



# United States Department of the Interior

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

IN REPLY  
REFER TO:  
CVO-400  
PRJ.13,10

Nov 18, 2004

Ms. Celeste Cantú  
Executive Officer  
State Water Resources Control Board  
P.O. Box 2000  
Sacramento, CA 95812-2000

Subject: Plan for Meeting Fish and Wildlife Flow Requirements at Vernalis for Water Year 2005, (Your Letter Dated April 28, 2004)

Dear Ms. Cantú,

Pursuant to your letter of April 28, 2004, in regard to comments received on the Temporary Urgency Change in permit term for New Melones Dam and Reservoir (applications 14858A, 14858B and 19304), the Bureau of Reclamation (Reclamation) hereby submits the following plan explaining how Reclamation intends to meet the Water Quality Control Plan fish and wildlife flow objectives at Vernalis during Water Year 2005.

Reclamation has been unable to comply with the Fish and Wildlife objective for the last 3 years due to dry hydrologic conditions in the San Joaquin River Basin and low reservoir storage. Reclamation believes that compliance with this requirement will be problematic under these conditions in the future. The potential for another dry year is fairly high and it is likely that New Melones Reservoir storage will be even lower than in the winter of 2004. The Department of Water Resources' (DWR) November 1, 2004 Water Supply Forecast is that the year type will be dry (San Joaquin River Index at the 75 % exceedance level of 2.3 million acre-feet (MAF)). Also, the 2 part per thousand isohaline (X2) requirement will most likely be required to be at or west of Chipps Island in February and March except under the driest conditions. This would trigger the higher flow requirement at Vernalis (2,280 cubic feet per second (cfs) in below normal and dry years).

Recent conditions and operating experience have confirmed Reclamation's prior modeling suggesting that, over the long-term, the Stanislaus River basin does not produce sufficient inflow to New Melones Reservoir to support all the requirements and demands placed on the New Melones system. In anticipation of continued dry conditions, Reclamation has identified five possible options for addressing the fish and wildlife flow objectives at Vernalis, in 2005 – in addition to using releases from New Melones Reservoir. These options are identified herein with comments on follow-up actions necessary for implementation. Depending on actual hydrology, Reclamation will implement some combination of these options in order to ensure compliance with the fish and wildlife flow objectives. Reclamation nevertheless encourages the Board to address continued reliance on New Melones for compliance with water quality objectives at Vernalis.

**Purchase Additional Water**

Reclamation could purchase water from willing sources in the San Joaquin Basin. To have water provided in an amount and at a flow necessary to be effective, water purchased would probably have to come from a storage reservoir on one of the San Joaquin River tributaries.

Reclamation's Water Acquisition Branch is presently making inquiries as to the availability of water for purchase on the tributaries of the San Joaquin. Preliminary inquiries indicate that it would be very unlikely to be able to obtain any water for February and March but water may be possible for June. Availability of funding for purchases is also uncertain at this date; however, Reclamation will continue to assess availability and priorities of funding for this use. The recently signed CalFed Bay Delta Authorization Act provided authorization for Reclamation to acquire water to assist in meeting the Vernalis flow objective, but no appropriations have been made for this purpose.

**Recirculation**

Water to meet the flow objectives could be pumped at Tracy or Banks Pumping Plant and released from the Delta Mendota Canal (DMC) into the San Joaquin River through the Newman Wasteway. A pilot study in August 2004 provided information regarding the use of recirculation to help meet flow and water quality requirements in the San Joaquin River. A final report on this study is expected in December 2004. The pilot study, however, did not analyze the potential impacts on fisheries of changes in water composition in the San Joaquin River and the effects of increased pumping in the Delta. It also did not assess any impacts on water deliveries to Central Valley Project (CVP) and State Water Project (SWP) contractors.

Although more detailed studies are needed to perform recirculation on a long-term basis, Reclamation is exploring the possibility of doing another pilot study in 2005 to assess the effects of recirculation on fish and has initiated discussions with the fishery agencies. Reclamation plans on meeting with the Regional Water Quality Control Board to see if concerns with turbidity in the 2004 study can be resolved should another pilot study take place next year.

**South of Delta Storage Release**

Water could be released from San Luis Reservoir through the DMC and then into the Newman Wasteway or from Friant Reservoir directly into the San Joaquin River. Reclamation, however, believes it would be an unreasonable use of water from Friant Reservoir to meet the Vernalis flow requirements and Reclamation may be prohibited by Federal law from releasing water for downstream purposes until certain studies are completed. The reach of river between Gravelly Ford and Mendota Pool is usually dry, and this section would have to be "watered up" before any flow would reach the lower San Joaquin River. The magnitude of losses has been estimated at 25 to 75 percent and could be more depending on the amount of flow, length of time required, and the hydrological conditions. Releases from San Luis Reservoir to the San Joaquin River would also have to use the Newman Wasteway and we would have concerns similar to the Recirculation Option regarding water quality and fishery impacts. Moreover, neither Friant Reservoir nor San Luis Reservoir was authorized with the intent of releasing water to meet Bay Delta water quality standards and Reclamation does not believe that this is an appropriate use of the water.

**Relief from Flow Objective**

Reclamation could request a temporary urgency change in the February through June (with the exception of the April/May pulse flow period) fish and wildlife flow objective at Vernalis. Reclamation would operate New Melones Reservoir to meet minimum fishery flows in the Stanislaus River, water right

agreements and the Vernalis salinity objectives and would meet modified minimum flows at Vernalis as determined by coordination with the fishery agencies. This option is most likely to be pursued if the hydrology and water supplies in the San Joaquin Basin are significantly drier than in the Sacramento Basin as was the case in Water Year 2004. Reclamation will continue to monitor conditions, prepare forecasts of operations, and consult with the State Water Resources Control Board (SWRCB) staff in the CALFED Operations Group.

### Functional Equivalent

Reclamation could meet a functional equivalent of the required flow at Vernalis as in Water Year 2004. This option could be implemented in conjunction with a temporary urgency change for relief from the flow objective. Releases from Goodwin Reservoir and reductions in Tracy Pumping Plant exports would be coordinated to achieve the functional equivalent of the required flow at Vernalis (2,280 cfs for a "below normal" or "dry" year designation). This would result in conserved water in New Melones and a deficit of water in the federal share of San Luis Reservoir. Reclamation would consult with the fishery agencies as to the biological effects of such operations.

As you know, Reclamation uses the 1997 New Melones Interim Plan of Operations (NMIPO) in planning operations and making allocations. Although intended as a short-term plan, the NMIPO continues to provide substantial operational guidance until a new operations plan is developed. The NMIPO only supports meeting the Vernalis flow standards from Stanislaus River water resources when the water supply conditions are determined to be in the "high" or "medium-high" NMIPO designation and then the amount allocated is limited to a maximum yearly release of 75,000 ac-ft.

Data from modeling performed using CALSIM II for the recently completed (June 2004) Long-Term Central Valley Project and State Water Project Operations Criteria and Plan Biological Assessment indicate that in at least one month in the February-March (pre-Vamp) period, Vernalis flow requirements were not met in 13 out of 71 years. The typical situation is a "Dry" year category when the flow requirement is based on the position of X2 being at or west of Chipps Island (X2 represents the geographical position of the 2-parts-per-thousand (PPT) isohale). In June, Vernalis flows were not met in 16 out of 71 years, however, the typical situation in June is an "Above Normal" year category in which flows of up to 3,420 cfs can be required depending on the position of X2. Neither the hydrology nor operations pursuant to the NMIPO provides that much flow under these conditions.

Since 1995, there have been four years in which compliance with the Vernalis flow objective has resulted in a conflict with the NMIPO: 1999 (June), 2002, 2003, and 2004. Each of these instances correspond with the circumstances that modeling predicted would be a problem. June of 1999 was a San Joaquin River Index "Above Normal" year and the February-March period in 2002, 2003, and 2004 were "Dry" and flows of 2,280 cfs were triggered based upon the X2 position being west of Chipps Island.

The following table summarizes the releases from New Melones to meet the flow standard since 1999:

Water Released from New Melones to Meet Flow Objective (in acre-feet)

<u>Year</u>	<u>February</u>	<u>March</u>	<u>April/May</u>	<u>June</u>
1999				15,300
2002	11,400	6,500	12,800	
2003			13,900	46,000
2004	27,900			15,300

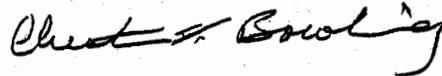
The intent of the Delta outflow standard is to improve habitat protection for fish in the Delta by providing adequate flows to move delta smelt away from the CVP/SWP pumps and into low-salinity rearing habitat in Suisan Bay and the lower Sacramento River. In February 2004, after the SWRCB approved Reclamation's Temporary Urgency Petition to relax the Vernalis objective from 2,280 cfs to 1,420 cfs, Reclamation increased Goodwin Reservoir releases to 500 cfs and reduced Tracy Pumping Plant exports to provide a "functional equivalent" Vernalis flow of approximately 2,500 cfs. This was coordinated with the fishery agencies and was deemed as providing adequate protection given the low delta smelt counts in the Delta at the time.

In June 2004, approximately 15,300 acre-feet of water was released from New Melones Reservoir to meet the June Vernalis flow objective of 1,420 cfs, although the delta smelt surveys indicated that the smelt were already well away from the pumps and there were few concerns with any other species. From June 15 through June 30, 2004, the Stanislaus River provided approximately 65% of the flow at Vernalis.

Should dry conditions in the San Joaquin River Basin persist in 2005, Reclamation will plan on pursuing a combination of options that would provide intended biological benefits to delta smelt and other species, considering the actual conditions. We will be extremely reluctant to release any water from New Melones storage for San Joaquin River flows unless we see a projected gain in storage. Therefore, we will work together with the fishery agencies to develop a suitable level of protection in the Delta and implement the options to achieve that protection.

Please contact Paul Fujitani at 916 979-2197 or Elizabeth Kiteck at 916 979-2684 if you have any questions.

Sincerely,



Chester V. Bowling  
Operations Manager

cc: Mr. Wayne White  
Field Supervisor  
U.S. Fish and Wildlife Service  
2800 Cottage Way  
Sacramento, CA 95825

Ms. Dianne F. Jacobs  
Deputy Director  
Department of Fish and Game  
1416 9<sup>th</sup> Street, 12<sup>th</sup> Floor  
Sacramento, CA 95814

Mr. Michael Aceituno  
Supervisor  
NOAA Fisheries  
650 Capital Mall, Suite 8-300  
Sacramento, CA 95814

Mr. Carl Torgersen  
Chief, SWP Operations Control Office  
Department of Water Resources  
P.O. Box 942836, Room 1115-1  
Sacramento, CA 94236-0001

John Herrick  
South Delta Water Agency  
4255 Pacific Avenue, Suite 2  
Stockton, CA 95207

Ms. Karna E. Harrigfeld, Esq.  
Herum Crabtree Brown  
2291 West March Lane, Suite B100  
Stockton, CA 95207

Mr. Tim O'Laughlin  
O'Laughlin and Paris, LLP  
2571 California Park Drive #210  
Chico, CA 95926

Sharon McHale, MP-700  
Dan Meier, MP-400  
John Renning, MP-400