

**SWRCB Workshop on Amending the 1995 WQCP
Comments on Topic 6, Export Limits**

By

**Department of Water Resources and Bureau of Reclamation¹
January 18, 2005**

The Department of Water Resources (DWR) and Bureau of Reclamation submit these joint comments regarding the State Water Resources Control Board (SWRCB) Workshop Topic 6, "Export Limits," to consider amending the 1995 Water Quality Control Plan (WQCP). The SWRCB has identified three issues related to modifying the Export Limit objective that is described in the WQCP Table 3 for protection of fish and wildlife beneficial uses. Our comments follow the specific issues as described by the SWRCB in its Revised Notice of Public Workshop (Sept. 17, 2004).

1. Modification of Footnote 23 for Export Limits to Clarify When Delta In-flow is Calculated Using 3-day Running Average

"Should the SWRCB modify: (1) footnote 23 to increase the flexibility in selecting the accounting standard to follow when determining export/import ratio?"

The Export Limit objective constrains the amount of water exported from the Delta by the State Water Project (SWP) and Central Valley Project (CVP) at their south Delta export facilities. The objective provides protection for fish and wildlife beneficial uses by limiting the percent of Delta inflow diverted at the Clifton Court Forebay (CCF) and the Tracy Pumping Facility (TPF). Delta inflow is a calculation of flows from Delta tributaries as measured at several specific locations. The maximum percent diverted is calculated from the ratio of SWP and CVP Exports to Delta Inflow (E/I ratio) and is 35% during February² through June and is 65% during July through January.

Footnote 23 of Table 3 describes the method to use when calculating the maximum E/I ratio. Footnote 23 requires that the export rate be derived from a 3-day running average of the diversions at CCF and TPF. The Delta inflow, however, usually is derived from a 14-day running average of the specified daily flows in order to help preserve and protect from exports the naturally occurring freshets entering the Delta, which are considered beneficial to fish. The SWRCB provided a variance of the 14-day running average to allow the CVP and SWP to capture water that was released for the purpose of export; in which case a 3-day running average of inflows is required.

¹ Comments presented by Curtis Creel, DWR, and Chet Bowling, Reclamation.

² For February, the E/I Ratio may be varied between 35% and ~~40%~~^{45%} depending upon the previous month's Eight River Index (WQCP Table 3, footnote 25).

The 3-day average is used when the Projects are making storage withdrawals to enable DWR and Reclamation to coordinate management of the reservoirs with Delta exports, which are calculated on a 3-day average. Under certain conditions and as currently written, however, the 3-day average is mandated by the objective without providing the intended benefit to Project operations and, instead, negatively impacting these operations and water supply. In addition, the required inflow averaging has been difficult to apply during the fall when the use of a 14-day running average will alternate back and forth with the 3-day running average.

DWR and Reclamation recommend that the SWRCB modify footnote 23 to refine the trigger for using the 3-day running average instead of the 14-day running average for inflow. We believe refining the trigger to use the 3-day exception would not lessen the protective benefits of the E/I ratio, but would more closely represent the original intent of the SWRCB when it issued the WQCP. We propose that instead of referring to "storage withdrawals for export" as the trigger for the 3-day average, the trigger would be when the SWP or CVP begin "increasing releases from Shasta, Folsom, or Oroville Reservoirs for export purposes" and that the use of the 3-day average would cease 14 days after the upstream reservoir releases are no longer increasing.

Therefore, to better define when to use the 3-day running average, DWR and Reclamation propose specific modification of footnote 23 as shown by the following underlines and strikeouts:

"Percent of Delta inflow diverted is defined on page 25. For the calculation of maximum percent Delta inflow diverted, the export rate is a 3-day running average and the Delta inflow is a 14-day running average. ~~However, a 3-day running average Delta inflow will be applied when water enters the Delta from Shasta, Folsom, or Oroville Reservoirs after an increase in release from those Reservoirs for export purposes. The 3-day running average will no longer apply 14 days after the upstream reservoir releases are no longer increasing (including the lag time to reach the Delta).~~ , except when the CVP or the SWP is making storage withdrawals for export, in which case both the export rate and the Delta inflow are 3-day running averages."

Discussion

The Export Limit objective consists of formulas for calculating the export number and the inflow number. The method in footnote 23 for calculating inflow assumes that a 14-day running average will usually be applied when determining the inflow number. The exception of using a 3-day average was included to benefit the Project by enabling DWR and Reclamation the capability of timely and efficient management of Project reservoir releases. In other words, the shorter period enables the Projects to better time the release of stored water with planned Delta exports, especially during periods of balanced conditions in the Delta. In 1994, when first described as a provision of the "Principles for

Agreement on Bay-Delta Standards between the State of California and the Federal Government (Bay-Delta Accord), the Export Limit was based on the average inflow over the preceding 3-days under balanced conditions or 14-days under unbalanced conditions (Bay-Delta Accord, p. 3). During the SWRCB proceedings to prepare the 1995 WQCP, DWR and Reclamation proposed the use of "storage withdrawals for exports" as language to trigger the 3-day exception, however, this term has shown to not apply as intended under certain conditions.

The importance of the 14-day running average is to avoid rapid changes in export levels during natural freshets in the winter. However, when the CVP and SWP are operated to provide additional flow to the Delta (for the purpose of export), the long averaging period (associated with using the 14-day running average) would cause the Projects to lose some of the water being released. It is during these periods that Reclamation and DWR would chose to use a shorter averaging period. However, once reservoir releases have stabilized, the Projects could revert back to using the 14-day running average without impact to their operations.

Change from 14-day to 3-day Inflow calculation: The proposed clarifying language better represents the basis for distinguishing the 14-day and 3-day calculation of Inflow for E/I objective. With the proposed language, DWR and Reclamation will adjust operations from the 14-day calculation to the 3-day calculation when water associated with an increase in reservoir releases to manage for delta requirements and export management enter the Delta³. This transition in operations typically occurs in the spring (but may occur any time in the year) when the Projects declare balanced water conditions in the Delta. At this point in the season the Projects are managing reservoir releases to balance the required delta water quality objectives and their export capabilities. Project operations need to be able to functionally manage Project releases and Project export facilities on a short time period (i.e. 3-day) to functionally match Project operations during balanced conditions. The transition period occurs regardless of whether Project reservoirs are making storage withdrawals or increasing in storage.

Change from 3-day to 14-day Inflow calculation: DWR and Reclamation will operationally transition from the 3-day to 14-day calculation of Inflow for the E/I objective 14 days after upstream reservoir releases are no longer increasing.

³ Reclamation and DWR assume there is a one-day travel time from Nimbus to the Delta, three days from Oroville to the Delta, and five days from Keswick to the Delta.

2. In-Delta Releases As Part of Delta Inflow.

“Should the SWRCB modify: . . . (2) the manner in which in-Delta releases are accounted for by the export/import accounting standard?”

DWR has met with representatives of the Delta Wetland Project to discuss a proposal to modify the Delta inflow formula to include water that could be released from in-delta reservoirs or any other project that may store excess delta flows for later release. This issue was identified during the SWRCB water right hearings on the Delta Wetlands Project. DWR and Reclamation have reviewed the proposed modification to the Delta inflow formula presented by Delta Wetlands and do not object to the change and believe it is a reasonable modification of the formula.

The recommended change would add a new term to the formula for Delta Inflow on page 25 of the 1995 WQCP [Footnotes 11 and 23 for Table 3]. The new term would represent the flow from an in-Delta storage release, shown as underlined below:

$$\text{Delta Inflow} = \text{SAC} + \text{SRTP} + \text{YOLO} + \text{EAST} + \text{MISC} + \text{SJR} + \underline{\text{IDS}}$$

IDS = In-Delta storage releases mean daily flow from the previous day.

The additional term would recognize that the release of previously stored water in the Delta would be considered inflow at time of release. If these flows were exported by the SWP or CVP, they would be counted at DWR and Reclamation's Delta pumps in the export formula of the E/I ratio. DWR and Reclamation believe this modification would result in a reasonable use of water.

3. **Recommend No Change to Export Limit Values**

“Should the SWRCB modify: . . . (3) the export limits contained in footnote 22?”

DWR and Reclamation recommend that the SWRCB make no changes to the values of export limits contained in footnote 22.