC standard into project design) supposedly minimizes potential fault rupture associated with project features, and reduces analysis to no adverse effect.	USACE-SPK Regulatory	Clark

				In the Delta Risk Strategy Phase II EIS, Building Block 6.1--Armored Pathway (Through Delta Conveyance) states that the armored levees proposed for water conveyance are improved and are both "flood resistant" and "seismic resistant" and…"high-salinity waters in the channels and flooded islands after a seismic event would be separated from the conveyance route by seismic-resistant setback levees and by barrier gates"…"Freshwater from the Sacramento River would be diverted to the new corridor to flush out any saline water that has intruded and to allow exports to resume (DWR 2011)." These project proposals related to the CVP and SWP mitigate seismic risk associated with subsurface pipes, pumping plants and through-delta levees. Additional analysis is needed to fully understand seismic risks involved with surface and subsurface water conveyance facilities. In these citations it is implied that seismic can be mitigated by designs that minimize and reduce fault rupture. A through delta surface conveyance may not pose more seismic risk than subsurface conveyance.		
47	3	3A.8	37-38	Clarify the following, "Reclamation is participating as a NEPA co-lead agency to evaluate implementation of one or more components of the BDCP." Clarify which components.	USACE-SPK Regulatory	Clark
48	3	3A-14	32-35	The 2009 amended purpose and need statement, "…Restore and protect the ability of the SWP and CVP to deliver up to full contract amounts…" narrows the scope and range of reasonable alternatives considered and analyzed in the EIS/EIR. The 2009 purpose statement and objectives has narrowed, as compared with the 2008 NOI stated purpose (and that of the Delta Plan and Delta Reform Act), which was "… achieving the two coequal goals of water supply reliability and Delta ecosystem restoration. It is not clear if increasing or maintaining water exports compliments the other listed objectives of "providing for the conservation and management of covered species through actions within the BDCP Planning Area that will contribute to the recovery of the species."	USACE-SPK Regulatory	Clark
49	3	3A-15	Footnote 8	This statement needs clarification. It is confusing and seems to conflict with the project purpose stated in 3A-14 lines 32-35: 'As stated in Chapter 2, DWR's project objectives now reflect DWR's view that its '*fundamental purpose* in the proposing the BDCP is to make *physical and operational improvements* to the SWP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south-of-Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations." (Emphasis added.) Contractual obligations may have to be amended to fulfill other purpose and objectives of the plan.	USACE-SPK Regulatory	Clark

50	3	3A-16	9-10	This statement doesn't make sense, "Under NEPA, a secondary level screening alternative that continued to the Second Level Screening would be evaluated with the following Second Level Screening Criterion…"	USACE-SPK Regulatory	Clark
51	3	3-20	1-11	At the Delta Cross Channel location, there would potentially be new replacement intake control structure with gates. At the Georgiana Slough location, new, gated intake control structure with a flood flow capacity of 20,600 cfs would be constructed. All intakes would be equipped with self-cleaning, positive barrier fish screens designed to be protective of salmonids and delta smelt. Fish screens would comply with DFW, and National Marine Fisheries Service (NMFS) fish screening criteria (refer to the July 2011 BDCP Fish Facilities Technical Team Technical Memorandum for additional detail on fish screening criteria). New intake facilities would necessitate the construction of new setback levees and transition levees to tie into the existing levees adjacent to intake facilities. Minor dredging and channel modification activities would also take place along the face of the intakes. An analysis of the type of fish screen used and its efficiencies and function should be included in the EIS/EIR.	USACE-SPK Regulatory	Clark
52	3	Appendix 3-B	3B-4	Include compliance with Section 106 of the National Historic Preservation Act. Consult with your archeologist and determine if project area surveys are required; included compliance with MOAs (approved by SHPO). Include compliance with pre-approved treatment plans and data recovery plans, and guidelines for evaluation and data recovery of any other archaeological deposit within the area of the undertaking. The treatment plan would address treatment of unanticipated discoveries of any archaeological deposits, such as historic archaeological remains, within the project construction area. The treatment plan would be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation and other guidelines published by the ACHP and SHPO.	USACE-SPK Regulatory	Clark
53	3	Appendix 3-B-33	36-37	Riverine or In-Delta sediment dredging would require USACE permit under Rivers and Harbors Act (RHA) Section 10. RHA Section 10, or 33 USC 401 et seq. , requires authorization from the U.S. Army Corps of Engineers (USACE) for the construction of any structure in or over any navigable water of the United States, the excavation/dredging or deposition of material in these waters or any obstruction or alteration in a "navigable water" . Structure or work outside the limits defined for navigable waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, condition, or capacity of the water body. The construction of dredge material disposal sites may require a permit under Section 404 of the CWA dependent on USACE jurisdictional determination of disposal site location.	USACE-SPK Regulatory	Clark
54	3	Appendix	34	Maintenance in navigable waterways may require USACE permits under Section 10	USACE-SPK	Clark

		3B-34		of the Rivers and Harbors Act.	Regulatory	
55	3	Table 3C-1		"Continuous- year round" construction schedule may be modified based on consultation with USFWS and NMFS (In-river work window limited June – October 31).	USACE-SPK Regulatory	Clark
56	3	Appendix 3C		No mention of setback levees described as needed for all action alternatives described in chapter 6	USACE--SPK Regulatory	Nepstad
57	3	Appendix 3C		Are the models, assumptions, and baselines for the BDCP analysis of climate change, sea level rise, bypass flows, CV hydrology and hydraulics all consistent with the models, assumptions, and baselines being used by DWR to develop the Central Valley Flood Protection Plan and the NODOS (North Of Delta Off-stream Storage) and Bureau of Reclamations investigations in increasing storage at Shasta and Millerton Reservoirs?	USACE--SPK Regulatory	Nepstad
58	3	Table 3C-1	3C-6	Area inside of temporary de-watered areas in cofferdams range from .2 to 5 acres. Dependent on the alternative and intake, a portion of the cofferdams would be left in the river permanently (1220' to 3360') to facilitate dewatering for maintenance	USACE--SPK Regulatory	Clark
59	3	Table 3C-1	3C-20	Invert area of the tunnel is 100' below msl. How far down below the surface of the soil will the tunnel be? 150'? Will the base of the tunnel (#2) be approx. 150" below ground level?	USACE--SPK Regulatory	Clark
60	3C	3C-3	Table 3C-1	Reference: "Intakes would be offset from the levee road by approximately 100-135 ft" For 408 permit: 1) Need hydraulic details of how this affects flow, stage, velocity, etc. 2) Need detailed designs and geotechnical evaluation to understand tie-ins to the levee and performance.	USACE-SPK-Operations	Adam Riley
61	3C	3C-4	Table 3C-1	Reference: "Widen levee tope on landside of levee…" This will require a Section 408 review and requires more detailed design elements.	USACE-SPK-Operations	Adam Riley
62	3C	3C-4	Table 3C-1	Reference: "Fill space between old and new levees to create building pad for pumping plant. This will require a Section 408 review and more detailed design plans to evaluate impact to Federal levees.	USACE-SPK-Operations	Adam Riley
63	3C	3C-4	Table 3C-1	Reference: "each intake site will require a temporary cofferdam to create…" Discussion of details omits how far into the channel the cofferdam will be constructed and it also does not indicate what those impacts are to the existing levee, flows.	USACE-SPK-Operations	Adam Riley
64	3C	3C-5	Table 3C-1	Reference: "Installation of steel sheet piles and/or king piles would require both impact and vibratory pile driving." USACE geotechnical/levee safety sections will need to review methods and proposed designs as part of the section 408 request.	USACE-SPK-Operations	Adam Riley
65	3C	3C-5	Table 3C-1	Reference: "a portion of the cofferdam would remain in place to facilitate dewatering as necessary for maintenance and repairs…" For section 408, USACE will need to know which cofferdams are temporary and which are permanent and	USACE-SPK-Operations	Adam Riley

				their effects on the floodway.		
66	3C	3C-5	Table 3C-1	Reference: "Excavation" Section. For section 408 identify where excavations will take place and when it is into the levee.	USACE -SPK-Operations	Adam Riley
67	3C	3C-6	Table 3C-1	Reference "Pile Driving" Section. For Section 408, in-channel pile-driving detailed designs will need to be reviewed by SPK geotech/levee safety.	USACE-SPK-Operations	Adam Riley
68	4	4-2	23-25	Designs are not yet available. It appears that the analysis relies on a long list of design assumptions, to which the Section 408 review will need to cross reference to ensure that the EIS/R accurately captures design elements as the designs progress.	USACE-SPK-Operations	Adam Riley
69	4				USACE-SPK-Operations	
70	3	3D.3.3	10	Define "early stages of development"—Is this stage the period between issuance of the NOI and approval of the ROD?	USACE--SPK Regulatory	Clark
71	3	3D.3.4	23-24	Will programs and proposed plans that are currently funded (funded currently, or by FY 2014) be considered in the cumulative analysis for Final EIS? Here it states for the "BDCP EIR/EIS, programs with specific plans identified in draft environmental and engineering documents without subsequent approvals were included in the Cumulative Impact Assumptions as reasonably foreseeable." Wouldn't other FY 2014 projects be considered reasonable foreseeable? The Cumulative impacts analysis and No project/No Action Alts should be modified to include projects that are funded and begin prior to release of the Final EIS or the ROD.	USACE--SPK Regulatory	Clark
72	3	3D-83		Include the Deepening of the Sacramento Deep Water Ship Channel project (Port of Sacramento); Include Yolo Bypass Salmonid Habitat Restoration and Fish Passage project (USBR)	USACE--SPK Regulatory	Clark
73	3	3G-27	7	Include regulatory requirement to obtain USACE permits: RHA Section 10, for work in/impacts to navigable waters; Clean Water Act (CWA) Section 404, for dredge and fill in waters of the US; Rivers and Harbors Act (RHA) Section 14, or U.S.C. 33 Section 408 permission for any modification to any existing U.S. Army, USACE project. If such modification, alteration, or permanent use and occupation of the federal control project is injurious to public interest, and will impair the usefulness of such work, permission will not be granted. This should be listed under implementation considerations in this section as the restoration of channel margin habitat for major salmonid migration pathways (critical to completing project objectives) may be influenced by such permissions. Other sections of Chapters 1-3 should note that actions encroaching upon federal project built by USACE (the Corps) is subject to Corps approval.	USACE--SPK Regulatory	Clark
74	3	3H-7	7	Mitigation costs should be provided using best available science/information	USACE--SPK	Clark

				accompanied with best professional judgment. This IF location seems to meet project objectives (avoiding GGS habitat and reliable water supply) and should not be dismissed but considered and analyzed in the Final EIS when cost estimated are available.	Regulatory	
75	3	3H-6	20-24	This option reduces land use impacts associated with IF, and it seems that the "significant" operational limitations and safety risks could be mitigated. The alternative would require longer tunnels, pumps, surge towers, etc, but would it necessarily have to convey water from 5 intakes? Compared with the proposed footprint for 3 intakes, with the alternative that includes both an IF and an MF, would the alternative without the IF expand the intake footprint that much proportionate to what is envisioned for the alt that has both an MF and IF? Considering the carbon footprint, construction, operations and maintenance of an IF contributes to GHG emissions.	USACE--SPK Regulatory	Clark
76	3	3H-7	6-26	Cost of mitigation needs to be considered and analyzed in a project-level EIR/EIS for the Hood IF. Public draft EIR/EIS should included this level of detail (although it may be "too speculative as to impacts to natural habitat communities and available offsets in the BDCP conservation measures" at this time). Best possible data and updated information for CM1 components and their effects and costs should be included in the EIR-EIS.	USACE--SPK Regulatory	Clark
77	3	3-El-2	chart	The Delta Plan calls for a discussion of the potential effects of climate change on the conveyance alternatives and habitat restoration activities considered in the EIR—should also say the EIR will address/analyze the effects of the proposed actions (emissions (temp/permanent), carbon footprint, energy efficiencies, etc) on climate change, as it is currently included in the analyses.	USACE--SPK Regulatory	Clark
78	4	4-2	4-36	As stated, the broad environmental effects of the overall BDCP conservation strategy is evaluated at a program level of analysis, and the BDCP conservation strategy incorporates an adaptive management process that is designed to facilitate and improve decision making during the implementation of the project. Locations for restoration actions within the restoration opportunity areas have not been specifically identified at this time. The EIR/EIS address the effects of typical construction, operation, and maintenance activities that would occur.	USACE--SPK Regulatory	Clark
79	4	4-4	2-10	The CEQA lead agency, DWR, should update baseline conditions beyond the time of issuance of the 2009 NOP up until the time of project approval. This will provide a more accurate baseline used to assess impacts of the BDCP alternatives in relation to the existing conditions (which might be when the public draft is released in August 2013 or later). The existing conditions assumptions for the BDCP EIR/EIS would include other projects underway at this time and those that are funded and/or in planning stages (which would be included in effects analysis and could significantly change the no action/no project	USACE--SPK Regulatory	Clark

				direct/indirect/cumulative analyses. The EIR/EIS should include conditions in the project (and region) as they exist at the time of preparation, as well as what could be reasonably expected to occur in the foreseeable future if the reuse plan were not approved, based on current plans and consistent with available infrastructure and services All new projects (i.e., recent flood control facility improvement projects and restoration projects should be considered).		
80	4	4-4	Footnote 4	Reference to California Court of Appeal opinion in Sunnyvale West Neighborhood Association v. City of Sunnyvale City Council (2010) 190 Cal.App.4th 1351 precluding CEQA lead agencies from including within their "existing conditions" baseline the assumed occurrence of future events predicted to occur after project approval regardless of how foreseeable such events may be. Check Supreme Court of CA decision (September 2012) in *Neighbors for Smart Rail v. Exposition Metro Construction Authority Line Authority*. With the No Project Alternative, the CEQA lead agency can compare impacts of approving the project with the future conditions of not approving the project, as long as the assumptions are supported with substantial evidence.	USACE--SPK Regulatory	Clark
81	4	4-4	16-20	Stated here, "…the No Action Alternative, unlike the CEQA baseline, assumes implementation of the Fall X2 salinity standard, as well as changes due to climate change that would occur with or without the proposed action or alternatives (Appendix 3D…)." Check Supreme Court of CA decision (September 2012) in *Neighbors for Smart Rail v. Exposition Metro Construction Authority Line Authority*. With the No Project Alternative the CEQA lead agency can compare impacts of approving the project with the future conditions of not approving the project, as long as the assumptions are supported with substantial evidence. Also, the Delta Plan requires that the BDCP included a discussion of effects of climate change (both effects of project on climate change and climate change effects on project).	USACE--SPK Regulatory	Clark
82	4	4-8	23-41	This section states that mitigation measures included in the EIR/EIS are considered to be potentially feasible by the authors of the document, but the agencies will determine feasibility…the EIR/EIS addresses whether the mitigation presented would reduce the impact to a less-than-significant level …DWR will implement actions (mitigation) associated with construction of *CM1 Water Facilities and Operation.*" A detailed discussion of feasibility for CM1 mitigation should be disclosed in the document. Details related to CM1 mitigation and its feasibility should be explained somewhere in the document. If so, insert the citation here for CM1, as a project level analysis is needed. A detailed mitigation plan for CM1, its feasibility, and any issues affecting implementation of mitigation measures (such as land access, funding, etc.)	USACE--SPK Regulatory	Clark

				should be available prior to release of the Final EIS and/or ROD. CEQ 40 questions state in essence, the EIS and the Record of Decision should indicate the likelihood that such measures will be adopted or enforced by the responsible agencies (Sections 1502.16(h), 1505.2). If there is a history of nonenforcement or opposition to such measures, the EIS and Record of Decision should acknowledge such opposition or nonenforcement. If the necessary mitigation measures will not be ready for a long period of time, this fact, of course, should also be recognized."		
83	4	4-8	42-44	It is not enough to simply commit to undertake and implement mitigation measures "as part of the project in advance of impact findings and determinations in good faith".. If proponents are unable to implement these commitments/mitigations due to land access issues, regulatory conflicts, or the inability to create adequate habitat in floodplains, etc., would the project (i.e., CM1) continue to move forward? The reader may interpret this to mean it's possible that intakes would be built prior to those assurances that mitigation measures would likely move forward.	USACE--SPK Regulatory	Clark
84	5	5-89	1-13	OVERALL and Chapter 5: Throughout this chapter and other chapters under environmental consequences the CEQA and NEPA impacts analyses can be confusing. The explanation of increases and decreases in deliveries due to the effects of sea level rise and climate change are extremely confusing. See comments for chapter 3D. Again, the baseline for no project should include the reasonably foreseeable effects of climate change and sea level rise (which is supported with scientific modeling and research). The CEQA/NEPA integration throughout the document should be modified—it confuses the reader when assessment of effects is done under two separate baselines of no action/no project (existing) conditions—the Existing (CEQA) vs. No Action (NEPA) baseline for comparison across the alts should be the same. 40 CFR and related NEPA guidelines (and CEQA case law) allows this.	USACE--SPK Regulatory	Clark
85	6	6-17	23	Include Rivers and Harbors Act of 1899 (33 USC 401 et seq)	USACE--SPK Regulatory	Clark
86	6		ALL	Throughout chapter, repeatedly stated are assertions like "… because the BDCP proponents would be required to comply with the requirements of USACE, CVFPB, and DWR to avoid increased flood potential as described in Section 6.2.2.4." It is unclear to me if the facilities and cofferdams have all been designed to avoid significant effects (avoidance, minimization, mitigation built in), or have they been designed with significant impacts and DWR is relying on regulatory permit processes to alter the designs to achieve a less than significant level?	USACE--SPK Regulatory	Nepstad
87	6		ALL	For Alternative 9, did not find mention of collection of debris and sediment at cofferdams and facilities, and no analysis of impacts. What are impacts to flood risk, navigation, other levees, fishes, etc? Should have substantive analysis and discussion. What is the rate of sedimentation? What is the rise in water levels from sedimentation if that sedimentation is not removed? What are the Impacts to	USACE--SPK Regulatory	Nepstad

				navigation, other water users, channel capacity as water becomes shallower? Dredging requires permits, mitigation, and everywhere in delta has deferred dredging for decades, so I don't think you can say that there will be no impacts because dredging will always be done when needed. For purposes of analysis, should assume sediment and debris will accumulate until facility operations is affected to the degree that removal is ordered by fishery agencies or water export targets cannot be met.		
88	6		ALL	The cofferdams (at least for the intakes, don't know about the ones for Alternative 9) were going to be removed by divers with torches cutting them off at grade with bottom. This means they can't easily be removed in a flood emergency. There is no discussion and analysis of this. Also, the cofferdams may get exposed (the top parts of the bottom ends cut off and left in waterway bed); what impact would that have? Would the exposed cofferdam remnant create erosive flow changes, eddies for predators, collect debris, collect sediment, hazard to boats?	USACE--SPK Regulatory	Nepstad
89	6		ALL	For Alternative 9, would the proposed structures and cofferdams redirect flows toward levees and increase risk of levee failure? Same question for new intakes and cofferdams on Sacramento River under CM1	USACE--SPK Regulatory	Nepstad
90	6		ALL	Does not appear to be a discussion of any changes in direction of flow, velocities, water depths, changes to height of tides, patterns of erosion and accretion as a result of the water diversion of the BDCP alternatives. This is information USACE needs as part of our analysis on issuing a permit for the operations (i.e., water diversion) under CM1.	USACE--SPK Regulatory	Nepstad
91	6		ALL	Does not appear to be a discussion of any changes in direction of flow, velocities, water depths, changes to height of tides, patterns of erosion and accretion as a result the proposed new facilities, during and after construction. This is information USACE needs as part of our analysis on issuing permits.	USACE--SPK Regulatory	Nepstad
92	6		ALL	Discussions mix and mash Delta rivers and channels with behind levee ditches, farm irrigation channels and drains and wetlands, making it difficult throughout the entire document to understand which impacts go with what waters. Whole chapter like this and very confusing.	USACE--SPK Regulatory	Nepstad
93	6	6-29	22	This section is about regulations – why are Corps navigation projects here?	USACE--SPK Regulatory	Dadey
94	6	6-29	23	Capitalize Federal	USACE--SPK Regulatory	Dadey
95	6	6-29	27	LTMS is Delta Dredged Material Long Term Management Strategy – use the correct term	USACE--SPK Regulatory	Dadey
96	6	6-29	29	States that work groups "are engaged in.." – the project is not currently funded and no work is occurring	USACE--SPK Regulatory	Dadey

97	6	6-29	32-33	States the Corps has "a shallow draft navigation responsibility…" – explain.	USACE--SPK Regulatory	Dadey
98	6	6-29	34	Since you discuss the state and regional board, for consistency with other headers, just use "Clean Water Act"	USACE--SPK Regulatory	Dadey
99	6	6-29	40	Reword: ".. Board, and associated Regional Boards, is the agency that enforces water quality…"	USACE--SPK Regulatory	Dadey
100	6	6-30	3	Reword; "…Act regulates the discharge…"	USACE--SPK Regulatory	Dadey
101	6	6-30	4-7	Delete sentence that starts "Under Section 404…" It is not inclusive and could be misconstrued to limit the types of activities regulated under Section 404. More appropriate to state that Section 404 regulates discharges of dredged and fill material into waters of the US and be done with it.	USACE--SPK Regulatory	Dadey
102	6	6-30	4-5	A discharge of dredged or fill material involves the physical placement of soil, sand, gravel, dredged material or other such materials into the waters of the United States. Section 404(f) exemptions, which were added in 1977, provide that discharges that are part of normal farming, ranching, and forestry activities associated with an active and continuous ("ongoing") farming or forestry operation generally do not require a Section 404 permit.	USACE--SPK Regulatory	Clark
103	6	6-30	9-10	CWA 404 does not address ocean dumping. Title I of the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) 33 U.S.C. 1401 et seq., prohibits, with certain exceptions, the dumping or transportation for dumping of "materials" into ocean waters without a permit. The Ocean Dumping Program is primarily the responsibility of the Environmental Protection Agency (EPA), which issues permits for ocean disposal. EPA regulations for ocean dumping are in 40 CFR 220 et seq.	USACE--SPK Regulatory	Clark
104	6	6-30	9	404 does NOT regulate transport of dredged material for the purposes of disposal in the ocean. That is the MPRSA.	USACE--SPK Regulatory	Dadey
105	6	6-30	7	Reword: "Under Section 404, any entity proposing…"	USACE--SPK Regulatory	Dadey
106	6	6-30	11	Is the word between wetlands and marshes intended to be "and"?	USACE--SPK Regulatory	Dadey
107	6	6-30	12	How many "side hill seeps" are we likely to encounter in the Delta?	USACE--SPK Regulatory	Dadey
108	6	6-30	14	Add "or fill" after "dredged"	USACE--SPK Regulatory	Dadey
109	6	6-30	16	Delete "dredged material" or add "fill"	USACE--SPK Regulatory	Dadey
110	6	6-30	31	Add "over, under or" before within	USACE--SPK Regulatory	Dadey

111	6	6-30	32	Delete vessels; the Corps doesn't regulate them per se; delete" permanent": the Corps regulates temporary structures also	USACE--SPK Regulatory	Dadey
112	6	6-32	17	CALFED isn't a regulation	USACE--SPK Regulatory	Dadey
113	6	6-37	31	What about discussing the potential effects of the No Action alternative? Am I missing something?	USACE--SPK Regulatory	Dadey
114	6	6-39	13	Need reference for the "potential north Delta intakes" – who, what, where?	USACE--SPK Regulatory	Dadey
115	6	6-40	2	Why limit evaluation of the Fall X2 criteria to the No Action Alternative? Why isn't this pertinent to all alternatives?	USACE--SPK Regulatory	Dadey
116	6	6-43	19-24	Paragraph indicates that CALSIM II isn't "useful" What does this mean? What are the implications?	USACE--SPK Regulatory	Dadey
117	6	6-43	19-24	This is very important to the Section 408 application development, both how the applicant proceeds with design/analysis and how the USACE makes decisions regarding Section 408 modification. When will models be developed that would be useful for the flood risk analysis?	USACE-SPK-Operations	Adam Riley
118	6	6-43	31-32	Temporary and permanent indirect/direct effects on surface waters from construction and ops of conveyance include [as stated here] "substantial alterations of existing drainage patterns or streams." Include other effects related to construction such as increased flood risk potential, reverse flows, changes in velocities and water surface elevations, drainage depths, navigability issues, erosion, accretion, sedimentation, etc.	USACE--SPK Regulatory	Clark
119	6	6-44	14	Statement above says the hydraulic models are being developed and CALSIM II model is insufficient for flood control actions; this may be different than flood management ops but it will feed into flood control. I don't see how you can get a determination of effect without this information.	USACE-SPK-Operations	Adam Riley
120	6	6-44	17-23	I am unsure how these thresholds were developed. Who and to what extent has the USACE Water Management Section been involved in this?	USACE-SPK-Operations	Adam Riley
121	6	6-44	15-16	This is confusing. Explain/footnote why the surface water effects analysis for actions alternatives could assume an adverse effect under NEPA or a significant impact under CEQA? The term "adverse effect" is not normally used in a discussion related to significance in NEPA. Use language in Section 6.3.1.1 to clarify.	USACE--SPK Regulatory	Dadey
122	6	6-45	10-11 & 14-15	How is substantially defined? For 408 program, anything more than 0.1' is evaluated in great detail and may not be approved. Previously in the document, it was expressed to have no net impact on the flood control features. I'm assuming SW-4 and SW-5 pertain to flood control effects. As written, it says "surface runoff" which is much more of a localized situation and does not imply overall system flood control. this section may need some clarification or another	USACE-SPK-Operations	Adam Riley

				effects analysis should be added.		
123	6	6-45	19-22	For Section 408, it is a bit different. It should be evaluated against the baseline; we look at if it exposes more people than the baseline. This implies something more catastrophic, where Section 408 looks at any increase in exposure.	USACE-SPK-Operations	Adam Riley
124	6	6-58	3-8	Where is the analysis to support this? It is stated earlier that more hydraulics is needed. This is essential for 408 review. Also, this section lacks discussion of the setback details.	USACE-SPK-Operations	Adam Riley
125	6	6-58	3-13	Here the raise in flood waters is acknowledged due to constriction of Sacramento River. Mitigation measure SW-4 appears to have nothing to do with offsetting a 0.5 foot raise in Sacramento River waters as a result of the cofferdams and intakes. This paragraph mentions set back levees, but those are not described here or anywhere in document. Set back levees in of themselves are major projects often with numerous significant effects. This seems to be a major omission of the document; it implies that levees on both sides of the Sacramento River would be altered; intakes on one side and set back levees on the other, but provide no description or analysis of those impacts. Setback levee would presumably need to be done prior to the intake construction. Setback levees should be added to 3.4 and 3C and then analyzed throughout the document. There is no discussion of the significance of a 0.5 foot raise to man or environment; and no mention if it is average or maximum. The raise in river waters and set back levees are both very significant and should have substantive analysis and discussion, not at the back of a section on stormwater management. Sounds like the intakes themselves (after cofferdams removed) would raise flood waters but doesn't say but how much (presumably less than 0.5 feet). Is there discussion in other places in EIS/EIR of likely actions (and the impacts of those actions) by upstream flood fighting entities would need to undertake to strengthen their flood defenses in the face of a permanent increase in flood stage caused by the intakes? Setback levees and intakes on both banks of the Sacramento River at intake sites are major projects [requiring RHA Section 14, or "408" permissions from Corps] and require detailed descriptions, design and analysis of effects. Analysis should include flood risk during construction (public safety), current effects on ag use and use of prime farmland for facility, borrow sites, drainage, irrigation system impacts, runoff and sedimentation in surface water, decommissioning of existing levee during setback construction, effects on vegetation and species and habitats, cubic yards of material needed, batch plant site, construction impacts and carbon footprint, construction equipment required and number of deliveries, habitat enhancement (if any), any effects on prehistoric and historic resources, archeological resources, etc.	USACE--SPK Regulatory	Nepstad/Clark
126	6	6-58	8-13	Does this mean that one of these measures will be implemented to not increase the	USACE-SPK-	Adam Riley

				WSE? SPK will need the details of those plans.	Operations	
127	6	6-58	14-15	Mentions collection of debris and sediment at Intakes but provides no analysis of impacts. Cofferdam would presumably also collect debris and sediment but not mentioned. What are impacts to flood risk, navigation, other levees, fishes, etc? Should have substantive analysis and discussion, not at the back of a section on stormwater management. What is the rate of sedimentation? What is the rise in water levels from sedimentation if that sedimentation is not removed? What are the Impacts to navigation, other water users, channel capacity as water becomes shallower? Dredging requires permits, mitigation, and everywhere in delta has deferred dredging for decades, so I don't think you can say that there will be no impacts because dredging will always be done when needed. For purposes of analysis, should assume sediment and debris will accumulate until facility operations is affected to the degree that removal is ordered by fishery agencies or water export targets cannot be met.	USACE--SPK Regulatory	Clark
128	6	6-58	39	Under Mitigation Measure SW-4: What about the conclusion of increasing the water surface elevations? Also, there is no discussion of how flow is impacted in the system and transfer of risk.	USACE-SPK-Operations	Adam Riley
129	6	6-153	22-28	Here the raise in flood waters for Alternative 9 is acknowledged due to constriction of various unspecified Delta waters. Mitigation measure SW-4 appears to have nothing to do with offsetting a 0.5 foot raise in Delta waters as a result of the Cofferdams and facilities. This paragraph mentions set back levees, but those are not described here or anywhere in document. Set back levees in of themselves are major projects often with numerous significant effects. This seems to be a major omission of the document. Setback levee would presumably need to be done prior to the intake construction. Setback levees should be added to 3.4 and then analyzed throughout the document. There is no discussion of the significance of a 0.5 foot raise to man or environment; and no mention if it is average or maximum. The raise in Delta waters and set back levees are both very significant and should have substantive analysis and discussion, not at the back of a section on stormwater management. Unclear if the facilities themselves (after cofferdams removed) would raise flood waters but doesn't say but how much (presumably less than 0.5 feet). Is there discussion in other places in EIS/EIR of likely actions (and the impacts of those actions) by upstream flood fighting entities would need to undertake to strengthen their flood defenses in the face of a permanent increase in flood stage caused by the Alternative 9?	USACE--SPK Regulatory	Nepstad
130	6	6-102	27	Formatting is inconsistent with previous sections. Where is heading for this? See SW-3. Difficult to follow.	USACE-SPK-Operations	Adam Riley
131	6	6-103	2-6	To what extent are surface water elevations changed?	USACE-SPK-Operations	Adam Riley

				Two fewer intakes may make it important to publish the impacts for alt 4 as separate from 1A.		
132	6	6-103	9	Same comment as above	USACE-SPK-Operations	Adam Riley
133	6	6-104	15-18	How is the BDCP proposing to avoid increased flood potential? Furthermore, the increased flood potential is not completed.	USACE-SPK-Operations	Adam Riley
134	6	6-104	19	Same comment as above	USACE-SPK-Operations	Adam Riley
135	6	6-153	22-28	Same comment as on page 58: Where is the analysis to support this? it is stated earlier that more hydraulics is needed. This is essential for 408 review. Also this section lacks discussion of the setback details.	USACE-SPK-Operations	Adam Riley
136	7	ALL		Would the tunnel be located above or below a groundwater impermeable layer? If it is above, then the tunnel would preclude the construction of a groundwater under seepage cut off wall for each of the levees it crosses under. That should be disclosed. Under seepage cutoff walls around Marysville went to depth of 175'.	USACE--SPK Regulatory	Nepstad
137	7	All		The effects analysis in this chapter is not conclusive. Isn't it likely that subsurface excavation would adversely affect the quantity and quality of groundwater supplies? Would subsidence from underground excavation break up impermeable layers of substrate that hold water in aquifers—sources of water for wells? Might flow patterns in aquifers be changed, thereby adversely affecting water pressure in wells? Portions of aquifers and surface systems below intakes may have less water available for other uses. Might that interfere with prior existing water rights?	USACE--SPK Regulatory	Clark
138	7	ALL		I presume that groundwater would be able to flow along the outside of the tunnel and access shafts. If that is the case, would the tunnel and shafts to the surface then serve as a conduit for groundwater to flow along it and seep onto islands at a rate higher than no action? Would the tunnel and shafts serve as a conduit to allow low quality layers or areas of groundwater to mix with higher quality ones? Would the shafts allow polluted surface waters to flow down into the groundwater? Would the tunnel allow the force of groundwater pumping to draw groundwater from father away (the tunnel as a conduit for easier flow/draw of groundwater)?	USACE--SPK Regulatory	Nepstad
139	7	7-33	39-42	As stated here and in prior chapters the effects are analyzed under both NEPA and CEQA, with the NEPA analysis being based on a comparison of the effects of action alternatives against a future No Action condition (in this case climate change and sea level rise) and the CEQA analysis being based on a comparison of these effects against Existing Conditions. As stated here, the CEQA conclusions "overstate the effects of the action alternatives or suggest significant effects that are largely attributable to sea level rise and climate change, and not to the action alternatives."	USACE--SPK Regulatory	Clark

				The baseline for conditions used to compare effects of taking no action versus implementing the action alts can be the same for the no action/no project for NEPA and CEQA can be the same. The current CEQ draft guideline, "CEQA/NEPA: Integrating State and federal Reviews. (Executive Office Of The President Council On Environmental Quality 2013), states The "no action" and "no project" requirements are functionally the same and should examine the reasonable foreseeable consequences of not taking the proposed action. They serve the purpose of describing the current and future state of the potentially affected environment without considering the potential impacts of the proposed action or project."		
140	8	8.3.3		OVERALL: This chapter is informative and provides a detailed assessment and background information supported by best available data; however, the effects analysis is repetitive throughout the chapter. Cite/refer to other sections (provide page #s) if analysis is the same. Use tables throughout the chapter and briefly state effects. Place technical information, additional background information in an Appendix, and refer to it as necessary. Use plain language to describe effects	USACE--SPK Regulatory	Clark
141	8	8-178	37	For effects on SWP/CVP Export Service Areas and the Delta area, effects on water quality from the increased export of water isn't clearly described in this section or in the Delta section. In Chapter 1A, it clearly states the reduce variability of freshwater flow effects salinity levels/water quality. Clearly state the effects on water quality from CM1.	USACE--SPK Regulatory	Clark
142	8	8-410	Entire page	In the Delta section, effects on water quality from the increased export of water isn't clearly described. In Chapter 1A, it clearly states the reduce variability of freshwater flow effects salinity levels/water quality. Clearly state the effects on water quality from CM1 in isolation of effect of X2 and climate change.	USACE--SPK Regulatory	Clark
143	8	8-410	5	While the water quality analysis is complex and multi-faceted, based in best available information and science, the effects analysis for SWP/CVP Export Service Areas and the Delta from the increased export of water isn't clearly described in this section. In Chapter 1A, the reduce variability of freshwater flow effects salinity levels, hence water quality. Clearly state the effects here.	USACE--SPK Regulatory	Clark
144	9	9		OVERALL: As in Chapter 3A, this seismic risk discussion should disclose that further information and modeling is needed to determine risks to surface and subsurface infrastructures in the delta (including proposed conveyance system). The discussion should also include that of other findings, for example, a study conducted by the Seismological Earthquake Engineering Research Institute, Seismological Society of America, CA Governor's Office of Emergency Services, US Geological Survey conducted a comprehensive simulation of the 1906 earthquake in the Bay Area and an analysis of potential losses due to the occurrence of such an event today. According to findings 10 million Northern CA residents would be affected. Delta	USACE--SPK Regulatory	Clark

				levees (not properly engineered or maintained) are vulnerable to the effects of ground failure and could inundate large tracts of land; however, findings also indicate that BART (Bay Area Rapid Transit) subsurface tube/tunnel, and associated infrastructure is vulnerable and an earthquake could cause damage and system failure--bridges, levees, and other structures have a degree of vulnerability despite retrofitting. The Delta Mendota Canal/California Aqueduct Intertie EIS (USBR 2009), analysis of a pumping plant and subsurface pipeline includes a geological/seismic risk discussion disclosing that the risk if surface fault rupture would be high, and that a large earthquake on nearby faults and earthquake epicenters, could cause "moderate ground shaking in the project area." The shaking could result in "liquefaction and associated ground failure (lateral spreading) which could increase risk of structural loss and, injury and earth." However, proposed mitigation for risk (i.e., Implement UBC Seismic Hazard Zone and CBSC standard into project design) supposedly minimizes potential fault rupture associated with surface project components, and reduces analysis to no adverse effect. In the Delta Risk Strategy Phase II EIS, Building Block 6.1--Armored Pathway (Through Delta Conveyance) states that the armored levees proposed for water conveyance are improved and are both "flood resistant" and "seismic resistant" and…"high-salinity waters in the channels and flooded islands after a seismic event would be separated from the conveyance route by seismic-resistant setback levees and by barrier gates"…"Freshwater from the Sacramento River would be diverted to the new corridor to flush out any saline water that has intruded and to allow exports to resume (DWR 2011)." Further study of infrastructure vulnerability is needed to determine potential seismic risks (especially at 65% design level for CM1). This section should include a brief discussion of other seismic assessments related to surface/subsurface infrastructure, such as the examples above.		
145	9	9-1	24	Beyond subsidence, levee stability wasn't fully discussed in chapter 6.	USACE-SPK-Operations	Adam Riley
146	9	9-45	17-20	For the 408 review, soil conditions and geotechnical considerations will need to be reviewed at the individual component level and in conjunction with the designs. at that time the assumptions made under BDCP can be cross-referenced.	USACE-SPK-Operations	Adam Riley
147	9	9-45	26-29	In a lot of places in this EIS, there is mention of designing to codes and requirements, which is necessary, but that doesn't mean that the project level detail to disclose affects are available for review. That may only come with some level of design being completed.	USACE-SPK-Operations	Adam Riley

148	9	9-48	28	Soft, Loose, and Compressible Soils section: In general, when conducting this analysis, proper explanation of where soils samples were taken, by whom, and etc are necessary for project level information. specifically related to levee performance, what information is available to determine point load/traffic load on these levee reaches due to the implementation of CM 1?	USACE-SPK-Operations	Adam Riley
149	9	9-186	34-40	Was this complete for CM 1? It is unclear - the text says that "...would be evaluated by assessing site-specific geotechnical..."	USACE-SPK-Operations	Adam Riley
150	10	10-29	Table 10-4	Projects involving tidal wetlands restoration, marsh and riparian restoration projects, wetland and upland habitat restoration in area used for agriculture should be included in this list (beneficial impacts to soils in No Action). Among them are Prospect Island Restoration, Yolo Bypass Habitat Restoration, Lower Yolo Ranch Restoration, McCormack Williamson Tract Restoration, etc.	USACE--SPK Regulatory	Clark
151	10	10-30	8	Add spoil stockpiling	USACE--SPK Regulatory	Clark
152	11	11-7	6	Change to USACE permitting activities that authorize dredge and **fill** and other…	USACE--SPK Regulatory	Clark
153	11	11-72	34-35	Remove "should" . Proposed activities WILL require 404 permits (and other permissions)	USACE--SPK Regulatory	Clark
154	11	11-80	19-21	The Delta Plan is in draft form but goal isn't "increased" water supply reliability, it is more reliable water supply, or reliable water supply. It also calls for reducing reliance on the Delta watershed by recommending that all local agencies implement local plans to diversify water supplies, improve efficiency, and plan for drought and interruption of supplies in an inherently volatile system (Delta Stewardship Council 2012).	USACE--SPK Regulatory	Clark
155	11	11-74	6-7	Add …construction of any structure **in, under, or over** any navigable water of the United States…	USACE--SPK Regulatory	Clark
156	12			OVERALL: It may be in here but I cannot find the effects analyses for all alts on impacts on emergent wetland areas downstream from intakes—overall reduction in water level—4-6 maf/year has a permanent effect on emergent habitat.	USACE--SPK Regulatory	Clark
157	12			There is an incomplete discussion of the N-S vs E-W transmission in this chapter Much language sounds pre-decisional; see, e.g., statement starting on line 27, page 36 "The area more…" "newly constructed" seems like a decision to complete it has already been made. This is one example; there are others There is no discussion/description of restoration of the areas temporarily impacted No NEPA conclusions, despite reference to them – see also comment re: NEPA impacts, Chapter 6, Rg 44, line 15-16	USACE-SPK-Regulatory	Dadey

				Since so much of the text is repetitious, with often just changes in the acres of impact, consider combining some resources – this will improve readability and comprehension for reviewers. When changing to another resource type, I recommend a larger font or bold or something – so the reviewer understands that the document is changing gears. It was really confusing in this version, especially since the majority of new topic/resource sections started mid page and were followed by a large area of blank page, suggesting that this was the end of a section, rather than the beginning. Why is there so little information regarding impacts expected for CM-6 when other CMs, such as 2 and 4 have fully developed acreage impacts?		
158	12	12-8	29-31	This section is a bit confusing. Cultivated lands (such as rice fields) may not be considered special-status natural communities, although they provide habitat for special-status; however, these areas while not of limited distribution do require particular regulatory consideration as they may be regulated wetlands/waters of the US. Do you consider rice fields managed wetlands as defined in this chapter?	USACE- SPK Regulatory	Clark
159	12	12-21	Table 12-4-1	How can temporary impacts be long term? Isn't that counter to the definition of temporary?	USACE--SPK Regulatory	Dadey
160	12	12-21	Table 12-4-1	What is meant by "periodic"?	USACE--SPK Regulatory	Dadey
161	12	12-21	Foot-note c	What is "early long-term"? Why is it only in the footnotes in Chapter 12 and nowhere else?	USACE--SPK Regulatory	Dadey
162	12	12-21	8	"temporarily remove"? Meaning what? Without a description of restoration, this means nothing	USACE--SPK Regulatory	Dadey
163	12	12-21	LLT	What is what does "late long term mean? Not a term I'm not familiar with it	USACE--SPK Regulatory	Dadey
164	12	12-23	32	A mitigation ratio of 1:1 is generally not appropriate, depending on location of mitigation site relative to impact site, type of mitigation (e.g., function), temporal loss and other issues	USACE--SPK Regulatory	Dadey
165	12	12-23	11-13	Last sentence: what is rationale?	USACE--SPK Regulatory	Dadey
166	12	12-24	11	Where is NEPA conclusion? Page 12-23 indicates that there is one.	USACE--SPK Regulatory	Dadey
167	12	12-25	7	"anticipated" is predecisional	USACE--SPK Regulatory	Dadey

168	12	12-25	31-32	"…would have a beneficial…" – how?	USACE--SPK Regulatory	Dadey
169	12	12-26	10	Are "changes in releases from reservoirs upstream" part of CM1?	USACE--SPK Regulatory	Dadey
170	12	12-27	24-25	Are "fire management" and "maintenance of infrastructure habitat enhancement of tidal habitat?	USACE--SPK Regulatory	Dadey
171	12	12-28	17 and 22	"have no effect" and "would affect very small acreages" are inconsistent	USACE--SPK Regulatory	Dadey
172	12	12-29	Table 12-4-2	Table seems like a waste of time/space: could replace with text	USACE--SPK Regulatory	Dadey
173	12	12-31	1st bullet	I question the need for dredging in a "natural" community – it should be self-sustaining	USACE--SPK Regulatory	Dadey
174	12	12-33	Table	Why is CM3 not in the tables?	USACE--SPK Regulatory	Dadey
175	12	12-36	31	"anticipated" is predecisional	USACE--SPK Regulatory	Dadey
176	12	12-39	33	Is there really valley "foothill" habitat in the delta?	USACE--SPK Regulatory	Dadey
177	12	12-40	14	"5,000 acres" seems high	USACE--SPK Regulatory	Dadey
178	12	12-42	17	Does "the first 10 years of BDCP implementation" really need to be repeated in each chapter?	USACE--SPK Regulatory	Dadey
179	12	12-44	10	"will" is predecisional" change to "would"	USACE--SPK Regulatory	Dadey
180	12		33-34	Need to better describe "…beneficial effect…..especially as it relates to germination…"	USACE--SPK Regulatory	Dadey
181	12	12-45	32-33	Does this mean that water levels, not changes in water levels are expected to be 5-8% lower?	USACE--SPK Regulatory	Dadey
182	12		32-33	It seems like this is the first time the No Action alternative is discussed	USACE--SPK Regulatory	Dadey
183	12	12-48-12-49	Tables 12-4-5,6	Isn't the entire Yolo Bypass tidal/subtidal?	USACE--SPK Regulatory	Dadey
184	12	12-56	9	Isn't Boudin Island tidal/subtidal?	USACE--SPK Regulatory	Dadey
185	12		10	What difference does it make that the aquatic features are "small and remove"?	USACE--SPK Regulatory	Dadey

186	12		3rd bullet	Need to discuss somewhere why/how converting nontidal to tidal habitat is beneficial	USACE--SPK Regulatory	Dadey
187	12	12-59	3	How is restoration of non-tidal freshwater habitat beneficial to fish?	USACE--SPK Regulatory	Dadey
188	12	12-66	6-7	Last sentence is confusing	USACE--SPK Regulatory	Dadey
189	12		10	Levee repair could affect alkali wetlands? Where?	USACE--SPK Regulatory	Dadey
190	12	12-67	8	"would be greatly offset" is an exaggeration, per Table 12-4-7	USACE--SPK Regulatory	Dadey
191	12	12-68	Table 12-4-8	Could be eliminated and replaced with text	USACE--SPK Regulatory	Dadey
192	12	12-70	33 and 36	"increase periodic flooding" and "an estimated 0-4 acres of vernal pool complex" are not included in Table 12-4-8	USACE--SPK Regulatory	Dadey
193	12	12-73	16	"no adverse effect…" Table 12-4-9 shows net loss; need to explain	USACE--SPK Regulatory	Dadey
194	12	12-75	14 and 15	How can document be so specific (12,786 acres) when location isn't even known yet??	USACE--SPK Regulatory	Dadey
195	12	12-76	37	What makes them "special status"?	USACE--SPK Regulatory	Dadey
196	12	12-78	14 and 15	How can "managed" be "natural"?	USACE--SPK Regulatory	Dadey
197	12	12-94	29	Why wasn't "primarily in core vernal pool crustacean habitat' mentioned previously? Which core area?	USACE--SPK Regulatory	Dadey
198	12	12-110	2	Surface footprint impact	USACE--SPK Regulatory	Finan
199	12	12-110	20-25	How much larger than design footprint? Line 25: What about other related water features?	USACE--SPK Regulatory	Finan
200	12	All		Direct and indirect impacts beyond the footprint of proposed construction are not identified. Should use concept/definition of loss of waters from the Corps Nationwide Permits.	USACE--SPK Regulatory	Finan
201	12	12-192-12-193	9-10 1-2	OVERALLL: In this section and in all alternatives analyses in this chapter—How much "indirect" conversion of vernal pool habitat is attributed to CM1 only? Is it direct permanent loss or indirect conversion due to hydrologic changes? Separate out impacts from CM1. If tunnel/muck will be used for restoration in short term, it may still be a permit impact if it is stored over 6 month to a year on sensitive terrestrial resources—depict the loss/impact as such. Not clear on CM1 impacts.	USACE--SPK Regulatory	Clark

				Have simple tables for each resource impact topic for each chapter of environmental consequences, and list indirect/direct effects and permanent and temporary losses of habitat across the alternatives for each CM separately. Also briefly indicate (i.e., tunnel, forebay, muck, spoil, restoration in CM2-CM11) which action taken results in such effects.		
202	12	12-195	13-16	In Table 12-1A-12 acreages were generated by assuming that the modeled habitat identified in the table has densities of wetted vernal pools at 15%. The impacts on vernal pools are based on hypothetical restoration footprints and will likely be lower based. Would minimization and avoidance of impacts on vernal pools make Alts 1C, 2C, 6C more apt to meet purpose and objectives—Feasibility was not assessed for these alternatives in Appendix 12D-ii due to exceedance of the maximum allowable removal of wetted vernal pool areas.	USACE--SPK Regulatory	Clark
203	12	12D		Overall: More detail is needed for indirect effects from pile driving	USACE--SPK Regulatory	Clark
204	12	30-B-4 to 30-B-6	23-10	SWP deliveries dropped significantly in 2008/2009 due to biops issued by USFWS and NMFS, which significantly restricted SWP pumping. The Delta Current (2010) and projected (2035) supply shown in Table 30B-5 shows a 27% percent projected increase over 2010 for Metropolitan WD demand. Supplies are expected to increase slightly but their overall contribution is expected to remain relatively constant. MET projected increase in population and retail demand equates to an increase in water delivery up to 41%. Santa Clara SCVWD projects a 36% increase in water demand from SWP in 2035 as compared to 2010 deliveries. This increased delivery projection is "predicated on the resolution of environmental concerns about the Delta, including the completion of a new Delta conveyance that would be fully operational by 2022 and would return supply reliability to a 2005 condition." The conveyance alone cannot return water supply reliability—the amount of water exported in 2022 will depend on subsequent studies relating to the amount of freshwater releases needed for fish—co=equal goals. The water conservation plan that would allow for slight increases in deliveries mentioned in this section should be identified (conveyance and CMs?).	USACE--SPK Regulatory	Clark
205	12	12D-ii	16-18	For alternatives 1C, 2C, and 6C, vernal pool impacts exceed that allowed for BDCP objectives; however, nothing is written about options of avoidance and minimization of impacts to these wetland features. Within the general footprint and alignment of these alternatives were other options proposed to avoid/minimize before considering the alts infeasible?	USACE--SPK Regulatory	Clark
206	12	12D-1-1	19-23	Engineering feasibility of implementing conservation measures SHOULD be considered at this planning level—there are flood control, public safety, and regulatory constraints associated with modification of flood control structures	USACE--SPK Regulatory	Clark

				(levees, weirs, etc,) for implementation of conservation measures. The authority and public safety responsibility addressed in the Rivers and Harbors Act section 14 (USC 33 Section 408) may preclude the ability of the agencies to modify flood control structures/systems. If these activities cannot be authorized then there may be less opportunity for habitat restoration and mitigation than anticipated.		
207	12	12D-2-1	5-14, 23-28	These sections are repetitive and reiterate what was discussed in previous section.	USACE--SPK Regulatory	Clark
208	12	12D-2-2	37-39	Unclear—briefly remind reader what protection feasibility assessment is as compared reserve system assembly principles.	USACE--SPK Regulatory	Clark
209	12	12D-2-5	22-26	Repetitive—discussed in section 12D-2-1	USACE--SPK Regulatory	Clark
210	21	12D-2-6	Table 12D-3	The creation/restoration of tidal perennial aquatic and tidal freshwater emergent community types may not be feasible if modeling of levee breaches includes breaching of deep water ship channels and other major federal project levees.	USACE--SPK Regulatory	Clark
211	12	12D-2-6	4-12	The creation/restoration of tidal natural community types may not be feasible if modeling of levee breaches includes breaching of deep water ship channels and other major federal project levees.	USACE--SPK Regulatory	Clark
212	12	12D-2-7	33-34	Literature describing growth rate of valley/foothill riparian natural community is available—USFS (Sierra NF, and associated USFS Research Stations) have studied such growth rates. Valley Oaks can take as long as 100 years to grow to a mature stage with branching structures able to support wildlife. Effects on the valley oak needs more detail in chapter 12—removal of acres of late succession riparian forest dominated by valley oak is a permanent loss of habitat that could be irretrievable and irreversible commitment of resources (takes several decades to grow back to mature stage, and a generation of citizens will be deprived of that resource). Revisit significance throughout document.	USACE--SPK Regulatory	Clark
213	12	12D		OVERALL—This chapter should provide feasibility assessment/discussion of compensating for impacts from CM1 to waters of the US (Section CWA section 404 and section RHA Section 10 waters) and required compensatory mitigation	USACE--SPK Regulatory	Clark
214	12	12D-3-7	26-29	Mid-successional riparian forest development may take 30 years to develop but late-successional with mature valley oak may take 100 years (for some offset from CM1), This should be discussed in chapter 12 and here. It cannot be offset until after late long term.	USACE--SPK Regulatory	Clark
215	12	12D-3-11	28-33	Mid-successional riparian forest development may take 30 years to develop but late-successional with mature valley oak may take 100 years (for some offset from CM1), This should be discussed in chapter 12 and here. It cannot be offset until after late long term. How does this offset for late successional fit in to the discussion here?	USACE--SPK Regulatory	Clark
216	12	12D-3-12	37-41	1317 acres of managed wetlands would be lost in the first 10 years, but the impact is not considered an adverse effect (and less than significant) because tidal wetland	USACE--SPK Regulatory	Clark

				habitat restoration would offset this? What about the ecosystem services provided by the managed wetlands?		
217	12	12D-3-14	Table 12D-9	Lots of good information here. The document should include a summary (one-page) of terrestrial impacts across the alternatives versus the overall conservation acres.	USACE--SPK Regulatory	Clark
218	12	Mapbooks Appendix		Mapbooks for Chapter 12 need to be updated to include all potential waters of the US—irrigation ditches, etc should be mapped.	USACE--SPK Regulatory	Clark
219	18	18-2	23	What are 'all avoidance and minimization efforts'. This sentence is confusing. I would recommend rephrasing to 'every effort will be made to avoid and minimize effects to historic properties/significant cultural resources'	USACE-SPK-Planning	Polson
220	18	18-2-18-3	31-2	Paragraph is unwieldy and repetitive recommend rewriting for clarity. Suggested rewrite: Where legal access to properties was available, cultural resource site visits were conducted to confirm the location of known resources. Site visits were performed over 6 days in 2009: May 19–21, September 21, October 27, and December 7. In addition, cultural resources surveys were conducted between May to August 2011. Documentation focused on photographing previously identified resources and recording locations using global positioning system (GPS) units. Surveys of [Insert number] previously recorded sites were completed. However, litigation in 2010 restricted DWR's ability to access all sites that could have been relevant to this analysis. This prohibition remains in effect for numerous properties as of the time of this Draft EIR/EIS. The majority of the sites revisited in 2009 and 2011were in the southern and western portions of the Plan Area.	USACE-SPK-Planning	Polson
221	18	18-3	4	Recommend Replacing 'More comprehensive surveys' with 'Reconnaissance level surveys'	USACE-SPK-Planning	Polson
222	18	18-3	6	When was background research done? Is this same background research mentioned above? If so, not necessary to mention it here.	USACE-SPK-Planning	Polson
223	18	18-3	8-9	Recommend deleting 'For built-environment resources, the entire survey was conducted from public right-of-way and' it is duplicative and unnecessary.	USACE-SPK-Planning	Polson
224	18	18-3	10	Access is not necessarily sufficient for assessing eligibility of resources. I would recommend elaborating on this. For example, "Where access to a given resource was available and sufficient data could be collected, its eligibility for listing in the National Register of Historic Places and California Register of Historical Resources was assessed.	USACE-SPK-Planning	Polson
225	18	18-3	10-11	Improper terminology. You do not evaluate for significance under the NHPA. You apply the criteria to determine if the resource is eligible for listing in the NRHP as a historic property	USACE-SPK-Planning	Polson
226	18	18-3	12-14	Sentence is confusing. Rewrite for clarity. Recommend: Where dense tree cover, recent structures, or landscaping obscured cultural resources, they were not evaluated.	USACE-SPK-Planning	Polson

227	18	18-3	14	This portion of the sentence appears to be a separate thought: because the associated parcel was not typically legally accessible for closer inspection. Recommend fleshing out the thought.	USACE-SPK-Planning	Polson
228	18	18-3	16	Recommend deleting: because the setting could not be adequately observed. It does not follow from the rest of the sentence. If you feel this is an important, I would recommend splitting the sentences.	USACE-SPK-Planning	Polson
229	18	18-3	17	Recommend being more specific on what effect mechanisms are. For example rewrite: and specific BDCP...,	USACE-SPK-Planning	Polson
230	18	18-3	4-18	Number of resources recorded?	USACE-SPK-Planning	Polson
231	18	18-3	20-21	Wouldn't these count as initial site visits? Not actual survey? It sounds like you are doing the same activities. Make sure that you are clear as to how these are different activities.	USACE-SPK-Planning	Polson
232	18	18-3	20	How many sites?	USACE-SPK-Planning	Polson
233	18	18-3	21-44	What does this have to do with field surveys? Your content, while correct, does not relate to your subject heading and is not pertinent to archaeological field *surveys*. This section should focus on the efforts to survey and record archaeological sites. Recommend deleting/moving to a more appropriate location (e.g. evaluation of resources).	USACE-SPK-Planning	Polson
234	18	18-4	18-19	Number of resources?	USACE-SPK-Planning	Polson
235	18	18-4-5	20-17	Organization. This was done before the Fieldwork, should be discussed before the field work. Recommend moving paragraphs.	USACE-SPK-Planning	Polson
236	18	18-4	32	When were the searches conducted	USACE-SPK-Planning	Polson
237	18	General		Watch your Acronyms, they are defined multiple times and you swap back and forth. Should be defined on first use and used consistently after that.	USACE-SPK-Planning	Polson
238	18	18-4	33-34	Number of resources? Even a general number would be better than the vague sentence given here. E.g. A total of 700 cultural resources are currently known to exist within the plan area including Native American…	USACE-SPK-Planning	Polson
239	18	18-4	21-25	Number of resources identified.	USACE-SPK-Planning	Polson
240	18	18-6	6	While there were a number of 'untrained' individuals excavating mounds for burials/goods, the archaeology of the time was focused on larger 'cultural historical' memes and often these were developed by excavating burials which gave a snapshot of the culture that often could be linked to a specific time period. I think it is important to include this phase and not lump the two groups together as it	USACE-SPK-Planning	Polson

				appears to have been done here.		
241	18	18-6-7	41-2	Is the discussion/differentiation of calibrated years necessary (used elsewhere)? If not, not sure it needs to be here. May cause confusion, since non-calibrated dates are more prevalent.	USACE-SPK-Planning	Polson
242	18	18-8	4-20	May want to add something about the already organically rich non-cultural soils present in the delta that are already dark and that archaeological sites would contain other non-organic artifacts and can sometimes be hard to differentiate.	USACE-SPK-Planning	Polson
243	18	18-8	33	Pottery rare if not non-existent in the Delta. Although there is some in the very late prehistoric-era in the foothills. Recommend deleting pottery or providing reference.	USACE-SPK-Planning	Polson
244	18	18-8	38	Both milling slicks and mortars are used to crush plant material. Recommend rewriting to state: Bedrock milling features are typically bedrock mortars (oval or circular depressions worked into rock) and/or millingslicks (flat grinding surfaces).	USACE-SPK-Planning	Polson
245	18	18-9	6-11	What is a baked clay deposit? This is a heretofore unknown resource type (to me at the least) that should be classified under a midden site or reference given. Recommend deletion of section.	USACE-SPK-Planning	Polson
246	18	18-9	10	Baked clay grinding tools? I have never heard of this before, but I am definitely not an expert on baked clay artifacts. Provide reference or delete.	USACE-SPK-Planning	Polson
247	18	18-12	31	Because all prehistoric archaeological sites could be interpreted as 'Native American Sites', recommend adding the word 'Ethnographic' to the heading title. Or just call them Native American TCPs.	USACE-SPK-Planning	Polson
248	18	18-14	7	Check your date, I'm pretty sure it was in the 1700s potentially 1782?	USACE-SPK-Planning	Polson
249	18	18-14	26	There aren't any levees downstream of the delta, I am pretty sure you mean upstream.	USACE-SPK-Planning	Polson
250	18	18-14	29	Delete 'so-called' This act is known widely as the Swampland Act.	USACE-SPK-Planning	Polson
251	18			Numerous typographical errors throughout chapter. Entire chapter should be subject to an editorial review	USACE-SPK-Planning	Polson
252	18			The Regulatory Division at the Corps is not subject to the 800 regulations. Need to add discussion of CFR 325 Appendix C.	USACE-SPK-Planning	Polson
253	18	18-27	29-34	Need to specify that an APE needs to be determined	USACE-SPK-Planning	Polson
254	18	18-30	1-4	Specify the Criteria numbers for each bullet (1-4)	USACE-SPK-Planning	Polson
255	18	18-31	33-41	Rare examples are not held to lesser standards of integrity. They may be eligible under different criteria, but they still need to maintain integrity for those characteristics that make it eligible for listing in the register	USACE-SPK-Planning	Polson
256	18	18-32	22-25	This section is too passive and may be construed incorrectly, all resources over 45	USACE-SPK-	Polson

				years old within the APE should be evaluated for significance, recommended rewrite : If a property known to be 45 years old or older has been significantly altered within the last 45 years, such that it no longer retains character-defining elements, is not recognizable as a historic resource, and no longer retains its ability to convey its historical associations or attributes, it would not be considered eligible for the NRHP or CRHR.	Planning	
257	18	18-33to 18-34	1-43 and 1-31	This section is overwritten. The purpose of an EIS/IR is to explain to the public why we are doing what they are doing. This should be simplified for clarity.	USACE-SPK-Planning	Polson
258	18	18-35 to 18-36	40-42 and 1-41	How necessary is this section? This is overwritten and should be simplified for clarity by summarizing the pertinent information.	USACE-SPK-Planning	Polson
259	18	18-42	19	Site specific regulation concerning finding of adverse effect under the CFR 800. Also these are referred to adverse effects not just adverse.	USACE-SPK-Planning	Polson
260	18	18-41	16-39	No discussion of NEPA under determination of effects. This determination is separate from the NHPA determination of effects.	USACE-SPK-Planning	Polson
261	18	18-44	30-32	The height of the structure should be considered under this bullet and the distance it would be visible in the surrounding area	USACE-SPK-Planning	Polson
262	18	18-45	34-35	Recommend deleting the final sentence it is repetitious	USACE-SPK-Planning	Polson
263	18			This is an EIS should use Federal language and be consistent.	USACE-SPK-Planning	Polson
264	18	18-46	10-13	Implementation of biological opinions is covered under other projects, not the work of the biological opinion itself. By itself a biological opinion does not have the potential to cause adverse effects to historic properties.	USACE-SPK-Planning	Polson
265	18	18-46	16-19	Data recovery is meant to recover an appropriate sample to the extent that further information would be duplicative. While it is true that not everything from a site can be recovered it is possible to mitigate fully for damages to a site eligible under Criterion D through mitigation.	USACE-SPK-Planning	Polson
266	18	18-47	1	Is this table meant to be comprehensive? If so there are numerous projects currently underway that have been left out.	USACE-SPK-Planning	Polson
267	18	18-47	1	Under Biological Opinions. Again these by themselves do not have the potential to impact cultural resources. They must be implemented through other projects.	USACE-SPK-Planning	Polson
268	18	18-48	1-11	No mention of effects under NEPA	USACE-SPK-Planning	Polson
269	18	18-48 to 18-192	All	There is no mention of effects under NEPA, only under the NHPA and CEQA. As this is an EIS the effects under NEPA should be clearly stated.	USACE-SPK-Planning	Polson
270	18	18-48 TO	All	For purposes of the alternatives review I have attempted to lump comments to	USACE-SPK-	Polson

		18-192		limit the number of repetitious comments. Comments pertaining to these pages should be looked at as pertaining to every reiteration of the same text.	Planning	
271	18	18-48	34-35	Recommend deleting: sentence beginning 'Collectively' it is repetitious and unnecessary.	USACE-SPK-Planning	Polson
272	18	18-48	38	Specify the number of midden sites. If other sites are not midden sites, specify what they are as well, there is no mention of other site types within this analysis.	USACE-SPK-Planning	Polson
273	18	18-48 to 18-49	39-10	Recommend deleting information as it is covered elsewhere in the chapter.	USACE-SPK-Planning	Polson
274	18	18-49	13	Specify the number of remaining sites. This is ambiguous.	USACE-SPK-Planning	Polson
275	18	18-49	15-22	Recommend deleting this information as it is or should be covered elsewhere. Also because the Native American Community in general restricts the information that can be collected about human remains this restricts the resources potential to yield information about the past and may disqualify this type of resource under Criterion D/4 as eligible for the register.	USACE-SPK-Planning	Polson
276	18	18-49	22-23	Use the proper terminology. Resources are not significant under the NRHP they are either listed in, eligible for or not eligible for listing in the NRHP. Fix throughout chapter.	USACE-SPK-Planning	Polson
277	18	18-49	24	Recommend replacing expansive for large. In general, should simplify language throughout the chapter for clarity.	USACE-SPK-Planning	Polson
278	18	18-49	26	What are the significance themes referenced here?	USACE-SPK-Planning	Polson
279	18	18-49	28	Cultural resources do not qualify as historic properties, they are either eligible or not eligible. Please use correct terminology for consistency and clarity.	USACE-SPK-Planning	Polson
280	18	18-49	30-31	Is it necessary to reiterate that the site location information cannot be divulged? It is already explained elsewhere in the chapter. I recommend it not be the opening sentence of each effects section. I recommend deleting this reference (and all other references) and limit it to the section which discusses the laws relating to the confidential nature of site location information and the appendix which describes each resource.	USACE-SPK-Planning	Polson
281	18	18-49	36-41	Is this necessary? If so, I would recommend simplifying it to: Because site structure and the provenience of artifacts within a site is directly tied to their ability yield information about the past, ground disturbing activities during construction would constitute an adverse effect. Or similar.	USACE-SPK-Planning	Polson
282	18	18-49	44-45	Recommend rewriting the phrase 'because not all identified resources are legally accessible, these resources may be significant for other reasons than their data potential.' Legal accessibility has nothing to do with their significance or eligibility. Recommended rewrite: Because not all of the identified resources were fully	USACE-SPK-Planning	Polson

				evaluated these resources may be eligible under additional Criteria.		
283	18	18-49 to 18-50	45-2	Indirect effects to setting, feeling, and association would not diminish the characteristics that make most archaeological sites eligible for listing the NRHP, namely their ability to yield information about the past. This is an incorrect indirect effects assumption.	USACE-SPK-Planning	Polson
284	18	18-50	4	'This effect would be adverse.' This sentence or a variation thereof is in every Anticipated Effects section. I have the following questions: What effect? What law/regulation is this effect adverse under? Recommend this sentence be rewritten for clarity throughout document.	USACE-SPK-Planning	Polson
285	18	18-50	6-10	`DWR identified these resources and finds that they are likely to qualify as historical resources under CEQA (); these resources thus have the potential to qualify as historical resources. Therefore, these sites are considered historic resources for the purposes of CEQA.' This pair of sentences does not convey which resources and why they are significant and should be rewritten. The reference to the Appendix is unnecessary at this point because the reader should have already read the section about the resources. This statement should specify which sites have been determined significant and why (Criteria).	USACE-SPK-Planning	Polson
286	18	18-50	10-15	What impact? Overall this sentence is confusing and again refers to alteration of the setting causing an indirect adverse effect which is not the case for almost all archaeological sites.	USACE-SPK-Planning	Polson
287	18	18-50	16-19	This may be a CEQA thing, if so please ignore, but in general data recovery is not meant to recover all data from a site, but it is meant to recovery significant data from the site and a site can be fully mitigated through its use.	USACE-SPK-Planning	Polson
288	18	18-50	24-26	What about historic properties? Since this is an EIS/IR, need to deal with federal as well as state designations	USACE-SPK-Planning	Polson
289	18	18-50 to 18-192	All	No Mitigation Measure actually cites the PA. Since the PA will be guiding the federal work on this project, the MM should directly reference the PA and be modeled after the PA.	USACE-SPK-Planning	Polson
290	18	18-50	32-33	What resources? What features? Be specific.	USACE-SPK-Planning	Polson
291	18	18-50	34-37	You list 'environmental considerations' and then list additional objectives as protection of environmental resources. Would delete one or the other. Recommend deleting sentence beginning "these objectives"	USACE-SPK-Planning	Polson
292	18	18-51	7-11	Need to state the standards. E.g. Secretary of Interiors standards. Otherwise this qualification is vague.	USACE-SPK-Planning	Polson
293	18	18-51	18-20	Data Recovery Plan is generally not a public document. If it is not a public document there is no reason why location information would not be included.	USACE-SPK-Planning	Polson
294	18	18-51		I understand this is a mitigation measure, but at this point no testing has been done	USACE-SPK-	Polson

				to evaluate the integrity, horizontal or vertical extent of the site. Even though DWR is considering these sites to be eligible, they still need to be fully evaluated before moving into data recovery, which equals testing.	Planning	
295	18	18-51 to 18-52	7-44 and 1-29	Is this necessary? This information should be contained within the PA and a HPMP, both of which should be referenced here.	USACE-SPK-Planning	Polson
296	18	18-51	32-41	Duplicates information found on 18-52, lines 10-18, recommend deletion of these bullets.	USACE-SPK-Planning	Polson
297	18	18-52	1	Recommend changing 'After' to 'If'	USACE-SPK-Planning	Polson
298	18	18-52	8-9	Location of reburial is required with the appropriate CHRIS Info center	USACE-SPK-Planning	Polson
299	18	18-52	16-18	Recommend citing qualifications for curation facility, e.g. compliant with CFR 79	USACE-SPK-Planning	Polson
300	18	18-52	34-44	Already been stated, recommend starting section at Line 44 'a' (if comment 83 not taken)	USACE-SPK-Planning	Polson
301	18	18-52		Impact CUL-2, recommend combining Impacts/MM CUL-1 and CUL-2. Although they are dealing with identified vs. unidentified sites the mitigation for these sites will be the same. Combining the impacts/measures will simplify and clarify the section for the reader.	USACE-SPK-Planning	Polson
302	18			In a federal document, federal language/regulations should be addressed first followed by state/local	USACE-SPK-Planning	Polson
303	18	18-53	6	Access has nothing to do with the presence of sites. Recommend deletion of last phrase	USACE-SPK-Planning	Polson
304	18	18-53	11-17	Recommend moving paragraph above lines 4-10 to improve organization	USACE-SPK-Planning	Polson
305	18	18-53	22-25	The sensitivity of an area for cultural resources and the likelihood of those resources being intact are not linked, recommend splitting sentence to increase clarity.	USACE-SPK-Planning	Polson
306	18	18-54	9-12	Recommend deleting first sentence, doesn't matter why it wasn't done in the first place, only that it will be done prior to project construction	USACE-SPK-Planning	Polson
307	18	18-54	7-8	Should mention the PA/HPMP	USACE-SPK-Planning	Polson
308	18	18-54	13	Scope of inventory should state area of potential effects. APE will include construction areas, staging areas and indirect effects	USACE-SPK-Planning	Polson
309	18	18-54	30-35	Recommend rewrite of this bullet e.g.: DWR and/or the appropriate federal agencies will determine if the individual resources qualifying as historic properties, unique archaeological sites, or historical resources will be subject to adverse effects	USACE-SPK-Planning	Polson

				and require mitigation. The BDCP proponents will make such a determination if the BDCP would involve any of the following effects.		
400	18	18-54 to 18-55	38-2	This contradicts itself. Either it is a historic property or it is not. If it is not been determined a historic property, it doesn't need to be addressed here.	USACE-SPK-Planning	Polson
401	18	18-55	3-4	Should combine this with bullet one on page 18-54 it says virtually the same thing. Just cite both regulations.	USACE-SPK-Planning	Polson
402	18	18-55		Treatment Plan should be a Historic Property Treatment Plan under Section 106.	USACE-SPK-Planning	Polson
403	18	18-55	33-36	This should be stated in opening bullet (lines 7-10)	USACE-SPK-Planning	Polson
404	18	18-55	37-43	Recommend deletion it has already been stated.	USACE-SPK-Planning	Polson
405	18	18-56	1-6	Recommend deletion it has already been stated	USACE-SPK-Planning	Polson
406	18	18-56	7-18	This should include a phrase that the appropriate federal agencies will be contacted.	USACE-SPK-Planning	Polson
407	18	18-56	19-21	This is a federal document. Cannot state that the feds modify however they want. Need to address what both the DWR and affiliated federal agencies will do. Fed agencies=follow the PA. This paragraph is used many times throughout document, this comment applies to all occasions.	USACE-SPK-Planning	Polson
408	18	18-56	34-35	Recommend deleting or rephrasing 'because subsurface sampling to identify every buried resource is economically and technically infeasible.' While technically true, the use of subsurface survey level testing has proven immensely useful in avoiding cultural resource effects in the past.	USACE-SPK-Planning	Polson
409	18	18-56	39-42	Recommend swapping last two sentences for organization and clarity.	USACE-SPK-Planning	Polson
410	18	18-57	1-4	Unlikely that historic resources will be buried.	USACE-SPK-Planning	Polson
411	18	18-57	8	Damage and disturbance should read 'effects'	USACE-SPK-Planning	Polson
412	18	18-57	29-33	May want to include the ground located above sea level as part of monitoring actions especially when in the heart of the delta. These would have been the areas used prehistorically	USACE-SPK-Planning	Polson
413	18	18-57	34-38	Recommend specifying 100 ft as the stop work buffer	USACE-SPK-Planning	Polson
414	18	18-57	39-41	Be consistent when referring to GPS use and capability. Can't remember where, but previous to this a different standard was used.	USACE-SPK-Planning	Polson
415	18	18-57 and	42-5	This should be done in accordance with the PA	USACE-SPK-	Polson

		18-58			Planning	
416	18	18-56 to 18-192	All	Recommend combining Impacts/MM CUL-3 and CUL-4. Although they are slightly different in what they find, overall the process to mitigate for effects is similar enough to be combined into a single concept. It will simplify the document and clarify the process for the public.	USACE-SPK-Planning	Polson
417	18	18-59	8	What deposit?	USACE-SPK-Planning	Polson
418	18	18-59	8-15	Break apart State and Federal requirements. Recommend adding If Native American Human remains are found on State Land. Delete portion referring to federal land.	USACE-SPK-Planning	Polson
419	18	18-59	25	Location is recorded with CHRIS	USACE-SPK-Planning	Polson
420	18	18-59	32-41	Recommend deleting duplicative information and citing original location	USACE-SPK-Planning	Polson
421	18	18-60	7-11	Recommend deleting these lines up to 'As identified'	USACE-SPK-Planning	Polson
422	18	18-60	13-14	Contradicts earlier statement that locations of resources cannot/will not be disclosed	USACE-SPK-Planning	Polson
423	18	18-60		Recommend Combining Impacts/MM CUL-5 and CUL-6 for same reasons recommended for other combinations	USACE-SPK-Planning	Polson
424	18	18-61	16	What is a built environment treatment plan? Should be termed a historic property treatment plan for consistency and clarity.	USACE-SPK-Planning	Polson
425	18	18-61	18	Who are the relevant parties?	USACE-SPK-Planning	Polson
426	18	18-61	22	What about indirect effects?	USACE-SPK-Planning	Polson
427	18	18-61	24-28	This is confusing. Are these going to be prepared for only those structures next to construction that are in poor condition? Or are all buildings going to be recorded that are in/next to constructions corridors?	USACE-SPK-Planning	Polson
428	18	18-61 to 18-62	41-2	Recommend deleting, this is not a mitigation measure.	USACE-SPK-Planning	Polson
429	18	18-62	7-11	This will only mitigate effects for those characteristics under C. May require additional mitigation if eligible under multiple criteria	USACE-SPK-Planning	Polson
430	18	18-62	12-18 and 27-33	NPS also determines the extent/level of recordation for these types of resources.	USACE-SPK-Planning	Polson
431	18	18-62	20-22	I would not recommend doing HAER recording on levees. It is overkill and not that much information gained/saved. Because these are by and large not Engineered resources but merely built resources, I would recommend using some other form of	USACE-SPK-Planning	Polson

				recordation to record levee systems. Such as detailed historic backgrounds and compilation of historic materials related to the levees, but not to HAER standards.		
432	18	18-62	34-38	Recommend deletion of word Deconstruction.	USACE-SPK-Planning	Polson
433	18	18-63	8-21 and 30-40	You introduce TCPs in the Anticipated Effects section of this Impact that are not discussed under the impact. Because TCPs come in many forms and are many times non-structural, I would recommend separating out TCPs as a separate effect.	USACE-SPK-Planning	Polson
434	18	18-63	3-4	Is it necessary to state that it was lack of legal accessibility that led to the majority of the alternatives to not be surveyed. Is it more accurate to just say that the entire area could not be surveyed. I can't imagine that the entire area would have been surveyed for all alternatives. It would be a waste of money and time since not all potential project elements are present in one alternative.	USACE-SPK-Planning	Polson
435	18	18-63	8-11	Are the properties historic or are there buildings or structures that are eligible located on the properties?	USACE-SPK-Planning	Polson
436	18	18-63	19-21	Disjunction between 'are likely' and 'they will qualify', would recommend changing to 'may qualify'	USACE-SPK-Planning	Polson
437	18	18-63	33-34	Native American TCPs are generally not structural.	USACE-SPK-Planning	Polson
438	18	18-64	42	DWR may not be the one making the determinations/decisions. Need to bring in the federal partners roles.	USACE-SPK-Planning	Polson
439	18	18-65	1-11	Recommend combining the bullets they really all say the same thing just under different laws which can be cited under a single bullet.	USACE-SPK-Planning	Polson
440	18	18-66	1-2	Recommend deleting phrase in () it is redundant and unnecessary.	USACE-SPK-Planning	Polson
441	18	18-66 to 18-69	CUL-7	I assume these are elements of the Alternative overall, these would then be part of the overall APE for the program and mitigation would be undertaken under the existing MM as defined previously. Recommend deleting this MM measure as redundant.	USACE-SPK-Planning	Polson
442	18	18-69 to 18- 71	CUL-8	This impact is not relevant to effects to cultural sites, rather it is a discussion of how the various regulations a laws could/should work together in the overall consultation process. This discussion would be better served in the regulatory setting of the chapter. Recommend deleting this as an impact and moving discussion as stated.	USACE-SPK-Planning	Polson
443	18	Impact CUL-1	21-41 and 1-39	Very repetitious of Alternative 1A. Level of detail necessary?	USACE-SPK-Planning	Polson
444	18	18-71	30	Need to specify number of known sites for all Alternatives/impacts.	USACE-SPK-Planning	Polson

445	18	18-74	9	Number of known?	USACE-SPK-Planning	Polson
446	18	18-81	3-8	Is this one of the 12? If so, need to rewrite section to indicate that there are 11 potentially eligible resources. If not, need to explain where this one came from. Why is this site singled out for discussion when none of the other eligible sites are? Seems inappropriate to devote discussion to a site that is not eigible. Need to deal with Yol-165/H wherever it occurs in the document.	USACE-SPK-Planning	Polson
447	18	18-83 to 18-84	39-3	Paragraph appears contradictory, less sensitive vs more sensitive. Needs to be more clearly stated.	USACE-SPK-Planning	Polson
448	18	18-88	36-37	Lists the site numbers to be effected, should be done consistently for all alternatives/impacts. Why are these not listed for other alternatives?	USACE-SPK-Planning	Polson
449	18	18-99	28-29	If you know the number just state it at the beginning of the paragraph rather than hiding it. This could lead to confusion. Recommend being specific where applicable for clarity.	USACE-SPK-Planning	Polson
450	18	18-100	5	States that 'Approximately 67' unevaluated resources were identified. This is something that should be known. Recommend stating what was identified. This uncertainty appears elsewhere in the chapter and should be updated throughout	USACE-SPK-Planning	Polson
451	18	CUL-5 and 6		Need to take into account that not all unevaluated resources will be eligible/significant	USACE-SPK-Planning	Polson
452	18	Alt4		Why are all Impacts/MM fully spelled out again? These should be summarized and refer to other Alternatives, like all the other Alternatives do.	USACE-SPK-Planning	Polson
453	18	Alternatives 5-9		See comments on other Alternatives	USACE-SPK-Planning	Polson
454	18	18-192	10-13	Need to recognize that only one alternative would be chosen.	USACE-SPK-Planning	Polson
455	18	18-192	15	Repair to levees rarely results in ground disturbing work.	USACE-SPK-Planning	Polson
456	18	18-194 to 18-195	32 – 17	How are these MM cumulative? If they are being done already how is the project having a cumulative effect that would have already been mitigated?	USACE-SPK-Planning	Polson
457	18	All		The document is overwritten and obscures the process rather than explaining it to the public.	USACE-SPK-Planning	Polson
458	18	All		There is no mention of the Programmatic Agreement	USACE-SPK-Planning	Polson
459	18	All		The federal process is downplayed and is virtually absent from the document.	USACE-SPK-Planning	Polson
460	18	All		The Impacts/MM are split too finely. They could easily be stated in 4 instead of 8: Archaeological sites, Built environment, TCPs, and Unanticipated Finds/Effects.	USACE-SPK-Planning	Polson
461	18A	4	15	Column is labeled 'Burial Site Potential', Assume it should be 'Buried Site Potential'	USACE-SPK-	Polson

					Planning	
462	18A	5	17-18	Appears to contradict the Alternative analysis in the chapters which states that the archaeological sites are evenly distributed throughout the project but clustered in the northern and southern boundaries	USACE-SPK-Planning	Polson
463	18A	7	9	Recommend changing on-the-ground to survey or pedestrian survey for clarity	USACE-SPK-Planning	Polson
464	18A	9	2	Table says it combines all the alternatives, but site numbers are duplicated, delete duplications.	USACE-SPK-Planning	Polson
465	18B			All comments should be taken as guidelines for entire Appendix, as I was trying to avoid repetitive comments	USACE-SPK-Planning	Polson
466	18B	1	5	Table uses inconsistent labeling techniques for Trinomials. E.g. CA-SAC-57 and CA-SAC-057. Edit for consistency	USACE-SPK-Planning	Polson
467	18B	2		Table endnote: states that it does not include sites for which there are no site records: What are these other sites? How do we know about them? Why are they brought up here since there is no discussion about them anywhere else in the document?	USACE-SPK-Planning	Polson
468	18B	3	1	Table heading. Accessibility in () should have nothing to do with the Evaluation and should be removed.	USACE-SPK-Planning	Polson
469	18B	3	1	Table contents. This table should include a column which reflects whether or not the resource was found eligible for the NRHP/CRHR and criteria that apply. If all items in the table are Eligible then recommend just a column with the criteria	USACE-SPK-Planning	Polson
470	18B	3	1	Table Contents: Recommend adding a column that identifies whether or not the impacts/effects are adverse. You can have an effect on a site that is not adverse and would require no mitigation.	USACE-SPK-Planning	Polson
471	18B	5	1	Under project feature the states: 'Permanent surface impact from tunnel muck potentially visible from across the river. If below River Road height, no impact.' This is confusing. Do you mean that the muck will have a indirect visual impact from across the river or that it will have a direct surface impact. Please clarify	USACE-SPK-Planning	Polson
472	18B	32	1	Formatting of text should be portrait not landscape	USACE-SPK-Planning	Polson
473	18B	32	2	Recommend moving Archaeological Site Descriptions Section before the table with all the Built resources for organizational clarity.	USACE-SPK-Planning	Polson
474	18B	32	6-7	States that the number and richness of identified resources suggests that potentially damaging test excavations … would be premature. Non sequiter. The uncertainty of the Alternative chosen would be the reason to hold off on test excavations, not the fact that there are a lot of good sites.	USACE-SPK-Planning	Polson
475	18B	B.1.2		All site descriptions. In chapter 18 site visits are discussed, but none of the sites listed in this section mention that they were visited during the site visits. If not	USACE-SPK-Planning	Polson

				these sites, which ones? Only historic era sites? Need to clarify that here and in Chapter 18.		
476	18B	32	17	States that site is 'relatively vast' when in reality it is fairly standard and even small in comparison to some of the other sites in this list. Recommend taking out terms like vast, expansive, etc. it may give a false picture to the readers.	USACE-SPK-Planning	Polson
477	18B	B.1.2		The determination of eligibility for the majority of these sites is extremely weak. Given the information presented here, as a federal reviewer, the best I would recommend is potentially eligible. I could not determine a single one of these sites eligible based on this information. Most of these sites haven't been seen for 50+ years. To determine eligibility because there is likely an intact deposit is a very weak argument. I understand that you need to evaluate the potential effects, but you also need to leave room for the relocation and testing efforts that need to take place in order to determine the sites eligibility properly, which is not expressed here nor in Chapter 18.	USACE-SPK-Planning	Polson
478	18B	33	4	'debitage' is a technical term and if it going to be used should be defined	USACE-SPK-Planning	Polson
479	18b	33	12	Recommend removing the word 'cursory' from description. While it may be true, it actually sounds better than some of the other site records, which had no information	USACE-SPK-Planning	Polson
480	18B	33		Several descriptions discuss mound sites as having 'substantial deposits below grade', this would only become important for integrity if the resource had been leveled, which none of the sites with this caveat mention. Recommend either discussing the leveling of the site (if it was) or rephrasing it in such a way that it does not imply leveling if its status is unknown	USACE-SPK-Planning	Polson
481	18B	33	20	Uses both meters and feet to describe a prehistoric site, recommend converting both to metric system	USACE-SPK-Planning	Polson
482	18B	33	29	Implies that a portion of the deposit was curated. Clarify for accuracy. Unless of course they did curate the deposit rather than the artifacts.	USACE-SPK-Planning	Polson
483	18B	34	14-21	Found as a historical resource, even though the site has not been relocated since 1959 although an attempt was made in 2007? Makes it tenuous at best. Agree that it cannot be written off, but need to build the case better and allow for some of these sites to be not eligible.	USACE-SPK-Planning	Polson
484	18B	35	27-30	Confused why you are still calling this a 'Baked Clay Deposit' when according to your own research the test excavations have not substantiated this claim? Also faulty to use this explanation as part of why this site would be eligible, since it has yet to be shown to be nothing more than a typical midden site.	USACE-SPK-Planning	Polson
485	18B	36	5-13	This site was determined a historical resource because it likely had intact deposits, however, based on the description this site may not even exist anymore as it was found in the river back and may have washed away. Need to clarify reasoning	USACE-SPK-Planning	Polson

				better.		
486	18B	36	27	You should account for all site visits. You say that it was recorded in 1929 and revisited in 1992. Then in the next sentence you bring up a 1947 excavation. Need to add 1947 excavation to listing of visits.	USACE-SPK-Planning	Polson
487	18B	36-37	26-4	Discussion of how the removal of 230+ burials out of a 40x20 meter site as still having intact deposits? It is just as likely that remaining material is disturbed back dirt and no intact deposits exist. Need to leave room for sites to be not eligible.	USACE-SPK-Planning	Polson
488	18B	37	7-8	'Early date' as 1962. While this was still 'early' more secondary sites were starting to be recorded during this phase.	USACE-SPK-Planning	Polson
489	18B	37	10	Sites are rich in what?	USACE-SPK-Planning	Polson
490	18B	37	17	Recommend rewriting 'of the various' to read 'defined by ' for clarity.	USACE-SPK-Planning	Polson
491	18B	37	24	Radiocarbon dates are added in the description with no context. Please provide context.	USACE-SPK-Planning	Polson
492	18B	37	24	Which site record?	USACE-SPK-Planning	Polson
493	18B	37	25	1982? Either typo or provide reference.	USACE-SPK-Planning	Polson
494	18B	37	26	States that deposits might be intact, except that no one has been able to relocate site. Need to explain/clarify how this might still be eligible.	USACE-SPK-Planning	Polson
495	18B	38	3	Term 'ancillary resource' is ambiguous and confusing. Recommend rephrasing.	USACE-SPK-Planning	Polson
496	18B	38	19-20	Cite excavation report if available.	USACE-SPK-Planning	Polson
497	18B	40	10	Sentence fragment: Test excavations… recommend deletion	USACE-SPK-Planning	Polson
498	18B	40	20-21	If the site record hasn't been updated since 1939 how can we know that it was leveled in 1950?	USACE-SPK-Planning	Polson
499	18B	41	18	Conflicting reports on integrity by whom? Need to clarify/explain this.	USACE-SPK-Planning	Polson
500	18B	41	27	Length is given in feet, should be in metrics	USACE-SPK-Planning	Polson
501	18B	42	7	No date referenced for site record	USACE-SPK-Planning	Polson
502	18B	42	15	States that burials are diverse, however these evidence just related says that they were all flexed with similar artifacts. If they were truly diverse, then must explain.	USACE-SPK-Planning	Polson
503	18B	42	19-24	If this site has presumably been completely destroyed how does it fit into the	USACE-SPK-	Polson

				discussion in chapter 18? Review and make sure discussion is consistent	Planning	
504	18B	44	1-22	It appears that many of these listings are not complete. Please update. Also make sure that each has the period of significance and eligibility criteria stated.	USACE-SPK-Planning	Polson
505	18B	44	3	Was this resource formally evaluated for removal from the NRHP?	USACE-SPK-Planning	Polson
506	18B	44	23-24	I assume this was a break from the last section. Need to clearly indicate this.	USACE-SPK-Planning	Polson
507	18B	44	28	Sites Lisbon district described previously. No description of Lisbon District in this Appendix.	USACE-SPK-Planning	Polson
508	18B	49	29	States was determined eligible in 2003. Please state by whom (if information available) and if it was done by consensus (consultation with SHPO).	USACE-SPK-Planning	Polson
509	18B	50	7	'appear to be eligible'—need to provide basis for this preliminary evaluation and methods used to reach your conclusions.	USACE-SPK-Planning	Polson
510	18B	50	19-24	Need to provide more information on how Catherine Mosher was important local person (e.g. Name of seed company/ranch) and how this building was associated with why she was important. Goes for other sites recommended as eligible under B.	USACE-SPK-Planning	Polson
511	18B	52	1-5	This may also be eligible under C as a unique example of a type?	USACE-SPK-Planning	Polson
512	18B	52	25-29	If this resource has already been determined eligible by CalTrans, why is it in a section that is for resources that 'appear to be eligible'?	USACE-SPK-Planning	Polson
513	18B	56-90		Need to provide a finding of effect that describes how the program will cause 'adverse' effects to eligible sites, before proposing mitigation measures. Also your mitigation measures should be scaled to the degree of effect on the resource. Without the finding of effect it is hard to evaluate the appropriateness of the mitigation measures suggested.	USACE-SPK-Planning	Polson
514	19	All		Chapter contains none of the previously supplied information on commercial boat traffic on Mokelumne, Old and Middle Rivers and as a consequence does not mention if there would be any impacts to that commercial shipping traffic or not.	USACE--SPK Regulatory	Nepstad
515	19	All		No mention of size of largest boat/barge upstream of Sac River Intakes and of largest boat/barge which has ever gone up river past where intakes and cofferdams would be and if those could pass by the intakes or cofferdams. Dimensions should be given, not simply statements that there will be enough room for boats typically observed. What about barges full of rock for emergency flood fighting/levee repair or a barge mounted crane for a bridge repair, could those get around the cofferdams and the intakes on Sac River? What about the Delta King? Others have some sizeable boats, what about them? Will large vessels and barges be unable to go up and down the Sac River during the construction of the intakes (when cofferdams in) or not?	USACE--SPK Regulatory	Nepstad

516	19	All		No mention of how far into the water the intakes, cofferdams and other structures would protrude into the water and on what depths and widths of the river and delta waterways would remain for boat passage. Dimensions should be given, not simply statements that there will be enough room for boats typically observed.	USACE--SPK Regulatory	Nepstad
517	19	All		Are the locks proposed as part of BDCP sized to allow passage of everything that is currently able to use those waterways? What are the dimensions?	USACE--SPK Regulatory	Nepstad
518	19	All		Would waterways be blocked by construction barges during periods of construction, what their dimensions and what portion of channels would remain for public. Dimensions should be given, not simply statements that there will be enough room for boats typically observed.	USACE--SPK Regulatory	Nepstad
519	30	General		For Section 408 review, Chapter 30 should contain a write-up/discussion of Executive Order 11988.	USACE-SPK-Operations	Adam Riley
520	32	32-10	28-32	Section 14 (also known as Section 408 from 33 USC 408) provides that the Secretary of the Army, on the recommendation of the Chief of Engineers, may grant permission for the temporary occupation or use of any sea wall, bulkhead, jetty, dike, levee, wharf, pier or other work built by the United States. This permission will be granted by an appropriate real estate instrument in accordance with existing real estate regulations. To initiate the Section 408 permission process, the Federal lead agencies will submit the following.	USACE--SPK Regulatory	Nepstad