Attachment F

Analysis of other BDCP Project Impacts based on BDCP Modeling Data

An analysis of the changes in Delta exports due to the BDCP is presented in Attachment E. This attachment looks at the environmental impacts of the BDCP in terms of other operational parameters such as minimum Delta outflow, Rio Vista flow, export/inflow ratio, Old and Middle River flow, San Joaquin inflow to south Delta export ratio, and Shasta storage. Only data for the BDCP basecase with Fall X2 were provided, and no data for the basecase without Fall X2. The with-Fall-X2 basecase is therefore used for comparison purposes in this attachment. Modeling results were provided for both the early long term (ELT) and late long term (LLT). Only ELT data are presented in this attachment because these simulations are less speculative than those for the LLT that have more climate change effects and more habitat restoration in the Delta.

The DEIR/EIS is inadequate because it fails to present operations and water quality model data in sufficient detail to disclose the significant adverse impacts of the BDCP proposed in many months of different years. The long-term averaging approach used in the DEIR/EIS masks serious adverse impacts in specific months and years that will permanent damage fish populations and other beneficial uses. These impacts cannot necessarily be made up in subsequent years and "averaged out." If a fish species is decimated in one year because of the adverse impacts of the proposed BDCP project, higher flows and better habitat conditions in subsequent years will not necessarily be able to bring back this species from a near-extinct condition. The following are specific areas of concern that will be negatively impacted by the proposed BDCP.

- **Minimum Delta Outflow**

Figure F-1 shows historical variations of monthly Delta outflows for September with water year type (as represented by the Sacramento Valley 40-30-30 water year index (SWRCB D-1641). The flow data are estimates from DWR's DAYFLOW database (1955-2013). The effects of changes in operational rules and level of demand are categorized by three periods: 1956-78; 1979-1994; and 1995-2013. The first period is prior to the August 1978 SWRCB Water Rights Decision 1485 coming into effect. D-1485 included minimum Rio Vista flow standards for all months of the year as well as Chipps Island EC standards which had the effect of limiting reductions in Delta outflow in the Fall. The second period is prior to the December 1994 Bay-Delta Accord and May 1995 Bay-Delta Water Quality Control Plan which introduced new minimum outflow (and Rio Vista minimum flow) objectives. These standards were incorporated into SWRCB Water Rights Decision 1641 (December 1999, revised March 2000). The February-June estuarine habitat standards (February-June X2) were also introduced at this time which had the unintended consequences of shifting export impacts to the Fall.

Figure F-1 shows that Delta outflows in September have steadily decreased over time as Delta exports have increased, and since 1995, September outflows have remained low and close to the D-1641 required outflow of 3,000 cfs. The effect is that now almost every year in September is like a dry year, except in very wet years.

Note that the Sacramento 40-30-30 water year index accounts for some carryover of stored runoff from the previous water year. Shasta and Folsom reservoirs were completed by 1956, but Oroville Dam (1968) and New Melones Dam (1978) were completed later. However, the 40-30-30 index still generally represents the available runoff conditions in those earlier years.

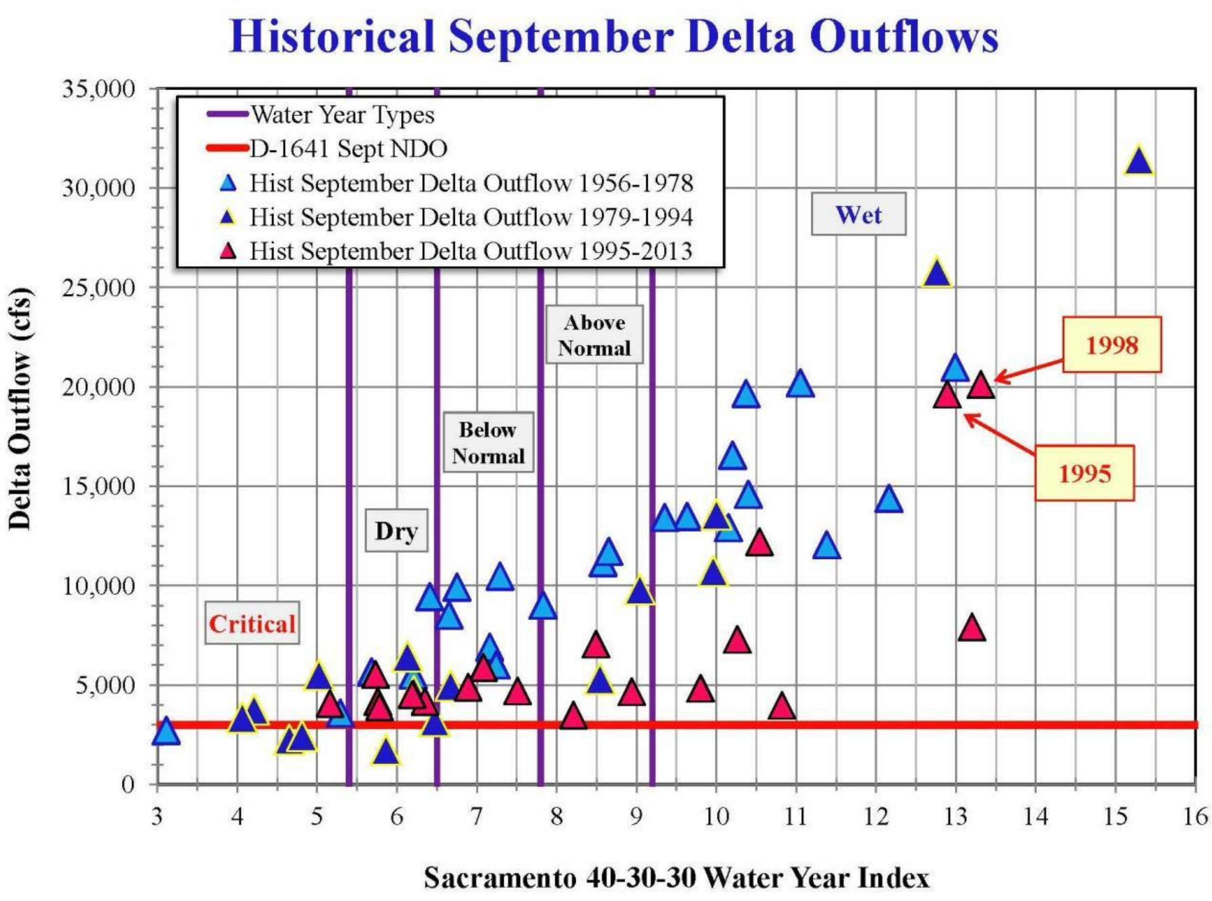

Figure F-1: Monthly-averaged historical September Delta outflows from DWR's DAYFLOW database (1956-2013) as a function of Sacramento Valley water year index. The effects of changes in operational rules and level of demand are categorized by three periods: 1956-78; 1979-1994; and 1995-2013. The minimum required Delta outflow for September under D-1641 is 3,000 cfs.

Figure F-2 shows the corresponding historical October Delta outflows (1955-2012) as a function of Sacramento Valley water year index. The effects of changes in operational rules and level of demand are categorized by three periods: 1955-78; 1979-1994; and 1995-2012. The minimum required Delta outflow for October under D-1641 is 3,000 cfs for critical years and 4,000 cfs for the other water year types. The historical data again show the change in the characteristics on the Delta outflows since the 1995 Water Quality Control Plan with most of the outflows being close to the D-1641 minimums, even in wet years.

This change coincided with the Pelagic Organism Decline and led to the establishment of the Fall X2 requirements in the 2009 NMFS biological opinion. Because of these concerns over the impacts of decreased Fall outflows (increased Fall X2) on Delta smelt and other key fish species, it would be reasonable to assume that DWR, USBR and the other developers of a Conservation Plan to help restore fish species in the Delta would attempt to restore earlier higher Delta outflow conditions. As will be discussed below, this is unfortunately not the case.

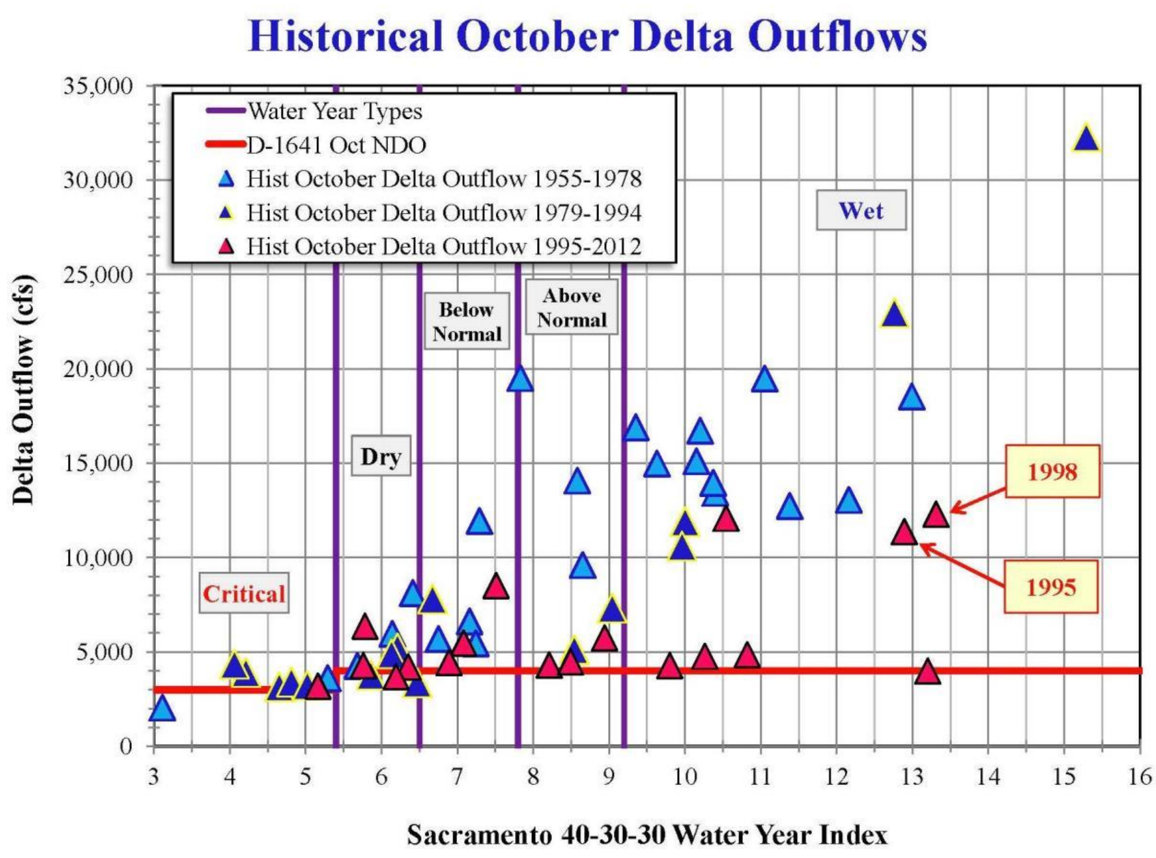

Figure F-2: Monthly-averaged historical October Delta outflows from DWR's DAYFLOW database (1955-2012) as a function of Sacramento Valley water year index. The effects of changes in operational rules and level of demand are categorized by three periods: 1956-78;

1979-1994; and 1995-2013. The minimum required Delta outflow for October under D-1641 is 3,000 cfs for critical years and 4,000 cfs for the other water year types.

The monthly September Delta outflows from the BDCP modeling for three studies (Existing basecase with Fall X2; Alternative 4 High Outflow Scenario at ELT; Alternative 4 Low Outflow Scenario at ELT) are shown in Figure F-3. Both this existing basecase and the High Outflow Scenario include Fall X2 requirements so the September outflows increase with increasing Sacramento Valley runoff consistent with earlier historical conditions. However, the Low Outflow Scenario would continue to maintain adverse flow conditions for the pelagic organisms and reduces the Delta outflows for in most of the years to the D-1641 minimum.

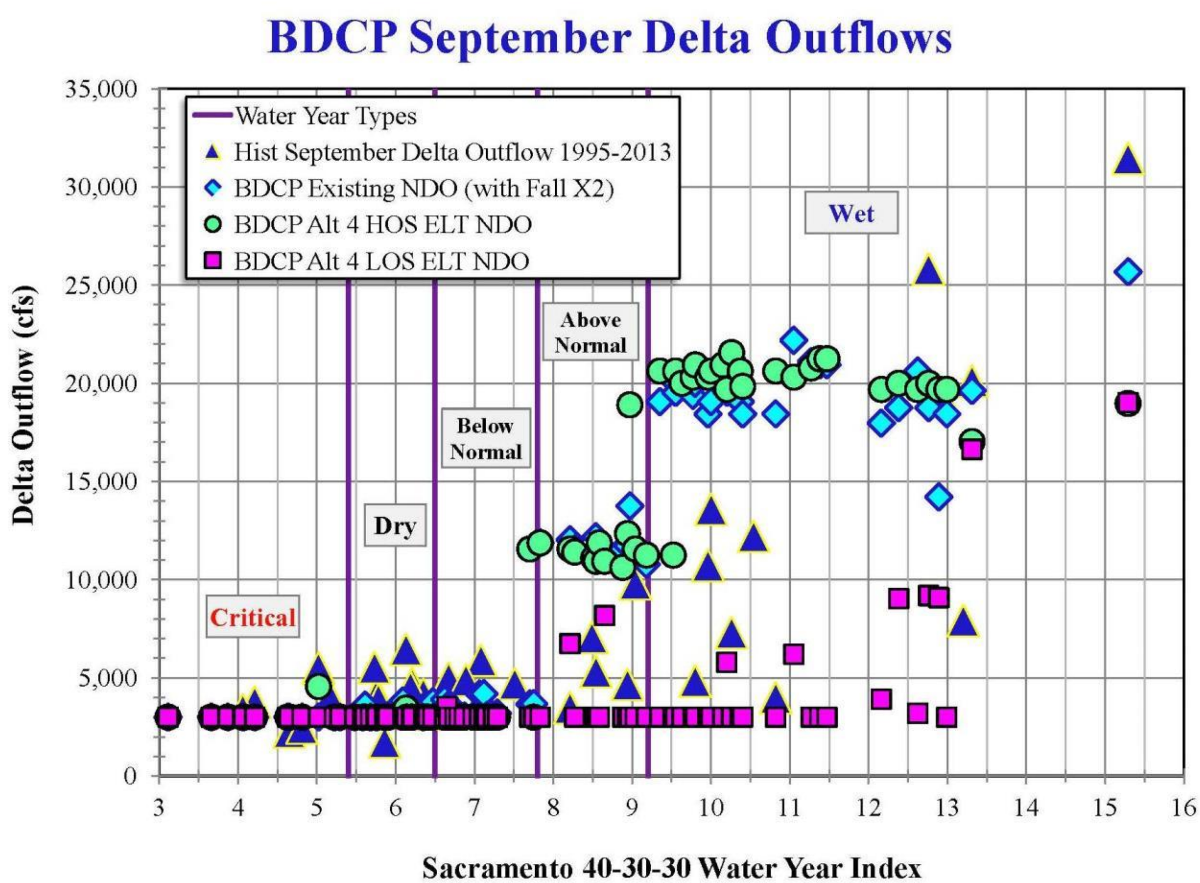

Figure F-3: Monthly-averaged September Delta outflows from the BDCP modeling studies as a function of Sacramento Valley water year index. The three studies are: Existing basecase with Fall X2; Alternative 4 High Outflow Scenario at ELT; Alternative 4 Low Outflow Scenario at ELT. The minimum required Delta outflow for September under D-1641 is 3,000 cfs.

Figure F-4 shows the monthly Delta outflows for November from the same BDCP modeling studies. The Low Outflow Scenario again suggest that outflows would be reduced to the absolute minimum flows (3,500 or 4,500 cfs) in most years to the detriment of some of the species the BDCP was originally intended to help restore.

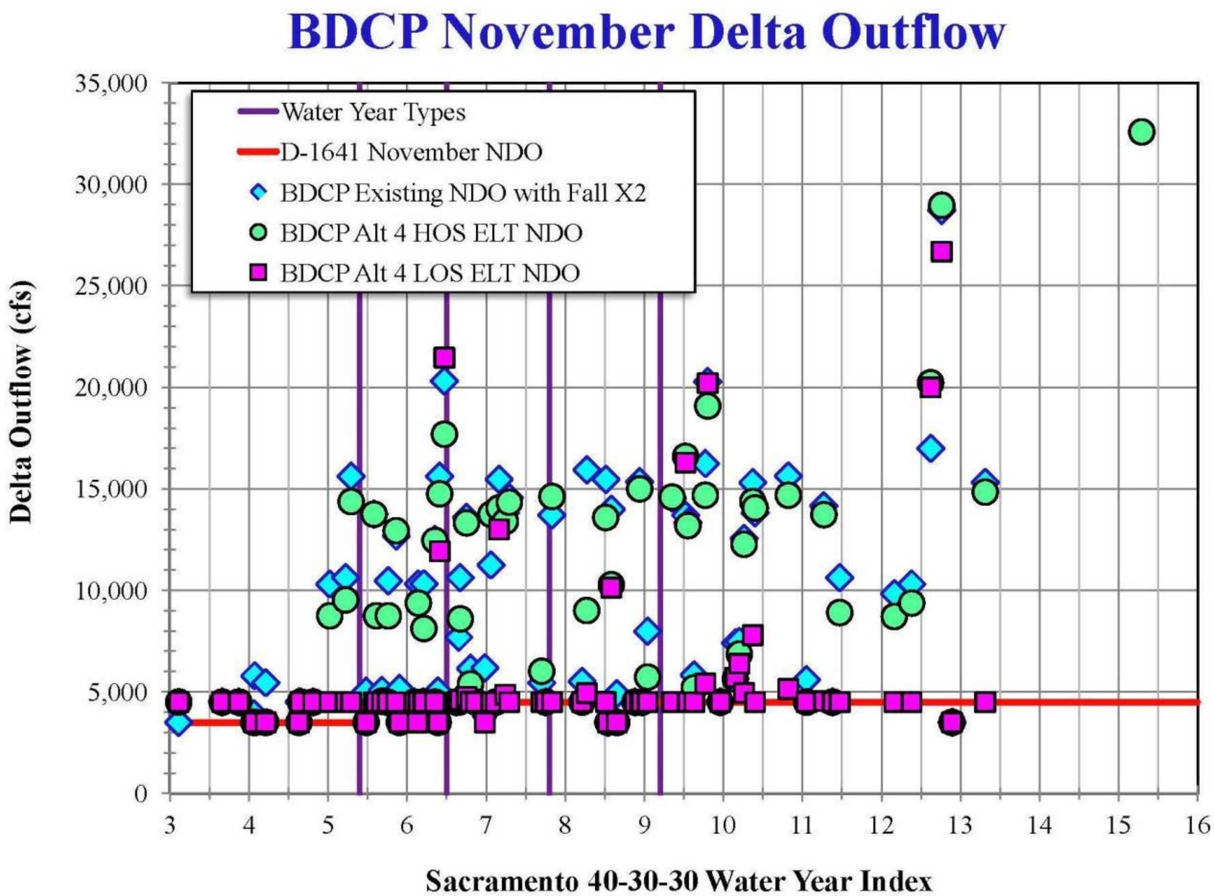

Figure F-4: Monthly-averaged November Delta outflows from the BDCP modeling studies as a function of Sacramento Valley water year index. The three studies are: Existing basecase with Fall X2; Alternative 4 High Outflow Scenario at ELT; Alternative 4 Low Outflow Scenario at ELT. The minimum required Delta outflow for November under D-1641 is 3,500 cfs for critical years and 4,500 cfs for the other water years..

Another key analysis that is missing from the DEIR/EIS is disclosure of Delta outflows as percentages of unimpaired flow. In response to the 2009 Delta Reform Act, the SWRCB prepared an August 2010 report on “Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem” (Delta Flow Criteria report). Water Code section 85086 required the SWRCB to develop new flow criteria for the Sacramento-San Joaquin Delta ecosystem that are necessary to protect public trust resources. The purpose of the flow criteria was to inform planning decisions for the Delta Stewardship Council’s Delta Plan and the Bay Delta Conservation Plan.

The DEIR/EIS is inadequate because it fails to disclose quantify the agreement or disagreement of BDCP alternatives with the SWRCB's Delta Flow Criteria. The BDCP proponents must prepare a new Draft EIR/EIS that discloses all the monthly-average Delta outflows percentages of unimpaired flow for each alternative, and discloses the significant adverse environmental impacts of failing to achieve or approach the SWRCB percentages. The new DEIR/EIS must also focus on alternatives that restore flows in the Delta in the Fall consistent with the 2009 Biological Opinion and eliminate harmful alternatives that would further exacerbate the adverse conditions for Delta smelt. A new Draft EIR/EIS must be released for public review and comment.

- **Rio Vista Flow**

SWRCB Decision 1641 sets minimum flow requirements on the Sacramento River at Rio Vista for September through December. The minimum flows range from 3,000 cfs to 4,500 cfs depending on month and water year type. The minimum Rio Vista flow for September is 3,000 cfs in all water year types.

As shown in Figure F-5, Rio Vista flows have historically been much higher than the September minimum flow in all except the drier years. The BDCP existing condition data show a similar trend, except for a number of wet years (40-30-30 water year index > 9.5) where the BDCP existing baseline flows are much higher than the historical trend.

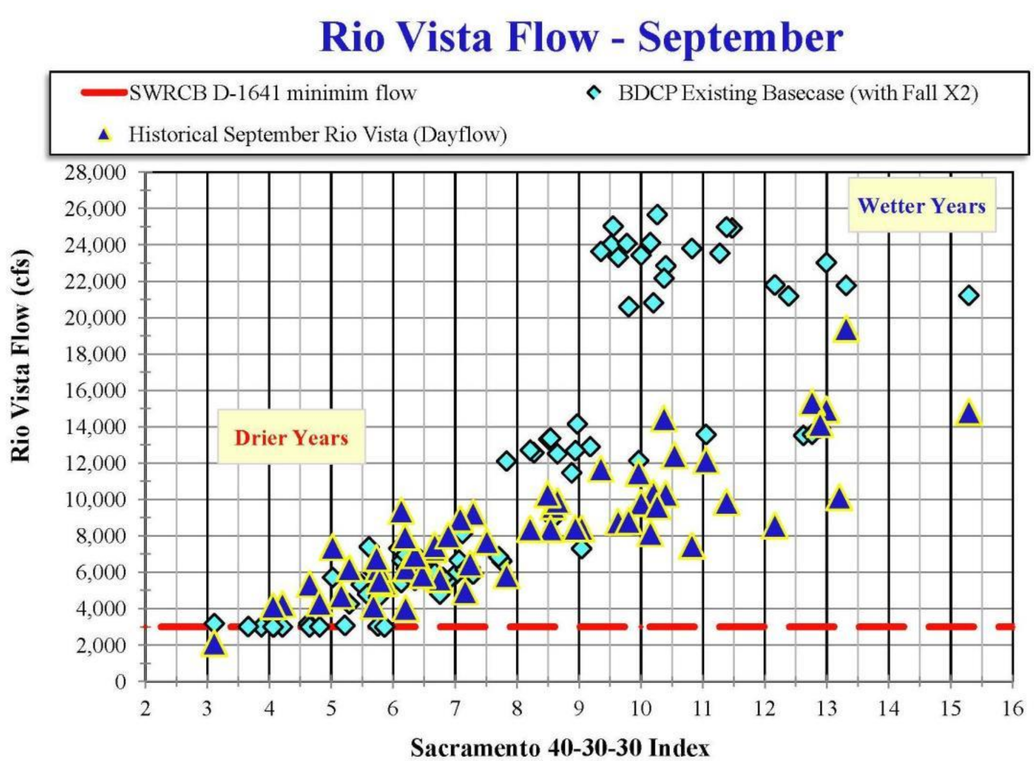

Figure F-5: Monthly-averaged historical Rio Vista flows from DWR's DAYFLOW database (1955-2012) as a function of Sacramento Valley water year index. The historical data are compared with monthly-averaged Rio Vista flows from a BDCP existing basecase with Fall X2. The Rio Vista flows are close to the September minimum in drier years but increase substantially during normal and wet water years.

Figure F-6 shows the variation of monthly Rio Vista flows with water year index for several BDCP project alternatives: Existing basecase with Fall X2; Alternative 4 High Outflow Scenario at early long term (ELT) and Alternative 4 Low Outflow Scenario at ELT. The Low Outflow Scenario would lead to Rio Vista flows in September being reduced to 3,000 cfs in most years, even wet years.

This is a major change from existing Rio Vista flow conditions where flows are typically well above the minimum in wetter years. The DEIR/EIS needs to fully disclose the potential impact of these reduced "attraction flows" on returning anadromous fish and other significant adverse impacts on the Delta.

The High Outflow Scenario includes Fall X2 limits (which effectively limit Delta outflow, and hence Rio Vista flows) so does not reduce Rio Vista flows all the way down to 3,000 cfs.

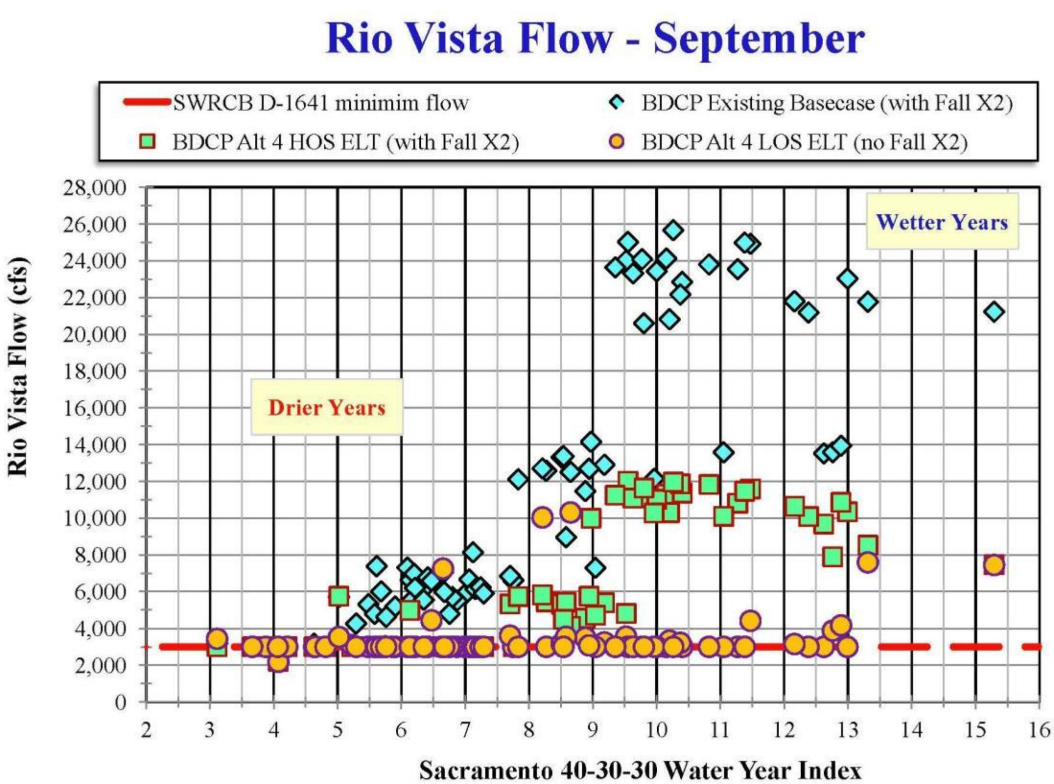

Figure F-6: Monthly-averaged Rio Vista flows from BDCP modeling studies as a function of Sacramento Valley water year index: Existing basecase with Fall X2; Alternative 4 High Outflow Scenario at early long term (ELT) and Alternative 4 Low Outflow Scenario at ELT. The Low Outflow Scenario would lead to Rio Vista flows in September being reduced to 3,000 cfs in most years, even wet years.

Similar significant reductions in Rio Vista flows occur in October and November. The DEIR/EIS must be revised as a new draft to include data plots such as these to disclose the full impacts of the proposed BDCP project on Rio Vista flows and any corresponding significant adverse impacts on the Delta and Central Valley ecosystem. A new Draft EIR/EIS should then be released for public review and comment.

- **Export/Inflow Ratio**

The BDCP DEIR/EIS assumes export/inflow ratio limits for the preferred project (Alternative 4) Scenarios H1 and H3 that are different than the existing SWRCB D-1641 limits. In these two scenarios, the export/inflow limits are only applied at the south Delta intakes, and the north Delta exports are not included in the Delta inflow or the Delta exports computation (DEIR/EIS page 5A-B40, line 3).

Conversely, in the Alternative 4 scenarios H2 and H4, this requirement is applied to the total Delta exports by including the north Delta diversion in the Delta inflow and the Delta exports computation used to determine this requirement.

Figure F-7 shows the export/inflow ratios for BDCP Alternative 4 Low Outflow Scenario (Scenario H1) and High Outflow Scenario (Scenario H4) at early long term for the period October 1988 through October 1996. The export/inflow ratios are calculated using the existing D-1641 method: total Delta exports / total Delta inflow. This figure clearly shows that the proposed modification of the export/inflow formula for the Low Outflow Scenario represents a significant relaxation and will allow substantial increases in exports primarily in September-November.

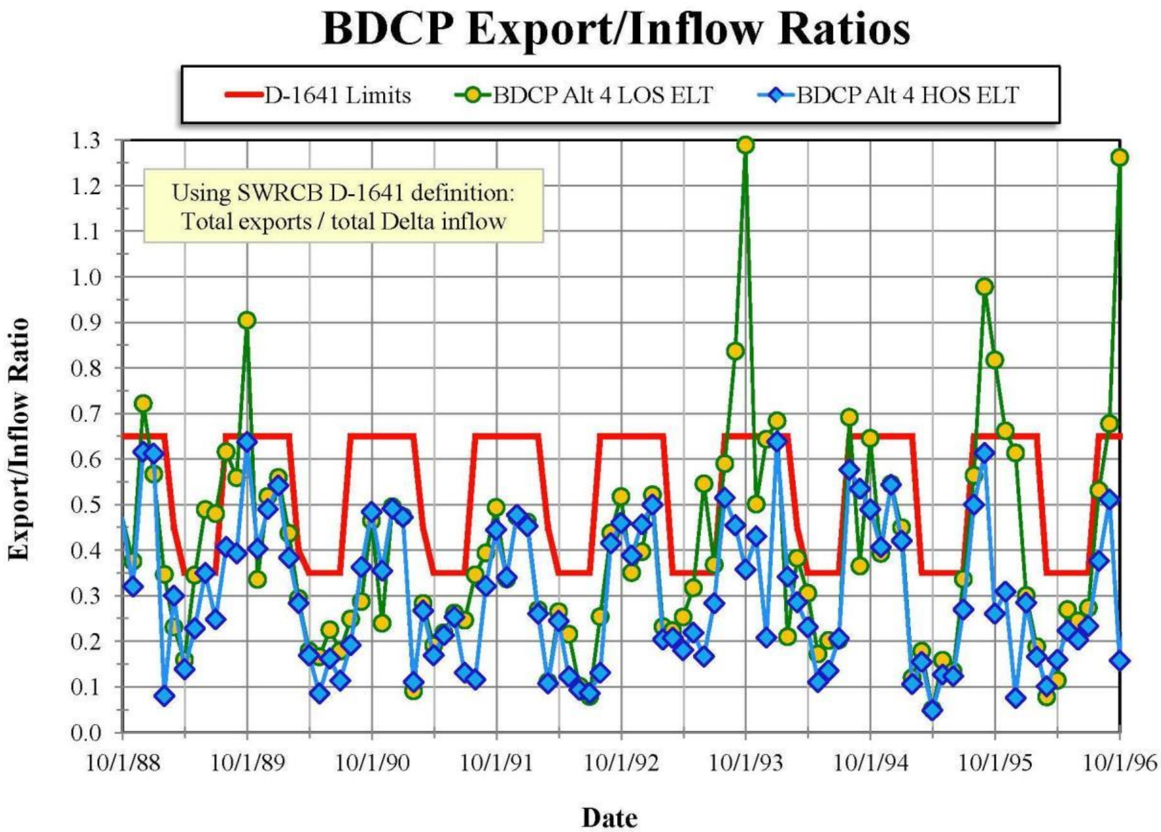

Figure F-7: Monthly-averaged export/inflow ratios calculated using the current SWRCB D-1641 formula for Alternative 4 Low Outflow Scenario (Scenario H1) and Alternative 4 High Outflow Scenario (Scenario H4), both at early long term (ELT). The period shown is October 1988 through September 1996.

The corresponding combined SWP and CVP exports for the same period are shown in Figure F-8. The lower (blue) bar is the allowable monthly export under SWRCB Water Rights Decision 1641, and the upper (red) bar is the amount of additional exports that result from the proposed modification of the SWRCB's definition of the export/inflow ratio.

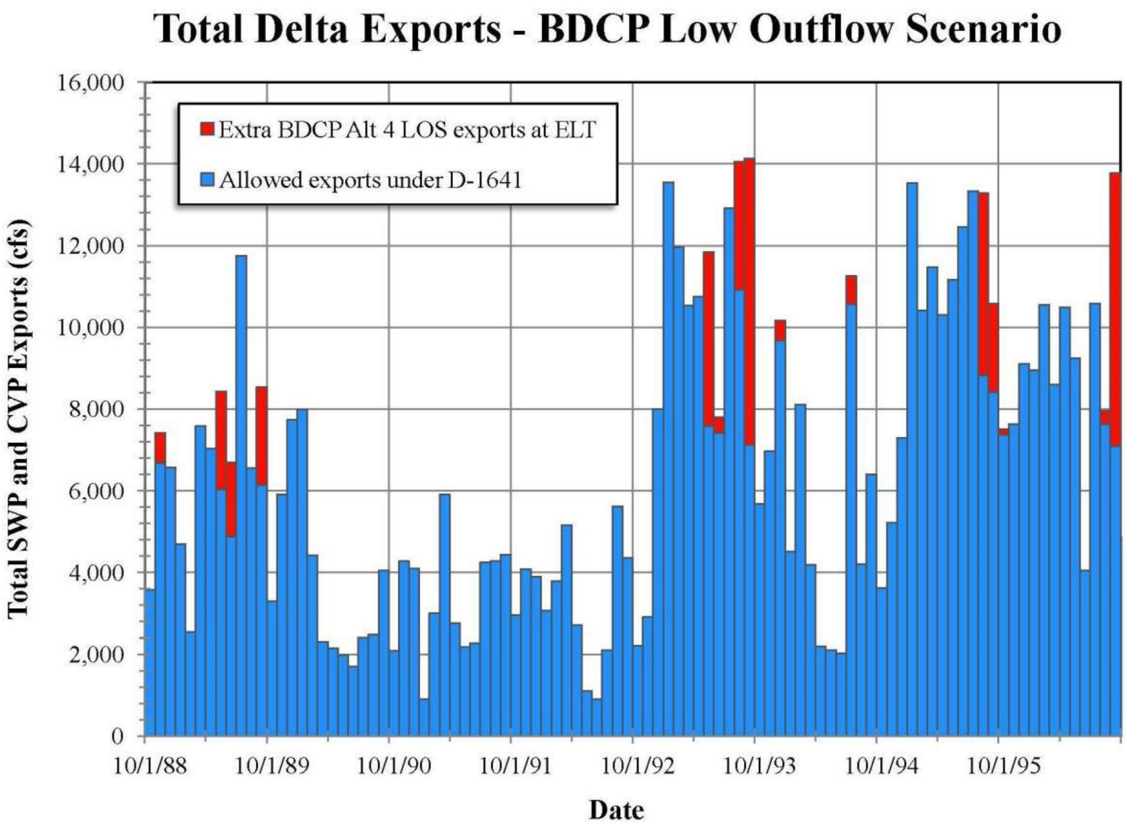

Figure F-8: Monthly-averaged exports for the BDCP Alternative 4 Low Outflow Scenario (Scenario H1) from October 1988 to September 1996. The upper (red bars represent the additional monthly exports that result from the BDCP's proposed modification of theD-1641 definition of the export/inflow ratio.

The health of an estuary can be quantified by considering the percentage of total inflow that is diverted before it can reach the ocean. The remaining inflow acts to convey fish through the Delta, flush out contaminants, and provide a hydraulic barrier against too much sea water intrusion. The SWRCB's definition of the export/inflow ratio is consistent with this holistic approach.

A new DEIR/EIS must be prepared that discloses the additional adverse impacts of these changes to the SWRCB's Decision 1641 export/inflow standards. The new DEIR/EIS must provide sufficient information to allow the SWRCB to make decisions regarding such a modification of the export/inflow standard and adding new points of diversion for the SWP and CVP. This new DEIR/EIS must then be released for public review and comment.

- **Old and Middle River Flow**

The discussion in the DEIR/EIS of changes in reverse flow conditions for Old and Middle River (OMR) (Impact SW-3) focuses on changes in OMR with BDCP relative to both Existing Conditions (without Fall X2) and the No Action Alternative, and refers to Figure 6-23 (page 6-100). However, the data in Figure 6-23 are the long-term averages of 82 years of data, and these long-term averages mask adverse impacts of OMR flows in individual years.

The discussion of OMR impacts in the DEIR/EIS also fails to disclose whether the reverse flows were large and negative in the base case and are only slightly improved with the BDCP. Because the new north Delta intakes and isolated conveyance are being promoted as a "conservation measure" that reduces the adverse impacts of exports from the south Delta, then the goal of the BDCP should be to eliminate any reverse flows more negative than, say, -5,000 cfs, for all months.

Simulated BDCP reverse flow data (OMR) for each year (1922-2003) of July and August are shown in Figures F-9 and F-10. The OMR values are already strongly negative in the existing conditions basecase in July and August. The BDCP proposed project would make OMR even more negative a number of years to the detriment of fish species that reside in the Delta.

The BDCP proposed project is being promoted as a conservation measure because it is supposed to reduce exports from the south Delta. The irony is that this is an acknowledgement by the BDCP proponents that the current level south Delta exports do adversely impact fish species. If the proposed project has operating rules that allow increases in reverse flows, the adverse impacts of the south Delta exports on key fish species and other resident Delta species will not decrease but increase.

It is also important to remember that there are resident fish in the Delta that are not listed as threatened or endangered. Salvage of other species such as Striped bass, largemouth bass, white cat fish and Mississippi silversides is already large under existing conditions (see Grimaldo et al., "Factors affecting fish entrainment"). This is also likely to be a problem for sturgeon. http://swrcb2.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/exhibits/sfwc/spprt_docs/sfwc_exh3_grimaldo.pdf

If the months of July and August are in effect sacrificed with respect to control of reverse flows, the adverse impacts of Delta exports will shift to these two months and possibly September and new fish species are likely to decline. OMR has to be controlled in all months to avoid redirecting serious impacts to these months.

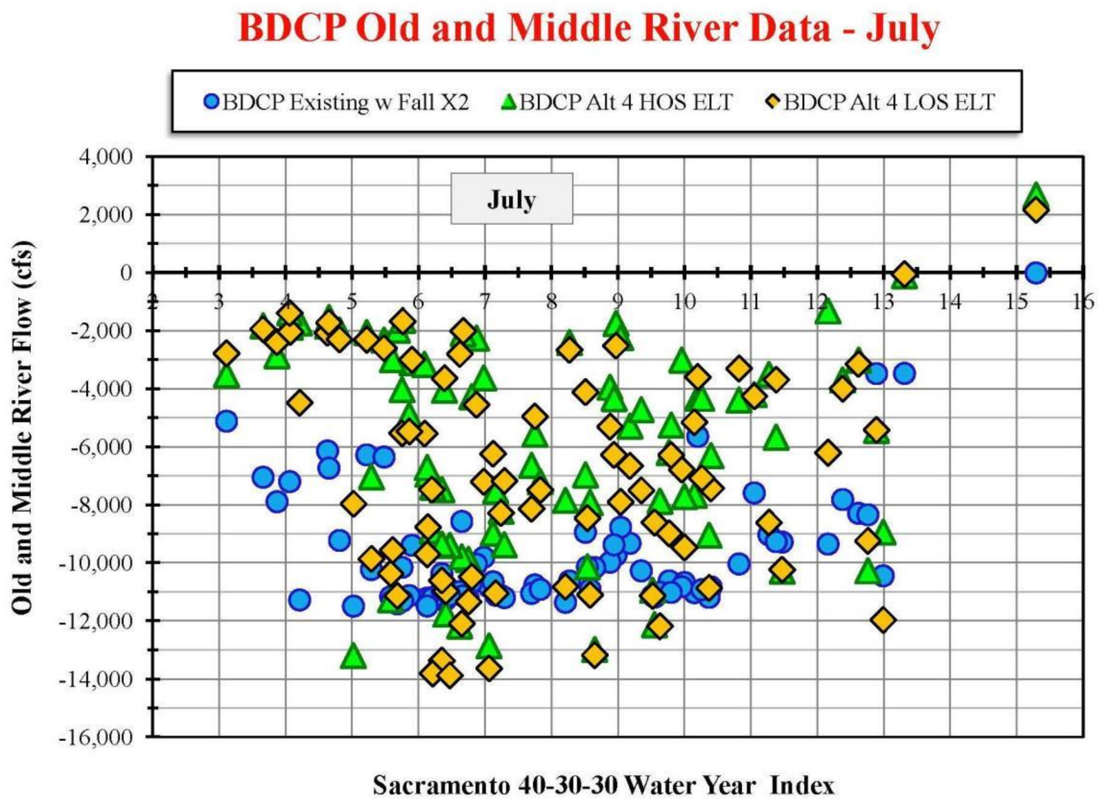

Figure F-9: Monthly-averaged Old and Middle River flows for July for three BDCP model studies: Existing basecase with Fall X2; Alternative 4 High Outflow Scenario at ELT; and Low Outflow Scenario at ELT. The basecase OMR values are about -12,500 cfs or higher. Both of the BDCP proposed project (Alternative 4) scenarios make OMR even more negative in some years.

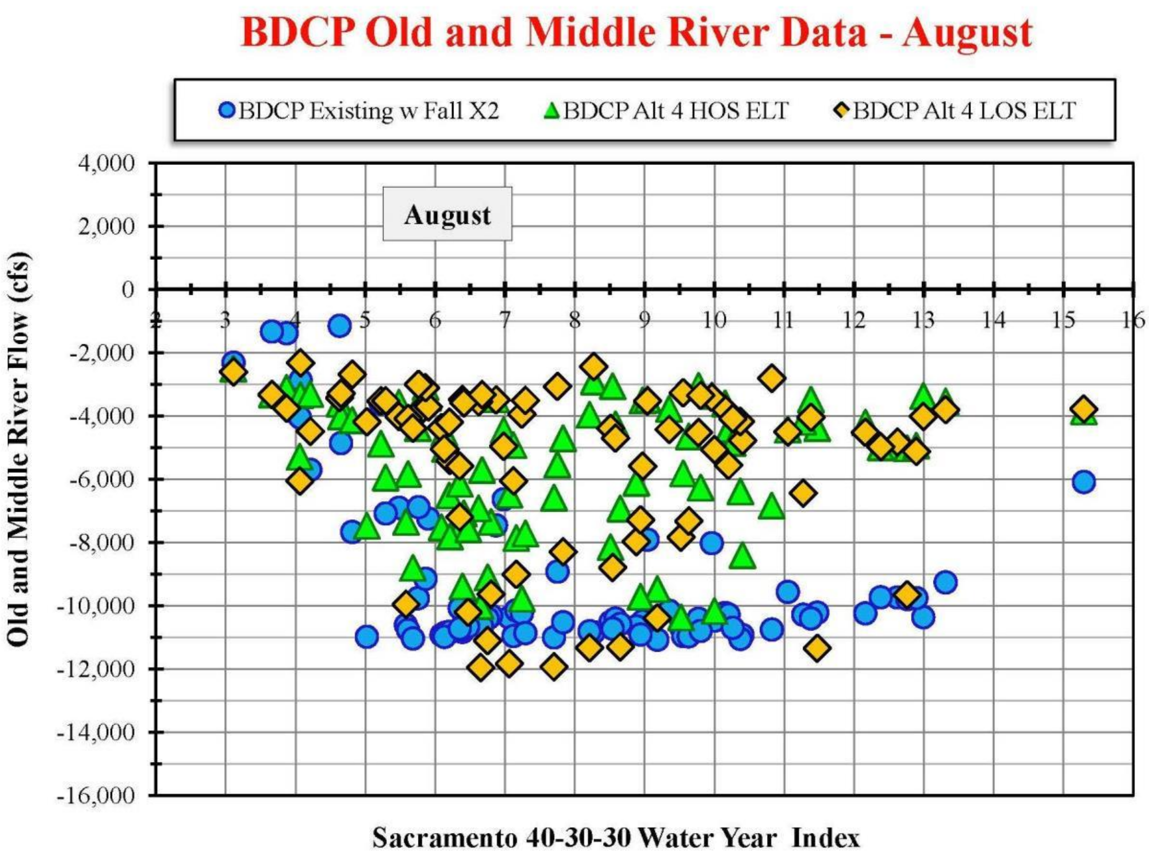

Figure F-10: Monthly-averaged Old and Middle River flows for August for three BDCP model studies: Existing basecase with Fall X2; Alternative 4 High Outflow Scenario at ELT; and Low Outflow Scenario at ELT. The basecase OMR values are about -12,500 cfs or higher. Both of the BDCP proposed project (Alternative 4) scenarios make OMR even more negative in some years.

The DEIR/EIS is inadequate because it fails to improve conditions in the south Delta and improve the Delta ecosystem. The lax OMR limits in July and August will lead to significant adverse impacts of the south Delta export pumps being redirected to those months. Alternatives that significantly decrease reverse flows (increase OMR) in all months must be developed, analyzed, and the resulting environmental impacts disclosed. A new Draft EIR/EIS must then be released for public review and comment.

- **San Joaquin inflow / South Delta exports ratio**

The 2009 NMFS biological opinion sets limits on the ratio of San Joaquin inflow at Vernalis to south Delta exports in April and May. Appendix 5C Part 1, page 2-4 of the Draft BDCP states that "this ratio effectively limits the combined export to 1,500 cfs for San Joaquin River inflows of less than 6,000 cfs." The BDCP proponents assumed these San Joaquin inflow to exports ratio limits applied for the environmental basecases, but decided not to include them in the BDCP operations scenarios.

Figure F-11 shows the BDCP modeled ratios for the existing base case (with Fall X2) compared to the NMFS biological opinion limits. Data points below the limit line are not in compliance with the NMFS biological opinion. The existing basecase data are generally in compliance.

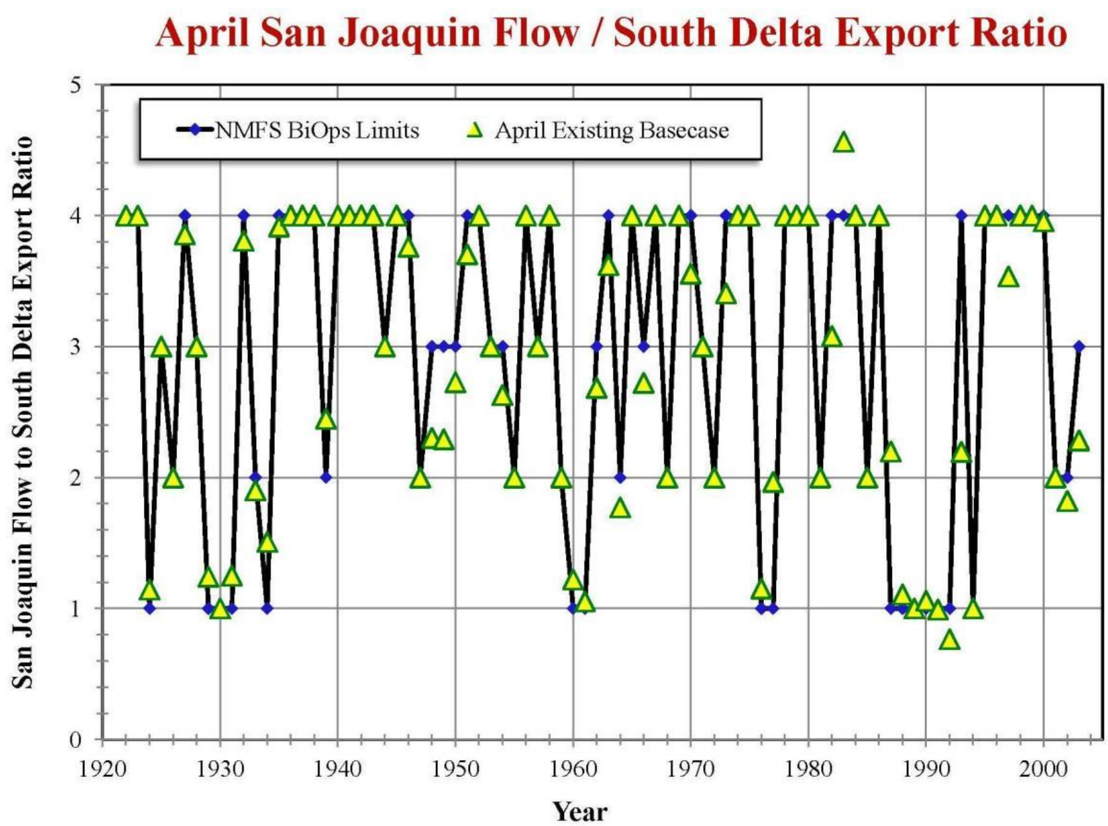

Figure F-11: The ratio of San Joaquin inflow at Vernalis to south Delta exports for a BDCP existing base case (with Fall X2) in April from 1922-2003. The 2009 NMFS biological opinion requires this ratio be 4.0 or greater in wet and critical years but only 1.0 or greater in critical years. This BDCP existing base case is generally in agreement with the biological opinion limits.

The corresponding ratios of San Joaquin inflow at Vernalis to south Delta exports for BDCP Alternative 4, Low Outflow Scenario, at early long term are shown in Figure F-11. Because the BDCP proponents took the liberty of assuming the biological opinion limits will not apply, the minimum ratio values are not always met. In some years, e.g., 1947-1950 this would allow 2 to 3 times as much water to be exported. Similar violations of the NMFS biological opinion limits occur in May.

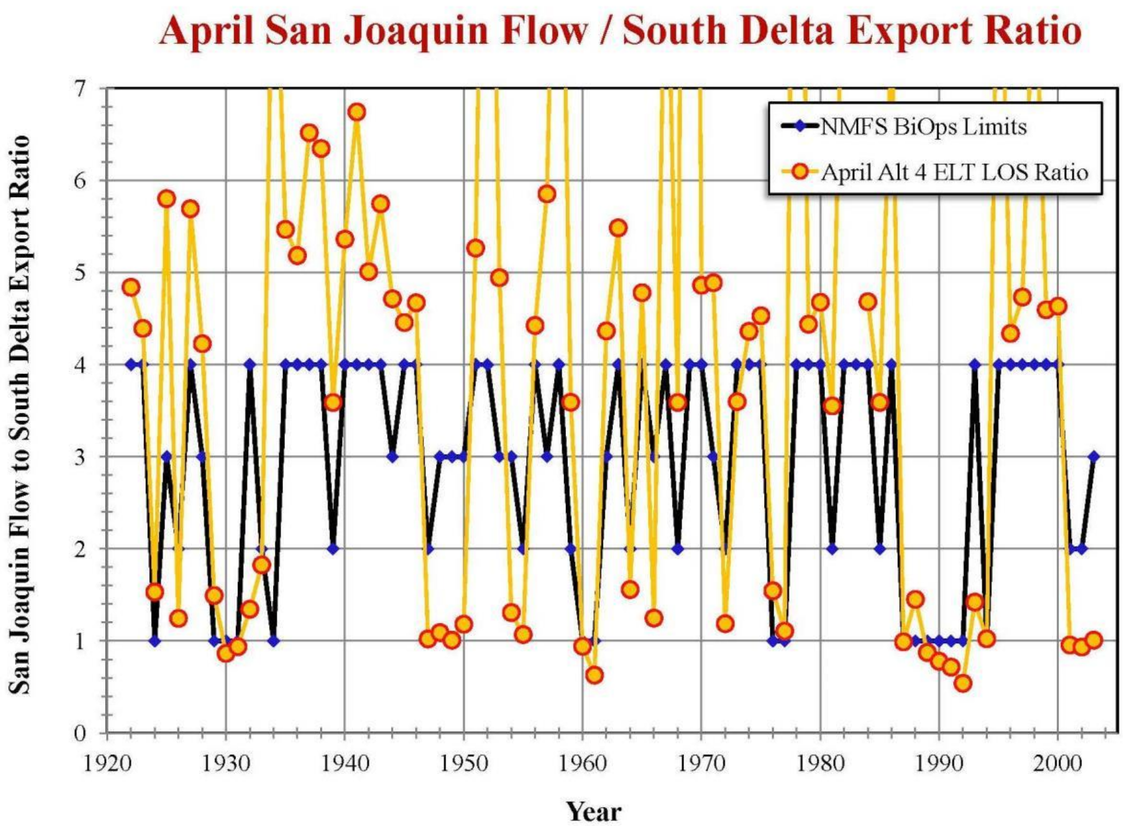

Figure F-12: The ratio of San Joaquin inflow at Vernalis to south Delta exports for BDCP Alternative 4, Low Outflow Scenario, at early long term. The BDCP proponents assumed the biological opinion limits will not apply to their project so the minimum ratio values are not always met.

Figure F-13 shows the corresponding south Delta exports for BDCP Alternative 4, Low Outflow Scenario, at early long term. These data are compared to the exports allowed under the 2009 NMFS biological opinion. The BDCP proponents are intending to significantly increase exports from the south Delta in April (and May) in at least 15 of the 82 years modeled. Considering an alleged benefit of the BDCP is reducing exports from the south Delta, the failure to fully disclose these increases in south Delta exports is particularly troubling.

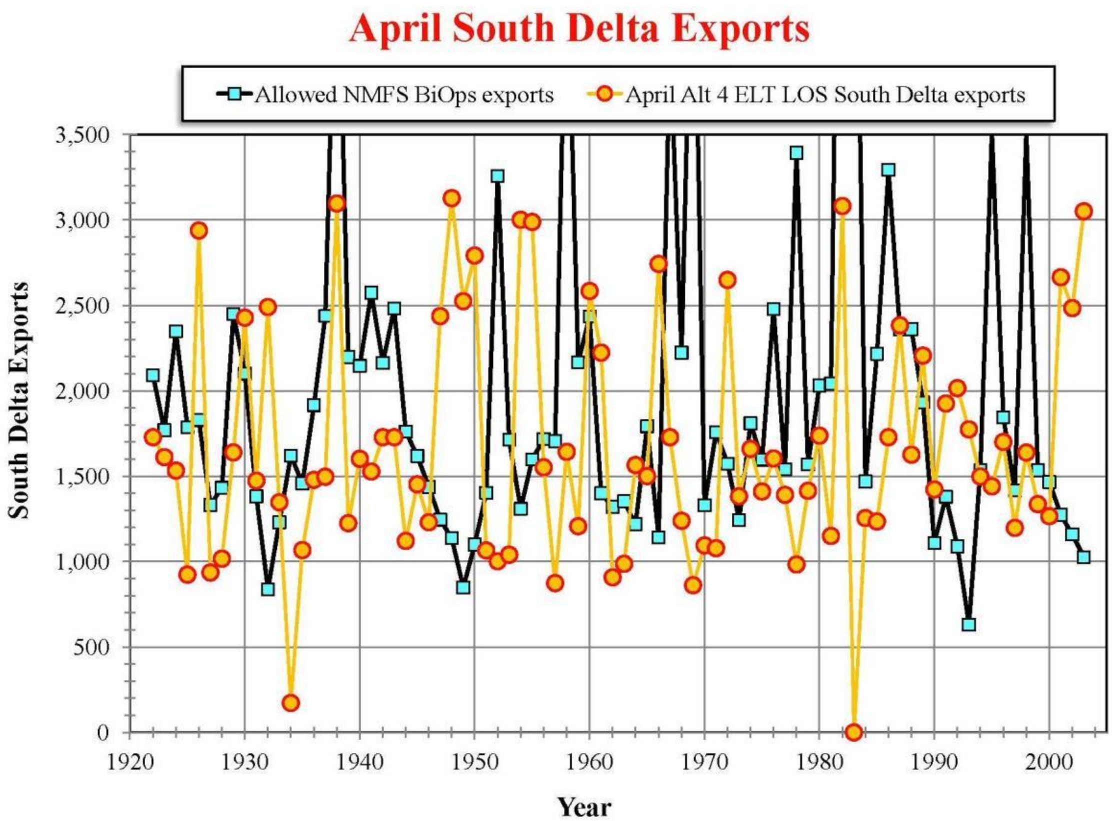

Figure F-13: The modeled south Delta exports for BDCP Alternative 4, Low Outflow Scenario, at early long term compared to the exports allowed under the 2009 NMFS biological opinion. The BDCP proponents are intending to significantly increase exports from the south Delta in April (and May) in at least 15 of the 82 years modeled.

The BDCP DEIR/EIS in Appendix 5A, page 5A-D150, concluded that "on a long-term average, there are minor changes in the flow and storage operations" from modifying the export/inflow ratio, and that "annual Delta exports remained similar between both approaches." A shift in Delta exports from May-June to July-August was also noted. However, the more detailed presentations of the data in Figures F-11 through F-13, suggest that there are sometimes **very large increases** in Delta exports as a result of the BDCP proposed modification to this D-1641 standard.

The DEIR/EIS is inadequate because it fails to clearly and adequately disclose that the BDCP proponents plan to operate the south Delta export pumps in excess of the current biological opinion requirements, and that this will significantly increase (rather than decrease) exports from the south Delta in many months. A new Draft EIR/EIS that corrects these failings must be prepared and released again for public review and comment.

- **Shasta storage**

The Draft BDCP Executive Summary on pages 48, 50, 53 and 55 states that "the BDCP does not propose any changes in Shasta operating criteria, and the BDCP does not affect upstream temperatures or flows in ways that would require a change in Shasta operations. However, the different new facilities and operating scenarios **do** change the storage levels in Lake Shasta. If the amount of cold water pool is reduced this could adversely impact salmonids below Shasta. This would change the quality (temperature) of upstream habitat, an important biological objective for winter-run Chinook salmon.

As shown in Figure F-14, the BDCP modeling of Shasta storage for the proposed project Low Outflow Scenario suggests that Shasta end-of-month storages will be significantly reduced in most years relative to the existing conditions (with Fall X2). The reductions will be greatest during drier years and would adversely impact salmonids. The High Outflow Scenario, on the other hand, generally increases Shasta end-of-month storage in drier years. The BDCP will change storage levels in Lake Shasta.

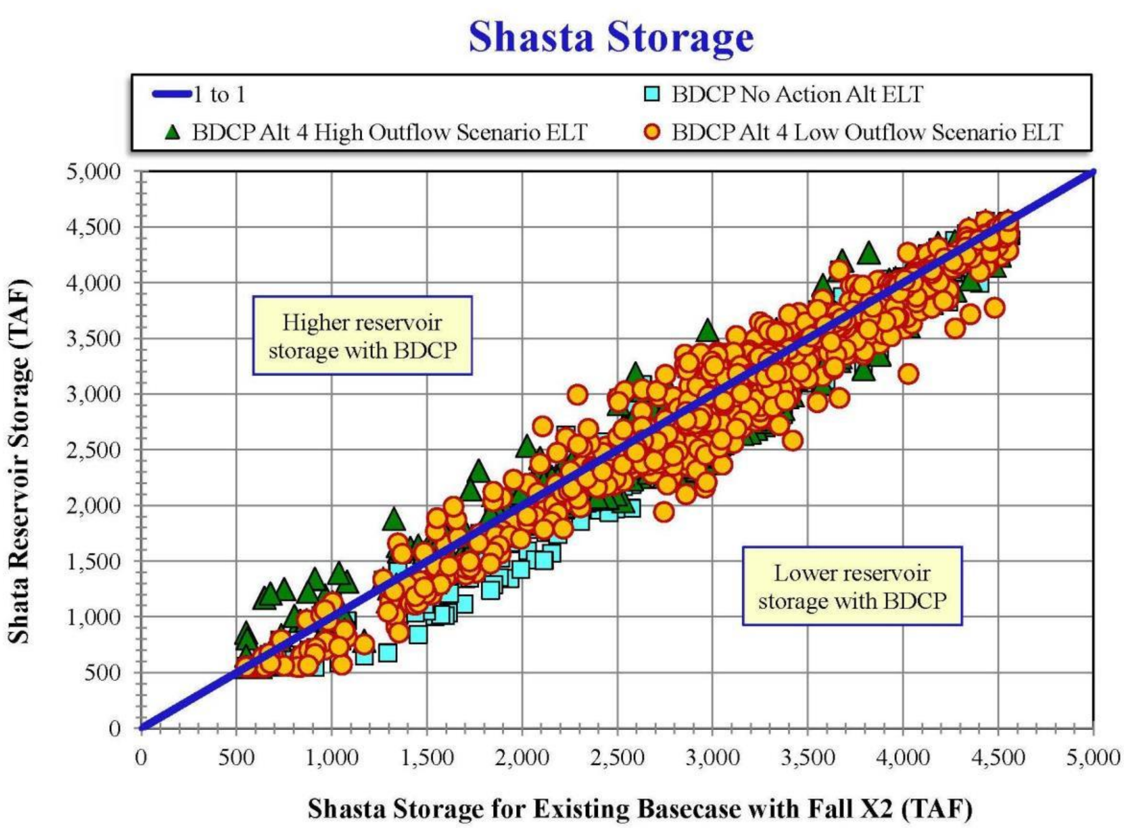

Figure F-14: The BDCP model output for Shasta reservoir storage for Alternative 4 High Outflow Scenario and Low Outflow Scenario at early long term compared to a BDCP Existing

Basecase with Fall X2. The BDCP proposed project will decrease Shasta storage, especially during the driest periods.

- **Impact of BDCP proposed project on Delta water quality**

The water quality modeling for the BDCP is not accurate enough to support approval of a project of the size and impact of the BDCP proposed project. The DSM2 water quality model output contain large spikes that often exceed existing SWRCB D-1641 water quality standards. For example, as shown in Figure F-15, the specific conductance (aka electrical conductivity or EC) spikes to 1,942 µS/cm in October 1981, which is equivalent to a chloride concentration of about 503 mg/L. Note: the EC values are converted to chloride concentration using the conversion equation $Cl = 0.285\ EC - 50$ (see equation 2 on page 8-134 of the DEIR/EIS).

The D-1641 chloride standard at the entrance to the Contra Costa Canal at Pumping Plant No. 1 (aka CCWD's Rock Slough intake) is a maximum of 250 mg/L year round (see DEIR/EIS Appendix 5A, page 5A-B11). The salinity at the Pumping Plant No. 1 is closely correlated with the salinity at Old River at Bacon Island when the Rock Slough intake is operating. The equivalent 250 mg/L chloride concentration and partial year chloride standard of 150 mg/L are also shown in Figure F-15. The October 1981 spike is well in excess of the 250 mg/L standard. Figure F-15 also shows a potential exceedence of the Pumping Plant No. 1 chloride standard for the Alternative 4 Low Outflow Scenario at late long term. Exceedences of the Pumping Plant No. 1 standard are not permitted in real life and should not be allowed in the BDCP modeling studies.

To meet Pumping Plant No. 1 standard in the BDCP modeling studies would require higher Delta outflows. Exceedances of this and other standards such as Jersey Point and Emmaton in the modeling studies mean that either the amount that can be exported in overestimated or the drawdown of upstream reservoir storage is underestimated.

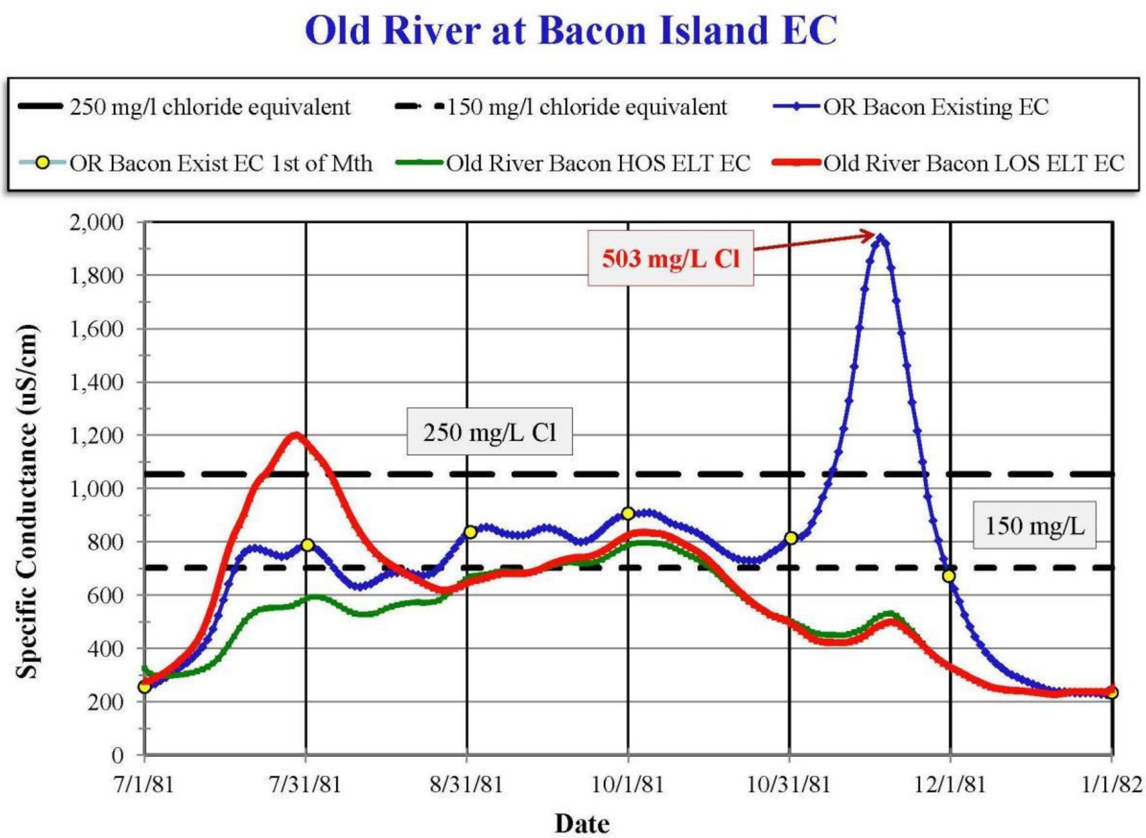

Figure F-15: BDCP modeling of daily salinities (as EC) at Old River at Bacon Island for the BDCP Existing Condition Basecase (with Fall X2), and Alternative 4 High and Low Outflow Scenarios at early long term for July-December 1981. The EC spike in November 1981 represents a probable violation of the SWRCB D-1641 chloride standard at the entrance to the Contra Costa Canal at Pumping Plant No. 1. Model studies that exceed existing D-1641 standards are not valid analyses of existing or future (with project) conditions.

Figure F-16 shows the daily salinities (as EC) at Old River at Bacon Island for the same BDCP alternatives for a later period, July-December 1989. All three simulations exceed the applicable D-1641 standard in November and December 1988. These model studies that exceed existing D-1641 standards are not valid analyses of existing or future (with project) conditions.

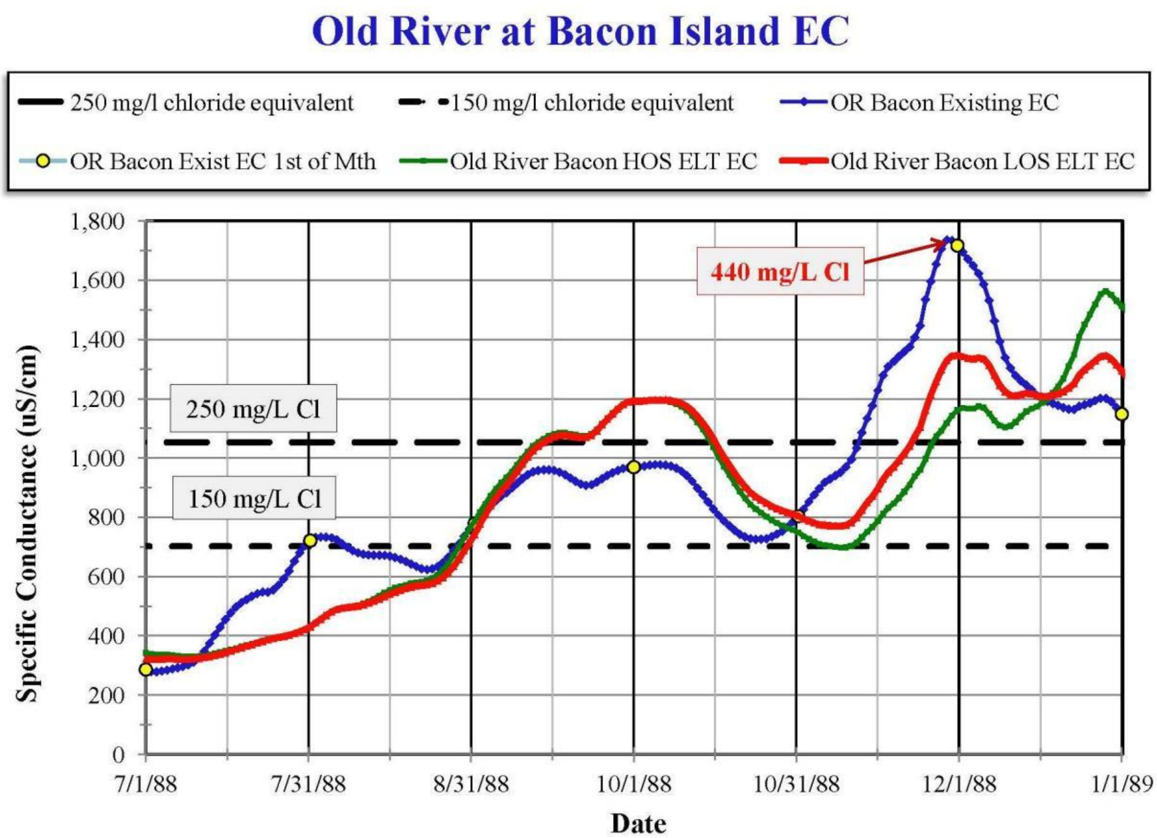

Figure F-16: BDCP modeling of daily salinities (as EC) at Old River at Bacon Island for the BDCP Existing Condition Basecase (with Fall X2), and Alternative 4 High and Low Outflow Scenarios at early long term for July-December 1989. All three simulations exceed the applicable D-1641 standard in November and December 1988.

Similar daily salinities simulations from the BDCP modeling for CCWD's intake on Old River at Highway 4 are shown in Figure F-17. Although CCWD's Old River intake is not a D-1641 compliance location, the November 1981 spike for the existing conditions simulation is not consistent with existing Delta operating regulations and is not a valid analysis for the purposes of disclosing potential BDCP impacts or export water supply benefits.

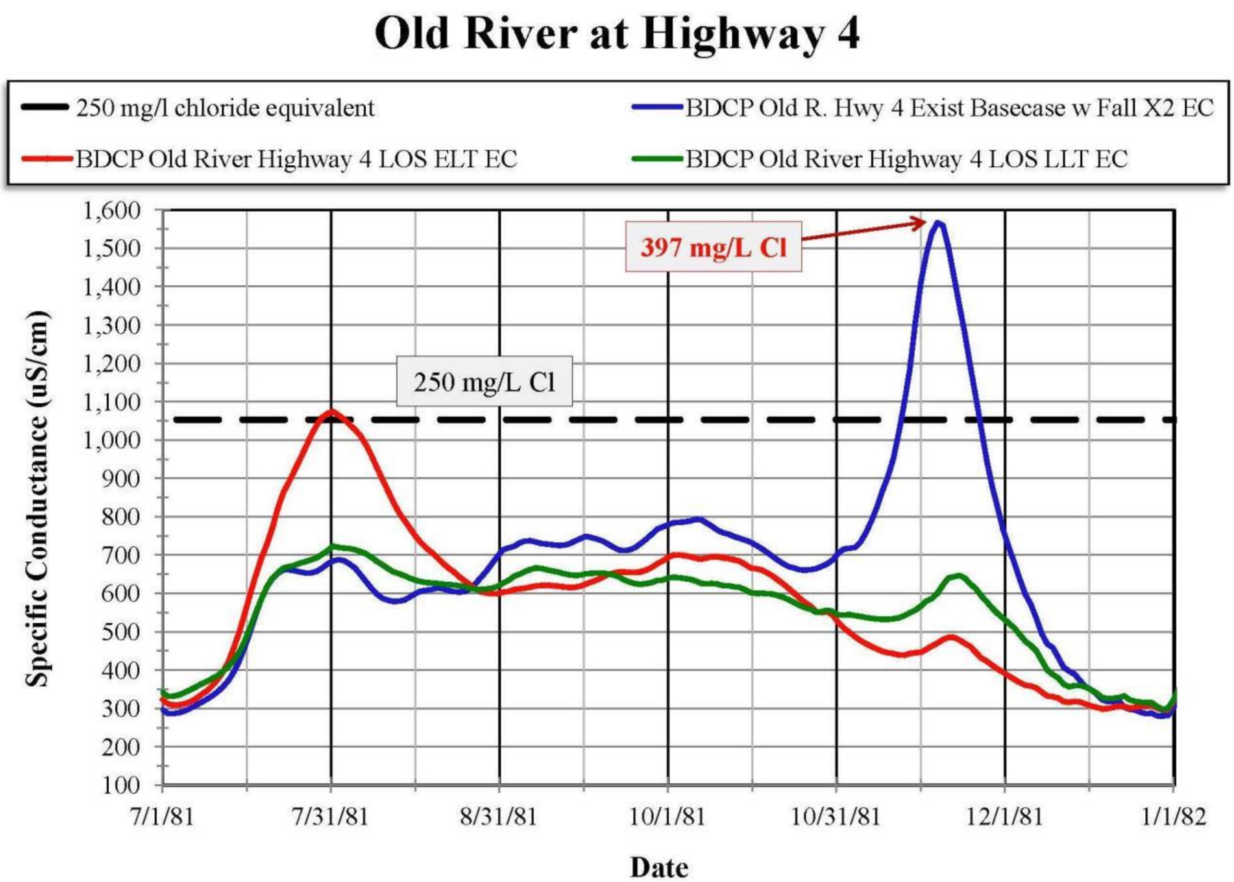

Figure F-17: BDCP modeling of daily salinities (as EC) at Old River at the Highway 4 crossing (CCWD intake) for the BDCP Existing Condition Basecase (with Fall X2), and Alternative 4 High and Low Outflow Scenarios at early long term for July-December 1981. The November 1981 spike for the existing conditions simulation is not consistent with existing Delta operating regulations and is not a valid analysis for the purposes of disclosing potential BDCP impacts or export water supply benefits.

Figure F-18 shows the BDCP simulations of daily EC at Old River at the Highway 4 crossing (CCWD's Old River intake) for the BDCP Existing Condition Basecase (with Fall X2), and Alternative 4 High and Low Outflow Scenarios at early long term. Contra Costa Water District relies on periods of good water quality (typically 50 mg/L or less) to fill Los Vaqueros Reservoir. The large increases in chloride concentrations caused by the BDCP proposed project (e.g., 50 mg/L up to 250 mg/L or as much as to 500%) will significantly impact the quality of drinking water delivered by CCWD to residents in eastern Contra Costa County.

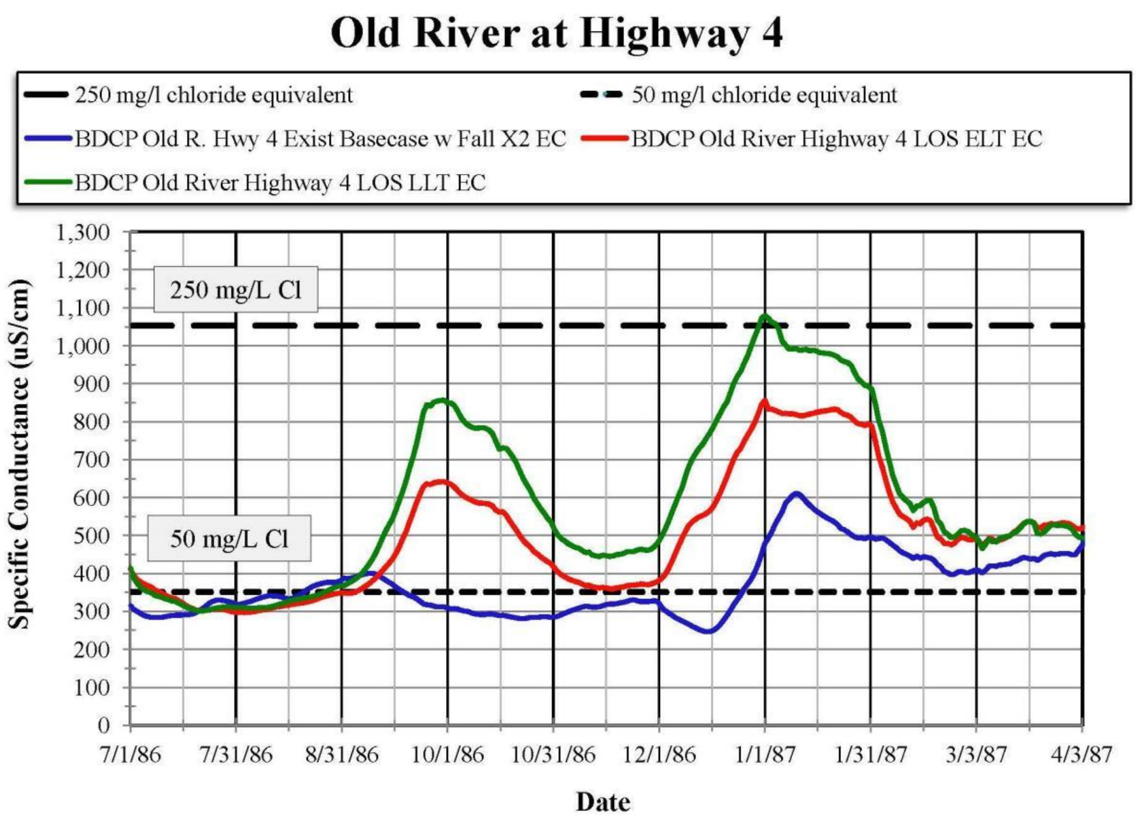

Figure F-18: BDCP modeling of daily salinities (as EC) at Old River at the Highway 4 crossing (CCWD intake) for the BDCP Existing Condition Basecase (with Fall X2), and Alternative 4 High and Low Outflow Scenarios at early long term for July 1986 – April 1987. Contra Costa Water District relies on periods of good water quality (typically 50 mg/L or less) to fill Los Vaqueros Reservoir. The large increases in chloride concentrations caused by the BDCP proposed project (50 up to 250 mg/L or as much as to 500%) will significantly impact the quality of drinking water delivered by CCWD to residents in eastern Contra Costa County.

Figures F-15 through F-18 are just a few examples of major errors in the BDCP modeling of Delta water quality. The BDCP model output contains unrealistic spikes and exceedances of existing SWRCB water quality standards for protection of municipal and industrial, agriculture and other beneficial uses. As a result the modeling studies are not valid simulations of the potential significant adverse impacts of the BDCP on Delta water quality or any export water supply benefits of the proposed project.

Other similar plots could be generated for other D-1641 compliance locations such as Jersey Point, Emmaton and the South Delta agricultural stations. However, this is the responsibility of the project proposers, not the public reviewers. The DEIR/EIS is inadequate and must be revised to include valid representations of the water quality variations with and without the proposed project alternatives. A new Draft EIR/EIS must then be released for public comment and review.