

DEPARTMENT OF WATER RESOURCES

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Date: August 31, 2016

To: Thomas Howard, Executive Director
State Water Resources Control Board
1001 I Street
Sacramento, California 95814

Paul A. Marshall, Chief
Bay-Delta Office

From: **Department of Water Resources**

Subject: Quarterly Status Report, August 2016, State Water Resources Control Board
Order WR 2010-0002

Pursuant to Condition 11 of State Water Resources Control Board (Board) Order WR 2010-0002 (Order), the Department of Water Resources (DWR), in coordination with the U.S. Bureau of Reclamation (Reclamation), is submitting this report to apprise the Board of the activities undertaken to comply with the conditions listed in paragraphs 3, 4, 5, 6, 7, and 8 of the Order's Part A.

Condition A.3 – DWR has no new information to report this quarter regarding the June 25, 2010 work plan to improve the accuracy of the delta models in the South Delta. We are awaiting direction from the Board on whether or not to proceed with the work plan as proposed.

DWR submitted a report in early April 2016 on methods to estimate Net Delta Outflow as requested by the Board. The report is entitled *On Estimating Net Delta Outflow (NDO), Approaches to Estimating NDO in the Sacramento-San Joaquin Delta*. The report discusses consumptive use estimates, the NDO index, direct measurement of Delta outflow, and determining outflow from salinity measurements. The Board has requested the assistance of the Delta Science Program to obtain an independent peer review of the report. More information on the peer review can be found at <http://deltacouncil.ca.gov/events/science-program-review/science-review-report-estimating-net-delta-outflow-ndo-approaches>.

Condition A.4 – DWR and Reclamation continue to implement activities described in the Compliance Plan for Station C-6 (Plan). These activities include monitoring within the south Delta, reviewing prior data and analyses, modeling and developing salt balances, working with wetland managers to improve wetland discharges, and continuing to support and facilitate real-time water quality monitoring programs. In addition, the Plan includes a section titled *San Joaquin Salinity Management Plan* describing programs and activities to control the volume and concentrations of saline discharges to the San Joaquin River upstream of Vernalis.

As first reported in the February 2016 status report, the first annual Management Agency Agreement report between the Central Valley Regional Water Quality Control Board and Reclamation was submitted in January 2016. The yearly status of some activities supporting implementation of the Plan, including those activities to improve wetland discharges and manage real time water quality monitoring programs, are described in the following paragraph.

Within the area of concern, Reclamation is awarding a 2016 CALFED Water Use Efficiency Grant to Firebaugh Canal Water District. The project will replace approximately 1.8 miles of the District's unlined 2nd Lift Canal with a concrete-lined canal. The project will encourage growers to utilize high-efficiency irrigation systems, reduce tail water production, and promote water conservation. Annual water savings will be 220 acre-feet per year while lifetime water savings will be 6,600 acre-feet. Total project cost is \$1,198,100 with a federal cost-share of \$290,000.

Condition A.5 – DWR has been operating and maintaining the 2016 Temporary Barriers Project. The Head of Old River barrier (HORB) was operated through May and was breached on June 1; barrier removal and site restoration was completed on June 14. Construction of Grant Line Canal barrier resumed on May 26 and closure was achieved on June 8. All agricultural barriers are fully operational with flap-gates released to tidal operating position. To supplement water level condition in response to water level complaints on Middle River, the Middle River barrier weir was raised by one foot on June 22. Despite gauging stations being above the target elevations, water level complaints have persisted on Middle River due to extreme high temperatures in July, high agricultural water demand, and seasonal low tide. DWR received multiple complaints from the South Delta Water Agency (SDWA) that the water levels on Middle River and within Tom Paine Slough have negatively impacted agricultural diversions. DWR conducted field inspections and observed heavy vegetation and siltation within Middle River and Tom Paine Slough that likely aggravate the water levels problem. A dive inspection was also conducted at the Middle River and Old River barriers to evaluate possible culvert flap-gate problems. Debris was removed and repairs were made at Old River, and a small leak was observed on two culverts at Middle River. Although the small leaks are not capable of producing noticeable water level changes on Middle River, DWR is reviewing options to fix the leaks. Water level issues at both Tom Paine Slough and Middle River are primarily thought to be the result of reduced channel capacity due to siltation and aquatic weeds combined with high agricultural diversions resulting from the hot weather.

DWR is working closely with the California Department of Fish and Wildlife (CDFW) to monitor the water quality within south Delta. In the past, when dissolved oxygen was below 5.0 near Stockton Deep Channel area, CDFW requested DWR to install the fall HORB. In both 2014 and 2015, CDFW requested the fall HORB to improve San Joaquin River flows for returning adult salmonids. With the continued drought and low San Joaquin River water levels, we are preparing for another request. Installation of the barrier typically begins in mid-September and full removal for this and the other barriers is required by November 30. According to the Temporary Barriers Project permit condition, all agricultural barriers will be notched by September 15 to create fish passage for upstream migrating salmon. The scheduled removal of all barriers will begin in early November.

Condition A.6 – Reclamation has no new information to report this quarter regarding the Delta-Mendota Canal Recirculation Plan Formulation Report, which remains available for download and review at <http://www.usbr.gov/mp/dmcrecirc/docs/final/index.html>. The related Delta-Mendota Canal Recirculation Project Feasibility Study also remains available for download.

Condition A.7 – DWR continues to work closely with the Delta Watermaster and the SDWA in formulating and evaluating options to reduce local sources of water quality degradation.

As first reported in the February 2016 Quarterly Status Report, a south Delta salinity study and draft report was completed and submitted to the Delta Watermaster and SDWA in January 2016 for review and comment. The report presents field data that clearly identifies the presence of high saline water originating in and along specific south Delta reaches which migrates into Old River and by Station C-6, and several conceptual alternatives to improve salinity at C-6. DWR has received the Delta Watermaster and SDWA comments, incorporated changes, and will finalize the report for submission to the Board after management review is complete. The report explores engineering options that could benefit water quality at Station C-6, as well as administrative options including changing the station to a reporting rather than a compliance station.

Consistent with the order and amendments resulting from the drought Temporary Urgency Change Petition that the Board approved, DWR and Reclamation continue to closely monitor water quality conditions. DWR continues planning and working on permitting for a potential 2018 West False River temporary drought salinity barrier. The need and decision to install a barrier will be contingent upon future hydrology. As reported in the November 2015 status report, a 2015 emergency drought barrier effects analysis report is planned for completion by January 2017.

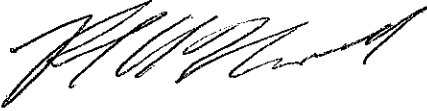
Reclamation continues to await comments from the Board regarding the report titled *Special Study: Evaluation of Dilution Flow to Meet Interior South Delta Water Quality Objectives* submitted April 11, 2011.

Condition A.8 – No additional salinity control measures have been required by the Executive Director. DWR and Reclamation continue to take action based on the approval of the Compliance Plan for Station C-6 as described under Condition A.4. Additionally, DWR is operating the 2016 Temporary Barriers Project as described above under Condition A.5 and is planning for a potential 2018 West False River temporary drought salinity barrier project as described under Condition A.7. DWR and Reclamation are continuing to evaluate other potential drought response actions.

Mr. Thomas Howard
August 31, 2016
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If you or your staff wishes to discuss this report further, please contact Mark Holderman, Chief of the South Delta Branch, at 916-653-7247 or Mark.Holderman@water.ca.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul A. Marshall', written in a cursive style.

Paul A. Marshall, Chief
Bay-Delta Office

ec: (see attached list)

PROOF OF SERVICE

I, the undersigned, hereby certify that I am over the age of eighteen (18) years of age and an employee of the State of California Department of Water Resources, 1416 Ninth Street, Sacramento, California 95814.

On August 31, 2016, I served true and correct copies of the attached Department of Water Resources "Quarterly Status Report" electronically to the office of Division of Water Rights of the State Water Resources Control Board on the 14th floor of the California Environmental Protection Agency Building at 1001 I Street in Sacramento. I also served true and correct copies of this document by electronically transmitting the report to the parties listed on the attached Mailing List.

Date: August 31, 2016

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