Water Agency

County Administration Building
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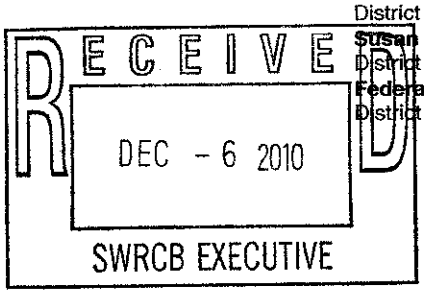
Martinez, California 94553-1229

Contra Costa County



December 6, 2010

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-2000

Re: Contra Costa County comments on the San Joaquin River and South Delta Salinity Draft Technical Report

Dear Ms. Townsend:

Contra Costa County has reviewed the Draft Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives and offers the following comments. Contra Costa County does not intend to participate on the topic-based panels at the January 6-7, 2011 workshop, but will be present to make additional public comments if necessary.

San Joaquin River Flow Objectives

Contra Costa County commends the SWRCB and its staff for the detailed analyses of the hydrology of the San Joaquin River Basin and the scientific basis for developing alternate San Joaquin River flow objectives. It is clear that flows along the full extent of the San Joaquin River have been reduced to extremely low levels (in some stretches to zero) and are now insufficient to sustain aquatic species and are well below the levels necessary to support other beneficial uses in the Delta

The County does note that the analyses are focused on the same constant percentage of unimpaired San Joaquin flow over all water year types. Consistent with previous SWRCB water quality control plan objectives, the SWRCB could also consider increasing Vernalis flows in such a way that the percentage of unimpaired flow is slightly less in drier years and slightly more in wetter years (as a continuous sliding scale).

Figure 2-6 of the SWRCB's draft technical report shows how the percentages of unimpaired flows also vary significantly by month. The attachment to this comment letter shows the relationship between historical San Joaquin flows at Vernalis compared to DWR's estimates of total San Joaquin Valley unimpaired runoff for the months of February and May. In months with high spring snow melt, the percentage of historical Vernalis flow to unimpaired flow can be as low as 10-20% in drier years. Requiring that Vernalis flow be increased to 60% of unimpaired flow in those months in drier years is a substantial water cost which could be reduced if, say, only 30% of unimpaired is required.

Restoring flows for February-June may shift impacts to other months

While it is important for fisheries reasons to focus on the February-June period, enhancing flows during this period will shift impacts to other months, i.e., July-January. This occurred for example when the estuarine habitat (X2) standards for February-June were implemented, which resulted in reduced flows and degraded Delta water quality in the fall. The SWRCB should also consider setting flow objectives for July-January to at least avoid further reductions in flow in these months.

Scientific basis for developing alternative southern Delta salinity objectives

The draft technical report does not appear to specify potential alternative objectives, other than to look at the water supply costs of continuing implementation of the existing D-1641 standards. However, it appears from the discussion of Dr. Glenn Hoffman's finalized technical report (page 76 of the SWRCB draft technical report), in particular bullet (i), that the SWRCB may be considering relaxing the April-August salinity objective, i.e., allowing an increase in south Delta salinity from 0.7 mmhos/cm up to 1.1 mmhos/cm.

i) Steady-state modeling presented in the report, and the results from other transient model studies suggest the water quality standard could be increased up to 0.9 to 1.1 dS/m and be protective of all crops normally grown in the southern Delta under current irrigation practices. During low rainfall years, however, this might lead to yield loss of about 5 percent under certain conditions.

There a number of reasons why this would not be acceptable, or even necessary.

(a) As also noted on page 76, allowing a degradation of agricultural water quality in the south Delta could result in a degradation of water quality in the south, central, and western Delta for municipal and domestic use in direct conflict with federal and state antidegradation statutes.

(b) As noted above, it would also reduce the yield of certain crops on certain years.

(c) The salinity of Delta water exported to the San Joaquin Valley contributes to overall salinity problems in the valley and the San Joaquin River. The SWRCB required the U.S. Bureau of Reclamation the develop programs for reducing the salinity problem in the San Joaquin Valley. Reclamation prepared a list of management actions related to dilution (releases from New Melones, and recirculation) and ways of reducing the quantities of applied export water. However, a more direct and efficient method of reducing the San Joaquin salinity load would be to improve the quality of water exported via the south Delta export pumps. This should have been, but was not, considered. Degrading south Delta water quality will make the salinity problem in the San Joaquin Valley even worse.

(d) The Central Valley Regional Water Quality Control Board is currently working on programs to improve the quality of San Joaquin River water (selenium, salinity and boron). These are important programs consistent with the public trust and public health needs of the people of California. Relaxing the Vernalis and south Delta agricultural standards will hinder these important Regional Board efforts.

(e) The proposed increases in San Joaquin flows (Chapter 3) and efforts to reduce containment discharges within the San Joaquin watershed will make it easier in the future to comply with the existing D-1641 agricultural salinity standards (as shown to some extent in Table 5-2).

(f) Relaxing the south Delta agricultural standards will further degrade the Delta as a source of drinking water for over 23 million Californians (as discussed below)

For these reasons, Contra Costa County strongly opposes any relaxation of the existing D-1641 water quality standards in the South Delta.

Impacts on Drinking Water Quality

The water quality for municipal and industrial intakes is more generally expressed in terms of chloride concentration. The water quality standards at the intake to the Contra Costa Canal in D-1641 are 250 mg/L chlorides (January-December), and 150 mg/L for part of the year depending upon water year type. The latter can also be met at the City of Antioch's drinking water intake. However, Contra Costa Water District, for example, requires water quality of 50 mg/L or better at its Old River at Highway 4 and new Middle River intake to be able to fill Los Vaqueros Reservoir and deliver high quality drinking water to its customers.

As discussed on page 76 of the draft technical report, drinking water has a recommended secondary Maximum Contaminant Level of 900 µS/cm (equivalent to about 206 mg/L chloride concentration). However, because of other factors such as reducing the concentrations of disinfection byproducts (suspected carcinogens), and taste and odor, Delta water with concentrations of 206 mg/L chlorides or higher are not sufficient to meet the needs of Contra Costa Water District and other urban agencies that depend on Delta water.

Water in the vicinity of the agricultural salinity stations in the south Delta is dominated by agricultural drainage. The relationship between chloride concentration and electrical conductivity in this region of the Delta is approximately Cl = 0.15 EC – 12, based on grab samples collected by DWR's Municipal Water Quality Investigation program. The April-August 0.7 EC standard and the September-March 1.0 EC standard are therefore roughly equivalent to 93 and 138 mg/L chlorides, respectively.

Degrading the current 0.7 EC standard to 1.1 EC would represent an increase in chloride concentration from 93 mg/L to 153 mg/L which is well above the chloride concentration of water needed by urban agencies (i.e., 50-100 mg/L). Note also that the equivalent chloride values are even higher because the water in the south Delta is often a mixture of seawater and agricultural drainage.

Water supply impacts of potential alternative San Joaquin River flow and southern Delta salinity objectives.

It is not clear why Table 5-4 shows additional costs to meet the south Delta salinity objectives. Any CALSIM studies representing existing Delta conditions should include compliance with the SWRCB's D-1641 water quality objectives for the south Delta. There should not need to be any additional cost to meet these standards.

The water supply impact analysis assumes the additional flow will need to come primarily from the Stanislaus, Tuolumne, and Merced Rivers. However, the upper San Joaquin River (Friant Dam) is also a source of low-salinity unimpaired flow and consistent with public trust and instream flow considerations needs to also be required to bypass unimpaired flow to meet the Vernalis flow and water quality requirements.

Other Comments

- The discussion on page 7 and 8 refers to Weibull plotting positions, and exceedence and flood frequency analyses. However, because of global climate change, the traditional assumption of stationarity is no longer valid. This will need to be taken into account when predicting future conditions based on historical data.

- The caption for Figure 2-7 (page 21) should refer to WY 2008 rather than 2007.

- Page 32, line 5: "**Negative** OMR flows are now a regular occurrence …"

If you have any questions regarding these comments, please contact me at (925) 335-1226 or via email at roberta.goulart@dcd.cccounty.us.

Sincerely yours,

Roberta Goulart
Principal Planner

Attachment: Relationship between historical San Joaquin Flows and Unimpaired Runoff by Month

cc: Board of Supervisors
Clerk of the Board
State Legislative Delegation
Congressional Legislative Delegation

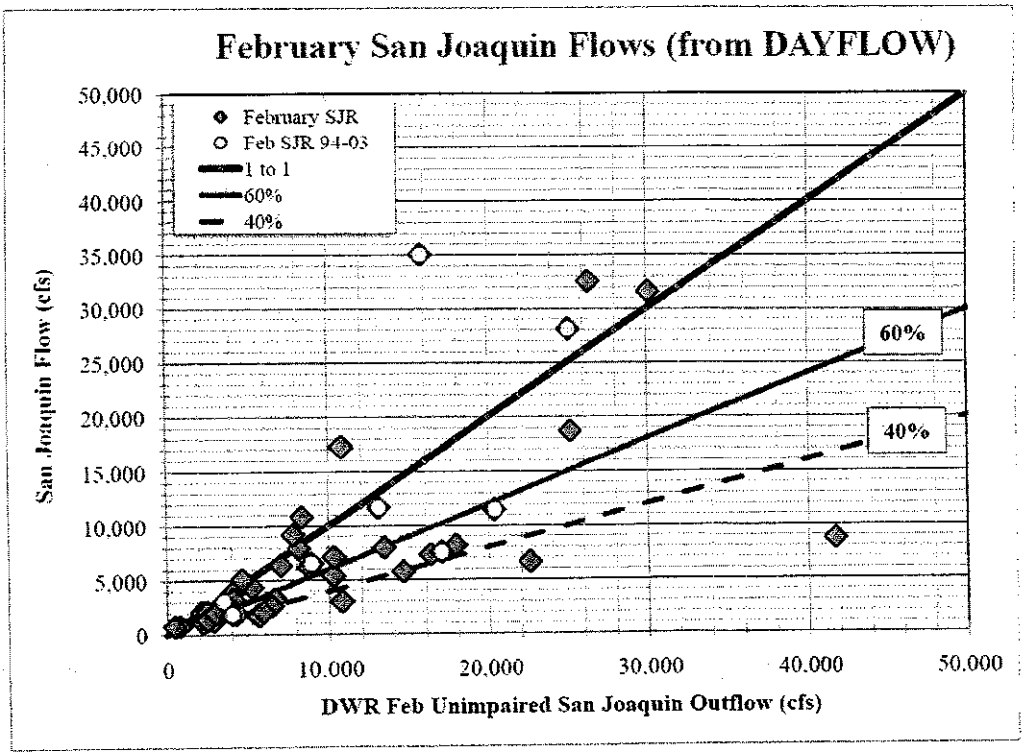
Attachment

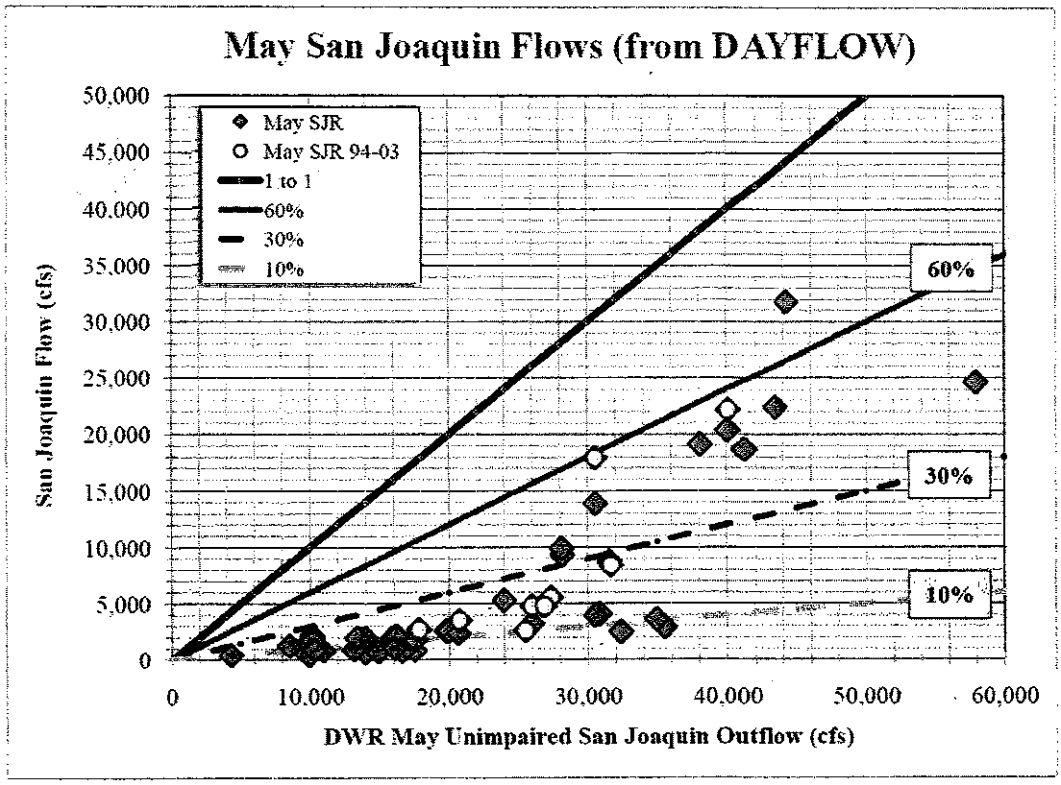
Relationship between historical San Joaquin Flows and Unimpaired Runoff by Month

Figure 2-5 in the SWRCB's draft technical report shows the relationship between annual flows at Vernalis and annual unimpaired runoff. However, there is now considerable variation by month, especially during the months of spring snow melt (April-June) when runoff is typically high but upstream diversions keep actual flows to a minimum.

This can be illustrated by plotting the relationship between historical San Joaquin flow at Vernalis (USGS data) as a function of DWR's estimates of monthly unimpaired runoff from the San Joaquin Valley. The first two graphs below show the relationships for February and May, where May is typically the period of highest spring snowmelt. In February, Vernalis flows are generally already close to or exceeding 60% of unimpaired flow. However, in May, in drier years, Vernalis flows are only about 10% of unimpaired on average.

Restoring Vernalis flows in May to 60% of unimpaired in drier years will have a substantial water cost. Requiring an initial restoration to say 30% of unimpaired flow in drier years would represent a significant improvement at a reduced water cost. The percentage of unimpaired could be increased from 30% to 60% as some function of increasing unimpaired runoff so that 60% would be required in wetter years.





The third graph below shows the variation of the percentage of Vernalis flow in May as a function of unimpaired May runoff.