

United States Department of the Interior

DWR  
Cyril Craig Wilson



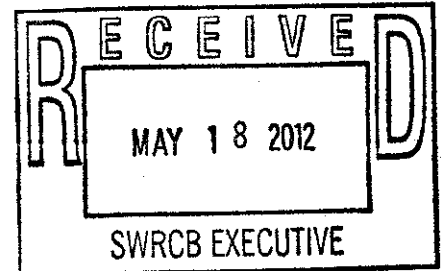
BUREAU OF RECLAMATION  
Central Valley Operation Office  
3310 El Camino Avenue, Suite 300  
Sacramento, California 95821



DEPARTMENT OF WATER RESOURCES  
Division of Operations and Maintenance  
3310 El Camino Avenue, Suite 300  
Sacramento, California 95821

IN REPLY REFER TO:  
CVO-100  
WTR-7.00

MAY 15 2012



Craig M. Wilson  
Delta Watermaster  
State Water Resources Control Board  
1001 I Street  
Sacramento, California 95814

Subject: Response to State Water Resources Control Board's Letter Dated April 20, 2012,  
Regarding Notification of Exceedance of South Delta Water Quality Agricultural  
Objective and Corrective Actions

Dear Mr. Wilson:

This letter is in response to your letter dated April 20, 2012, in which you requested the Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (Reclamation) to address the following two items:

- 1) Descriptions of a strategy to project potential exceedances of south Delta salinity objectives and to timely inform the State Water Resources Control Board (Board) and
- 2) A description of corrective actions that can be taken this year to mitigate salinity exceedances.

However, before addressing these two items, DWR and Reclamation would like to respond to another issue raised in your letter. In your April 20 letter, you reprimand DWR and Reclamation for not timely notifying the Board of a potential exceedance, remarking that "based on data contained in the [April 6] letter from South Delta Water Agency (SDWA), it was apparent in early March that violations of the 0.7 EC objective (which went into effect on April 1, 2012) will occur."

As we clarified in our April 23 letter to the Board, the first day of compliance is April 30, not April 1 as Mr. Herrick has suggested. Also, as already noted in our April 23 letter notifying the

Board of a potential exceedance of the 0.7 EC objective, “[a]t the beginning of the month [of April], DWR and Reclamation anticipated that...increases in San Joaquin River flow [under the SJR pulse flow] would greatly improve the water quality in the south Delta.” As such, it was not apparent that violations of the 0.7 electrical conductivity (EC) objective, whose compliance is measured on April 30, would occur. Please recall that EC measured at all stations did improve except for the Old River at Tracy Road Bridge (Station P-12). Salinity at that location continued to increase until the Grant Line Canal barrier was fully installed. Once approval was received from the regulatory agencies, construction began and full installation of the Grant Line Canal barrier was completed on May 5. Since then, we have seen a significant improvement in the water quality at Station P-12.

In response to Item (1), wherein you ask DWR and Reclamation to describe a strategy for projecting potential exceedances, DWR currently performs DSM2 modeling to project near-term water quality and water levels based on the best available hydrologic information at the time. This hydrologic information includes anticipated reservoir releases and Delta exports by the Central Valley Project and State Water Project (Projects), tide projections, and assumed in-Delta consumptive use. DWR uses the best available information to project anticipated water quality and water levels at various locations throughout the Delta and to forecast compliance with D-1641 objectives and other requirements.

Information used for this modeling—including operations criteria imposed for fishery protection under the biological opinions and the National Marine Fisheries Service (NMFS) stipulation—is dynamic and subject to frequent changes which are beyond DWR's or Reclamation's control. Therefore, modeling is performed as often as necessary to reflect the changing conditions and to have the most accurate water quality projections. When necessary, the results are then provided to the Board, along with the notice of potential exceedance, as soon as they are available.

DWR also conducts seasonal forecasts of Delta water quality. These seasonal forecasts give a general picture of future water quality conditions, but do not (and cannot) reflect increases in river inflow following precipitation events. And the ability to predict Project exports is even more limited for seasonal forecasting than it is for weekly modeling. For these reasons, DWR and Reclamation will continue to use the more accurate near-term DSM2 forecasting as our strategy for projecting south Delta water quality and potential exceedances.

In your letter, you also suggest that part of the strategy for projecting potential exceedances could include posting on the web in a prominent manner the full continuous record of daily and 30-day running average EC levels at all three monitoring stations. We agree and routinely post this information on the State Water Project Operations Control Office's Delta Status and Operations homepage, or you can use the following link to access the report directly: <http://www.water.ca.gov/swp/operationscontrol/docs/delta/DeltaWQ.pdf>. EC data is measured and telemetered every 15 minutes, and from these values, daily average EC values are calculated and posted daily for each station. Running 30-day values are also calculated and posted daily. Additionally, DWR and Reclamation provide copies of any exceedance letter, reports, and associated documents and attachments to the Board, Delta Watermaster, and other interested parties.

Regarding Item (2), DWR and Reclamation are implementing all feasible actions to help improve overall salinity conditions in the south Delta, as well as comply with the conditions of a Court Stipulation involving the NMFS Biological Opinion. These actions include:

Installation and operation of the temporary agricultural barriers in a manner consistent with the constraints imposed by the fisheries agencies. The Middle River barrier was completed on March 16, the barrier in Old River near Tracy was completed on April 4, and the Grant Line Canal barrier (GLC) was partially installed on April 18, and fully installed on May 5. (The culverts on the GLC barrier will remain tied open until the U.S. Fish and Wildlife Service (USFWS) and Department of Fish and Game (DFG) determine full tidal operations would not adversely impact the delta and longfin smelt.) After the completion of the GLC barrier water quality began to improve at Station P-12.

Increased height of the weir of the Middle River barrier. The Middle River barrier's weir height will be increased by one foot to induce better flow through Old River. This action requires approval by USFWS and DFG each year, but could be completed as early as June 15. This action was initiated in 2010, following an investigation by DWR using DSM2 modeling studies, conducted in coordination with Reclamation and SDWA.

Modified operation of the Head of Old River barrier. DWR has modified the operation of the Head of Old River Barrier and the agricultural barriers, including tying open the flapgates of the barrier in Old River near Tracy from time to time, to provide additional water quality benefits while balancing the benefits to water levels. This action has been implemented for the past five summers.

Planned installation of five flow meters near Doughty Cut. DWR is deploying additional equipment with the goal of determining the source of the poor quality water near Station P-12 and for continued analysis of bathymetric, sediment, and water quality data from the interior south Delta. This information may lead to actions by others to eliminate the source.

In your letter, you suggested that based on DWR's Low Head Pump Salinity Control Study (dated April 13, 2011), improvement of circulation in Old River downstream of Station P-12 and upstream of the temporary barrier appears to be reasonable and feasible. You add that the use of culverts and/or a portable pump at the Tracy barrier downstream of Station P-12 is feasible and reasonable.

As noted above, the use of culverts in the barrier in Old River near Tracy will be employed again this summer. With respect to using portable low-lift pumps, our modeling analysis of low-lift pumps completed in April 2011 indicates installing temporary or permanent pumps of 500 cfs each on Middle River and Old River could reduce the exceedance days during the 123-day modeling period from 66 days to 39 days at Station P-12. While pumps could reduce the number of exceedance days from 54% of the modeled period to 32%, they would not eliminate the exceedances, and the capitalized costs to install the pumps would range from \$232.8 million for permanent pumps to \$951.9 million for temporary pumps. Planning, permitting, design, and

Subject: Response to State Water Resources Control Board's Letter

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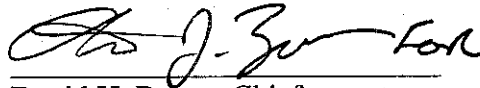
construction would take several years to complete. Consequently DWR and Reclamation do not consider installing pumps to be a feasible and reasonable option given the costs and timeframe.

We believe this letter addresses the questions raised in your April 20 letter, and should therefore avoid your consideration of enforcement actions for violation of Condition A.9 of the Cease and Desist Order. If you would like to discuss this further or seek clarification on any aspect of our response, please contact either one of us at the phone numbers below. We look forward to your response.

Sincerely,



for Ronald Milligan, Operations Manager  
Central Valley Operations Office  
U.S. Bureau of Reclamation  
(916) 979-2199



David H. Roose, Chief  
SWP Operations Control Office  
Department of Water Resources  
(916) 574-2656

cc: See next page.

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John Herrick, Esq.  
South Delta Water Agency  
4255 Pacific Avenue, Suite 2  
Stockton, California 95207

Thomas Howard  
Executive Director  
State Water Resources Control Board  
1001 I Street  
Sacramento, California 95812

Amy L. Aufdemberge  
Assistant Regional Solicitor  
2800 Cottage Way, Room E-1712  
Sacramento, California 95825

Dante John Nomellini, Esq.  
Nomellini, Grilli and McDaniel  
Post Office Box 1461  
Stockton, California 95201

Carl P. A. Nelson  
Bold, Polisner, Maddow, Nelson and Judson  
500 Ygnacio Valley Road, Suite 325  
Walnut Creek, California 94596-3840

Thomas J. Shephard, Sr.  
Post Office Box 20  
Stockton, California 95201

Michael Jackson  
Post Office Box 207  
Quincy, California 95971

Carolee Krieger  
808 Romero Canyon Road  
Santa Barbara, California 93108

Clifford W. Schulz  
Kronick, Moskovitz, Tiedemann & Girard  
400 Capitol Mall, Suite 2700  
Sacramento, California 95814

Carl Wilcox  
California Department of Fish and Game  
1416 9th Street  
Sacramento, California 95814

Tim O'Laughlin  
O'Laughlin and Paris LLP  
117 Meyers Street, Suite 110  
Chico, California 95928

Jon D. Rubin  
Brownstein Hyatt Farber Schreck, LLP  
1415 L Street, Suite 800  
Sacramento, California 95814

Daniel Sodergren, City Attorney  
City of Tracy  
333 Civic Center Plaza  
Tracy, California 95376

Patricia D. Fernandez  
Division of Water Rights  
1001 I Street, 14th Floor  
Sacramento, California 95814