

**Department of
Conservation &
Development**

Water Agency

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**Contra
Costa
County**



Catherine O. Kutsuris
Director

**Public Comment
Bay-Delta Plan Supplemental NOP
Deadline: 04/25/12 by 12 noon**



April 25, 2012

Mr. Charles R. Hoppin, Chair
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Sent via email to: commentletters@waterboards.ca.gov

Re: January 24 Supplemental Notice of Preparation

Dear Chair Hoppin:

Contra Costa County has received the State Water Resources Control Board's (SWRCB) January 24, 2012 *Supplemental Notice of Preparation and Notice of Scoping Meeting for Environmental Documentation for the Update and Implementation of the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary: Comprehensive Review*. This review involves elements of the Bay-Delta Water Quality Control Plan and potential changes to protect beneficial uses in the Bay-Delta that are in addition to the SWRCB current review of the San Joaquin River flow objectives and south Delta salinity standards. The SWRCB is preparing a new Substitute Environmental Document (SED) regarding the potentially significant environmental effects, reasonable alternatives, and mitigation measures related to potential changes to the 2006 Bay-Delta Plan.

Contra Costa County includes a large area of the southwestern Sacramento-San Joaquin Delta. The County borders on Old River to the east and Suisun and San Pablo Bays in the north. The County is the ninth most populous county in California, with more than one million residents. Many of our residents rely on the Delta for their municipal, industrial and irrigation water supply, for their livelihood and recreation.

Contra Costa County commends the SWRCB for proceeding with this very necessary review of the Bay-Delta Water Quality Plan. The Delta ecosystem is in crisis and there is considerable concern over the reliability of California's water supply, especially for junior water right holders in the south-of-Delta export areas. A healthy, vibrant Sacramento-San Joaquin Delta Estuary is closely tied to the physical and economic health of those who live, work and recreate in Contra Costa County, the San Francisco Bay-Delta region and much of the state.

A healthy Delta requires sufficient water supply of good quality and habitat for healthy populations of fish and other native aquatic, terrestrial and avian species, both migratory and year-round. A healthy Delta would protect people and property through strong levees, comprehensive emergency response and a good quality water supply. It would promote the economic health of the region and sustain agriculture, recreation activities (including fishing and boating) and commerce.

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Many of these factors are within the control of the SWRCB through its water rights and water quality authorities. It is important that the SWRCB act quickly using the best available data and science to improve the health of the Delta, before irreparable harm is done.

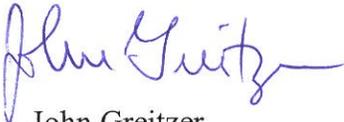
I am writing to offer comments and 14 specific requests in response to the Notice of Preparation. Attached is a set of key points and scoping requests for analysis that we believe should be performed as part of the Bay-Delta Plan Update.

The technical analysis in this letter, and the graphs that support it, were developed by our consultant, Dr. Richard A. Denton under his contract with the Contra Costa County Department of Conservation and Development.

Contra Costa County appreciates this opportunity to comment on the SWRCB's Notice of Preparation regarding a comprehensive review of the Bay-Delta Water Quality Control Plan. Please let me know if you would like any further information or clarification of these requests and comments. I can be reached by email at john.greitzer@dcd.cccounty.us or by phone at (925) 674-7824.

Thank you in advance for your consideration of our scoping requests.

Sincerely,



John Greitzer
Contra Costa County Water Agency

Attachment: Contra Costa County Scoping Comments

- C: Steven Goetz, Deputy Director—Conservation, Transportation Planning & Redevelopment Programs
Karen Basting, Chief of Staff to Supervisor Mary N. Piepho (member, Delta Protection Commission)
Cliff Glickman, Chief of Staff to Supervisor Karen Mitchoff (alternate, Delta Protection Commission)
Richard A. Denton, Richard Denton and Associates
Doug Brown, Delta Counties Coalition

Contra Costa County Scoping Comments

Key Points regarding Bay-Delta Plan Update

- Contra Costa County agrees with the SWRCB's August 2010 finding that flows into and out of the Delta need to be increased.
- The SWRCB's responsibility to balance competing interests for water can be achieved, even with increased flow requirements, if new storage is developed to allow more water to be diverted in the wetter periods and less in the drier periods (consistent with the Bay-Delta Conservation Plan's Planning Principle #2).
- The SWRCB's Spring X2 standard has had the unintended consequence of shifting impacts to the Fall (reduced outflow and increased Fall X2). Standards applied to one period of the year can cause adverse impacts to fish and other beneficial uses in subsequent months unless additional objectives are applied during the rest of the year.
- Modeling studies for the Bay-Delta Conservation Plan (BDCP) "Preliminary Project" suggest there could be even further reductions in Fall outflows relative to existing conditions. The BDCP Effects Analysis (BDCP preliminary draft Chapter 5, February 2012) acknowledges this could further harm key fish species.
- The SWRCB SED should analyze the relationship between actual flows and estimated unimpaired flows prior to major water supply developments and channel modifications and determine the relationship between DWR's estimates of unimpaired flows and the flows that might otherwise have been available prior to major developments, especially in the Fall. This might provide some insight on how to allocate responsibility for providing water to meet potential increased flow requirements.
- October-September SWP and CVP exports from the Delta in 2011 were the highest ever. The SWRCB SED should review in detail the historic trends in exports south of the Delta and diversions and exports to other north-of-Delta and in-Delta water users. This will allow a better understanding of the actual effects of current and future standards and biological opinion terms and conditions on water supply reliability.
- Returning adult salmon need attraction flows to help them smell their way back to the river where they were spawned. The SWRCB SED should analyze the attraction flows needed by each of the four runs of Chinook salmon (winter, spring, fall and late fall) and set minimum flows throughout the whole year to protect salmon from future changes to the timing and location of exports that could reduce Rio Vista flows during January through August while still meeting other SWRCB D-1641 standards.

Scoping Requests

Delta Flows need to be increased

Request #1: The SWRCB SED should analyze and disclose the benefits and adverse effects of restoring (increasing) Delta flows. The computer simulation of Central Valley operations with increased Delta flow requirements must include optimized operations rules for the major upstream reservoirs and export facilities to minimize any adverse impacts on reservoir water levels, water temperatures in rivers below the major reservoirs, and export water supply. The SWRCB SED should also include an analysis of whether some of the Other Stressors are merely symptoms caused by insufficient Delta flows to maintain a healthy Delta ecosystem.

On August 3, 2010, the State Water Board issued its final report, Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem. It is clear from the data and analyses in this report that flows at key locations into, within, and out of the Delta need to increase. The more complicated issue is by how much and with what timing.

Some stakeholders have argued that the decline of key fish species is not the result of entrainment at the south Delta export facilities or reduced Delta flows, but is due to Other Stressors. The recent National Research Council (NRC) report on Sustainable Water and Environmental Management in the California Bay-Delta¹ concluded that no one factor can be considered responsible for the fish decline. The NRC report on page 108 stated:

It is clear from consideration of the many stressors and their impacts that eliminating any one is unlikely to reverse declines in the listed species. Nor is it constructive when the advocates of the implications of one stressor use that advocacy to suggest their stressor is not important. Opportunities exist to mitigate or reverse the effects of many of the above stressors. To make it more likely that any actions to rehabilitate the ecosystem are cost-effective, continued effects analyses, modeling, and monitoring will be needed.

With respect to the lack of sufficient flows in drier years, the 2012 NRC report (page 105) stated that:

Thus, it appears that if the goal is to sustain an ecosystem that resembles the one that appeared to be functional up to the 1986-93 drought, exports of all types will necessarily need to be limited in dry years, to some fraction of unimpaired flows that remains to be determined. Setting this level, as well as flow constraints for wetter years, is well beyond the charge of this committee and accordingly we suggest that this is best done by the SWRCB, which is charged with protecting both water rights holders and the public trust.

Balancing Competing Interests

Request #2: The SWRCB SED should analyze WQCP alternatives that meet the intent of the 1959 Delta Protection Act and the requirements of the federal and state Endangered Species statutes, while still providing the necessary balancing of competing interests. These alternatives would increase protection for fish and improve water quality in drier periods, while helping facilitate development of new storage and conveyance

¹ National Research Council, "Sustainable Water and Environmental Management in the California Bay-Delta," National Academy of Science, Prepublication copy, March 2012

facilities so water can be diverted and stored in wetter periods. This would improve water supply reliability for both junior and senior water right holders in California.

As discussed in the August 2010 Delta Flow Criteria Report (page 3), the SWRCB has a responsibility to balance competing interests for water:

In carrying out its water right responsibilities, the State Water Board may impose any conditions that in its judgment will best develop, conserve, and utilize in the public interest the water to be appropriated. In making this determination, the State Water Board considers the relative benefit to be derived from all beneficial uses of the water concerned and balances competing interests.

The 2012 NRC report (page 4) discussed water scarcity and stated that the “*magnitude or intensity of scarcity has grown over time and it continues to grow because demands have grown.*” Water is scarce during drier periods and the ecosystem is typically stressed. However, water is not scarce in the Delta during very wet periods, e.g., when Delta outflows exceed say 20,000 cfs. During wetter periods, exports from the Delta often decrease, because demand for irrigation and landscaping water is reduced, but also because there is not enough storage capacity for the water.

The 2012 NRC report (page 149) discussed the need for new storage and additional flows to reduce salinity intrusion and improve X2 conditions:

***Increased Storage:** Restoration of variability in flows that has been lost due to water management, hydrologic changes due to climate change, and the increased demands may require flexible operating strategies and increased water storage. In particular, anticipated changes in timing and magnitude of inflows may require additional storage in the system in order to meet the deficits in water supply, restore cold water pools and carry-over storage in the system. Further, additional flows may be required to mitigate impacts of saltwater intrusion and upstream migration of the Delta X2 salinity standard during droughts. Groundwater storage with artificial recharge, particularly in the Central Valley south of the Delta, should be considered, along with opportunities to increase reservoir storage in the system, or to change the operating rules for existing systems.*

Wetter periods therefore provide the opportunity to meet water demands in California and allow the competing needs for water in California to be balanced. The initial pulse flow at the start of a storm flood event may be an important factor in the winter and spring spawning and rearing of native Delta fish (Moyle 2002²) and may influence sediment transport and distribution in the Central Valley. However, during wetter periods there is still water that is surplus to the needs of in-Delta water users and the Delta ecosystem which can be exported.

The Bay-Delta Conservation Plan (BDCP) recognized this during the initial development of BDCP when it adopted its March 2009 Planning Principles. These principles were developed to clarify the approach to the integration of conservation measures and the underlying rationales for the BDCP. **BDCP Planning Principle #2** is: *Divert more water in the wetter periods and less in the drier periods.* Unfortunately, BDCP also decided early in the process to not consider increasing surface or groundwater storage which would be necessary to achieve Planning Principle #2.

² Moyle, P. B. 2001. Inland fishes of California. University of California Press, Berkeley. May 2002.

The intent of the 1959 Delta Protection Act was to protect the beneficial uses of the Delta from the proposed development of the State Water Project and export of water to areas south of the Delta. Water Code Sections 12200 *et seq.* were intended as an assurance that no water would be diverted from the Delta to which users within the Delta are entitled, and no water would be exported which is necessary to protect water quality (salinity control) and provide an adequate water supply for in-Delta water users. Had there been more of an awareness of the needs of Delta fish populations in those days, this Act would likely have also provided specific protection for the Delta ecosystem.

SWRCB Standards Can Have Unintended Consequences

Request #3: The SWRCB SED should review past actions by the SWRCB to protect fish to determine whether those actions led to unintended adverse consequences for the Delta ecosystem. The SWRCB SED should analyze whether any of the proposed modifications to the WQCP will shift impacts to other times of the year and set flow and water quality objectives during those times to prevent reductions of already low flows and further increases in salinity and increased concentrations of other water quality constituents.

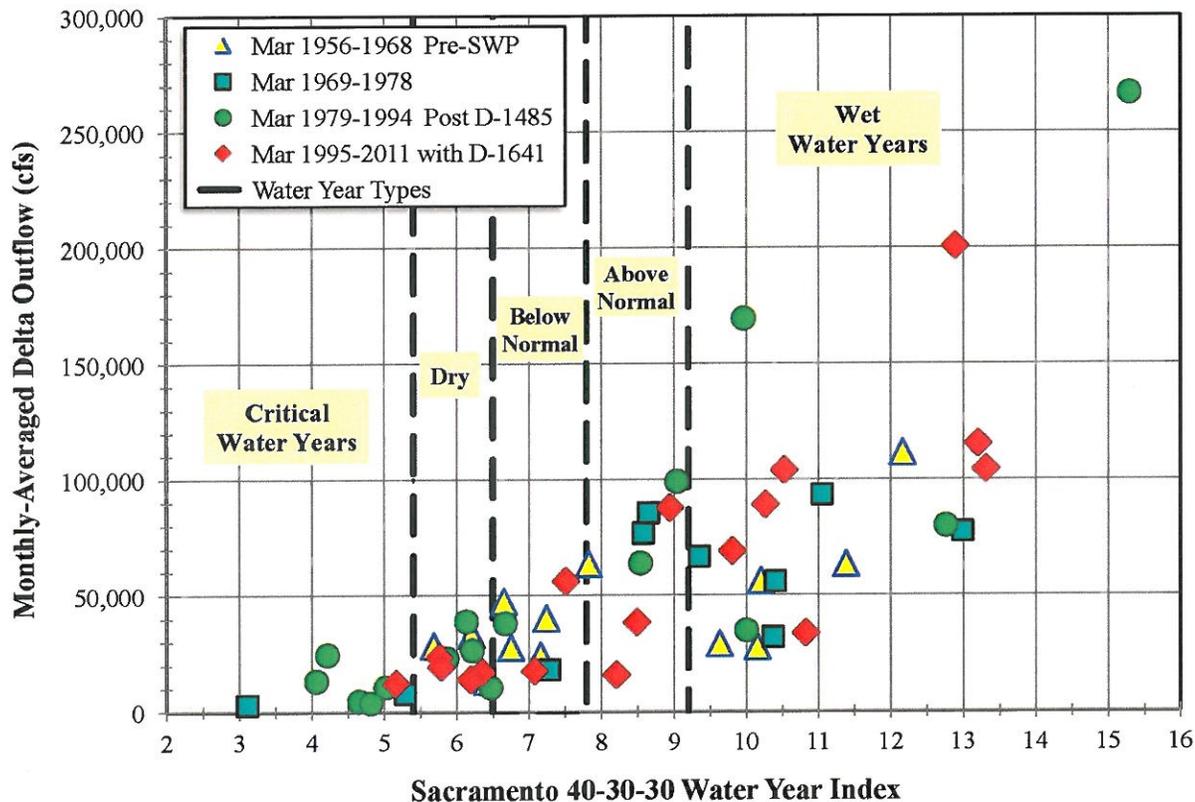
Past actions by the SWRCB to protect fish may have had unintended adverse consequences for the Delta ecosystem. For example, the SWRCB's May 1995 WQCP implemented for the first time the February-June estuarine habitat (X2) standard. The intent of the Spring X2 standard was to increase flows during the February-June period to 1968-1975 levels to protect fish. However, the unintended consequence was to shift export operations to later in the year and dramatically decrease Delta outflows in the Fall.

The following graph shows historical Delta outflows for the month of March plotted as a function of water year type. The outflow data are from DWR's DAYLOW data base, and water year type (critical, dry, below normal, above normal and wet years) is represented in terms of the Sacramento Valley 40-30-30 water year index. During wetter years (larger 40-30-30 index), Delta outflows are typically higher, whereas in drier years, Delta outflows are typically lowest.

The October 1955 to September 2011 data are categorized into four different historical time periods: (a) the period prior to the start of State Water Project exports in 1968; (b) the 1969-1978 period prior to adoption of Water Rights Decision 1485; (c) the subsequent period, 1979-1994, prior to adoption of Decision 1641 and Spring X2; and (d) historical Delta outflows since D-1641. These categories help illustrate whether any of these milestones caused a change in Delta outflows.

The March Delta outflows graph suggests that since the Spring X2 standard has been in effect, March outflows have not been significantly different than before Spring X2 adoption (for comparable water year types). Drier years are characterized by lower March outflow, and wetter years by more March outflow, both before adoption of Spring X2 and after. The Spring X2 standard has had the important effect of protecting fish by preventing increasing export demands from reducing March outflows even further, but has not resulted in any significant increases in outflow.

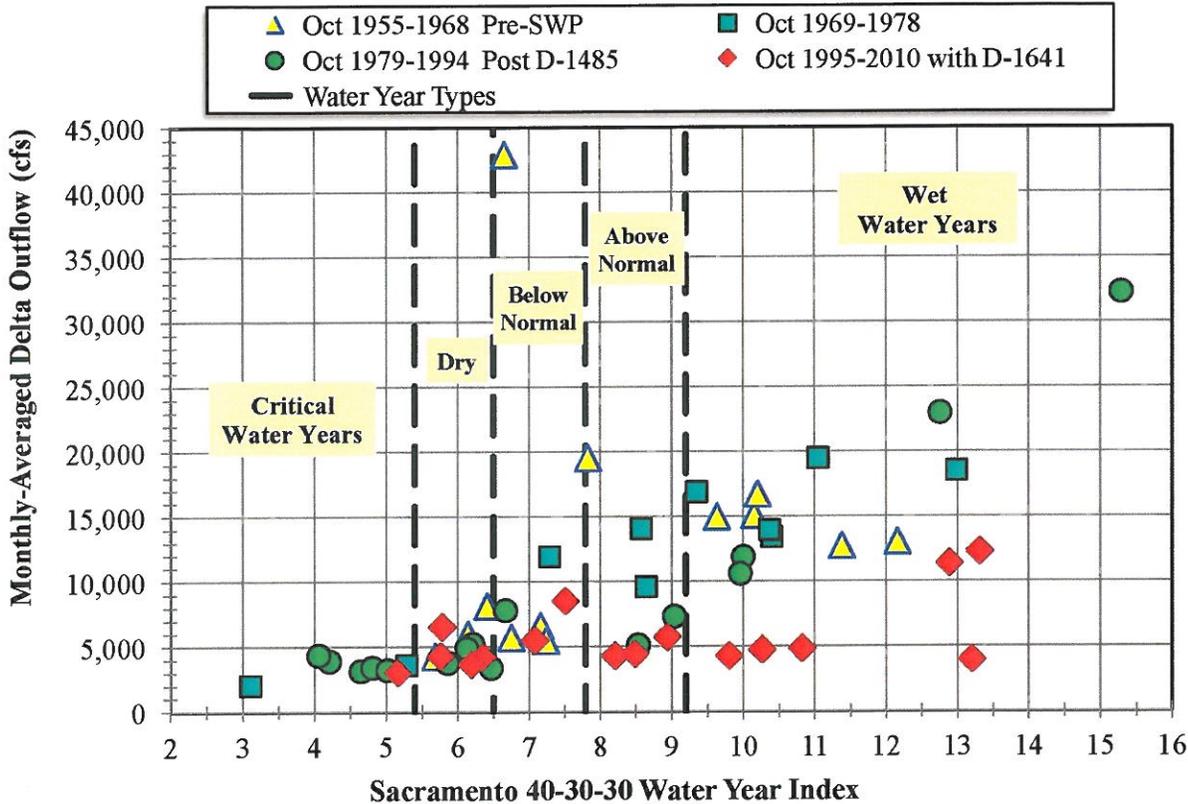
March Delta Outflows



The next graph, showing October outflows, tells a different story. It shows historical Delta outflows in October as a function of water year type. Prior to adoption of the Spring X2 standard in 1995, October outflows were lowest in critical and dry years and highest in wetter years. However, since 1995, Delta outflows in October and other Fall months have tended to be low in both drier and wetter years.

The decrease in Delta outflows in the Fall in both normal and wetter years has resulted in a corresponding increase in salinity concentrations in the Delta, and an increase in Fall X2 (salinity incursions occurring further into the Delta).

October Delta Outflows



Federal and state fish agency biologists have identified decreased Fall outflows as a possible factor contributing to the decline of Delta smelt and other fish species, and developed Fall X2 requirements to improve fish habitat conditions in the Fall. The SWRCB also included Fall X2 objectives in its August 2010 Delta Flow Criteria report. The SWRCB SED should investigate whether this decrease in Delta outflows in the Fall is an unintended consequence of the new standards in the 1995 WQCP and to what extent this may have contributed to the Pelagic Organism Decline.

Another example of a potential unintended consequence is the SWRCB’s proposed increase in San Joaquin flows at Vernalis during February-June. Contra Costa County supports restoration of instream flows on all of the major San Joaquin River tributaries, including the upper San Joaquin River below Friant Dam. However, in setting a new February-June flow standard, the SWRCB may cause already low flows in subsequent months to decrease even further. This could cause adverse environmental impacts in July, August and later months.

Example of the Effect of Unintended Consequences in BDCP

Request #4: The SWRCB SED should include a detailed analysis of potential future impacts and unintended consequences of the existing D-1641 standards and any proposed modifications to the Bay-Delta WQCP.

The recently released preliminary draft BDCP documents further illustrate the unintended consequence of setting fish protection objectives in the spring and early summer standard and not providing corresponding protections in the Fall. As discussed above, the BDCP proponents decided early in the process not to consider increasing surface or groundwater storage. The BDCP proponents and stakeholders developed additional

operating conditions for the proposed project, i.e., dual conveyance with a new 15,000 cfs isolated facility and new diversions on the Sacramento River near Hood. The computer simulations of the preliminary proposed project operate to meet SWRCB Decision 1641. However, the BDCP assumes that the fishery agency Fall X2 requirements will not need to be met for operation of their preliminary proposed project.

The BDCP simulation of the proposed project reservoir and export operations using the Central Valley operations model (CALSIM) resulted in further reductions in Delta outflows beyond existing conditions. See for example *BDCP Effects Analysis, Appendix 5C, Attachment C.A, CALSIM and DSM2 Results for the Preliminary Proposal Modeling Scenarios (April 13, 2012 release)*.

Export operations were highly constrained in the spring and early summer, so without additional storage, impacts on flow shifted to the Fall. A major goal of the BDCP is to contribute to the recovery of key fish species. The most recent draft of the BDCP Effects Analysis, however, acknowledges that the BDCP preliminary project will actually harm a number of those species.

Unimpaired Flows are not Necessarily Representative of Historical Flows before Reservoir Construction and River Channel Modifications

Request #5: The SWRCB SED should analyze the relationship between actual flows and estimated unimpaired flows prior to major water supply developments and channel modifications and determine the relationship between DWR's estimates of unimpaired flows and the flows that might otherwise have been available prior to major developments, especially in the Fall. This might provide some insight on how to allocate responsibility for providing water to meet potential increased flow requirements.

The SWRCB Delta Flow Criteria report recommended flow criteria based on a percentage of (estimated) unimpaired Delta outflow, unimpaired Sacramento River inflow, and unimpaired San Joaquin River inflow. However, the 2012 NRC report (page 54) noted that:

One can look at anthropogenic changes in the hydrology of the Bay-Delta by comparing measured hydrographs with the "unimpaired" hydrograph, i.e., the hydrograph that would have been observed in the absence of the water projects, but including the present Delta configuration. For example, in their presentation to the SWRCB, Chung et al. (2010) more generally note that as currently calculated, unimpaired flow is based on the hydrologic behavior of the system at present, rather than the system as it existed before dams, flood control levees etc. were built. For this reason, the calculated unimpaired flow might actually be significantly different from what actually took place prior to development. Consequently, unimpaired flow should be treated as an approximate upper bound on the natural flow. To our knowledge, an appropriate lower bound has yet to be defined.

The wetland and floodplain structure of the major rivers before major anthropogenic changes mean that runoff was attenuated and delayed. The higher groundwater tables before groundwater pumping became a major source of water supply also meant that water seeping out of the channels during higher flows returned to the channel after the flows had subsided and maintained substantial baseflows into the Fall.

Historical Trends in Delta Exports

Request #6: The SWRCB SED should review in detail the historic trends in exports south of the Delta and diversions and exports to other north-of-Delta and in-Delta water users. This analysis should identify the factors affecting exports and water supply reliability such as water year hydrology, availability of storage, and WQCP and biological opinion restrictions.

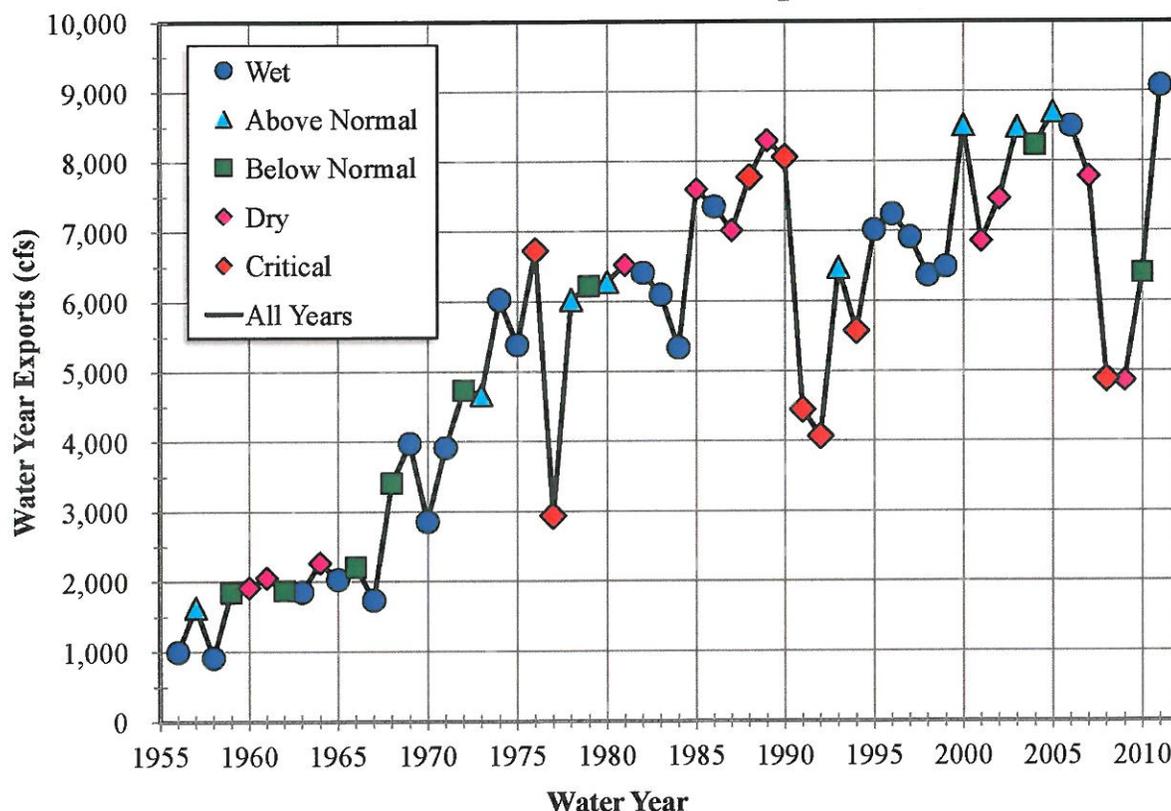
A major concern that is motivating current actions by the SWRCB, BDCP and the Delta Stewardship Council is reduced water supply reliability. The biological opinions for winter-run salmon and Delta smelt, in particular, have restricted the ability of the Central Valley Project (CVP) and State Water Project (SWP) to export water in the spring. However, total water year exports have continued to increase since these biological opinions were issued.

The following graph shows the total CVP and SWP exports south of the Delta for water years 1956 through 2011. The data are categorized according to the Sacramento Valley 40-30-30 water year index to illustrate the effect of current and previous year water type on total exports.

The exports have increased over time because of increased demand, but also increased storage capacity. In recent years, the development of the Kern Water Bank and other groundwater banking projects in the San Joaquin Valley, and the Metropolitan Water District of Southern California's Diamond Valley Reservoir, has meant exports for storage have continued beyond when San Luis Reservoir fills. However, these recent storage increases and resulting export increases will not be sufficient to offset the expected decreases in exports in drier periods if the SWRCB implements new requirements for increased flow. More storage is still needed to enable increases in wet period exports and balance fish and water supply reliability needs.

The following graph shows that the maximum water year export occurred last year, which was wet. Exports were also very high in recent above-normal years and 2004, a below-normal year. Exports were very low in 2008 and 2009, but these were critical and dry years, respectively, preceded by dry and critical years. These drought period exports were still higher than 1991 and 1992 drought period exports.

Total SWP and CVP Exports



Delta Outflow Objectives

Request #7: The SWRCB SED should analyze and disclose the effects of phasing in increases in Delta flow standards to allow construction of storage facilities needed to avoid adverse impacts to water supplies from the Delta.

As discussed above, Delta outflows and the instream flows on most of the main tributaries need to increase. Because it will take time to design, permit and construct new storage facilities, the increases should be small initially with the rest of the increase being phased in over a 10-year period.

Rio Vista Flows

Request #8: The SWRCB SED should analyze the attraction flows needed by each of the four runs of Chinook salmon (winter, spring, fall and late fall) and set minimum flows throughout the whole year because adults make their way through the Delta and up to their spawning areas throughout the year. This is particularly important because the changed diversion patterns and locations in the BDCP proposed project could reduce Rio Vista flows during the January through August period while still meeting other SWRCB D-1641 standards.

The current requirement for minimum flows in SWRCB Decision 1641 matches the minimum Delta outflow requirements for September through December. There are no Rio Vista flow requirements for January through

August. The flow at Rio Vista is important for providing returning adult salmon the ability to “smell” water from the river where they were spawned.

Export/Inflow Objectives

Request #9: The SWRCB SED should review in detail instream flow standards in other states such as Florida and Texas and determine whether the current Bay-Delta export/inflow ratios are sufficient to protect and sustain the health of the Delta ecosystem.

If the amount of water extracted from any estuary is too high relative to the amount of water flowing into that estuary, the ecosystem of that estuary will suffer. That will be more of a problem in the Sacramento-San Joaquin Delta estuary during drier years when Delta flows are already low.

Delta Cross Channel Gate Closure Objectives

Request #10: While Contra Costa County is supportive of actions to restore fish populations, the County requests that the SWRCB SED include a detailed analysis and disclosure of the effects of closing the cross channel on Delta water quality, in particular, the impacts to chloride concentrations at the urban drinking water intakes of Contra Costa Water District (CCWD) and the City of Antioch.

Closure of the Delta Cross Channel during periods of low Delta outflow (e.g., in the Fall) and high Delta exports can result in significant increases in salinity in the south and central Delta, as occurred for example in November 1999. Closing the cross channel helps prevent anadromous fish from straying into the central and south Delta where their chances of survival are lower. Note: USBR typically closes the Delta cross channel when Sacramento flows exceed 25,000 cfs.

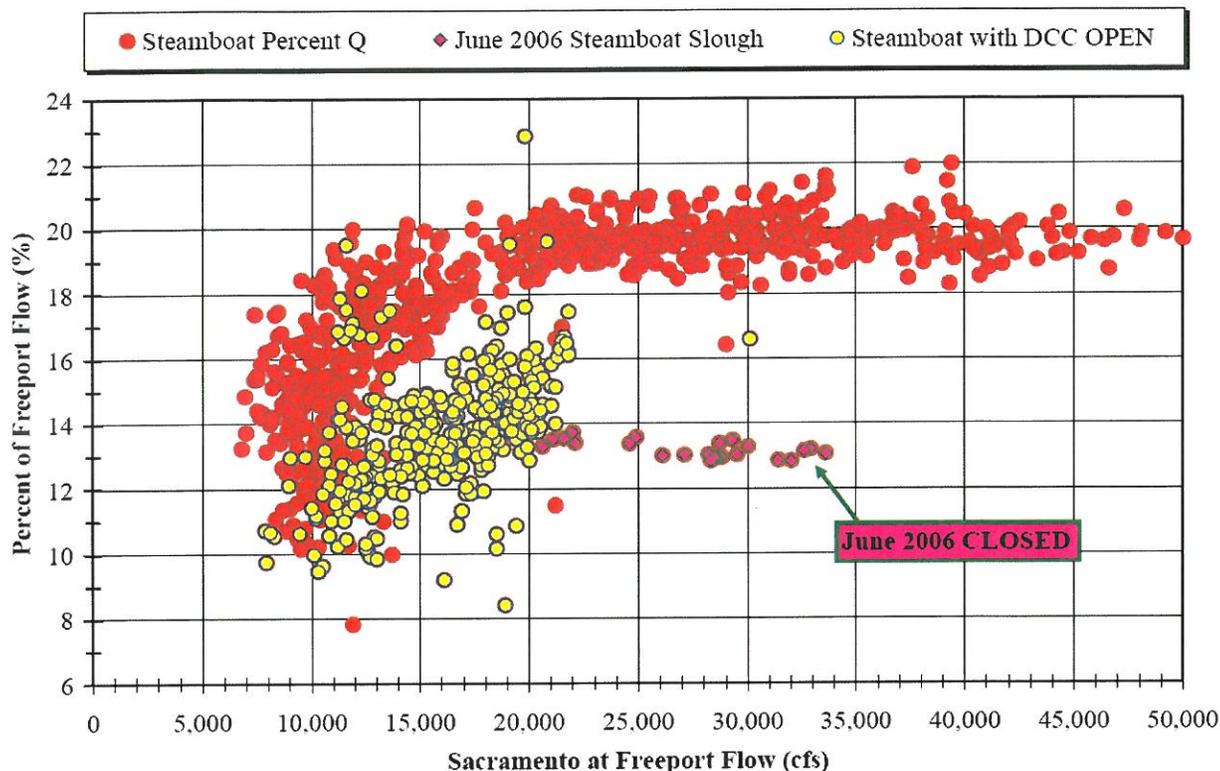
As previously noted by Jon Burau (USGS), USGS flow measurements show that closing the cross channel causes a greater percentage of flow (and likely outmigrating fish) to enter Steamboat and Sutter Slough. This improves their chance of survival because they are then not exposed to the possibility of entering the central Delta via the cross channel or Georgiana Slough. Detailed experiments using acoustically tagged late-fall Chinook salmon by Russell Perry (School of Aquatic and Fishery Sciences, University of Washington) and others have helped quantify the survival of fish for different routes through Sutter and Steamboat Sloughs, the cross channel, Georgiana Slough and down the Sacramento River past Ryde. See for example the following document:

http://www.science.calwater.ca.gov/pdf/workshops/workshop_outmigration_reg_study_plan_011608.pdf

The percentage of flow entering Sutter and Steamboat Sloughs also decreases when the flow in the Sacramento River decreases. This will be a key consideration for the BDCP because export diversions using the proposed north Delta intakes will decrease the flow in the Sacramento River upstream of Sutter and Steamboat Sloughs.

The variation in percentage of daily-averaged flow entering Steamboat Slough from the Sacramento River as a function of upstream Sacramento River flow (at Freeport) is shown in the following figure. The data were obtained from USGS daily tidally-averaged flow measurements. When the Delta cross channel is closed, water levels increase upstream and force more water through Steamboat and Sutter Sloughs. As upstream Sacramento flows decrease, the percentage of Sacramento flow entering these sloughs decreases.

Steamboat Slough Flow



Potential New Reverse Flow Objectives for Old and Middle Rivers

Request #11: The SWRCB SED should analyze and disclose the effects of implementation of Old and Middle River (OMR) flow requirements to limit or eliminate mean reverse flows in Old and Middle River. Because the impacts are due to operation of the large and essentially unscreened Banks and Jones export facilities, responsibility for meeting these OMR standards should be focused on those export facilities.

The recent NRC report (page 185) states:

Although there are scientifically based arguments that raise legitimate questions about this action, the committee concludes that until better monitoring data and comprehensive life-cycle models are available, it is scientifically reasonable to conclude that high negative OMR flows in winter probably adversely affect smelt populations. Thus, the concept of reducing OMR negative flows to reduce mortality of smelt at the SWP and CVP facilities is scientifically justified.

The current Old and Middle River (OMR) flow requirements specified in the 2008/9 Biological Opinion regarding the joint operations of the SWP and CVP were designed to reduce take of listed species at the export facilities of those projects. If export pumping causes the mean flows in these two channels to be significantly reversed, there is a corresponding increase in entrainment of key fish species at the export facilities. Because of the already low abundance of these species, high entrainment will adversely affect the population of these species.

Municipal and Industrial Water Quality Standards

Request #12: The SWRCB SED should analyze and disclose the impacts of any proposed new standards on drinking water quality at new urban intakes in the Delta, e.g., CCWD's two new intakes, and determine whether municipal and industrial standards are also needed at these locations. The SWRCB SED should also analyze and disclose the impacts of improving the municipal and industrial chloride concentration standards.

Since the establishment of municipal and industrial water quality standards in D-1485, additional drinking water intakes have been constructed in the Delta. Contra Costa Water District is now operating a 250 cfs screened intake on Old River near the Highway 4 crossing. More recently CCWD brought online a new 250 cfs drinking water intake on Victoria Canal.

The current municipal and industrial standards of 250 mg/L chloride concentration year round and 150 mg/L for part of the year at either the intake of the Contra Costa Canal or the City of Antioch's intake are not sufficient to meet urban drinking water quality needs. Water quality in the Delta may improve if the SWRCB implements new increased flow requirements. On the other hand, increased population in California may lead to higher export demands and longer periods of 250 and 150 mg/L chlorides each year. CCWD, for example, can use high quality water from its Los Vaqueros Reservoir to reduce the salinities of the water it delivers to its customers from the Delta. However, any further degradation of Delta water quality will make it more difficult for CCWD to mitigate, at its cost, the impacts of high Delta salinities. Improved water quality standards (lower chloride concentrations) are needed to fully protect municipal and industrial beneficial uses.

Request #13: The SWRCB SED should analyze additional urban water quality standards that require a 50 mg/L chloride concentration objective to be met for a given number of days per year at specific key urban intakes, based on previous historical frequencies of occurrence. This will protect the municipal and industrial beneficial uses of CCWD and other in-Delta water users.

CCWD constructed Los Vaqueros Reservoir and new intake locations in the central and south Delta to allow water to be diverted and stored during periods of higher water quality and used to blend with Delta water during periods when salinities in the Delta are high (typically in the Fall). The ability of CCWD as an in-Delta water user to meet its drinking water quality needs is dependent on the continued availability of periods of high quality water at its Old River at Highway 4 and Victoria Canal intakes. CCWD typically only fills Los Vaqueros Reservoir when the chloride concentrations at the intakes are 50 mg/L or better. This provides suitable blending water to meet CCWD's delivered chloride concentration goal of 65 mg/L. Without revisions to D-1641, further water supply development and increased Delta exports will likely decrease Delta outflows and increase salinities in the Delta and reduce the availability of periods of high quality water for CCWD.

Request #14: The SWRCB SED must review any proposal to relax Delta water quality standards in terms of the federal and state anti-degradation laws and analyze and disclose the adverse impacts of any such relaxation on the drinking water quality and public health and safety of the residents of Contra Costa County. The SWRCB SED should also analyze and disclose the corresponding adverse impacts of increased Delta salinities on key fish species.

According to the recently released draft BDCP chapters, the proponents of the BDCP are considering asking the SWRCB to move the Emmaton agricultural water quality standard from its current location at Emmaton to a

new compliance point in Three Mile Slough. This would have the unacceptable effect of degrading Delta water quality during periods of time when the Emmaton standard is controlling SWP and CVP operations.

The U.S. Environmental Protection Agency requires all states to adopt an anti-degradation policy similar to the SWRCB's Resolution 68-16 (40 C.F.R. 131.12.). Resolution 68-16 states that:

Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

Contra Costa County strongly opposes any proposal to further degrade Delta water quality by shifting the compliance point for the Emmaton standard to Three Mile Slough. The County has also consistently opposed any relaxation of the South Delta agricultural standards.

Increased Delta salinities can also harm key fish species by disrupting salmon smolt outmigration, increasing mortality in salmon during spawning migration, and exposing salmon to higher concentrations of pollutants such as pesticides (because of the corresponding reduction in Delta flows). Increase salinities can also affect the abundance of invasive clams in the Bay-Delta system which can affect the food source for Delta smelt and other key fish species.