BDCP EIR/EIS Review Document Comment Form

Document: 2nd *Administrative Draft—Chapter No. 5 Water Supply, 6 Surface Water, and General Comments - Part I*

Comment Source: North Delta Water Agency
Submittal Date: July 31, 2013

No.	Page	Line #	Comment	ICF Response
1	5-24	22-33	**5.1.2.6 REGIONAL AND LOCAL DIVERSIONS FROM THE DELTA** North Delta Water Agency - The description of the NDWA is missing some important Contract elements that are directly related to Chapter 5 Water Supply and adverse impacts to water supply availability for water users in the north Delta created by the implementation of BDCP. RECOMMENDATION: We therefore request the description be modified as follows: The North Delta Water Agency (NDWA) which includes about ~~277,000~~ 300,000 acres within ~~the northern Sacramento and San Joaquin Delta~~ portions of Sacramento, San Joaquin, Solano, and Yolo counties, was created in 1972 by ~~an~~ a special act of the California Legislature. The majority of the lands within the NDWA are used for agricultural production, but the area also supports urban, commercial including the Deep Water Ship Channel and Sacramento Port, recreational and significant wildlife uses. These lands are dependent on water supply from in-channel Delta diversions for irrigation and other beneficial uses via numerous small pumps and siphons. NDWA's primary purpose is to ~~assure and protect the water supply and water quality for landowners within the agency boundaries~~ enforce an agreement entered into with the California Department of Water Resources (DWR) in 1981 wherein the State agreed not to alter the Delta hydraulics in such manner as to cause a measurable adverse change in the ocean salinity gradient and to assure the lands within the Agency of a dependable supply	

			of water of suitable quality sufficient to meet present and future needs through year-round criteria monitored at seven locations. ~~*NDWA entered into a contract with the DWR in 1981 to assure a dependable water supply of suitable quality. The contract provides that all agency water users may divert water from Delta channels for reasonable and beneficial uses on lands within the agency boundaries for agricultural and M&I purposes.*~~ *The contract provides for annual payments by the Agency to compensate for the water required from the SWP to accomplish the water quality and quantity commitments contained in the contract. The* ~~*contract also provides*~~ *amount paid by the Agency to the State of California acknowledges the riparian and other water rights available to the lands within the Agency and only compensates the State for water from the SWP that DWR* ~~*shall*~~ *must furnish* ~~*as may be required*~~ *within NDWA to the extent not otherwise available under the individual water rights of the water users. The contract also provides that all water users within the Agency have the right to divert water from Delta channels for reasonable and beneficial uses on lands within the agency boundaries for agricultural and M&I purposes and obligates the State to defend the use of water required from the SWP to sustain the water quality criteria and usage of water within the NDWA. In a 1998 Memorandum of Understanding, DWR recognized its legal responsibility under Article 2 of the contract for meeting any water quality objectives that the State Water Resources Control Board may assign to any water right holders within the boundaries of NDWA. Under the terms of the contract the State shall not convey water so as to cause a decrease or increase in the natural flow, or reversal of the natural flow direction, or to cause the*	

			water surface elevation in Delta channels to be altered, to the detriment of Delta channels or water users within the Agency. If lands, levees, embankments, or revetments adjacent to Delta channels within the Agency incur seepage or erosion damage or if diversion facilities must be modified as a result of altered water surface elevations as a result of the conveyance of water from the SWP to lands outside the Agency, the State shall repair or alleviate the damage, shall improve the channels as necessary, and shall be responsible for all diversion facility modification required. ~~The contract provides that water within the boundaries of NDWA will be of suitable quality through year-round criteria monitored at seven locations. These criteria prevent salt water intrusion or other factors from adversely affecting the quality of water within NDWA.~~	
2	5-83 thru 5-86	All-inclusive	**IMPACT WS-2: CHANGES IN SWP/CVP WATER DELIVERIES** This mitigation needs to address ALL impacts to ALL parties, not simply mitigate adverse impacts to SWP/CVP facilities and water users. Impact WS-2 fails to recognize or identify the impacts to all beneficial uses or other SWP water contractors such as NDWA in the Delta region caused by BDCP operational changes in SWP and CVP deliveries. In light of the 1981 NDWA/DWR Contract mentioned previously, the Agency is particularly dismayed and troubled by the fact that Impact WS-2 fails to include a section recognizing the North Delta Agriculture and North Delta Municipal and Industrial Deliveries assured to all lands within the Agency or to identify how this region will be impacted by changes in water supply accessibility due to changes in Sacramento River and North Delta slough surface water elevation and flow changes mentioned in Chapter 5 of the Plan. The changes in the Delta stated in Chapter 5 Effects Analysis of the Plan that affect in-Delta water supply include, but are not limited to: • *BDCP will fundamentally change the hydrodynamics of the Delta.* ***Chap 5, page***	

			5.3-2. • *A decrease of 6,000 cfs in the Sacramento River could result in as much as a 3-foot reduction in river stage, although understanding of how notch flows would affect river stage is incomplete.* ***Chap 5, page 5C.5.4-6.*** • *Operations result in changes in flow and potentially changes in water quality, habitat, and predation.* ***Chap 4, page 4-20.*** • *Construction of facilities within or adjacent to waterways could change surface water elevations or runoff characteristics.* ***EIR/EIS Surface Water, page 6-43.*** • *The median diversions into Sutter and Steamboat Sloughs are lower under the evaluated starting ops because of the Fremont Weir notch increases the diversions to the Yolo Bypass and because north Delta intakes reduce the Sacramento River flow at these two sloughs. The reductions in the Sutter/Steamboat Slough diversions were about 40% of the simulated north Delta intake diversions.* ***Chap 5, page 5.3-10.*** • *Predicted reduced monthly median diversion flows to DCC and Georgiana Slough for evaluated starting ops because the north Delta intakes reduced the Sacramento River flow. The average annual diversions into the DCC and Georgiana Slough were about 3,750 TAF (24% of the Sacramento River flow at Freeport) for the existing conditions and were reduced to about 3,50 TAF (21% of Sac River flow) for the BDCP ops.* ***Chap 5, page 5.3-10.*** • *North Delta intakes combined with diversion of water into Yolo Bypass (CM2) inevitably would result in less Sacramento River flow below intakes with potential for greater incidences of Sac River flow reversals in the vicinity of Georgiana Slough and the DCC.* ***Chap 5, page 5C.4-78.*** • *In addition to flows from new north Delta intakes, BDCP habitat restoration may modify hydrodynamics in the Delta. These hydrodynamic changes in turn can change salinities, DO, turbidity, and flows.* ***Chap 5, page 5C.1-1.***	

			The changes in water elevations and Delta hydrodynamics (changes in natural flows) mentioned in Chapter 5 (see bullets above) of the Plan will not only result in a significant adverse impact on water deliveries for the numerous small pumps and siphons in the NDWA if they are stranded high and dry due to reduced surface water elevations in any rivers, channels, and sloughs in the NDWA under CEQA/NEPA, but this water conveyance impact is also covered in the 1981 contract as detrimental to NDWA water users and must either be avoided, repaired, and alleviated by the State as mentioned in Comment #1. Loss of availability/access - Chapter 5, Water Supply, fails to identify or discuss water supply impacts to in-Delta water users despite EIR/EIS chapters 6 (Surface Water) and 7 (Groundwater) making it clear that de-watering during construction of CM1 will result in lowering groundwater elevations by up to 10 feet and possibly stranding both ag and domestic water supplies and CM1 and CM2 combined result in lowering the Sacramento River by 3 feet and potentially stranding local diversion intakes in the river, channels and sloughs. The EIR/EIS fails to acknowledge, analyze, or mitigate these significant adverse water supply impacts. No impacts or mitigations identified for in-Delta water users. This is a HUGE omission of water supply disruptions that will be experienced by in-Delta water users due to stranding of local intakes from the lowering of Sacramento River/Delta channels and Delta groundwater levels due to CM1 construction and CM2 implementation. EIR/EIS needs to include the level of in-Delta water supply impacts and appropriate mitigations. *<u>RECOMMENDATION:</u> 1) Add new sections in Impact WS-2: Change in SWP and CVP deliveries to include changes in water deliveries to Delta water users as a result of changes in water elevations and natural flows identified in Chapter 5 of the Plan that would result in significant adverse impacts. 2) Add a mitigation that specifies the changes in BDCP water operations or additional physical features that will be added to CM1 to avoid, repair, and alleviate the detrimental effects on NDWA water users in accordance with the Contract. Providing*	

			this as part of the project mitigation now will be far less expensive than providing later as part of NDWA's enforcement of Contract provisions.	
3	5-83	19	**ALT 4 CHANGES TO DELTA REGULATORY REQUIREMENTS** What exactly are the "changes to regulatory requirements" under all four Alt. 4 scenarios that provide operational flexibility? Do these regulatory requirements for BDCP water ops include changing the current salinity compliance point for D-1641 from Emmaton to Three Mile Slough? These changes could have a significant adverse impact on the water deliveries to the water users in the Delta and should be identified, analyzed, and mitigation offered in the Water Supply Chapter. *RECOMMENDATION: 1) Explain/specify exactly what "changes to regulatory requirements" are included in Alt 4, including any changes in SWRCB D-1641 criteria such as moving salinity compliance point from Emmaton to Three Mile Slough. 2) Explain whether all of the "changes in regulatory requirements" included in Alt. 4 scenarios are changes that will be permitted in the BDCP HCP and NCCP or whether those changes will require additional action by other entities such as the SWRCB and are therefore not actual changes that will be made via the issuance of BDCP permits once a ROD is finalized. 3) Identify whether any of these changes in X2, D-1641, and other regulatory requirements assumed in Alt. 4 will have adverse impacts on in-Delta water users. 4) Provide mitigation for any significant adverse impacts that can be anticipated under implementation of the "changes in regulatory requirements" included in Alt. 4.*	
4	5-85	16-22	**IMPACT WS-2: CHANGES IN SWP/CVP WATER DELIVERIES** Analysis - A lead agency must identify all significant effects on the environment caused by a proposed project that cannot be avoided. However, the EIR/EIS must first perform a rigorous analysis that discloses the nature and extent of the impacts to support the conclusion that impacts are significant and unavoidable in order to provide the public and cooperating agencies with adequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action.	

			This analysis needs to address ALL impacts to ALL parties, not simply mitigate adverse impacts to SWP/CVP facilities and water users. Impact WS-2 fails to identify all the potential adverse impacts to in-Delta and other senior water right holders. This section states that all four Alt 4 scenarios result in changes to CVP Settlement Contract deliveries during dry and critical years compared to existing conditions, ranging from a 2-3% decrease due to Shasta Lake storage declining to a dead pool more frequently. However, the section also states "There would be no changes in deliveries to CVP Exchange Contractors under Alternative 4." Either the exchange contractors are losing 29 TAF to 59 TAF in dry and critical years or they are losing zero TAF of water in those years. Which is it? The answer cannot be both. Does Alt 4 allow for dead pool storage in Shasta Lake in dry and critical years to be part of the BDCP permits? If the BDCP Alt 4 relies on allowing Shasta Lake storage to decline to a dead pool or to violate SWRCB water quality requirements in the Delta in order to avoid any changes in water deliveries in critical or dry years to the exchange contractors, then this needs to be explained more clearly and how those water ops affect other water users, particularly in-Delta and other senior water right holders. *RECOMMENDATION: 1) Clarify whether BDCP permits under Alt. 4 will allow for dead pool storage levels in Shasta Lake in dry and critical years or whether the exchange contractors will receive less water deliveries in those years. The conflict between meeting both storage and water deliveries needs to be clarified. 2) If the BDCP permits under Alt. 4 allow for Shasta Lake dead pool storage levels in dry and critical years, then Impact SW-2 needs to include the impacts to Delta water quality and in-Delta water users and other area of origin senior water right holders anticipated under Alt. 4.*	
5	5-89	36-43	**IMPACT WS-3: EFFECTS OF WATER TRANSFERS ON WATER SUPPLY** <u>A lead agency must identify all significant effects on the environment caused by a proposed project that cannot be avoided. However, the EIR/EIS must first perform a rigorous analysis that discloses the nature and extent of the impacts to support the conclusion that impacts are significant and</u>	

			unavoidable in order to provide the public and cooperating agencies with adequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action. This analysis needs to address ALL water supply impacts to ALL parties, not simply acknowledge adverse impacts to SWP/CVP facilities and water users. Impact SW-3 fails to properly identify adverse water quality and supply impacts to in-Delta water users associated with Alt 4 in dry and critical years when additional water transfers will occur. Early calls for releases from reservoirs in the spring of 2013 may be partially due to the increase in water transfers this year and according to a joint letter by the USBR/DWR on May 27, 2013 expressed concern over changes in reservoir storage levels that threaten the cold water storage for fish, so it is not "speculative to conclude whether or not additional water transfers would occur" as stated on lines 39-40. The USBR/DWR specifically requested in their joint letter to change the water year classification under D-1641 from dry to critical in order to protect the cold water storage for fish, which is likely to result in decreases in water quality from salinity intrusion in the South and Central Delta. Lines 18-19 on page 85 indicate all four scenarios under Alt 4 result in Shasta Lake dead pool in dry and critical years, so it is also not "speculative" on "whether any potential adverse effects on water supply would occur under Alt 4. As stated on lines 39-41 on page 5-24 and lines 1-2 on page 5-24 and lines 1-8 on page 5-26, the lands in the Delta are dependent on in-channel water supply of certain quality in order to be beneficially used, otherwise increased salinity caused by protecting cold water pool without reducing exports from North and South Delta pumping facilities as proposed in Alt 4 would result in reduced water deliveries in the Delta due to poor water quality, because farmers and homes can't use the water if is poor water quality. *RECOMMENDATION: 1) Amend the language in lines 36-43 to reflect the fact that occurrences on Shasta Lake storage (cold water storage for fish) this year may in fact be partially due to the increase in the number of transfers requested this year and*	

			will in fact result in adverse impacts to Delta water users. 2) Expand Impact WS-3 to recognize adverse impacts to in-Delta water users in dry and critical years where there's an increase in water transfers and the water ops under Alt 4 are implemented. 3) Add a mitigation measure to address the adverse water quality impacts to in-Delta water users in dry and critical years where there's an increase in water transfers that makes supplies unusable.	
6	5B-11	39-43	**WATER SUPPLY IMPACT ANALYSIS - OMISSIONS** Because the EIR/EIS, specifically Alt. 4, fails to provide any funding to improve levees critical to conveyance of water to the South Delta pumps the project is deficient in meeting the Project Objectives and Purpose and Need as outlined in 35-39 of page 2-1, Chapter 2: • *"Other factors, such as the continuing subsidence of lands within the Delta, increasing seismic risks and levee failures, and sea level rise associated with climate change, serve to further exacerbate these conflicts. Simply put, the system as currently designed and operated does not appear to be sustainable from either an environmental or an economic perspective, and so the proposal to implement a fundamental, systemic change to the current system is necessary."* In addition, Alt 4 fails to meet the additional project objective to guide the development of the proposed project and alternatives identified on lines 33-36 of page 2-3, Chapter 2: • *"To make physical improvements to the conveyance system that will minimize the potential for public health and safety impacts resulting from a major earthquake that causes breaching of Delta levees and the inundation of brackish water into the areas in which the SWP and CVP pumping plants operate in the southern Delta."* Current funding used by the State to fund the levee improvement program in the Delta comes primarily from Propositions 1E which is due to be exhausted in 2016 and there is no additional funding for levees provided in the 2014 water bond approved by the Legislature. The EIR/EIS fails to identify and	

			analyze the financial ability of the State or local agencies to in fact fund these levee improvements necessary for the conveyance of water under BDCP, which is significant oversight since the BDCP fails to include any direct funding for the maintenance and improvements of conveyance levees prior to or during the plan's 50-year implementation period. The annual budgets of Delta reclamation districts is typically very small, about $200,000 for non-urban districts, and the State does not have surplus general funds to contribute to these levee programs, so by the time Alt 4 is constructed in 2027 the funding for levee improvements is anticipated to be minimal for the decade prior. The BDCP Project Objectives are not met by the Plan relying on the State or local agencies that do not have identified funding sources sufficient to fund necessary levee improvements to minimize increased risk of failure between now and when the BDCP is implemented or during the 50-year life of the BDCP, therefore the risk to the reliable SWP/CVP water supply will still exist under Alt 4 so the EIR/EIS should identify the environmental impacts associated with this residual risk. In addition, the water operations as proposed in Alt 4 will not be able to provide the same water deliveries to SWP/CVP water contractors identified in the EIR/EIS if levee failures from subsidence, earthquake, or sea level rise occur and cause the shut-down of pumping at South Delta pumps which are relied on 51-53% of the time in Alt. 4, so this should be identified as a significant adverse impact to water exporters. *RECOMMENDATION: 1) Alt 4 should include a new Conservation Measure 23 to provide funding for specified levees in the Delta that are critical to the conveyance of water through the Delta to the South Delta pumps. 2) Properly identify the residual risk of levee failures that will reduce water export from the South Delta pumps due to lack of State or local agency levee improvement funding prior to BDCP implementation or during the 50-year permits as an unavoidable significant adverse impact on SWP/CVP water deliveries if no levee funding is provided as mitigation for the impact in the EIR/EIS.*	

7	5B-12	16-18	**5B.2.2.1 SEISMICALLY INDUCED LEVEE FAILURES – WAIVER OF CURRENT LEGAL AND REGULATORY MANDATES** It is NOT reasonable for the EIR/EIS environmental analysis to: *"expect that long-standing and regulatory mandates could be altered to provide the ability to pump water for SWP and CVP under emergency conditions resulting from the reduced water supply conditions related to a seismic event."* Unless the specific alterations to these regulatory mandates are included in the BDCP permits, then this is NOT an action the EIR/EIS can "expect" to occur. This is an arbitrary and capricious assumption that the EIR/EIS inappropriately makes, obfuscating the actual significant environmental impacts to SWP/CVP water supplies. *RECOMMENDATION: 1) Delete the last sentence on page 5B-12, lines 16-18. 2) Either add an Impact to this chapter regarding the unavoidable significant adverse environmental impacts to water supply under Alt 4 due to residual risk of levee failures from earthquake or sea level rise that will result in a temporary shut-down of the South Delta pumps or provide a mitigation or new Conservation Measure to provide BDCP funding for improvement of Delta levees critical to the conveyance of SWP/CVP water supplies.*	
8	5B-12	34-39	**5B.2.2.2 FLOOD-RELATED FAILURES – LEVEE FUNDING OMMISSIONS** See Comment #6 regarding current Prop. 1E bond fund going away in 2016, no new Delta levee funding provided in the 2014 water bond approved by the Legislature, and insufficient State General Funds or local agency ability to provide funding to State programs, including Delta Levees Subventions and Delta Special Flood Control Projects Programs, so levee system maintenance, repair, and levee improvements can be made to assure stability and reliability of water conveyance to South Delta pumps to meet water delivery amounts anticipated in Alt. 4. *RECOMMENDATION: Either add an Impact to this chapter regarding the unavoidable significant adverse environmental impacts to water supply under Alt 4 due to remaining residual risk of levee failures from earthquake or sea level rise because*	

			no levee improvements included in any of the BDCP CMs, therefore the potential to result in a temporary shut-down of the South Delta pumps sometime during the 50-yr permit or provide a mitigation or new Conservation Measure to provide BDCP funding for improvement of Delta levees critical to the conveyance of SWP/CVP water supplies.	
9	5-33	10-18	**5.2.1.3 USACE - Permits** DWR may in fact require additional USACE permits for the SWP's diversions of 650,000 af of water from the Sacramento River into the Yolo Bypass under CM2 for purposes complying with federal BiOps to mitigate for jeopardy caused by the operation of SWP/CVP pumps in the South Delta. This is not only a new diversion point, but must be analyzed for the effects on other beneficial uses and water user of diverting 650,000 af of water into the Yolo Bypass as a habitat measure to create a fish farm on a flood control facility that is part of the State Plan of Flood Control as mitigation for water conveyance effects of SWP/CVP. This is a new diversion from the Sacramento River and should be analyzed as such. *RECOMMENDATION: Confer again with USACE to properly characterize the 650,000 af water diversion from the Sacramento River in the Yolo Bypass as a new diversion in order to provide mitigation for the operation of the SWP/CVP South Delta pumps as their permit conditions may alter SWP/CVP water supply deliveries.*	
10	5-40	19-28	**QUANTIFICATION OF SWP/CVP EXPORTS AND DELIVERIES** According to effects identified in Chapter 5 Effects Analysis of the Plan, the EIR/EIS is incorrect in its conclusion that there are no water supply effects or impacts associated with due to changes in Delta outflow and SWP/CVP upstream reservoir storage. As outlined in Comment #2, Chapter 5 Effects Analysis of the Plan clearly states in-Delta water supply is affected by changes in water surface elevations and natural flows when the existing siphons and intakes throughout the Delta are left high and dry from reduced Sac River levels of 3-feet (during periods 6,000 cfs diverted at Fremont Weir into Yolo Bypass under CM2) and more when combined with another 3,000-9000 cfs diverted into the new North Delta intakes. Therefore, the EIR/EIS analysis does NOT match the impacts identified in the Plan. Failure to properly identify,	

			analyze, or mitigate these impacts that are clearly mentioned in Chapter 5 of the Plan in the EIR/EIS is a major omission that must be corrected. *RECOMMENDATION: 1) Add a new Water Supply Impact to this chapter that properly identifies and analyzes the significant adverse impacts to in-Delta water supplies created when water elevations in the Sacramento River and channels are reduced by 3-feet or more, reverse flows are created, muting of tidal surges, and general changes in hydrodynamics as identified in Chapter 5 Effects Analysis of the Plan. 2) Add a new Mitigation Measure to address these significant adverse Water Supply Impacts to in-Delta water users.*	
11	6-44	4-8	**6.3.1.4 PROJECT AND PROGRAM-LEVEL COMPONENTS** The EIR/EIS relies extensively on deflecting the responsibility of properly analyzing impacts by deferring the environmental analysis of CMs2-22 to a later time and onto other agencies, which leaves our agency with inadequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action under the Preferred Project. Reliable surface water resources impacts to in-Delta water users cannot be accurately determined pursuant to this EIR/EIS because Section 6.3.1.4 discloses that the changes in SWP/CVF surface water resources under this analysis are only evaluated at project level if sufficient detail was available, and could only make assumptions regarding the location and extent of tidal marsh restoration because it is only analyzed at a programmatic level in this EIR/EIS. Therefore, the true environmental impacts on in-Delta water users is insufficient for our Agency to determine if the mitigations offered are sufficient or not until the project level environmental analysis is provided. The information is far too general, even for a programmatic document, to enable decision-makers to make findings as to whether particular mitigation measure would be effective and enforceable, much less whether they would be feasible. In addition, portions of this EIR/EIS are already being "piece-mealed" in accordance with EIR/EIS documents that are already in development and/or released to the public as part of BiOps/FRPA	

			implementation with project level analysis of projects that are substantially the same as the projects in CM 2 (Fremont Weir Notch/Yolo Bypass Inundation) and CM3 (Cache Slough Complex: Lower Yolo Restoration and Prospect Island Projects). Therefore, there is some "project level" environmental analysis on CM2 and CM3 that is in fact available to be included in the BDCP modeling runs and *Effects Analysis* in order to provide in-Delta water users a more accurate and reliable analysis of environmental impacts of BDCP as a whole on surface water resources and water supply reliability. *RECOMMENDATION: 1) Complete a project level analysis of all elements of CM 2-22 prior to implementation of CM1; or 2) add in the project level information from the individual EIR/EIS documents being prepared under BiOps/FRPA to the BDCP models and Effects Analysis modeling runs prior to selecting a Preferred Alternative.*	
12	6-97	10	**6.3.3.9 ALTERNATIVE 4 – DUAL CONVEYANCE WITH PIPELINE/TUNNEL AND INTAKES 2, 3, AND 5 (9,000 CFS, OPERATIONAL SCENARIO H)** It is inappropriate for the EIR/EIS to refer to the construction of **only** three intakes. This is a comparison between Alt 4 and Alt 1A, which is inappropriate as the correct comparison should be between Alt 4 and Existing Conditions which means the addition of three new intakes and the additional diversion of up to 9,000 cfs which does not occur under EC. *RECOMMENDATION: 1) Delete the word "only" from line 10, page 6-97.*	
13	6-98	28-30	**IMPACT SW-2: CHANGES IN SACRAMENTO RIVER AND SAN JOAQUIN FLOOD FLOWS** Sacramento River at Freeport - Missing an important word. The last sentence in this paragraph concludes Alt 4 would not result in impacts on "flow conditions" in the Sacramento River, which is incorrect in terms of this specific impact which relates to "flood flows" and because there will be adverse impacts on reduced flows conditions in the Sacramento River under Alt 4, so is necessary to specify "flood flows" in order to provide context of the limited meaning here. *RECOMMENDATION: Add the word "flood" after 'impacts on' in line 29.*	

14	6-99	25-27	**IMPACT SW-2: CHANGES IN SACRAMENTO RIVER AND SAN JOAQUIN FLOOD FLOWS** Sac River upstream of Walnut Grove - Missing word again. Same comment as above. *RECOMMENDATION: Add the word "flood" after 'impacts on' in line 26.*	
15	6-101	16-18	**IMPACT SW-2: CHANGES IN SACRAMENTO RIVER AND SAN JOAQUIN FLOOD FLOWS** Yolo Bypass at Fremont Weir - Ditto. *RECOMMENDATION: Add the word "flood" after 'impacts on' in line 17.*	
16	6-101	37-42	**IMPACT SW-2: CHANGES IN SACRAMENTO RIVER AND SAN JOAQUIN FLOOD FLOWS** Yolo Bypass at Fremont Weir - Misleading conclusions and missing other impacts associated with Alt 4 that would affect flood management adversely. Conclusions on line 37-39 are not quite accurate and therefore misleading. While it may be true that Alt 4 "would not result in adverse effects on flood management" or "an increase in potential risk for flood management" in terms of "Changes in Sacramento and San Joaquin River flood flows" as stated in the title of Impact SW-2 on line 12 of page 6-98, the current wording in lines 37-42 are broadly stated as if there is no other flood management risks created by Alt 4 which is not true. There are in fact other effects on flood management from Alt 4 from CM1-4 in particular associated with increased erosion and seepage which result in additional costs to local levee maintaining entity to repair and maintain. Yolo Bypass Flood Management, lines 38-40 states: "***CEQA Conclusion:*** Alternative 4 would not result in an increase in potential risk for flood management compared to Existing Conditions when the changes due to sea level rise and climate change are eliminated from the analysis." "No mitigation is required." Three problems with this CEQA conclusion: 1) particularly when determining flood risk you need to include, not eliminate, climate change and sea level factors as they may necessitate flood facilities improvements/modifications to keep up with their impacts; 2) sea level rise and climate change affect are factors that must be analyzed with the proposed project in terms of the cumulative	

			impacts; 3) this simple, narrow focus on only how much flood flow channel capacity the proposed project would utilize fails to recognize that the existing flood facility (Yolo Bypass) is already not performing to design conditions. The EIR/EIS should provide analysis regarding the current underperformance of the lower Bypass where narrows into a funnel at the bottom and has previously seen water levels go two feet above design stage in that area during flood events. The EIR/EIS should provide analysis and conclusion regarding how much the proposed water operations in Alt 4 increase flood risk above and beyond what is predicted impact from sea level rise/climate change. In addition, the EIR/EIS appears to have made the conclusions of no impacts from Sacramento River peak flows based on existing channel capacity and therefore failed to analyze what the new cfs flow on Sac River from Freeport to Courtland due to lost in-river channel capacity of 16.21 acres of in-water habitat during construction (9-10 years) and 12.3 acre in-water permanent footprint (EIR/EIS, Fish and Aquatic Resources Chapter, page Part 3 – 11-1). This narrowing of the Sac River will certainly constrain and reduce the current flood flow capacity, but does not appear to have been analyzed in the EIR/EIS. The narrowing of channel and reduction of cfs capacity for flood flows will put additional strain on levees in terms of erosion and available freeboard during a high water event. The reduced flood flow capacity in a four mile plus stretch of the Sac River due to construction of CM1 needs to be quantified, analyzed and mitigated with improvements to levee heights and stability which may require rocking or landside berms on both sides of the river to be paid for by BDCP. What will the width of the channel and the cfs capacity on the Sacramento River between Freeport and Courtland after conveyance facilities in CM1 are constructed? This is critical mitigation as the levees on both sides of the river are project levees that are part of the State Plan of Flood Control. *RECOMMENDATION: 1) Modify conclusion Impact SW-2 in line 37 to read: 'Alternative 4 would ~~not~~ result in adverse effects on ~~flood~~ the management of additional peak flood flows in the Sacramento and San Joaquin Rivers; 2) Amend first sentence starting on line 38 as follows: 'Alternative 4 would*	

			~~not~~ result in an increase in potential flood risk on the Sacramento River and for flood management costs associated with reduced channel flood flow capacity during high water events compared to Existing . . . .'; 3) EIR/EIS needs to include an analysis of how much the Sac River is narrowed between Freeport and Courtland, quantify the loss of cfs capacity, identify any freeboard or levee stability/strength deficiencies that would be created due to more narrow channel to accommodate peak flood flows for levees on both sides of the rivers as well as upstream and downstream from CM1 facilities, and offer specific mitigations to address this reduced flood management capacity impact.	
17	6-102	1-2	**IMPACT SW-2: CHANGES IN SACRAMENTO RIVER AND SAN JOAQUIN FLOOD FLOWS** CEQA Conclusion - Disagree with the conclusion that Alt 4 would result in less-than-significant impact on flood management and the language also fails to specify the impact is specifically limited to impacts related to increased peak flood flows on Sacramento and San Joaquin River and cannot therefore be such a broad, sweeping statement of flood management generally. *RECOMMENDATION: 1) Amend conclusion on lines 1-2 as follows: '~~Accordingly,~~ Alternative 4 would result in ~~less-than-~~ significant adverse impacts on management of Sacramento River peak flood flows and flood management costs to local levee maintaining agencies. ~~No m~~Mitigation is required.*	
18	6-102	20-21 22-26	**IMPACT SW-3: REVERSE FLOW CONDITIONS IN OLD AND MIDDLE RIVERS** CEQA Conclusion - The conclusion here is in conflict with previous paragraph which states there will in fact be adverse impacts with all four scenarios with increased reverse flow conditions in Old and Middle Rivers in April under H1 and H3 and in May under all four scenarios. Reverse flows being "less likely under Alternative 4 on a long-term average basis" (line 5) except in April and May is NOT the same as "would not result in adverse impacts on Old and Middle River flow conditions" (line 20). The reverse flow conditions may be slightly better in 10 our twelve months, but it's worse for two months under two scenarios and worse for one month under all four scenarios. This begs the question in terms of analysis of how much	

			is the actual reduction in reverse flows and how much is the actual increase in reverse flows? Lines 22-26, CEQA Conclusion: Reverse flow conditions for Old and Middle River flows would be less likely under Alt 4 on a long-term average basis except in May in scenario H2 and H4 and in April and May in scenarios H1 and H3, compared to EC and NAA. Alt 4 would provide benefits related to reducing reverse flows in Old and Middle Rivers in June through March and adverse impacts in the form of increased reverse flow conditions in April and May, compared to EC. The CEQA Conclusion indicates adverse impacts in April and May, but FAILS to identify the CEQA level of significance or provide any mitigation. The Impacts should identify how much reduction in reverse flows (by frequency, severity, and percentage) in O&MR that is predicted under Alt 4 and conversely identify how much increase from EC and NAA would be experienced in April and May under Alt 4. The Impact should make clear whether the adverse impact (increase in reverse flows) in April and May are greater than the benefits (reduced reverse flows) in June thru March. Also, are there any other reverse flow conditions created by BDCP projects or water operations? If so, where are they? How frequent and significant are they? How long do the reverse flows last in each of these other areas? What are the water surface changes caused by the creation of these new reverse flows? How will the EIR/EIS propose to mitigate the impacts of the increase in reverse flows created in O&MR in April and May and in other areas of the Delta? In addition, this impact analysis should actually describe the impacts on water quality and aquatic species rather than simply referring to Chapters 8 and 11 to read those impacts as the context of whether the increase in reverse flows in April and May months may in fact outweigh any benefits from reduced flows in other months if April and May are critical to fish migration or water quality. *RECOMMENDATION: 1) Amend conclusion in lines 20-21 as follows: 'Therefore, Alternative 4 would not result in adverse impacts on Old and Middle River flow conditions in April under scenarios H1 and H3 and in May under all four scenarios as compared to the conditions without the project.'*	

19	6-102	25-26	**MITIGATION MEASURE SW-3: NONE PROVIDED.** Fails to identify CEQA or NEPA level of significance (is silent) of the impacts or to offer mitigation for impacts of increased reverse flows in April and May and instead refers reader to Chapters 8 and 11. If chapters 8 and 11 have mitigations to reduce impacts of increased reverse flows in April and May, then these mitigations should be mentioned here, if not, then a mitigation for this adverse impact needs to be quantified under CEQA/NEPA and mitigated here. *RECOMMENDATION: 1) Delete the last sentence of CEQA Conclusion and replace with following: 'Alternative 4 would result in significant adverse impacts on Old and Middle River reverse flow condition in April and May'; 2) Add a new sentence that states the specific Mitigation Measures from Chapter 8 and 11 that will address these significant adverse impacts and whether they will reduce the impacts to a level of insignificance.*	
20	6-103	1-8	**IMPACT SW-4: ALTER DRAINAGE PATTERNS AND INCREASE SURFACE RUNOFF RESULTING IN FLOODING FROM CONVEYANCE CONSTRUCTION** Neither the Plan, this chapter, or Impact SW-4 contains a description of the baseline conditions that were used to determine the current drainage patterns on the islands where CM1 facilities will be constructed, hydraulics, surface runoff characteristics or where direct and indirect impacts will in fact occur. Without an adequate baseline, neither we as a Cooperating Agency, the Lead Agencies or the Permitting Agencies can adequately identify a complete list of all of the potential significant impacts, the severity of the impacts, or the ability of the project alternatives and mitigation measures to avoid or lessen such impacts. CEQA Conclusion on lines 1-6 is incomplete and inadequate as it fails to identify baseline existing conditions, an accurate description of how and where the project will cause the adverse impact, or to include the other impacts that would occur as a result of altering existing drainage facilities, runoff characteristics, or river hydraulics. What about excessive runoff during non-peak flows that exceeds the area's drainage facilities? Adding to the system water amounts that exceed the system capacity during any time of the year has the potential to create	

			localized flooding. In addition, the analysis failed to: 1) study/review existing maps of the island drainage systems and determine where and for how long disconnections will occur and how they will affect the functionality of the rest of the drainage system to prevent localized flooding of entire island's population, structures, and farmland (drainage maps are readily available at DWR); 2) to provide a specific repair/reconstruction options to avoid/fix the disconnected drainage systems; 3) to provide assurance that the repairs will be paid for by BDCP; 4) to identify lands and land uses that will be adversely affected by localized flooding; 5) or disclose the nature and extent of any of these impacts. EIR/EIS fails to examine existing conditions in terms of existing drainage systems or whether construction will disconnect or disrupt the existing drainage facilities' ability to function/drain effectively. EIR/EIS fails to identify specific discharge locations, how many locations, the capacity of the discharge location or what its capacity availability is based on local usage/needs, or the discharge rates on a daily basis. Could significantly increase localized flooding if discharging into existing drainage facilities are already full with local discharges or if too small to handle proposed discharge rates even during "non-peak" conditions. EIR/EIS fails to identify how long dewatering and subsequent discharges will occur at each location. EIR/EIS fails to identify or analyze the additional maintenance works and costs BDCP will need to assume in order to keep the drainage facilities functioning in order to accommodate the dewatering discharges. Mitigation Measure SW-4 is inadequate and irrelevant because it does not account for impacts to ongoing ability of users/owners of existing drainage facilities to utilize their facilities. The drainage systems that currently exist on Delta islands, including where CM1 conveyance facilities will be built, are critical features necessary to keep the land behind the levees reclaimed for agricultural production. The importance of a functioning drainage system to agricultural activities is pointed out on page 7-5 of the EIR/EIS Groundwater Chapter: • *Maintaining groundwater levels below crop rooting zones is critical for successful agriculture,*	

			especially for islands that lie below sea level, and many *farmers rely on an intricate network of drainage ditches and pumps to maintain groundwater levels of about 3 to 6 feet below ground surface*. The accumulated agricultural drainage is pumped through or over the levees and discharged into adjoining streams and canal (U.S. Geological Survey 2000a). ***Without this drainage system, the islands would become flooded.*** [emphasis added] As stated in Chapter 7 of the EIR/EIS, the existing drainage facilities are "intricate networks," which means they have been carefully designed and located to work with the natural drainage patterns on the island and to function as a system. Therefore, any disconnection potentially renders the whole system inoperable. Since Chapter 7 further confirms that successful agriculture is dependent on the operation of this drainage system and clearly states the island will become flooded without the drainage system, the impacts identified on page 6-102, lines 36-37, are significant and adverse to the ongoing agricultural productivity of lands adjacent to the CM1 conveyance facilities: • *"result in temporary and long-term changes to drainage patterns, drainage paths, and facilities that would in turn, cause changes in drainage flow rates, directions, and velocities."* These impacts include: 1) localized flooding of homes/businesses and farmland that could result in loss of planted crops or prevent any crops from being planted that is exacerbated by the increase in runoff associated with the discharge of water from dewatering activities into local drainages (Impact SW-6) which increases the flows and water surface elevations; 2) increased costs to local landowners and reclamation districts to re-design and re-construct a functioning drainage system; 3) increased pumping costs to local landowners and reclamation districts to build new pumps in new areas and to drain the additional water put into the drainage system by CM1 dewatering activities. Therefore, the most significant impacts under SW-4 are NOT stormwater runoff from paved areas and sediment, but are long-term property and crop	

			damage (loss of beneficial use of the land) from localized flooding caused by the disconnection of the intricate drainage system that keeps the lands adjacent to the CM1 facilities reclaimed (drained and usable for historical and existing beneficial uses. <u>The conclusions in the EIR/EIS must be supported by substantial evidence – actual facts. They can be reasonable assumptions or expert opinions – but they must still be predicated and backed up by facts. Speculation does not constitute substantial evidence, and unsubstantiated narrative or expert opinion.</u> Lines 35-39 says Alt 4 would involve excavation, grading, stockpiling, soil compaction, and dewatering that would result in temporary and long-term changes to drainage patterns, drainage paths, and facilities that would in turn cause changes in drainage flow rates, directions, and velocities. Construction of cofferdams would impede river flows, cause hydraulic effects, and increase water surface elevations upstream. Fails to define "temporary" or "long-term" or what "changes" means in terms of specific locations of "changes", type of "change" (disconnect, overwhelm, reroute, destroy/eliminate, redirected impacts??), who will be impacted by these "changes", site-specific remedies/fixes, or who will pay the cost to fix damage/destruction/disconnection to existing facilities that constitute an inter-connected and coordinated drainage system. What is the definition of "temporary" and "long-term" in regards to changes to existing drainage systems? Does "temporary" mean the 10-year construction period? Does "long-term" mean permanent changes to the existing drainage systems? The EIR/EIS should be more specific about defining "temporary" and "long-term" in this regard. The EIR/EIS fails to identify a mitigation measure that will assure proper drainage is occurring during the "temporary" and "long-term" periods and should provide a Mitigation Measure such as BDCP paying to re-route/replace existing drainage system with a new system of pipes, canals, ditches, drainage pumps (including any increased pumping costs to the residents/RDs), et al that will keep the island properly drained to prevent localized flooding and allow productive agricultural activities to continues. The EIR/EIS fails to identify a mitigation measure to reduce to a level of insignificance of the reduced flood capacity in the Sacramento River, changes in water flow direction and	

			velocities, and increased water surface elevations upstream of the North Delta intakes resulting from the placement of cofferdams in the river. The EIR/EIS assumes, without evidentiary support in the record, that all the mitigation measures will be fully implemented where the project activities may have a direct or indirect effect and that the measures will in fact work to avoid or substantially reduce the significance of the adverse impacts, which may in fact not occur. The EIR/EIS additionally fails to account for and analyze impacts resulting from Project activities if the mitigation measures are not implemented or not working in terms of reducing the level of adverse impacts. Each RD has maps of the drainage systems and each will need to be consulted with regarding the best way to re-design in order to work with the island elevations and BDCP must pay for these new systems, their additional energy costs for pumping, and annual maintenance. BDCP will need to consult with the individual remaining farmers who are not eminent domained to find out where and how their irrigation facilities need to be re-built at full cost by BDCP. *RECOMMENDATION: Amend CEQA Conclusion as follows: "Alternative 4 would result in alterations to drainage patterns and drainage system performance, stream courses, and runoff; and potential to impede Sacramento River flows, cause hydraulic effects and for increased surface water elevations in the rivers and streams during construction and operations of facilities located within the waterway. Potential adverse impacts could occur due to: increased localized flooding due to disconnection of intricate existing drainage system necessary to keep island drained/reclaimed; damage to homes/structures and loss of crops; increased costs to local landowners and reclamation districts to re-construct a functioning drainage system and for additional pumping necessary to drain additional water from CM1 dewatering activities; and increased stormwater runoff from paved areas that could increase flows in local drainages, and from changes in sediment accumulation near intakes."*	
21	6-103	6-8	**MITIGATION MEASURE SW-4: REDUCE RUNOFF AND SEDIMENTATION** In order for a permitting agency to approve a project, the lead agency must provide feasible	

			mitigation measures or alternatives that would avoid or substantially lessen the adverse impacts of the project. Mitigation Measure SW-4 is not only insufficient, but it is disturbing because the mitigation appears to be one-sided in that it only addresses the impacts to the BDCP facilities in terms of reducing runoff from paved areas and removal of sediment to keep the intakes operational, while ignoring the significant damage caused to surrounding lands, structures, people, and economy. Since Impact SW-4 is very clear that the excavation, grading, stockpiling, soil compaction, and dewatering activities of CM1 will alter the intricate system of drainage patterns, paths, and facilities – then where is the mitigation to re-design and re-construct a new drainage system for the lands surrounding the CM1 facilities so that they can remain reclaimed and continue their current beneficial use of the land? Where is the mitigation to deal with the Impact SW-4 of changes in drainage flow rates, directions, and velocities caused by increased water added to the existing drainage system by dewatering activities? Where is the mitigation for impacts to species, recreation and in-Delta water supplies caused by impeding Sacramento River flows, creating changes in river/channel hydraulics, and increased water surface elevations? What about the impacts on local reclamation districts for increased levee maintenance costs for seepage and erosion damage caused by impeding river flows, changing hydraulic flows, and increasing water surface elevations? Sedimentation and surface runoff from pavement impacts pale in comparison to the significant adverse impacts from disconnecting the existing drainage system and increasing water surface elevations and hydraulics. As stated in Chapter 7 of the EIR/EIS, the existing drainage facilities are "intricate networks," which means they have been carefully designed and located to work with the natural drainage patterns on the island and to function as a system. Therefore, any disconnection potentially renders the whole system inoperable. Since Chapter 7 further confirms that successful agriculture is dependent on the operation of this drainage system and clearly states the island will become flooded without the drainage system, the impacts identified in SW-4 also apply to SW-5, and are significant and adverse to the ongoing agricultural	

			productivity of lands adjacent to the BDCP habitat restoration areas facilities. These impacts include: 1) localized flooding of homes/businesses and farmland that could result in loss of planted crops or prevent any crops from being planted that is exacerbated by the increase in runoff associated with the discharge of water from dewatering activities into local drainages (Impact SW-6) which increases the flows and water surface elevations; 2) increased costs to local landowners and reclamation districts to re-design and re-construct a functioning drainage system; 3) increased pumping costs to local landowners and reclamation districts to build new pumps in new areas and to drain the additional water put into the drainage system by any dewatering activities associated with habitat restoration. <u>This mitigation needs to address ALL impacts to ALL parties, not simply mitigate adverse impacts to BDCP facilities.</u> Mitigation Measure SW-4 (from Alt 1A) fails to meet this standard according to the following language used: • *"onsite drainage systems in areas where construction drainage is required."* ***Page 6-59, line 3.*** • *"for each construction location"* ***Page 6-59, line 4.*** • *"onsite stormwater detention storage is required"* ***Page 6-59, lines 6-7.*** • *"will be located within the existing construction area."* ***Page 6-59, lines 7-8.*** • *"for all water-based facilities"* ***Page 6-59, line12.*** The wording above appears to limit the study areas, management plan areas, and areas where the location of new drainage systems/measures/facilities, stormwater detention facilities, sediment removal actions, and measures to prevent a net increase in sediment dishcharges to only certain locations and only to BDCP facility areas, therefore excluding the construction/repair of existing drainage systems or other measures to avoid or mitigate flood and sediment impacts on adjacent to and surrounding (on same island) CM1 facilities. This measure needs to be corrected to properly identify specific measures to be implemented on lands surrounding the CM1 facilities and in-river activities that are adversely impacted under Impact SW-4.	

			If the impacts from localized flooding, repair and replacement of a functioning drainage system, loss of current beneficial uses of the land, and increased reclamation and levee maintenance costs are addressed in other chapters through other mitigation measures, then those specific mitigation numbers should be identified here in order to match up with the identified impacts in this chapter. Unmitigated impacts. Fails to identify impacts or give CEQA level of significance ranking for increased flood risk due to reduced flood capacity in Sacramento river, alteration of flow pattern and velocity, and increased water surface elevations upstream of north delta intakes resulting from installation of cofferdams for 10-years. Fails to identify impacts, give CEQA level of significance rankng, or mitigate for increased surface flooding risk to people and property or the soggy soils unsuitable for agriculatural activites that are caused by the disruption/disconnection of existing drainage systems (canals, pipes, ditches, pumping plants). <u>These mitigation measures need to be sufficiently specific and mandatory in order to be fully enforceable. Mitigation measures that defer the formulation of specific mitigation until some future date, when vague and ambiguous "plans" will be prepared, without imposing any detailed performance standards as to what those plans must do or show is a woefully insufficient and inappropriate level of mitigation.</u> Mitigation Measure SW-4 (from Alt 1A) fails to meet this standard according to the following language used: • *"will have to demonstrate"* ***Page 6-58, line 40.*** • *"no-net-increase in runoff"* ***Page 6-58, line 40.*** • *"will implement measures"* ***Page 6-58, line 41.*** • *"to prevent an increase in runoff volume and rate"* ***Page 6-58, lines 41-42.*** • *"to prevent an increase in sedimentation in the runoff"* ***Page 6-58, lines 42-43.*** • *"will design and implement"* ***Page 6-59, lines 2-3.*** • *"Drainage studies will be prepared"* ***Page 6-59, line 4.*** • *"to assess the need for, and to finalize,*	

			other drainage-related design measures" ***Page 6-59, lines 4-5.*** • *"Based on study findings, if it is determined"* ***Page 6-59, line 6.*** • *"will design measures"* ***Page 6-59, line 9.*** • *"prevent a net increase"* ***Page 6-59, line 10.*** • *"transport study"* ***Page 6-59, line 12.*** • *"will be conducted"* ***Page 6-59, line 12.*** • *"management plan will be prepared and implemented during construction."* ***Page 6-59, line 13.*** • *"will include"* ***Page 6-59, line 14.*** The wording above is replete with vague and ambiguous language in terms of what kind of measures or actions will be implemented, cannot meet any performance standards such as "no-net-increase" or "prevent an increase" because the impact analysis fails to include a description of the baseline conditions that were used to determine the impacts associated with altering drainage patterns and increasing the rate or amount of runoff, failed to provide details about what the studies or management plans should include, and as a whole defers any and all formulation of specific mitigation actions in specific locations and to specific harmed parties to some future date such as during construction itself. It is inappropriate and insufficient to assume that the details of mitigation to be fleshed out at a later date will be adequate to address the impacts. Further, Mitigation Measure SW-4 fails to account for and analyze impacts resulting from BDCP if the future studies and management plans are not completed before adverse impacts begin occurring or to identify the extent of these studies and management plans or their costs and how they will be paid for. Mitigation Measure SW-4 is therefore inadequate, incomplete, and not sufficiently specific and mandatory in order to be fully enforceable. *RECOMMENDATION: 1) If there are mitigation measures to address the additional impacts associated with Impact SW-4 of altering the existing drainage patterns and increasing the rate or amount of surface runoff that would result in flooding that we have mentioned above (repair/replace functioning drainage system; payment for flood damage to structures, crops,*	

			and/or ongoing loss of current beneficial use of land; increased reclamation and levee maintenance costs) then those measures should be listed under Mitigation Measure SW-4, including which specific impacts those other mitigation measures address; 2) If the aforementioned flooding impacts from insufficient drainage capability are not addressed by mitigation measures in other chapters, then the BDCP will need to develop.	
22	6-103	12	**Typo:** should read "Effects of *altering* existing drainage patterns"	
23	6-103	15	**IMPACT SW-5: ALTER DRAINAGE PATTERNS OR INCREASE SURFACE RUNOFF RESULTING IN FLOODING FROM HABITAT CONSTRUCTION** Instead of describing what the impacts of what is now the new Preferred Project, Impact SW-5 directs the reader to see the SW-5 CEQA Conclusion in Alternative 1A and doesn't even give a page number. Refer to our comments #24 on SW-5 in Alt 1 for our specific comments regarding the adequacy of this effects analysis. The text describing the impacts (vegetation roughness, modified channel geometries, floodplain expansion) doesn't match the title (altered drainage patterns, increased surface run-off) so impacts and proposed mitigations are potentially incorrect and insufficient. Fails to identify who and what will be specifically impacted by these increases or decreases in channel water surface elevations, flood flow changes from increased floodplain roughness, and decreased velocities. Impacts should be more specific such as: lowered water surface elevations may strand existing local water diversion intakes which could be detrimental to farmers and duck clubs, increased channel velocities could increase levee maintenance costs of reclamation districts, increased seepage to neighboring islands could increase crop damage to farmers/landowners and pumping costs for reclamation districts, disruption of existing drainage facilities could result in damage to structures/ag crops/soil suitability. *RECOMMENDATION: 1) Add a section that specifies all the significant effects on the environment mentioned above caused by altering drainage patterns or increasing runoff during construction of habitat restoration projects, instead of referring to another Alternative.*	

24	6-103 6-59	9-14 15-37	**IMPACT SW-5: ALTER DRAINAGE PATTERNS OR INCREASE SURFACE RUNOFF RESULTING IN FLOODING FROM HABITAT CONSTRUCTION** In order for a permitting agency to approve a project, the lead agency must provide feasible mitigation measures or alternatives that would avoid or substantially lessen the adverse impacts of the project. The effects described in lines 20-37 fail to mention anything related to the impacts identified in SW-5 of "altered drainage pattern," and instead only focus on surface water changes, including elevations and velocities. As a result the conclusion is both faulty and inadequate at it fails to include any identification of impacts associated with disconnecting existing drainage systems that will result in localized flooding and other adverse environmental impacts. Neither the Plan, this chapter, or Impact SW-5 contains a description of the baseline conditions that were used to determine the current drainage patterns on the islands where habitat restoration area facilities will be constructed, hydraulics, surface runoff characteristics or where direct and indirect impacts will in fact occur. Without an adequate baseline, neither we as a Cooperating Agency, the Lead Agencies or the Permitting Agencies can adequately identify a complete list of all of the potential significant impacts, the severity of the impacts, or the ability of the project alternatives and mitigation measures to avoid or lessen such impacts. This is a significant omission in light of the significant adverse drainage impacts identified in SW-4 including: • *"result in temporary and long-term changes to drainage patterns, drainage paths, and facilities that would in turn, cause changes in drainage flow rates, directions, and velocities."* The impact description for SW-5 is incomplete and inadequate as it fails to identify baseline existing conditions, an accurate description of how and where the project will cause the adverse impact, or to include the other impacts that would occur as a result of altering existing drainage facilities, runoff characteristics, or river hydraulics. Deficiencies in the nature and extent of actual impacts identified	

			in lines 20-37 due to inadequacy of providing baseline conditions on which to measure from include : • *"restored vegetation has the potential of increasing channel and/or floodplain roughness"* ***Page 6-59, lines 21-22.*** *Which is it? Will restored vegetation associated with BDCP habitat measures increase or decrease floodplain roughness?Where will this impact occur? How severe is the change compared to existing conditions?* • *"could result in increases in channel surface elevations"* ***Page 6-59, lines 22-23.*** *Increase by how much? Increase where? For how long? Will this increase cause additional erosion to levees? If so, where? How will levee erosion be mitigated?* • *"Modified channel geometries could increase or decrease channel velocities and/or channel water surface elevations"* ***Page 6-59, lines 24-25.*** *Which is it? Increase or decrease velocities? Where? Will this create levee erosion problems for neighboring RDs? Will people, terrestrial species, structures be flooded by increased water surface elevations? Will neighboring levees require additional freeboard to accommodate higher surface elevations?* • *"resulting in lower channel velocities and water surface elevations"* ***Page 6-59, lines 30-31.*** Where will these lower velocities and elevations occur? Will the lowered elevations strand existing water intakes, preventing them from accessing water supply? If so, where and how many intakes will be impacted? What mitigation will be provided to avoid or provide another water source? In addition, the analysis failed to: 1) study/review existing maps of the island drainage systems and determine where and for how long disconnections will occur and how they will affect the functionality of the rest of the drainage system to prevent localized flooding of entire island's population, structures, and farmland (drainage maps are readily available at DWR); 2) to provide a specific repair/reconstruction options to avoid/fix the disconnected drainage systems; 3) to provide assurance that the repairs will be paid for by BDCP;	

			4) to identify lands and land uses that will be adversely affected by localized flooding; 5) or disclose the nature and extent of any of these impacts. The drainage systems that currently exist on Delta islands, including where BDCP habitat restoration area facilities will be built, are critical features necessary to keep the land behind the levees reclaimed for agricultural production. The importance of a functioning drainage system to agricultural activities is pointed out on page 7-5 of the EIR/EIS Groundwater Chapter: • *Maintaining groundwater levels below crop rooting zones is critical for successful agriculture*, especially for islands that lie below sea level, and many *farmers rely on an intricate network of drainage ditches and pumps to maintain groundwater levels of about 3 to 6 feet below ground surface*. The accumulated agricultural drainage is pumped through or over the levees and discharged into adjoining streams and canal (U.S. Geological Survey 2000a). ***Without this drainage system, the islands would become flooded.*** [emphasis added] As stated in Chapter 7 of the EIR/EIS, the existing drainage facilities are "intricate networks," which means they have been carefully designed and located to work with the natural drainage patterns on the island and to function as a system. Therefore, any disconnection potentially renders the whole system inoperable. Since Chapter 7 further confirms that successful agriculture is dependent on the operation of this drainage system and clearly states the island will become flooded without the drainage system, the impacts identified in SW-4 also apply to SW-5, and are significant and adverse to the ongoing agricultural productivity of lands adjacent to the BDCP habitat restoration areas facilities. These impacts include: 1) localized flooding of homes/businesses and farmland that could result in loss of planted crops or prevent any crops from	

			being planted that is exacerbated by the increase in runoff associated with the discharge of water from dewatering activities into local drainages (Impact SW-6) which increases the flows and water surface elevations; 2) increased costs to local landowners and reclamation districts to re-design and re-construct a functioning drainage system; 3) increased pumping costs to local landowners and reclamation districts to build new pumps in new areas and to drain the additional water put into the drainage system by any dewatering activities associated with habitat restoration. A lead agency must identify all significant effects on the environment caused by a proposed project that cannot be avoided. However, the EIR/EIS must first perform a robust analysis to support the conclusion that impacts are significant and unavoidable. The EIR/EIS cannot defer the determination of the scope and nature of significant impacts until future studies and reports are prepared. Were any changes in surface elevations from tidal action created by BDCP habitat conservation measures factored in as an assumption in the modeling? If not, then the model should be run again with the changes in water elevations expected from the BDCP habitat CMs added in as assumptions. Also, an increased risk of flooding even from a small increase in peak flows could be problematic from a levee integrity and public safety perspective since some channels and reaches already exceed channel capacity under existing conditions such as the bottom (south end) of the Yolo Bypass which results in being a little over two feet above capacity during high flow events in 1986, 1997, and 2006. Therefore, there is no tolerance for even small increases of 1% in some areas without compromising public safety. Before more stress/increases in peak flows can be added, mitigation work to improve the current flood capacity in some channels and reaches will need to be done first (prior to construction or water ops implementation). The costs for structural or non-structural solutions and ongoing maintenance to reduce the risk level of flooding increased due to BDCP should be fully paid for by BDCP at no cost to the local levee maintaining agency (RD), landowners, or county governments. EIR/EIS environmental conclusions simply stating that future projects/actions/designs will comply	

			with applicable law does not constitute avoidance of all impacts and does not suffice as replacement of mitigation. In order to approve a project, the lead agencies must identify feasible mitigation measures or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. It is insufficient to rely on existing laws or regulations, lines 25-26, to address all potential impacts that could result in flooding. Specific flood impacts can still occur for projects approved by the USACE, CVFPP, and DWR and therefore must identify, analyze, and mitigate the full nature and extent of those impacts. *RECOMMENDATION: 1) Expand the narrative in SW-5 to include description of how drainage patterns, facilities, and functionality will be altered by construction of habitat measures; 2) Delete line 15 and replace with a CEQA Conclusion that actually identifies the direct and indirect impacts that are specific to changes from altered drainage patterns and increased surface runoff associated with creating habitat restoration projects.*	
25	6-103	16-17	**MITIGATION MEASURE SW-5: (IMPLEMENT ALT 1A MM SW-4) REDUCE RUNOFF AND SEDIMENTATION** The mitigation needs to address ALL impacts to ALL parties that are specifically related to this activity and to the impacts included in the SW-5 title, not simply rely on mitigation measures for other activities that are unrelated to the impacts for SW-5 activities. Unmitigated impacts. Fails to identify impacts, give CEQA/NEPA level of significance ranknng, or mitigate for increased surface flooding risk to people and property or the soggy soils unsuitable for agriculatural activites that are caused by the disruption/disconnection of existing drainage systems (canals, pipes, ditches, pumping plants). Inadequate and missing mitigation. Runoff and sedimentation mitigations do not address the impacts of increased vegetation roughness, modified channel geometries, altered water surface elevations, seepage, alteration of flow pattern and velocity, and floodplain expansion. Mitigation Measure SW-4 (from Alt 1A) which focuses on reducing large amounts of runoff from	

			onsite paved and impervious surfaces, sediment prevention and removal, and onsite stormwater detention associated with construction of conveyance facilities is completely unrelated to the impacts from habitat construction described in lines 16-37. Therefore, the most significant impacts under SW-5 are NOT stormwater runoff from paved areas and sediment, but are long-term property and crop damage (loss of beneficial use of the land) from localized flooding caused by the disconnection of the intricate drainage system that keeps the lands adjacent to the CM1 facilities reclaimed (drained and usable for historical and existing beneficial uses). Based on historical instances of neighboring islands experiencing increased seepage and crop damage from inundation next to it (seepage damage/flooding on Ryer Island when Prospect Island was previously inundated for an extended period of time after a levee failure). Yet SW-5 is limited to flooding impacts from surface runoff and fails to identify the known impacts associated from seepage damage/flooding. In order for a permitting agency to approve a project, the lead agency must provide feasible mitigation measures or alternatives that are directly responsive and related to the impacts and must avoid or substantially lessen the adverse impacts of the specific activity. As previously stated, the narrative description of impacts in lines 16-37 does not accurately or fully describe ALL of the impacts associated with altering drainage patterns or increasing surface runoff from habitat creation. In addition, SW-5 does NOT describe in the narrative any impacts associated with "runoff or sedimentation." Therefore, Mitigation Measure SW-4 to "Implement measure to reduce runoff and sedimentation," line 16, is completely unrelated to the impacts from altering drainage patterns or those identified in lines 18-37. The mitigation offered for SW-5 fails to address the actual or specific impacts currently identified, or the nature and extent of other impacts that are omitted and not properly identified or analyzed. These mitigation measures need to be sufficiently specific and mandatory in order to be fully enforceable. Mitigation measures that defer the formulation of specific mitigation until some future	

			date, when vague and ambiguous "plans" will be prepared, without imposing any detailed performance standards as to what those plans must do or show is a woefully insufficient and inappropriate level of mitigation. Mitigation Measure SW-4 (from Alt 1A) fails to meet this standard according to the following language used: • *"will have to demonstrate"* ***Page 6-58, line 40.*** • *"no-net-increase in runoff"* ***Page 6-58, line 40.*** • *"will implement measures"* ***Page 6-58, line 41.*** • *"to prevent an increase in runoff volume and rate"* ***Page 6-58, lines 41-42.*** • *"to prevent an increase in sedimentation in the runoff"* ***Page 6-58, lines 42-43.*** • *"will design and implement"* ***Page 6-59, lines 2-3.*** • *"Drainage studies will be prepared"* ***Page 6-59, line 4.*** • *"to assess the need for, and to finalize, other drainage-related design measures"* ***Page 6-59, lines 4-5.*** • *"Based on study findings, if it is determined"* ***Page 6-59, line 6.*** • *"will design measures"* ***Page 6-59, line 9.*** • *"prevent a net increase"* ***Page 6-59, line 10.*** • *"transport study"* ***Page 6-59, line 12.*** • *"will be conducted"* ***Page 6-59, line 12.*** • *"management plan will be prepared and implemented during construction."* ***Page 6-59, line 13.*** • *"will include"* ***Page 6-59, line 14.*** • *"Measures to reduce flood potential could include"* ***Page 6-59, lines 26-27.*** The wording above is replete with vague and ambiguous language in terms of what kind of measures or actions will be implemented, cannot meet any performance standards such as "no-net-increase" or "prevent an increase" because the impact analysis fails to include a description of the baseline conditions that were used to determine the impacts associated with altering drainage patterns and increasing the rate or amount of runoff, failed to provide details about what the studies or management plans should include, and as a whole defers any and all formulation of specific mitigation actions in specific locations and to specific harmed parties to some future date such as during construction itself.	

			It is inappropriate and insufficient to assume that the details of mitigation to be fleshed out at a later date will be adequate to address the impacts. Further, Mitigation Measure SW-4 fails to account for and analyze impacts resulting from BDCP if the future studies and management plans are not completed before adverse impacts begin occurring or to identify the extent of these studies and management plans or their costs and how they will be paid for. Mitigation Measure SW-4 is therefore inadequate, incomplete, and not sufficiently specific to impacts associated with SW-5 or mandatory in order to be fully enforceable. *RECOMMENDATION: 1) Delete lines 16 and 17 and replace with specific and detailed mitigation measures that address the impacts described in lines 20-37 on page 6-59 as well as impacts such as seepage and flooding related to disrupting/disconnecting existing drainage systems; 2) Add a mitigation measure to address the seepage damage/flooding that is likely to occur on islands that are adjacent/near habitat restoration areas with prolonged amount of water inundating them.*	
26	6-103	18-31	**IMPACT SW-6: CREATE OR CONTRIBUTE TO RUNOFF WATER EXCEEDING EXISTING DRAINAGE CAPACITY OR ADDITIONAL SOURCES OF POLLUTED RUNOFF** Analysis - A proper environmental analysis of a project of this size and long-term (10 year) construction timeline needs to provide an accurate, stable, and finite description of the project and the existing baseline conditions used to determine the significance of environmental impacts in order to allow a lead agency, trustee agency, cooperating agency, or an impacted party in the Plan Area to evaluate the severity of the impacts or the feasibility of the project alternatives and mitigation measures to avoid or lessen such impacts. The project description and level of environmental analysis lacks sufficient details regarding the existing baseline conditions, locations, time periods, quantity of runoff and discharges from dewatering activities, and duration of these discharges to determine whether Impact SW-6 in fact properly captures and characterizes the full extent of drainage overflows and localized	

			surface flooding from runoff created by several square miles of construction and dewatering activities anticipated in CM1. Impact SW-6 contains almost no description of the baseline conditions that were used to determine impacts or where the direct and indirect impacts will occur or to account for changing conditions that are likely to occur prior to construction or during the 10-year construction time period. Therefore, Impact SW-6 lacks a sufficient baseline against which to compare the project in order to properly analyze the breadth of the environmental impacts. The impact analysis should describe the changing conditions, identified the conditions upon which the EIR/EIS relied for its baseline, and consider that range of circumstances as part of the analysis of impacts. Maps that are readily available at DWR and possibly the reclamation districts and other public agencies of the Delta island's existing irrigation and drainage system facilities and their capacity capabilities including size of pumping stations, seepage profile, groundwater levels, stormwater detention basins, where people and properties are located and vulnerable to damage from localized surface flooding, as well as FEMA floodplain maps. These are critical baseline materials to understand the existing conditions as well as determine locations where existing facilities will be disrupted/disconnected/overloaded by the project activities. The EIR/EIS is unclear about specific locations, timing, intensity, or duration of specific impacts or how and where these impacts need to be offset. The Impact SW-6 contains no discussion of whether such replacement/repairs of existing drainage facilities are feasible, the actions necessary to offset the expected exceedance of existing drainage facilities and resulting localized flooding from the project, locations where those repairs/enhancements to existing facilities would be needed, or the full extent of the environmental impacts of the project actions on local resources. Due to the lack of existing baseline conditions, Impact SW-6 fails to identify locations where modifications/repairs/replacement/enhancement need to be made to avoid or reduce impacts. Where, how frequently, and for how long will dewatering discharges result in increases in flows and water surface elevations? Where are the "receiving channels" for these dewatering discharges expected to occur, how often, and for	

			how long? What is the current capacity of these existing "receiving channels" and what's the % increase from the addition of the dewatering discharges? A lead agency must identify all significant effects on the environment caused by a proposed project that cannot be avoided. However, the EIR/EIS must first perform a rigorous analysis that discloses the nature and extent of the impacts to support the conclusion that impacts are significant in order to provide the public and cooperating agencies with adequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action. There is no evidence identified in Impact SW-6 to support the adequacy of the conclusion that or provide the nature and extent of the impacts or their location, intensity, or duration. Wording such as: • "could result in adverse effects" • "if the runoff volume exceeds the capacities of local drainages." The EIR/EIS fails to provide the comparison of the amount of the additional discharges from dewatering activities to the ability and capacity of the local drainages to accommodate, identify where and when localized will occur if dewatering discharges exceed the local infrastructure capacities, or how the additional dewatering activities will prevent farmers from keeping their lands sufficiently drained in order to grow crops. If there are lands that farmers will not be able to drain due to the drainage canals being full from CM1 dewatering discharges, then the loss of agricultural production is a significant adverse impact that needs to be acknowledged, analyzed and mitigated. CEQA conclusion lacks credibility as is general and vague in making a blanket assumption without site-specific identification of where, for how long impacts will occur, or who will be impacted. Impacts are significant where? Significant for how long? Significant on whom? Will landowners adjacent and near construction areas experience flooding of their properties? Will reclamation district have increased pumping costs due to additional discharges by BDCP activities? Will there still be sufficient capacity for adjacent landowners to discharge their drainage? Will BDCP's use of local drainage facilities require approval or permitting by owner's/operators of the drainage system?	

			Impact fails to identify details on who and where will be impacted or how parties/properties adversely affected will be mitigated for additional costs associated with preventing or reducing the adverse impact from the CM1 dewatering discharges. Will landowners or reclamation districts be required to construct, modify or expand drainage ditches/canals or new pumping facilities to assure they can properly drain their lands for crop survival and to prevent or reduce the increased localized flooding? The drainage systems that currently exist on Delta islands, including the canals/channels where water from CM1 dewatering activities will be discharged, are critical features necessary to keep the land behind the levees reclaimed for agricultural production. The importance of a functioning drainage system to agricultural activities is pointed out in Chater 7 of the EIR/EIS on Groundwater: • *Maintaining groundwater levels below crop rooting zones is critical for successful agriculture*, especially for islands that lie below sea level, and many *farmers rely on an intricate network of drainage ditches and pumps to maintain groundwater levels of about 3 to 6 feet below ground surface*. The accumulated agricultural drainage is pumped through or over the levees and discharged into adjoining streams and canal (U.S. Geological Survey 2000a). ***Without this drainage system, the islands would become flooded.*** [emphasis added] ***EIR/EIS Chap 7, page 7-5.*** As stated in Chapter 7 of the EIR/EIS, the existing drainage facilities are "intricate networks," which means they have been carefully designed and located to work with the natural drainage patterns on the island and to function as a system. Therefore, any activity such as dewatering which overwhelms the current system's capacity and ability to allow farmers who built the systems to keep their fields/crops drained will result in flooding and adverse impacts to the current land uses. Since Chapter 7 further confirms that	

			successful agriculture is dependent on the operation of this drainage system and clearly states the island will become flooded without a properly functioning drainage system, the impacts identified on page 6-103 lines 28-31, are significant and adverse to the ongoing agricultural productivity of lands that are flooded due to increased runoff volumes from dewatering activities associated with the CM1 conveyance facilities. These impacts include: 1) localized flooding of homes/businesses and farmland that could result in loss of planted crops or prevent any crops from being planted that is exacerbated by substantially altering the existing drainage pattern identified Impact SW-5; 2) increased costs to local landowners and reclamation districts to re-design and re-construct a functioning drainage system including new pumps; 3) increased pumping costs to local landowners and reclamation districts to build new pumps in new areas and to drain the additional water put into the drainage system by CM1 dewatering activities. <u>Mitigation Measures that simply state that future projects/actions/designs will comply with applicable law does not constitute avoidance of all impacts and does not suffice as replacement of mitigation.</u> The following language not only makes such claims without being support by substantial evidence, but it doesn't even name all of the permitting agencies or what the actual permit requirements are in order to determine if they in fact address the impacts identified. Even more concerning, the claim includes an additional impact to "water quality" that wasn't even discussed in the preceding narrative, so not even sure what kind of adverse water quality impacts are anticipated to be caused by the dewatering activities, where the water quality would be degraded, how that would affect local land uses or water supplies, or what the permit design requirements are that would avoid this adverse impact. • *"Compliance with permit design requirements would avoid adverse on surface water quality and flows from dewatering activities."* ***Page 6-103, lines 29-30.*** <u>The conclusions in the EIR/EIS must be supported by substantial evidence – actual facts. They can be reasonable assumptions or expert opinions – but</u>	

			they must still be predicated and backed up by facts. Speculation does not constitute substantial evidence, and unsubstantiated narrative or expert opinion asserting nothing more than "it is reasonable to assume" that something "potentially may occur" is not analysis supported by factual evidence. The following language not only makes conclusions on effectiveness of mitigation action without being support by substantial evidence but it also fails to identify what a dispersion facility is or how many and where they will need to be located and mentions an adverse impact, "channel erosion," that is not discussed in the preceding narrative, so not even sure what kind of adverse erosion impacts are anticipated from the dewatering activities or who will be harmed. It should appear as Mitigation Measure SW-6. • *The use of dispersion facilities would reduce the potential for channel erosion.* ***Page 6-103, lines 30-31.***	
27	6-103 6-104	29-39 1-2	**IMPACT SW-6: CREATE OR CONTRIBUTE TO RUNOFF WATER EXCEEDING EXISTING DRAINAGE CAPACITY OR ADDITIONAL SOURCES OF POLLUTED RUNOFF** CEQA Conclusions - In order to approve a project, the lead agencies must identify feasible mitigation measure or alternatives that are specific to the actual impacts and would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. The following statements/conclusions must have corresponding supporting evidence in the record of what exactly these requirements are and how they will perform in terms of avoiding or reducing the adverse impacts and be identified in a Mitigation Measure SW-6 to address the water quality and flows, and channel erosion impacts that may not be mitigated under MM SW-4. • *"Compliance with permit design requirements would avoid adverse on surface water quality and flows from dewatering activities."* ***Page 6-103, lines 29-30.*** • *The use of dispersion facilities would reduce the potential for channel erosion.* ***Page 6-103, lines 30-31.*** The formulation of mitigation measures cannot be deferred until a later time based on completion of	

			future studies or agreements being signed, although a lead agency is allowed to provide specific performance standards that specify the extent to which impacts will be mitigated. Mitigation Measure SW-4 inappropriately defers the formulation of specific mitigation until some future date, when vague and ambiguous "plans," "studies" will be prepared, without imposing any performance standards as to what those plans must do or show. It is inappropriate to assume that the details of mitigation will be fleshed out at an unknown future date. • *"Studies will be prepared"* ***Page 6-59, line 4.*** • *"Based on study findings, if it is determined"* ***Page 6-59, line 6.*** In order to approve a project, the lead agencies must identify feasible mitigation measure or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. Please see Comment #25 above regarding deficiencies with the adequacy of Mitigation Measure SW-4 generally. Additionally, relying on following language from Mitigation Measure SW-4 does not meet this standard and is therefore inadequate to properly avoid or reduce significant impacts from dewatering activities: • *"will design and implement"* ***Page 6-59, lines 2-4.*** • *"to assess the need for, and to finalize, other drainage-related design measures, such as"* ***Page 6-59, lines 4-5.*** • *"if it is determined"* ***Page 6-59, line 6.*** The EIR/EIS assumes, without evidentiary support in the record, that all the mitigation measures will be fully implemented where the project activities may have a direct or indirect effect and that the measures will in fact work to avoid or substantially reduce the significance of the adverse impacts, which may in fact not occur. The EIR/EIS additionally fails to account for and analyze impacts resulting from Project activities if the mitigation measures are not implemented or not working in terms of reducing the level of adverse impacts. When will the studies be started? Completed? What is the scope of work of the studies and the conditions and locations they are trying to	

			maintain/protect? How much will these studies cost? How much are designing and reconstructing drainage systems for all lands on island? What are the number of acres and crops expected to be damaged? Will BDCP pay RD and landowner costs to reconstruct drainage facilities, install new pumps, or for increased monthly utility bills for additional pumping needed to handle BDCP runoff? What is protected total cost of studies, management, plans, design of repairs/reconstruction of disrupted facilities, building detention storage areas, etc.?	
28	6-104	7-14	**IMPACT SW-7: EXPOSE PEOPLE AND PROPERTY TO RISK OF LOSS, INJURY, OR DEATH FROM FLOODING DUE TO CONVEYANCE CONSTRUCTION** Analysis - <u>The conclusions in the EIR/EIS must be supported by substantial evidence – actual facts. They can be reasonable assumptions or expert opinions – but they must still be predicated and backed up by facts. Speculation does not constitute substantial evidence, and unsubstantiated narrative or expert opinion.</u> The additional flood risks to people and structures created by this project cannot simply be reduced through design and compliance with USACE, DWR, and CVFPB because there are significant risks that will exist during the ten year construction period. During ten years of construction local RDs, DWR, or USACE will unlikely be able to conduct levee inspections, conduct levee maintenance or construct their own repairs or improvements due to competition/blockage by BDCP construction activities, or be able to provide floodfighting due to inability to access the area or stage equipment. DWR/BDCP will likely need to assume all levee maintenance and floodfighting responsibilities for several reaches of levees and possibly the whole district in areas where land is consumed by the facilities and not enough remaining landowners to maintain RD functions of levee maintenance and island drainage. Therefore, Impact SW-7 cannot conclude that Alternative 4 will "not result in an increase to exposure of people or structures to flooding due to construction of the conveyance facilities" simply by complying with USACE, CVFPB, and DWR requirements. The impact findings must specify what physical design features, standards, requirements, and operating criteria that apply to	

			each element/feature of the conveyance facilities that will be constructed, including but not limited to: all pipelines/tunnels, modification of project levees, each intake facility, shafts, muck storage, forebays, emergency spillways, etc. The location of a 750-acre ring dam (Intermediate forebay) that holds 5,250 acre feet of water storage near Hood (population 271) and Courtland (population 355) which also has an elementary school with over 200 kids, a community pre-school, and a continuation high school does pose a new risk that currently does not exist to life and property, particularly in light of the BDCP Purpose and Need Statement citing seismic activity as risk in the Delta. Even under modern engineering designs and construction no dam or conveyance facility is immune to some kind of damage from mother nature or human-caused terrorism. It is disturbing and appalling that the EIR/EIS fails to acknowledge the new risk of flooding imposed on people and property in Hood and Courtland from a new dam build next to them holding 5,250 af of water. Therefore, the impacts of building the new conveyance facilities will be a significant adverse impact. <u>A lead agency must identify all significant effects on the environment caused by a proposed project that cannot be avoided. However, the EIR/EIS must first perform a rigorous analysis that discloses the nature and extent of the impacts to support the conclusion that impacts are significant and unavoidable in order to provide the public and cooperating agencies with adequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action.</u> Chap 6, page 6-48, lines 22-23, states: "Overall, the peak flows simulated in CALSIM under the No Action Alternative show increases from 1% to 4% in certain locations. However, these changes are primarily due to the change in flow patterns due to sea level rise and climate change." What portion of the 1-4% is attributable to BDCP construction and water operations? Constructing levee improvements to keep up with sea level rise is primarily a responsibility of the locals and state/federal agencies that have cost-shares with the locals for these projects, however since BDCP relies on dual-conveyance even a portion of the sea level rise levee raise costs should also be shared proportionally by BDCP, otherwise BDCP is unfairly	

			benefitting. The BDCP portion of increased flood potential needs to be mitigated, particularly in channels, reaches, areas where the current system is already unable to perform to the flood flow design capacity, because there is absolutely no level of tolerance for even minor increases in flood risk/potential by BDCP actions. Impact SW-7 fails to identify any level of impacts, let alone any details on who and where will be impacted or how parties/properties adversely affected, which as stated above are significant adverse impacts, including but not limited to the following: 1) The amount of construction truck activity over 10-years discussed in Chapter 19 *Transportation* exceeds the weight and traffic volume that current levees upon which much of the construction trucks will travel over and will degrade them to a point of reducing their stability which could result in a levee failure from CM1 construction activities. 2) The maintenance, inspection, and improvement of the entire length of levees of the islands where CM1 facilities will be built is unlikely to be possible, so these levees have a greater chance of failure in the 10-year construction period than existing conditions. 3) The re-routing and blocking of roads during the 10-years of construction could complicate and slow down the evacuation and escape of people and animals if flooded out by damage to the Intermediate Forebay or failure of the levees from a high water event, earthquake, or terrorist act, which would increase the likelihood of death for people and listed species in the area of impact. 4) Installing up to 12 steel piles a day at EACH of the three north Delta intake locations, ***EIR/EIS, Appendix 3C, page 3C-5,*** (total: up to 36 per day) for a total of about 1,000 steel piles being installed will cause significant vibration. One of the primary reasons applicants of the BDCP state for building the new facilities in CM1	

			is due to concerns over levee stability and their performance during a seismic event. Despite this concern being so important that reducing seismic risk of SWP/CVP conveyance facilities is stated as one of the Purpose and Needs of the Project, this EIR/EIS chapter failed to provide any analysis of how 700 steel pile driver strikes for about 1,000 total steel piles (700,000 total steel pile drives) needed over several months and years for the three north Delta intakes, will affect the stability of the levees at the intake location site, adjacent, across the river, or even in the vicinity. This amount of intense local vibration could cause stress fractures and possibly levee failures to construction locations and neighboring islands which would damage people, property and wildlife costing millions of dollars to repair, replace, and rebuild. *RECOMMENDATIONS: 1) Acknowledge the increased flood risk posed to people, listed species and property from levees or new ring dam holding 5,250 af of water and other conveyance facilities if they are damaged my Mother Nature or human-related terrorist acts; 2) Identify these forebay water storage as potential flood impacts as significant adverse impacts; 3) Acknowledge the other flood risks that are created by the conveyance construction related to levee stability and failure; 4) Provide analysis of the additional flood risks created by stress on surrounding levees in vicinity of construction area, including either conducting studies on pile driving impacts on nearby levee stability or provide current literature or local project information regarding how levees performed under stress of about 700,000 steel pile driving strikes over months and possibly years; 5) Provide mitigations to avoid or reduce any significant impacts that are identified in the environmental analysis of these levee impacts; 6) identify the estimated annual BDCP cost for repairing, replacing, rebuilding of structures and levees due to levee damage caused by conveyance construction and property losses from resulting floods from levee failures caused by construction activities; 7) the CEQA conclusion, page 6-48, lines 32-36, should identify even the minimal impacts that increase flood potential, particularly in reaches that already exceed flood capacity design criteria.*	

29	6-104	15-18	**MITIGATION MEASURE SW-7: NONE PROVIDED.** EIR/EIS environmental conclusions simply stating that future projects/actions/designs will comply with applicable law does not constitute avoidance of all impacts and does not suffice as replacement of mitigation. In order to approve a project, the lead agencies must identify feasible mitigation measures or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. There is new and increased risk of flooding posed by CM1 conveyance facilities that must be mitigated beyond design/permit requirements of USACE, CVFPB, or DWR, particularly in light of BDCP Project and Purpose which cites catastrophic earthquakes and the additional possibility of human-related terrorist acts against the facilities that the Plan and EIR/EIS did not acknowledge or analyze. Even properly designed and constructed facilities cannot guarantee they will not be damaged or collapse as seen in highway/bridge/building collapses in the Northridge and Loma Prieta earthquakes. No structure or design is foolproof to the power of mother nature's destructive forces or to poor construction due to political pressures (Bay Bridge) or in a hurry (Stockton sewer plant). Statement that compliance with USACE, CVFPB, and DWR requirements is sufficient to avoid increased flood risk is conjecture at best because it lacks any studies or analysis to substantiate the claim. *RECOMMENDATIONS: 1) Identify specific design criteria and permit requirement that will serve to avoid or reduce the impacts; 2) identify additional impacts needed to avoid or reduce impacts that are not covered under USACE, CVFPB, DWR permit requirements.*	
30	6-104 6-105 6-61 6-62	19-24 1-13 28-42 1-8	**IMPACT SW-8: EXPOSE PEOPLE AND PROPERTY TO RISK OF LOSS, INJURY, OR DEATH FROM FLOODING DUE TO HABITAT PROJECTS** Analysis - The conclusions in the EIR/EIS must be supported by substantial evidence – actual facts. They can be reasonable assumptions or expert opinions – but they must still be predicated and backed up by facts. Speculation does not constitute substantial evidence, and	

			unsubstantiated narrative or expert opinion. Therefore, Impact SW-8 cannot conclude that Alternative 4 will "not result in an increase to exposure of people or structures to flooding due to construction of the operations of habitat restoration facilities" simply by complying with USACE, CVFPB, and DWR requirements. The impact findings must specify what physical design features, standards, requirements, and operating criteria that are required under those permits that apply to each element/feature of each of the habitat measures that will be constructed. The conclusions in the EIR/EIS must be supported by substantial evidence – actual facts. Unsubstantiated narrative or expert opinion such as the following asserting is not analysis supported by factual evidence: • *"could increase flood potential"* ***Page 6-61, lines 30-31.*** • *"these potential increases"* ***Page 6-61, line 35.*** • *"action could also reach"* ***Page 6-61, line 36.*** What is the scientific background upon which these assumptions are made? Where are these assumptions anticipated to occur? Are these impacts anticipated to occur more frequently than existing conditions? If so, how much more often and when? A lead agency must identify all significant effects on the environment caused by a proposed project that cannot be avoided. However, the EIR/EIS must first perform a rigorous analysis that discloses the nature and extent of the impacts to support the conclusion that impacts are significant and unavoidable in order to provide the public and cooperating agencies with adequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action. Wind fetch is not the only likely impact to be caused by habitat measures that propose to inundate areas permanently or more frequently, encourage more tidal excursion in some places, create unnatural unidirectional flows, or increased flow velocities in certain channels than occurs under existing conditions. Impact SW-8 fails to identify any level of impacts, let alone any details on who and where will be impacted or how parties/properties adversely	

			affected from wind fetch damage, which as stated above are significant adverse impacts. The analysis also fails to identify other potentially significant localized flood impacts beyond wind fetch including, but not limited to: 1) Prior history has shown than when Prospect Island was inundated due to a levee breach, the neighboring island, Ryer Island, experienced increased surface flooding from seepage and boils which reclamation district engineers attributed to the change in hydraulic pressure. This caused damage to crops and prevented planting on certain farm lands that could also be considered significant adverse impact in addition to wave fetch. Studies were done on the damage to neighboring islands caused by prior Prospect Island flooding, including information gathered from installation of seepage monitoring wells, then and more recently by DWR, yet this information is not discussed are analyzed in the EIR/EIS. 2) Changes in channel hydrodynamics and flows as well as water elevations and volumes could create additional costs to reclamation districts from erosion and seepage damage that may require additional rocking, large land-side berms, or other levee improvements to mitigate the impacts. At the very least seepage monitoring will need to be installed and addressed in locations surrounding habitat areas. In addition, BDCP will need to provide funding in perpetuity to affected reclamation districts/landowners for their additional pumping costs to maintain the land for current and future agricultural production . <u>A proper environmental analysis of a project of this size, even a programmatic analysis, needs to provide an accurate description of the project and the existing baseline conditions used to determine the significance of environmental impacts in order to allow a lead agency, trustee agency, cooperating agency, or an impacted party in the Plan Area to evaluate the severity of the impacts or the feasibility of the project alternatives and mitigation measures to avoid or lessen such impacts.</u> The project description and level of environmental	

			analysis lacks sufficient details regarding the existing baseline conditions, locations, time periods, quantity of expected wave fetch let alone other hydraulic and flood impacts like erosion and seepage from implementation of habitat measures that will create permanent and more frequent inundation of lands, changes in water flow direction and velocities, and increased hydraulic pressure or the duration of these actions to determine whether Impact SW-8 in fact properly captures and characterizes the full extent of damage could be caused by habitat measures. The EIR/EIS analysis should indicate what size the waves that are expected to be generated by the various habitat types identified in the Plan (this can be done by studying other Delta areas where islands were flooded and not repaired) and studies of what kind of erosion and overtopping damage the different sized waves can cause to levees. Provide information on how much annual damage BDCP expects to pay for erosion and seepage damage. *RECOMMENDATIONS: 1) Expand the analysis to include other likely causes of localized flooding to be caused by BDCP habitat projects such as seepage to agricultural production and increased drainage pumping costs; 2) Provide current and accurate baseline condition of levees and crop lands that could be affected by impacts associated with this activity; 3) Include documents, studies, and resulting environmental analysis conducted by BDCP consultants regarding this project on how/where/duration of these anticipated impacts that will show how local resources will be impacted by increased inundation, seepage, erosion, drainage pumping, levee overtopping or to change in natural flows such as reverse flows or unidirectional flows instead of tidal prior to release of Public Draft so that cooperating agency or an impacted party in the Plan Area can properly evaluate the severity of the impacts or the feasibility of the project alternatives and mitigation measures to avoid or lessen such impacts.*	
31	6-105 6-62	5-13 9-18	**MITIGATION MEASURE SW-8: (IMPLEMENT 1A SW-8 MEASURE) ADDRESS POTENTIAL WIND FETCH ISSUES.** <u>EIR/EIS environmental conclusions simply stating that future projects/actions/designs will comply with applicable law does not constitute avoidance of all impacts and does not suffice as replacement</u>	

			of mitigation. In order to approve a project, the lead agencies must identify feasible mitigation measures or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. There is new and increased risk of flooding posed by habitat measure construction and operations that must be mitigated beyond design/permit requirements of USACE, CVFPB, or DWR, particularly in light of the likely impacts based on past incidences that the EIR/EIS failed to acknowledge or analyze. A specific mitigation should be provided that provides details on the specific design elements, operational requirements, or permit conditions that would be implemented by each agency such as raising existing levee heights or building a landside berm and how each of the elements would avoid or mitigate the impacts identified in EIR/EIS which include wind fetch damage as well as how these elements would avoid or mitigate the impacts *not* identified in EIR/EIS which include seepage, erosion, increased drainage pumping costs, lost crops damaged by localized flooding. In order to approve a project, the lead agencies must identify feasible mitigation measure or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. Mitigation Measure SW-8 improperly defers the formulation of specific mitigation until some future date, when vague and ambiguous "plans," "studies," or "reports" will be prepared, without imposing any performance standards as to what those plans must do or show. It is inappropriate to assume that the details of mitigation will be fleshed out at an unknown future date. The formulation of mitigation measures cannot be deferred until a later time based on completion of future studies or agreements being signed, although a lead agency is allowed to provide specific performance standards that specify the extent to which impacts will be mitigated. Mitigation Measure SW-8 fails to provide specifics on either the extent or standards. • *"measures will be designed based upon wind fetch studies that will be completed prior to construction"* ***Page 6-62, lines 11-***	

			12. • *"strengthened and possibly raised"* ***Page 662, line 15.*** Having the actual implementation of measures based on feasibility rather than being applied directly once impacts are known is both an uncertain and unenforceable mitigation measure. Therefore, such limitations and conditions on the mitigation measures make them inadequate to avoid or reduce the significance of the adverse impacts. • *"Other mechanisms to reduce the effects of wind fetch will be considered to the extent feasible"* ***Page 6-62, lines 17-18.*** Mitigation Measure SW-8 is unenforceable because it fails to set any specific performance standards or criteria for surveying, relocation, repair, replacement, and/or compensating or restoring the impacted resource impacted by the project activity. The EIR/EIS assumes, without evidentiary support in the record, that all the mitigation measures will be fully implemented where the project activities may have a direct or indirect effect and that the measures will in fact work to avoid or substantially reduce the significance of the adverse impacts, which may in fact not occur. The EIR/EIS additionally fails to account for and analyze impacts resulting from Project activities if the mitigation measures are not implemented or not working in terms of reducing the level of adverse impacts.	
32	6-104 6-105 6-62	27-38 1-4 19-41	**IMPACT SW-9: PLACEMENT OF STRUCTURES IN 100-YEAR FLOOD HAZARD AREA THAT WOULD BE FLOODED OR IMPEDE OR REDIRECT FLOOD FLOWS** Analysis - The conclusions in the EIR/EIS must be supported by substantial evidence – actual facts. They can be reasonable assumptions or expert opinions – but they must still be predicated and backed up by facts. Speculation does not constitute substantial evidence, and unsubstantiated narrative or expert opinion. Environmental analysis failed to provide any current studies or BDCP specific data and information collected and then analyzed to reach the conclusions regarding impacts. The EIR/EIS consultants also failed to check with the reclamation districts in location or in adjacent areas near facilities to see if there are any other	

			flood risk impacts expected from construction. There have been recent examples where new structures such as the City of Stockton sewer treatment plant ended up being shut down due to land movements that threatened to cause the facilities to fail despite following the permit requirements of USACE, CVFPB, and DWR. Where is the data, studies, or factual history regarding how building of structures on elevated pads has redirected flows, resulted in additional runoff, or other impacts? Even if the consultants had provided an Appendix noting the various other previous similar construction projects and impacts seen or not seen after construction completed, then that would provide some sort of basis for this conclusion. Without providing such evidence – these conclusions are nothing more than conjecture: • *"could lead to mudflows"* ***Page 6-62, line 23.*** • *"issues associated with alterations to"* ***Page 6-62, line 27.*** • *"potential for increased surface water elevations"* ***Page 6-62, lines 27-28.*** • *"Potential adverse effects could occur due to"* ***Page 6-105, line 1.*** • *"could increase flows in local drainages; and changes in sediment accumulation near the intakes."* ***Page 6-105, line 2.*** <u>EIR/EIS environmental conclusions simply stating that future projects/actions/designs will comply with applicable law does not constitute avoidance of all impacts and does not suffice as replacement of mitigation. In order to approve a project, the lead agencies must identify feasible mitigation measures or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable.</u> • *"because BDCP proponents would be required to comply with the requirements of USACE, CVFPB, and DWR to avoid"* ***Page 6-105, lines 7-9.*** Raised pads for conveyance facilities, all will result in creating a barrier to surface drainage with potential to create localized flooding. All of the new structures including earthen structures must be evaluated in the EIR/EIS for how and where they	

			re-direct flows/drainage/run-off and provide appropriate mitigations at each and every location at the full cost of BDCP and no cost to the locals. There is new and increased risk of flooding posed by constructing two-story elevated building pads in the interior of Delta islands and adjacent to levees must be mitigated beyond design/permit requirements of USACE, CVFPB, or DWR, particularly in light of the likely impacts based on past incidences that the EIR/EIS failed to acknowledge or analyze. A specific mitigation should be provided that provides details on the specific design elements, operational requirements, or permit conditions that would be implemented by each agency such as paying for additional drainage canals/pipelines, pumps, and electricity costs, raising other non-BDCP structures on the island to 100-year level to prevent their flooding from re-directed flows from surface water runoff when it hits the two-story wall of dirt (elevated pad CM1 structures will be built on) and how each of the permit design or operation requirements would avoid or mitigate the impacts identified in EIR/EIS which include re-directed flood flows from elevated building pads, increased surface water runoff from paved areas, alteration of existing drainage facilities and patterns, changes to stream courses and natural flow directions, and sediment accumulation near the intakes that reduces Sacramento River flood flow capacity as well as how these elements would avoid or mitigate the impacts *not* identified in EIR/EIS which include seepage, erosion, increased drainage pumping costs, lost crops damaged by localized flooding, flood damaged buildings, loss of life, etc. <u>A proper project-level environmental analysis of a project of this size needs to provide an accurate description of the project and the existing baseline conditions used to determine the significance of environmental impacts in order to allow a lead agency, trustee agency, cooperating agency, or an impacted party in the Plan Area to evaluate the severity of the impacts or the feasibility of the project alternatives and mitigation measures to avoid or lessen such impacts.</u> The project description and level of environmental analysis lacks sufficient details regarding the existing baseline conditions, locations, time periods, and quantity of surface water runoff currently experienced in the construction areas, both the current Sacramento River width and channel capacity at the intake locations and the design	

			identified for SPFC functionality, and the current annual drainage pumping amounts (per month) and costs. Where are the DWR maps of seepage areas on these islands where CM1 facilities to be built? Where are the maps of the island's existing drainage systems, including pumping stations and system capacities? Where is the modeling and other studies regarding flood capacity that is readily available in other plans such as Central Valley Flood Protection Plan? Where are studies from Sacramento County regarding how building structures could impede or re-direct flows and how they recommend these impacts are mitigated? Where are studies from FEMA regarding how building very large elevated dirt pads re-directs flood impacts to other structures? The EIR/EIS analysis should use existing data and baselines to compare against the increases and alterations of existing facilities/capacities to properly identify all of the possible hydraulic and flood impacts like erosion and seepage, changes in river and surface water flow direction and velocities, and increased hydraulic pressure or the duration of these actions to determine whether Impact SW-9 in fact properly captures and characterizes the full extent of damage could be caused by building large elevated structures in flood hazard areas with known seepage and drainage issues. <u>A lead agency must identify all significant effects on the environment caused by a proposed project that cannot be avoided. However, the EIR/EIS must first perform a rigorous analysis that discloses the nature and extent of the impacts to support the conclusion that impacts are significant and unavoidable in order to provide the public and cooperating agencies with adequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action.</u> Where are the current studies or data and modeling collected by BDCP that supports the conclusion that will not create increased flood potential on the five rivers and Yolo Bypass facility of the SPFC? If the Plan Chapter 5 Effects Analysis modeling provides evidence that supports this conclusion, then it should be mentioned what the analysis says and where that info can be found. Where are the current studies or new BDCP data and analysis of how, where, and for how long and frequently the BDCP expects increases in surface water or re-directed surface waters to occur or which local drainages will be impacted and whether they have capacity for increased flows?	

			Where will the surface runoff be re-directed when it hits the two-story wall of dirt that the CM1 facilities are built up on? What percentage of the land surface do the new elevated building pads for CM1 facilities on each of the Delta islands? Will the weight and location of these large building pads create additional pressure on known seepage areas and cause water to be forced out onto surrounding lands? How many acres and what crops will be damaged by the seepage and surface runoff flooding? Where are the current studies or new BDCP analysis regarding how much annual sediment is supposed to build up at the intakes and how this affects the current flood flow capacity in the intake vicinity as well and both up-river and down-river? The EIR/EIS analysis should indicate what quantities of and where increased surface flows to be created, how and where re-directed flows will occur, how and where drainage systems will be disconnected due to CM1 footprint, how much annual sedimentation will accumulate in the river, etc. Provide information on how much annual damage BDCP expects to pay for erosion and seepage damage to non-BDCP structures and current and future crops, cost of replacing and repairing disrupted drainage system so that it is functioning again, increased drainage pumping costs to be paid to RDs, cost of annual sediment removal is, cost to widen Sacramento River channel to replace flood flow capacity lost by in-river diversion intake construction and sediment, etc. The EIR/EIS's failure to recognize that levees are underneath the road surface of many roads/hwys identified for use during the 10-year construction period means that no analysis was done or mitigation offered regarding the need to inspect the levee integrity and perform routine maintenance. The local Reclamation District (RD) is responsible for daily inspection of levee conditions for issues such as cracks, slippage, encroachments, seepage, burrowing animals, etc. In addition, DWR conducts levee inspections twice a year and the USACE conducts more extensive Periodic Inspections every 5 years. The local RD is responsible for performing annual maintenance activities on and around the levees in order to meet USACE and FEMA levee standards which will be hindered by any blockage or access issues caused by construction activities. DHCCP consultants need to begin immediate consultation with local RDs, the CVFPB, DWR's levee inspection branch, and USACE to discuss drafting a specific	

			mitigation measure to deal with how staging of construction equipment, construction traffic, and/or road re-routing will affect the ability for levee inspections and annual levee maintenance to be performed. Any interference with levee inspections or maintenance exposes SWP and CVP to liability if as a result the levee loses its current levee rating by USACE or FEMA will expose the BDCP to liability associated with the change in status and any resulting flood damage to private property that is protected by that levee. Construction impacts that impede access of levees to RD's, DWR levee inspectors, or USACE for inspection and maintenance needs to identified and mitigated and compensation to landowners for any flood damage to their property and crops. Additionally, the EIR/EIS fails to identify the construction impacts on ability of the local RD, county OES, DWR's Emergency Response personnel, CalEMA, or USACE to access the levees in the construction zone/area if need to do floodfighting activities. The degradation/damage to a levee from the extensive number of heavy BDCP construction trucks on a daily basis or from flood, earthquake, or daily intensive vibration from the multiple steel pile driving for the new intakes for several months could result in failure of levee in the general vicinity of construction which would require quick response to floodflight. But the EIR/EIS neither discusses this potential, analyzes its impacts, nor provides any mitigation measures or evacuation plan for workers and residents on the island. The inability to quickly floodfight and repair a damaged levee will result in loss of life and property in the area protected by that levee and could have a domino effect of causing neighboring levee failures if CM1 construction activities/equipment block access to the levee break or floodfighting personnel and supplies. Construction impacts that impede fast access to levees that require floodfighting needs to be identified and mitigated.	
33	6-105 6-59	14-15 1-14	**MITIGATION MEASURE SW-9: (USE MITIGATION SW-4 IN ALT. 1A: REDUCE RUNOFF AND SEDIMENTATION)** EIR/EIS environmental conclusions simply stating that future projects/actions/designs will comply with applicable law does not constitute avoidance of all impacts and does not suffice as replacement	

			of mitigation. In order to approve a project, the lead agencies must identify feasible mitigation measures or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. • *"because BDCP proponents would be required to comply with requirements of USACE, CVFPB, and DWR to avoid increased flood potential"* ***Page 6-105, lines 7-9.*** There is new and increased risk of flooding posed by increased surface water flooding, reduced drainage capabilities due to exceedance or alteration of existing facilities, re-directing surface water flows around elevated structures to areas currently not experiencing surface flooding, weight of elevated pads/structures causing seepage to surrounding lands, and to reduced capacity in Sacramento River to handle SPFC flood flow design. These impacts must be mitigated beyond design/permit requirements of USACE, CVFPB, or DWR. A specific mitigation should be provided that provides details on the specific design elements, operational requirements, or permit conditions that would be implemented by each agency such as paying for increased drainage pipes and pumping costs, elevating non-BDCP structures to 100-year, widening and/or dredging Sacramento River to assure can handle design flood flows, etc. and how each of these permit requirements would avoid or mitigate the impacts identified in EIR/EIS which include surface flooding, re-directed flood flows and reduced flood flow capacities as well as how these elements would avoid or mitigate the impacts *not* identified in EIR/EIS which include seepage, erosion, increased drainage pumping costs, lost crops damaged by localized flooding, etc. In order to approve a project, the lead agencies must identify feasible mitigation measure or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. Mitigation Measure SW-9 (Alt 1A MM SW-4) improperly defers the formulation of specific mitigation until some future date, when vague and ambiguous "plans," "studies," or "reports" will be prepared, without imposing any	

			performance standards as to what those plans/studies must do or show. It is inappropriate to assume that the details of mitigation will be fleshed out at an unknown future date. The formulation of mitigation measures cannot be deferred until a later time based on completion of future studies or agreements being signed, although a lead agency is allowed to provide specific performance standards that specify the extent to which impacts will be mitigated. Mitigation Measure SW-9 fails to provide specifics on either the extent or standards. • *"Drainage studies will be prepared"* ***MM SW-4 of Alt 1A, page 6-59, line 4.*** • *"to assess the need for, and to finalize, other drainage-related design measures"* ***Page 6-59, lines 4-5.*** • *"Based on study findings"* ***Page 6-59, line 6.*** • *"if it is determined that onsite stormwater detention storage is required"* ***Page 6-59, lines 6-7.*** • *"detailed sediment transport study" "will be conducted"* ***Page 6-59, line 12.*** • *"a sediment management plan will be prepared"* ***Page 6-59, lines 12-13.*** A menu of specific mitigations should be provided that provides details on the specific design elements, operational requirements, or permit conditions that would be implemented by each permitting agency and how each of the elements would avoid or mitigate the impacts identified in EIR/EIS as well as how these elements would avoid or mitigate the impacts *not* identified in EIR/EIS which include seepage, erosion, increased drainage pumping costs, lost crops damaged by localized flooding, etc. Will the studies only analyze the impacts to the BDCP new facilities at only the BDCP construction sites, or will it include an analysis of how the existing drainage system functions to drain the whole island? Will the studies analyze how, where, and duration of drainage disruptions and localized flooding? Will BDCP utilize other current studies done in CVFPP to identify current SPFC design deficiencies and hydraulics for determining how and where Sacramento River needs to be widened or dredged to replace flood flow capacity due to footprint of in-water intake facilities? What are the specific performance standards that specify the extent to which impacts will be mitigated for each of the studies and plans to be developed pursuant to this mitigation	

			measure? What is the condition the studies or plans will be trying to maintain? What is the scope of work direction for these studies/plans and their cost to prepare? To implement? Mitigation Measure SW-9 (Alt 1A MM SW-4) is unenforceable because it fails to set any specific performance standards or criteria for surveying, relocation, repair, replacement, and/or compensating or restoring the impacted resource impacted by the project activity. The EIR/EIS assumes, without evidentiary support in the record, that all the mitigation measures will be fully implemented where the project activities may have a direct or indirect effect and that the measures will in fact work to avoid or substantially reduce the significance of the adverse impacts, which may in fact not occur. The EIR/EIS additionally fails to account for and analyze impacts resulting from Project activities if the mitigation measures are not implemented or not working in terms of reducing the level of adverse impacts. What are the total anticipated costs for surveying island drainage patterns and systems, reviewing current flood flow capacities and designs and for implementation of mitigation measures such as widening river, dredging river, designing and reconstructing existing or new drainage systems anywhere on the island that are disconnected from rest of the system by facility footprint, and implementing annual sediment management plan?	
34	6-105	18	**TYPO:** "five" should be "three" to properly identify number of intake locations designed for Alt 4.	
35	GEN All inclusive	GEN All inclusive	**GENERAL EIR/EIS COMMENTS** **Comment Limitations** Overall, the EIR/EIS as currently drafted is still insufficient for NDWA as a Cooperating Agency or an agency with a water supply contract with DWR for the assurance of a dependable supply of suitable quality water to evaluate or provide meaningful comments for the following reasons: 1) **Inadequate Analysis** - The EIR/EIS does not provide sufficient or adequate documentation to support assumptions and conclusions in the individual Impact Statements or Mitigation Measures and	

			defers the significant portion of this work until some future date, preventing NDWA as a cooperating agency to evaluate the true nature and extent of the impacts associated with construction or implementation of any of the CMs, let alone the adequacy of the proposed mitigation. If there are reports, studies, maps, or other evidence then they should be referenced, included as Appendices, and the results of studies described so there is a clear nexus on how the impact assumptions/conclusions were reached. Otherwise the document is only based on conjecture and speculation rather than an actual environmental review that compares the individual and combined elements/activities of the Plan with existing baseline conditions. In many chapters the EIR/EIS fails to provide an accurate assessment of location, size, duration, or level of severity of the anticipated and foreseeable impacts for each individual Conservation Measure (CM) or the cumulative impacts if they are all implemented during the 50-year life of the Plan. Since the adverse impacts of CM1 significantly outweigh and rely on implementation of the limited ecological benefits of CM2-22 which even cancel each other out over the long term in some cases (reduced tidal action in Cache Slough Complex will eliminate benefits of any tidal restoration over time), each Conservation Measure needs to be analyzed to a level of detail to at least indicate the total amount of cumulative effects of how each CM impacts the other and to justify the implementation of CM1 which has significant adverse effects on aquatic and terrestrial species during construction and implementation. The EIR/EIS fails to quantify the duration and severity of impacts associated with the "temporary" construction activities for each of the CMs which is important context due to the long time period that magnifies the cumulative effects over time. The number of years associated with each Impact should be clearly stated, even if an estimation. (See additional comments below). 2) **Modeling/Effects Analysis Problems** –	

			The NDWA has submitted a joint letter with other agencies concerned with the performance of the BDCP modeling. Due to the concerns raised in the letter and with conversations with the BDCP modeling consultants, NDWA is unable to assess the accuracy of the assumptions and conclusions reached in the Impact Statements for the EIR/EIS as a whole, but particularly for Chapters 5 *Water Supply*, 6 *Surface Water*, 7 *Groundwater*, and *8 Water Quality* which are the most important chapters to us a cooperating agency as they most directly affect the ability of BDCP to comply with the NDWA Contract criteria. BDCP needs to run effects analysis modeling runs for all four scenarios in Alt. 4 using the current SWRCB D-1641 salinity compliance point at Emmaton since the BDCP permits will not include changing this location and therefore will have to operate all four scenarios to meet Emmaton salinity criteria. In addition, these four chapters which are all tied directly together failed to include all of the physical impacts that are clearly identified in the Plan Chapter 5 *Effects Analysis* that will directly impact the NDWA Contract provisions regarding: 1) water availability (access) in ***all*** channels of the North Delta (300,000 acres); 2) changes in natural flows (reversals at Georgiana Slough, tidal exchange to unidirectional in Steamboat and Sutter); 2) alteration of surface water elevations to the detriment of North Delta channels or water users (Georgiana, Steamboat, Sutter, and -3 feet in Sac River); and 3) the locations and duration of seepage and erosion damage caused by altered hydraulics, including changes in flow directions and velocities. 3) **Optimization Changes** – The DHCCP staff has been recently proactive in finally investigating the feasibility of the design, size, and location of CM1 water conveyance facilities proposed to be built in the North Delta in order to identify what they call an "Optimization Alignment." The NDWA would like to commend the DHCCP consultants for recognizing that outreach and direct communication with residents and	

			agencies in the CM1 construction area is the most productive and effective way to design a more feasible project as well as reduce project costs and adverse impacts. While the NDWA is pleased to hear BDCP is considering announcing significant design changes in terms of size and location in August that will change the footprint and associated impacts, this also negates any reason for NDWA to evaluate or provide any input on any EIR/EIS chapters beyond 5, 6, and 7 since the Project is due to be significantly modified once again. The NDWA would request the BDCP lead agencies run new models, specifically analyze new project description instead of relying and referring to Alt. 1A for impacts and mitigation, and release a 3rd Admin Draft for cooperating, responsible, and trustee agencies to comment on prior to releasing a Final Draft for public comment. **Recommendation:** 1) Add more description and documentation (Appendices/maps/tables/results descriptions that provide context and nexus) in each Impact Statement that supports the assumptions and conclusions made in all alternatives; 2) the EIR/EIS, both project and program level analysis, should at least provide an in depth and accurate cumulative effects analysis as if all CMs 1-22 were implemented over the 50-year life of the Plan to give Delta communities and landowners an idea of the worst case scenario; 3) Make each alternative impact in each chapter clarify how long each impact will occur and quantify the severity in terms of risk to life, loss of property, and harm to Delta economy and ecosystem; 4) Each chapter should include a new table, a matrix grid, that identifies the various impacts associated under each analyzed Alternative, and their proposed mitigation, for that chapter, so can compare side-by-side how each of them fare in terms of individual impacts for that chapter; 5) modify the BDCP models to address issues raised in joint letter and re-run with newer updated information and current and BDCP permit conditions of operating SWP/CVP water conveyance to meet salinity criteria at Emmaton for all four scenarios in Alt. 4.	

			Inadequate Analysis **Baseline Conditions and Comparison** - A proper environmental analysis of a project of this size and long-term (10 year) construction timeline needs to provide an accurate, stable, and finite description of the project and the existing baseline conditions used to determine the significance of environmental impacts in order to allow the public or a cooperating agency to determine the true nature and extent of the actual impacts likely to be caused by the Project. Generally most of the Impact statements contain little to no description of the existing baseline conditions that were used to determine impacts; or where the direct and indirect impacts will occur; or to account for changing conditions that are likely to occur prior to or during the 10-year construction time period. Therefore, the EIR/EIS lacks a sufficient baseline against which to compare the project to allow NDWA as a cooperating agency to properly analyze the severity of the environmental impacts, the project changes necessary to avoid impacts, or the mitigations to reduce the impacts to a level of insignificance. The impact analysis should describe the changing conditions, identify the conditions upon which the EIR/EIS relied for its baseline, and consider that range of circumstances as part of the analysis of impacts. **Supporting Evidence and Findings** - In proposing environmentally detrimental projects, a lead agency must justify their decisions based on counterbalancing social, economic or other benefits, and to point to substantial evidence in support. Written findings must be made for each significant environmental impact identified in the EIR/EIS and each finding must be accompanied by a brief explanation of the rationale for the findings supported by substantial evidence and some explanation to supply the logical step between each finding and the conclusion in the record. Instead the Impact statements and Mitigation Measures in each chapter were replete with nothing more than speculation and conjecture without reference to any evidence supporting the foundation and basis for assumption and conclusions made. This too prevented NDWA from providing as specific or comprehensive comments and suggestions for improving as we would like. The conclusions in the EIR/EIS must be supported by substantial evidence – actual facts. They can be reasonable assumptions or expert opinions – but	

			they must still be predicated and backed up by facts. Speculation does not constitute substantial evidence, and unsubstantiated narrative or expert opinion asserting nothing more than "it is anticipated" that something "potentially could result" is not analysis supported by factual evidence. Not having a sufficiently detailed project has resulted in significant and serious adverse impacts being overlooked and omitted. Ignorance is NOT bliss and can result in costly and potentially deadly consequences. The Plan and EIR/EIS should be more concerned with quality and completeness of content instead of meeting unrealistic deadlines and budget limitations. **Overriding Benefits** - A lead agency cannot acknowledge and impose a project for which an EIR/EIS identifies a significant environmental impact unless the impact has been mitigated or avoided by changes in the project, or unless the agency specifically finds that overriding benefits outweigh the significant effects on the environment, particularly when the EIR/EIS analysis grossly underestimates the project's actual impacts and fails to disclose to decision-makers and the public the true nature, extent, and costs of those impacts. The EIR/EIS contains a total of 46 significant and unavoidable adverse impacts which is UNACCEPTABLE. The NDWA disagrees that these impacts are unavoidable. In order to approve a project, the lead agencies must identify feasible mitigation measure or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project on Delta resources and economy. The mitigation measures must be specific and mandatory, such that they are fully enforceable. To the extent that a lead agency rejects potential mitigation, the lead agency must also provide information in the record to justify rejecting mitigation measures as infeasible based on economic, social, or housing reasons. The EIR/EIS fails to meet these objective in any of the chapters for either impacts associated with CM1 construction and operation or any of the CM2-22. **Defers Environmental Analysis to Future Studies** - A lead agency must identify all significant effects on the environment caused by a proposed project, including those that cannot be avoided. However, the EIR/EIS must first perform a rigorous analysis that discloses the nature and extent of the impacts to support the conclusion that impacts are significant and/or unavoidable in order to provide	

			the public and cooperating agencies with adequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action. Instead the EIR/EIS relies extensively on deflecting the responsibility for the formulation of specific mitigation until some future date, when vague and ambiguous "plans," "studies," or "reports" will be prepared, without imposing any performance standards as to what those plans must do or show. It is inappropriate to assume that the details of mitigation will be fleshed out at an unknown future date. This is an impermissible deferral of environmental analysis which prevents NDWA as a cooperating agency from determining the scope, severity, or duration of the impacts from this project activity or the extent to which our 1981 Contract with DWR regarding the operation of the SWP will be violated. **Permit Conditions Are Not Mitigation** - Mitigation Measures that simply state that future projects/actions/designs will comply with applicable law and required permits does not constitute avoidance of all impacts and does not suffice as replacement of mitigation. Those are things the Project is already required to do and may not in fact address the impacts. There are numerous examples of projects that followed modern design/engineering standards, regulatory and statutory requirements, and government agency permit conditions and still resulted with significant problems. A local Delta example is the City of Stockton's Delta Water Supply Project, the city's most expensive undertaking that started pumping water from the San Joaquin River in the summer of 2012 to Stockton homes and was soon shut down for repairs because a pump station built atop a Delta levee had already sunk (moving 13 ½ in some places, causing the metal pipes and bolts to stretch to their breaking limit), putting the levee in "catastrophic danger." Now the city is being sued by one of the contractors who completed repairs for failing to either address the shifting ground/soils stability problem or provide them accurate and complete plans. Another is nearby – the Bay Bridge, which has yet to open due to construction defects and flaws that render it unsafe for vehicles. Both of these projects had extensive political pressure put on them to ignore and refuse to alter the project to address the safety and environmental review concerns raised and to expedite the construction. The BDCP suffers	

			from even more intense political pressure and desire to rush through shoddy, insufficient planning and expedite construction – damned the consequences. Unfortunately these consequences can be not only serious and costly, but possibly deadly due to possibility of loss of life due to flood. **Mitigation Oversight and Effectiveness** - The EIR/EIS assumes, without evidentiary support in the record, that all the mitigation measures will be fully implemented where the project activities may have a direct or indirect effect and that the measures will in fact work to avoid or substantially reduce the significance of the adverse impacts, which may in fact not occur. The EIR/EIS additionally fails to account for and analyze impacts resulting from Project activities if the mitigation measures are not implemented or not working in terms of reducing the level of adverse impacts. The EIR/EIS fails to break out the costs of proposed mitigation measures or for any of the studies that need to be done before specific mitigation measures are offered and lumps the mitigation costs into the cost of the each conservation measure, so there is no way for NDWA as a cooperating agency to determine if there is enough money identified to cover the costs to conduct future studies or develop management plans, to implement the mitigation measures for the ten-year construction period of the 50-year duration of the Plan, to compensate harmed parties if mitigation isn't working, to ensure the mitigation is done properly and is effective in reducing the adverse impacts, to enforce, or to modify and offer an alternative mitigation if the proposed mitigation isn't working to reduce adverse impacts.	
36	GEN All inclusive	GEN All inclusive	**CM 1 Covered Action, Not a Conservation Measure:** Fundamental flaw of the BDCP and EIR/EIS is having half the Plan proposing project level environmental analysis of water conveyance facilities/operations (CM1) and programmatic level analysis of habitat projects. This is particularly troubling since the Plan intends for the new water conveyance facilities (CM1) to be ready for construction once the HCP/NCCP permits are approved despite the *Effects Analysis* showing CM1 is not only detrimental to fish and wildlife species including the possibility of causing jeopardy, but may even cause the extinction of one fish species if implemented as currently proposed. Each of the Conservation Measures must be able to show how	

			it is contributing to recovery of each species identified in the plan. If implementation of a CM results in additional take or harm to species or their habitat conditions – then it is a Covered Action. If a CM requires implementation of one or more of the other CMs in order to mitigate its adverse effects on species or their habitat – then it is a Covered Action. If a CM benefits some species in the Plan, but is detrimental to others – then it is a Covered Action. If a CM must rely on another CM or combination of other CMs to mitigate its adverse impacts to species or habitat – then it is a Covered Action. If the cumulative adverse impacts of the CMs and Covered Actions is greater than the benefits to each and every species identified in the Plan – then it is ***not*** an HCP/NCCP. If phasing of implementation of Covered Actions or CMs cause adverse impacts to species or habitat prior to any benefits that contribute to recovery – then it is ***not*** an HCP/NCCP. The intent of the BDCP is to provide a project-level environmental analysis of a Covered Action (new North Delta water conveyance facilities construction and operations that results in take/harm to species or habitat) in order to fast-track its implementation before the Conservation Measures which are knowingly and purposely being put on a slower track by only intending to analyze them to a programmatic-level of environmental analysis that will require significant planning, design, analysis, outreach, and document preparation before being able to be permitted, implemented, or achieve any meaningful benefits to species. Thus, the BDCP focuses on implementing the goals of water supply over the ecosystem. If CMs 2-22 are not implemented, then CM1 as a Covered Action that requires mitigation will have significant adverse impacts on species, including possible extinction of one fish species. This inequitable and uneven treatment of water supply versus ecosystem restoration is systemic and foundational in the BDCP due to the Notice of Intent project purpose which provides clear and measurable objectives for water supply to deliver up to full contract amounts, but only contains vague direction on ecosystem. Consequently, the BDCP ends up only being a take permit for water conveyance operations and a long list of potential ecosystem management tactics with no clear over-arching or cohesive strategy to improve the species. **Recommendation:** Remove CM1 as a Conservation Measure and instead have it properly identified as a Covered Activity to be mitigated.	

37	GEN	GEN	**MITIGATION MEASURES** In order to approve a project, the lead agencies must identify feasible mitigation measure or alternatives that would avoid or substantially lessen any significant adverse environmental effects of the project. The mitigation measures must be specific and mandatory, such that they are fully enforceable. To the extent that a lead agency rejects potential mitigation, the lead agency must also provide information in the record to justify rejecting mitigation measures as infeasible based on economic, social, or housing reasons. The formulation of mitigation measures cannot be deferred until a later time based on completion of future studies or agreements being signed, although a lead agency is allowed to provide specific performance standards that specify the extent to which impacts will be mitigated. Allowing the BDCP Proponents to decide whether seepage is "caused by" BDCP habitat implementation and what level of mitigation will be provided is a serious conflict of interest that obfuscates the liability of BDCP to remediate, repair, or avoid the damage caused by their Project, which is why these details must be clearly identified in the EIR/EIS so the permitting agencies can decide if it is sufficient and appropriate mitigation or not prior to approving permits. If BDCP is allowed to be the prosecutor presenting evidence, the judge, and jury in deciding whether their project caused damage and how much mitigation should be provided to who, then it will be too easy for them to declare their Project innocent of causing any damages every single time. Unless the impacts and mitigation are specific and measurable, and written into the HCP/NCCP as permit conditions to be approved by the permitting agencies, then there is too much risk that BDCP Proponents will arbitrarily and capriciously reject and deny legitimate adverse impacts that are their obligation to mitigate. The EIR/EIS assumes, without evidentiary support in the record, that all the mitigation measures will be fully implemented where the project activities may have a direct or indirect effect and that the measures will in fact work to avoid or substantially reduce the significance of the adverse impacts, which may in fact not occur. The EIR/EIS additionally fails to account for and analyze impacts resulting from Project activities if the mitigation measures are not implemented or not	

			working in terms of reducing the level of adverse impacts. What happens if implementation of mitigation measures is not reducing the adverse impacts as anticipated? Under what criteria will the permitting agencies even determine if the mitigation measures are working or whether they are reducing adverse impacts enough? Without this information the public and cooperating agencies do not have adequate information to fully assess the direct, reasonably foreseeable indirect, and cumulative impacts of a proposed action or to evaluate the severity of the impacts or the feasibility of the project alternatives and mitigation measures to avoid or lessen such impacts.	
38	GEN	GEN	**Cumulative Impacts:** The EIR/EIS is lacking a comprehensive discussion of how each CM relates to the other. Cumulative Impacts Analysis does not provide any sort of analysis of how impacts associated with each CM1-22 relate to each other. For instance, do more than one CM have the same adverse impacts and therefore when combined have an even greater detrimental effect on environmental resources? Every action, or in this case Covered Actions and Conservation Measures, causes a reaction. Yet, the EIR/EIS fails to analyze how the activities and effects in each CM1-22 react to each other, conflict with other, or complement each other. The EIR/EIS's Impact Statements are simply a list of effects that are disconnected and poorly integrated. The following excerpt from the DRERIP emphasizes this point: "Collectively, the synthesis team concluded that a number of the conservation measures have the potential for additional synergistic effects that can raise or lower the value of some individual conservation measures when implemented concurrently with other actions. The complexity of the various trade-offs between expected positive and negative effects make it difficult to predict the biological responses to concurrent multiple measures." The BDCP and therefore the EIR/EIS still suffers from this problem and needs to provide this synthesis to support why the collection of CMs in Alternative 4 are in fact the right mix and won't in fact result in making the Existing Conditions worse if they are implemented. **Recommendation:** Add a Chapter to the EIR/EIS that shows what action and reaction each of the	

			CMs Impacts have to each other and cumulatively if and when all are implemented over the life of the Plan. .	
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