



VIA ELECTRONIC MAIL

April 14, 2009

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Central Valley Regional Water Quality Control Board
11020 Sun Center Dr., Suite 200
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Re: Comment Letter – Upstream SJR Salinity Objectives/TMDL

Dear Mr. Simi:

On March 30, 2009, the Central Valley Regional Water Quality Control Board (“CVRWQCB”) Staff held a scoping workshop for the development of site-specific water quality objectives for salt and boron for the San Joaquin River (“SJR”) from the Merced River confluence to the Stanislaus River confluence. The San Joaquin River Group Authority (“SJRG”) offers the following comments in response to the request of the CVRWQCB.

1. The CVRWQCB Must First Evaluate the Beneficial Uses.

The Staff presentation proposed various possible objectives, including the secondary Maximum Contaminant Level (“MCL”) for drinking water, the Delta Mendota Canal (“DMC”) export limit, agriculture protection based on crop tolerance modeling, and other suggestions. The first step, however, is evaluating the beneficial uses.

The Porter-Cologne Water Quality Control Act (“Porter Cologne”) (Water Code §13000 et seq.) seeks to “attain the highest water quality which is reasonable, considering all demands being made and to be made.” In adopting new or revised water quality objectives, regional boards must consider, among other factors, past, present, and probable uses and the need for developing housing in the region. (Water Code §13241.) Regional boards must also consider economic factors, such as costs to agriculture and sources of funding for agriculture to implement compliance methods. (Water Code §13241(d).) The Basin Plan identifies irrigated agriculture, stock watering, and industrial process supply among the existing beneficial uses. (Basin Plan, p. II-8.00.) Existing uses are those actually achieved on or after November 28, 1975. (40 C.F.R. §130.3(g).)

The Basin Plan also identifies municipal and domestic use as a “potential use.”¹ (Basin Plan, p. II-8.00.) However, the Basin Plan, Porter-Cologne, and Clean Water Act lack any definition of “potential” use. Further, the Clean Water Act only requires states to protect and maintain water quality for existing uses. (40 C.F.R. §131.12(a)(1); *see also* PUD No. 1 of Jefferson County v. Wash. Dept. of Ecology (1994) 511 U.S. 700, 705.) Consistent with the Clean Water Act direction to protect actual, existing beneficial uses, when states establish TMDLs they must analyze the pollutant loading level necessary to implement water quality standards for *actual* existing, or future beneficial uses of the water body. (33 U.S.C. §1313(d)(1)(C).) Further, if states choose to degrade water quality, they must only assure water quality sufficient to protect existing uses. (40 C.F.R. §131.12(a)(2).)

The SWRCB has already gathered extensive information regarding site-specific beneficial uses for the SJR. The Technical Committee Report for SWRCB Water Quality Order 85-1, regarding the *Regulation of Agricultural Drainage to the San Joaquin River*, investigated the impacts of agricultural drainage on SJR water quality and proposed water quality objectives for the SJR Basin and effluent limitations for agricultural drainage to achieve the objectives. (SWRCB Resolution 87-78.) In briefly describing what was known of municipal and domestic supply beneficial uses for the SJR at the time, the Technical Committee determined that:

This beneficial use includes use in community or military water systems and domestic uses from individual water supply systems. This is designated as an existing beneficial use in two reaches and as a potential beneficial use in the other two reaches. In actuality an existing use occurs only in SJR-1, from Friant Dam to Mendota Pool. There is no direct diversion of river water for municipal or domestic use in the three downstream reaches, from Mendota Dam to Vernalis.

(SWRCB Water Quality Order 85-1 Technical Committee Report, p. III-3 (Aug. 1987).) However, the Technical Committee also noted that “In all reaches of the River, water is pumped for domestic purposes from wells in the flood plain” and that “changes in river water quality could affect these wells.” (Id.)

At about the same time, the CVRWQCB began surveying points of diversions and discharges along 150 miles of the SJR to develop the data needed to establish beneficial uses and water quality objectives for the SJR. It reported the findings in 1989 in *Water Diversion and Discharge Points Along the San Joaquin River: Mendota Pool to Vernalis* (“*Water Diversion and Discharge Points Along the SJR*”).² The CVRWQCB Staff initially surveyed the SJR in April-May 1985. (CVRWQCB, *Water Diversion and Discharge Points Along the SJR*, p. 2 (April 1989).) Additional information was obtained

¹ Municipal (“MUN”) beneficial uses are uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply. (Basin Plan, p. II-1.00.) Such uses do not include individual persons occasionally “taking a drink.”

² A copy of the report is attached to this comment letter.

from U.S. Geological Survey Topographical Survey Maps, Soil Conservation Service records, and Regional Board files. (*Id.*) This was followed by an on-the-ground inspection of the entire 150-mile reach of the SJR. (*Id.*) The on-the-ground survey of the San Joaquin River consisted of traveling its length, noting the location and type of all discharges and diversions, photographing diversions, and personally interviewing water users to confirm information. (*Id.*) The survey is extremely detailed, describing the flow rate of nearly every point of diversion and discharge, the associated water use, crops irrigated, if any, and even identifiable water rights, if any.

There were 66 points of discharge between Hills Ferry Bridge and Vernalis and 48 points of diversion between Lander Avenue Bridge and Vernalis. (*Id.*, p. 11.) The 48 points of diversion identified between Lander Avenue Bridge and Vernalis supplied all or part of the irrigation water supply for over 60,000 irrigated acres. (*Id.*) Almost all of the identified points of diversion were used exclusively for irrigation. (CVRWQCB, *Water Diversion and Discharge Points Along the SJR*, App. B, p. B-1 (April 1989).) The CVRWQCB Staff did not identify any diversions used for municipal or domestic purposes, incidental domestic purposes.³ Although many of the identified diversions had associated water rights, some did not and determining whether the latter had any associated water right was beyond the scope of the survey.

Consistent with the findings of the Technical Committee Report for SWRCB Water Quality Order 85-1 and with the survey conducted by the CVRWQCB Staff, the Water Rights Division has no record of any diversions from the SJR for municipal or domestic purposes. Further, the Sacramento-San Joaquin Delta and its entire “critical reach” upstream have been fully appropriated since Water Right Decision 1594 in 1983 from mid-June through August.⁴ (SWRCB Water Right Order 98-08, *In the Matter of the Declaration of Fully Appropriated Stream Systems in California*, Exh. A, p. 27, 46, 61 (Nov. 19, 1998).) It is therefore highly unlikely that anyone will obtain a water right to divert and use water from the SJR for municipal or domestic purposes.

Even assuming a public entity obtained a water right to the SJR for municipal beneficial uses, the Department of Health Services (now Department of Public Health) has strongly objected to proposals including both the DMC and SJR as potential water sources for community water systems. (Letter from Cindy Forbes, P.E., Chief, Drinking Water Field Operations Branch, Cal. Dept. of Health Services, to Brian Kumimoto, Stanislaus Co. Dept. of Env'tl. Resources, *Use of San Joaquin River for Domestic Supply*

³ The CVRWQCB did not determine whether any of the diversions they identified had valid associated water rights or were used consistent with such rights.

⁴ Since county boundaries are often without hydrologic significance, stream systems identified in the Declaration of Fully Appropriated Stream Systems are identified by “critical reach” without regard to county boundaries. (SWRCB Water Right Order 98-08, *In the Matter of the Declaration of Fully Appropriated Stream Systems in California*, p. 20-21 (Nov. 19, 1998).) This approach more accurately reflects hydrologic conditions and should continue to be utilized in compiling and maintaining the Declaration. (*Id.*) However, for ease of reference, the Declaration is still organized by counties for easier reference. (*Id.*) If a critical reach of a stream system lies within more than one county, it is identified within each county in which it is located. (*Id.*) Since the Delta is fully appropriated and its critical reach extends upstream, the SJR is also fully appropriated.

(Jun. 13, 1996.) The problem, from the perspective of DHS, was not salinity, but the several major cities discharging sewage to the SJR that did not treat beyond the secondary level for minimal pathogen removal. DHS further noted continuous subsurface agriculture drainage discharge from Mud and Salt Sloughs. Salinity objectives for the SJR from the Merced River confluence to the Stanislaus River confluence will address neither problem. Salinity objectives would not restrict pathogen discharges and establishing such objectives between the Merced River confluence and Stanislaus River confluence would not address subsurface drainage discharging from Mud and Salt Sloughs. Groundwater accretions alone are significant, with accretions between Crows Landing and Patterson contributing 28 cfs per mile over the 8.3 mile reach, totaling 232.4 cfs or about 17,000 acre-feet per year.⁵ (Nigel Quinn and Alice Tulloch, *San Joaquin River Diversion Data Assimilation* (CALFED Project No. ERP-01-N61-02), p. 29 Table 2 (Sept. 15, 2002) (available at http://www.sjrtdml.org/technical/2001_studies/reports/final/tq_final_1_36.pdf, accessed Apr. 14, 2009).)

A document supporting the existence of municipal or domestic beneficial uses for the SJR, either now or in the reasonably foreseeable future, has yet to appear. To the contrary, Water Quality Order 85-1 Technical Committee Report and *Water Diversion and Discharge Points Along the SJR* both determine that no such uses for the SJR exist. If such a use exists, it would lack a water right and constitute an illegal diversion and use of water, a use that is neither beneficial nor reasonable. The CVRWQCB essentially has three choices if it chooses to adopt upstream objectives. First, it could use the data currently available, particularly that held by the Division of Water Rights and reported in *Water Diversion and Discharge Points Along the SJR*. Second, it could update *Water Diversion and Discharge Points Along the SJR* by conducting a new survey, supplement the survey with water rights and other data, and use the updated information. Third, it could use the currently available data contained in *Water Diversion and Discharge Points Along the SJR* to adopt objectives, update the beneficial use data with a new survey, and then, finally, revise the objectives using the updated data. Given the difficulty of amending the Basin Plan even once, the second option is the best option. Regardless, the CVRWQCB should not proceed on the assumption that such uses exist when the Basin Plan says they do not, when its own on-the-ground survey says they do not, when the SWRCB adopted the findings of the Water Quality Order 85-1 Technical Committee Report that says such uses do not exist, and when there is no evidence that such uses will exist any time in the foreseeable future.

⁵ The annual rate of groundwater seepage in other segments of the LSJR is substantially lower. In the 14.3 mile stretch from Stevinson to Newman, the rate is estimated at 3.8 cfs/mile, in the 15.2 mile segment from Newman to Crows Landing, the rate is estimated at 6.1 cfs/mile, and in the 30.8 mile segment from Patterson to Vernalis the rate is estimated at 6.1 cfs/mile. (Nigel Quinn and Alice Tulloch, *San Joaquin River Diversion Data Assimilation* (CALFED Project No. ERP-01-N61-02), p. 29 Table 2 (Sept. 15, 2002).) The total combined flow from groundwater accretions in all four segments is 416 cfs.

2. Based on Actual Existing Beneficial Uses of the San Joaquin River, the CVRWQCB Should Not Adopt Objectives Based on Maximum Contaminant Levels or Delta-Mendota Canal Export.

In establishing water quality objectives for the SJR, the CVRWQCB must ensure reasonable protection of beneficial uses. (Water Code §13241.) Of the three possible objectives suggested by the CVRWQCB Staff, only objectives based on agriculture beneficial uses would protect beneficial uses of the SJR. Drinking water MCLs and DMC export criteria would not provide reasonable protection of SJR beneficial uses.

The drinking water secondary MCLs were established based on community water system consumer acceptance levels of tap water.⁶ (Cal. Code Regs., tit. 22, §64449(a); 22 C.F.R. §143.2(f); 44 Fed. Reg. 42197 (Jul. 19, 1979).) Specific conductance, however, lacks an established consumer acceptance level. (Cal. Code Regs., tit. 22, §64449(d).) Consequently, the “recommended” 900 mmhos/cm or lower is desirable for a “higher degree of consumer acceptance,” the “upper” 1,600 mmhos/cm is acceptable if it is both unreasonable and infeasible to provide more suitable water, and the “short-term” 2,200 mmhos/cm is acceptable for existing community water systems on a temporary basis pending construction of treatment facilities or development of acceptable new water sources. (Id.)

The specific conductance secondary MCL does not apply to any documented beneficial uses of the SJR, because MCLs only apply to tap water provided by community water systems. (Cal. Code Regs., tit. 22, §64449(a).) This is consistent with the federal definition, pursuant to which an MCL is the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of public water system. (22 C.F.R. §143.2(f); *see also* 44 Fed. Reg. 42197 (Jul. 19, 1979).) Consequently, the “recommended” specific conductance MCL does not apply, because there are no consumers to desire any constituent concentration, the “upper” level does not apply, because there are no consumers to provide for, and the “short-term” level does not apply, because there are no “existing community water systems.” The specific conductance secondary MCL does not need to be applied because the municipal/domestic beneficial use it protects, consumer acceptance levels of tap water provided by community water systems, does not exist in the SJR.

DMC export levels similarly fail to provide reasonable protection of SJR beneficial uses, because the DMC diverts water from Clifton Court Forebay, not the SJR.

Only crop tolerance modeling or other measures of protection for irrigated agriculture provide reasonable protection for SJR beneficial uses, because it is likely the most salt-sensitive existing, actual beneficial use. The SWRCB is in the process using a similar methodology to re-evaluate the South Delta Salinity Objectives using transient models and the latest science. Rather than invent its own wheel, the CVRWQCB may wish

⁶ "Community water system" means a public water system which serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents. (Cal. Code Regs., tit. 22, §64400.10.)

to delay adopting site-specific salinity objectives for the LSJR until the SWRCB completes a sufficient part of its work in the South Delta. The CVRWQCB could then use the science, models, and methodologies developed by the SWRCB and apply the principles to the SJR. At the least, the CVRWQCB should coordinate with and participate in the SWRCB's review of the South Delta Salinity Objectives so it may borrow every bit of useful and applicable science, data, and information.

The SJRGA has already examined the major diverters and water users between Mendota and Vernalis. Based on filed water rights and *Water Diversion and Discharge Points Along the SJR*, it is estimated that approximately 55,305 acres of the SJR Basin have rights to divert and use water from the SJR between the Merced River confluence and Stanislaus River confluence.⁷ Since the SJR Basin encompasses approximately 2.9 million acres, less than 2% of this land area is actually irrigated with water from the SJR. Of the 1.4 million acres devoted to agriculture, approximately 4% of such lands are irrigated with water from the SJR.

The three major SJR diverters between the Merced River confluence and the Stanislaus River confluence are the Patterson Irrigation District ("PID"), which irrigates approximately 13,555 acres, the West Stanislaus Irrigation District ("WSID"), which irrigates approximately 21,666 acres, and the El Solyo Water District ("ESWD"), which irrigates approximately 3,781 acres. Together, these lands account for approximately 39,000 acres, or over two-thirds of the land irrigated with water diverted from the SJR between the Merced River confluence and Stanislaus River confluence. They also have rights to divert 267,167 acre-feet annually. They hold over three-quarters of the diversion water rights in this reach of the SJR.⁸

⁷ This acreage does not include lands irrigated by the San Joaquin River Exchange Contractors Water Authority or where the acreage was either not disclosed, such as in a statement or diversion or where *Water Diversion and Discharge Points Along the SJR* could not determine the irrigated acreage. Overlapping places of use were only counted once.

⁸ WSID and PID also have contracts with the USBR with provisions to replace some of the water that could no longer be pumped from the LSJR. (Quinn, Nigel and Tulloch, Alice, "San Joaquin River Diversion Data Assimilation" (CALFED Project No. ERP-01-N61-02), p23 (September 15, 2002).) The WSID has a contract for 50 TAF (USBR Contract No. 14-06-200-1072-LTR1), although the Central Valley Improvement Act ("CVPIA") has limited actual delivery to as little as 12.5 TAF. (*Id.*) PID has a contract (USBR Contract No. 14-06-200-3598A-LTR1) for 6,000 AF of replacement water.

Table 1: San Joaquin River Water Use and Diversion Between Lander Avenue and the Stanislaus River Confluence.⁹

Diverter	Acres ¹⁰	Acre-Feet Annually	Flow (cfs)	Term Start	Term End	Application / Statement ¹¹
Arnold Souza & Sons	350	1,644	3	1-Mar	1-Nov	S005469
Azavedo, Joe T.	Inactive	Inactive	Inactive	1-Jan	1-Nov	A015175
Azavedo, Joe T.	Inactive	Inactive	Inactive	1-Apr	1-Oct	S005279
Bogetti Farms	1,100	NA	NA	NA	NA	
Cabral Farms	159	NA	NA	NA	NA	
Cerutti Bros.	Inactive	Inactive	Inactive	1-Jan	31-Dec	A006393
Coddington, Philip and James (Elewett Mut. Water Co/Blewett RD/RD2101)	2,359	15,870	35	1-Mar	15-Oct	A001195
Columbia Canal Co.	16,500	Exchange Contractor, rights to 126,403	210	1-Feb	1-Dec	S001073
Stanislaus County (Peterson)	3	11	0	15-Apr	15-Oct	A016669
Deniz Dairy	460	NA	NA			
El Solyo WD ¹²	3,781	22,893	47	1-Mar	1-Nov	A001476
Enciso	90	NA	NA	NA	NA	
Eskue	7	NA	NA	NA	NA	
Gallo, RJ ¹³	70	4,335	9	9-Mar	9-Nov	S014002
Gillmeister, Bouzenerais	165	9,668	18	1-Feb	1-Nov	S007681
Hailwood Ranch ¹⁴	520	1,807	2.5	1-Jan	31-Dec	A004102
Harry H Baker Trust	40	375	1	1-Mar	1-Nov	A016662
Herger, Berta	84	364	1	1-Apr	1-Oct	A013553
Herger, Berta	734	1,494	4	1-Apr	1-Oct	A004507
Houk, Dean	117	536	1.47	1-Apr	1-Oct	A013552
Island Dairy	275	5,465	15	1-Apr	1-Oct	
Manuli, Mario (Novenafarm Proprietary Ltd.)	145	2,408	4	1-Feb	1-Dec	A013555
Mendonca, Francisco	250	11,662	47	1-May	1-Sep	S007393
Menefee River Ranch Co.	1,651	4,470	16	1-Jan	31-Oct	A026875
Patterson ID	13,555	54,945	150	1-Mar	1-Sep	S009320
San Joaquin City	220	NA	NA	NA	NA	
San Luis Canal Co	Exchange Contractor	324,324, exchanges about 600,000	0	1-Feb	1-Nov	S001074
Sanny	95	NA	NA	NA	NA	
Serpa, Allen	450	NA	NA	NA	NA	
Silviera, Alfred	40 acres within Victoria Dairy	190	0.22	1-Feb	1-Nov	A006467
Twin Oaks Irrigation Co./Buehner/RD 1602	6,380	10,542	22	15-Feb	15-Oct	A004237
Verhaegen River Well ¹⁵	80	NA	Well	NA	NA	
Victoria Dairy	320	NA	NA	NA	NA	
West Stanislaus ID	21,666	189,456	262	1-Jan	31-Dec	A001987
TOTAL	55,305	339,223	641			

⁹ Identified diverters and water users were compiled from *Water Diversion and Discharge Points Along the SJR* and from Division of Water Rights information. "NA" indicates the information was not available.

¹⁰ The land area actually irrigated is less than the land area indicated by water right permits, because not all of the land areas within the places of use have agricultural land use designations. For example, a large portion of the place of use under RJ Gallo's statement (S014002) is now part of the SJR National Wildlife Refuge.

¹¹ A water right listed if one was ascertainable, either by identification in *Water Diversion and Discharge Points Along the SJR* or by matching lands identified diversions with those listed in the Division of Water Rights Water Right Information System.

¹² The water right is currently held by El Solyo WD. The place of use overlaps Recl. Dist. No. 2099, which was the identified diverter in *Water Diversion and Discharge Points Along the SJR*.

As an indication of reasonable protection of beneficial uses, WSID, PID, and ESWD have taken the position that the current SJR salinity is adequate for their agricultural operations and does not affect the choices of crops they choose to cultivate. (*see* attached letters from WSID and ESWD and resolution from PID.) PID in particular has publicly voiced its concerns with adopting water quality standards, because standards previously adopted that were based on the salt tolerance of beans had little real-world applicability or supporting data. Furthermore, bean farmers in the PID have reported that they have successfully cultivated beans for many years and that salinity of the water they use to irrigate does not affect or otherwise influence the decisions they make regarding which crops to grow. The bean yields from these farms have “generally” been in the range of 2,000 to 3,000 lbs. (1.0 to 1.5 tons) for large lima beans and 2,400 to 3,600 lbs. (1.2 to 1.8 tons) for baby lima beans. Compared to the western part of Stanislaus County, even the lowest yield “generally” obtained by PID bean farmers significantly exceeded the average yield on prime farmland of 0.8 tons of lima beans.¹⁶ If the majority of the SJR’s irrigators consider their water quality adequate and they are able to obtain such high yields of even salt-sensitive crops such as beans, there is no need to establish salinity objectives any more stringent than prevailing current conditions.

3. The SJRGA recommends using CALSIM II for modeling San Joaquin River flow and salinity conditions.

At the workshop, Staff stated that it would consult with the Department of Water Resources (“DWR”) for modeling salinity and flow conditions in the SJR. (Staff Presentation, slide 20.) CALSIM II is the official SJR basin planning model for both the DWR and United States Bureau of Reclamation (“USBR”). It is the best model currently available for simulating flow and salinity conditions in the SJR. No other model would constitute the best available science or provide a better and more accurate simulation.

4. The Regional Board needs to look at Real Time Management of the San Joaquin River as a potential program of implementation.

The Regional Board has signed a management agency agreement with the United States Bureau of Reclamation (“USBR”) wherein the USBR agreed to provide mitigation and/or dilution flows to create additional assimilative capacity for salt in the LSJR equivalent to DMC salt loads in excess of their allocation. The USBR also agreed to work

¹³ After severe flooding in 1997, the United States Fish & Wildlife Service purchased a conservation easement on most of the Faith Ranch, which was then owned by Robert Gallo. (USFWS SJR Natl. Wildlife Refuge Draft Comprehensive Conservation Plan and Envntl. Assessment, p. 9 (June 22, 2006) (available at <http://www.fws.gov/pacific/planning/main/docs/CA/sanjoaquin/San%20Joaquin%20River%20NWR%20DRAFT%20CCP-EA.pdf>, accessed April 7, 2009).)

¹⁴ The Hailwood Ranch was purchased by the City of Modesto as part of their efforts to expand their wastewater treatment plant disposal and irrigation reuse area. The diversion is still used for irrigation.

¹⁵ The Verhaegen Well is not a surface water diversion, but a well within the levee on the SJR flood plain.

¹⁶ The yields of lima beans observed in the soil survey are the average of yields for both large and small lima beans. Western Stanislaus County crop data was obtained from the National Resource Conservation Service Soil Survey for 2002.

with SJR Basin stakeholders to develop a system of real-time salinity management. The CVRWQCB Staff should allow time for this process to develop a reasonable approach to meeting the CVRWQCB policy, established in the Basin Plan, of using the SJR to export salts for so long as water quality objectives are met. This creates a proverbial chicken or the egg problem. Until a system of real-time management is developed, there is no way of knowing whether a proposed salinity objective could be feasibly implemented, even in conjunction with other implementation actions. Salinity objectives that hindsight shows were overly restrictive could preclude salt exports and ultimately prove harmful if salts cannot be exported from the SJR Basin and, as a result, salts continue building up in soils. The real-time management process the CVRWQCB has undertaken with the USBR and other stakeholders in the SJR basin should be allowed proceed to determine whether further improvements in water quality can be achieved and whether existing water quality can be maintained or improved. The results of this effort can then be used in the CEQA analysis to determine whether changes in upstream objectives or needed or whether existing water quality is sufficient to meet and protect existing beneficial uses.

Very truly yours,
O'LAUGHLIN & PARIS LLP

By:



KENNETH PETRUZZELLI