



January 18, 2005

Debbie Irvin, Clerk of the Board  
State Water Resources Control Board  
P.O. Box 100  
Sacramento, CA 95812-0100

**Subject:      Bay-Delta Water Quality Control Plan  
                 Triennial Review, Topic #6**

Dear Ms. Irvin:

Delta Wetlands Properties (Delta Wetlands), which holds water rights permits for the in-Delta storage project commonly referred to as the Delta Wetlands Project, appreciates the opportunity to provide input to the State Water Resources Control Board (SWRCB) regarding the triennial review of the 1995 Bay-Delta Water Quality Control Plan (1995 WQCP). Our input concerns Periodic Review Workshop Topic #6, Export Limits and the manner in which in-Delta storage releases are accounted for by the export/inflow (E/I) ratio of the 1995 WQCP.

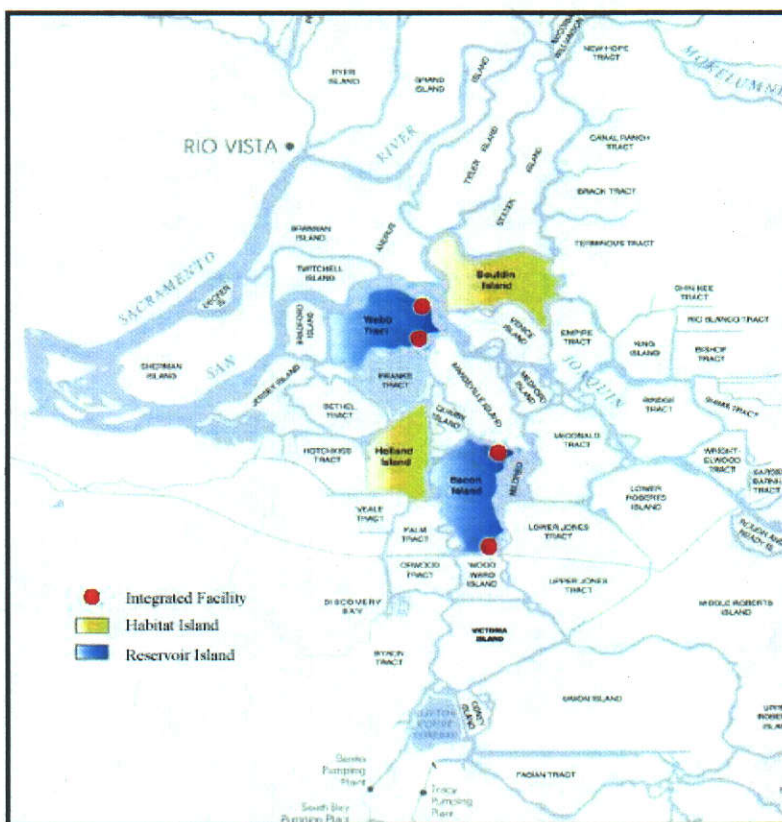
Delta Wetlands requests that the SWRCB address the application of the E/I ratio to in-Delta storage. In-Delta storage releases are not currently included in the Delta inflow calculations of the E/I ratio because they were never contemplated during preparation of the 1995 WQCP. The E/I ratio issue was raised during the Delta Wetlands water rights hearing before the SWRCB but was not addressed at that time because the 1995 WQCP could not be considered (or modified) in the context of a water rights hearing. With the water resources planning underway by CALFED and the Bay-Delta Authority, in-Delta storage is likely to represent a significant new source of inflow to the Delta and the E/I ratio should incorporate in-Delta storage into the Delta hydrology accounting standards.

For your convenience we have attached a copy of the current E/I ratio and export limits contained in the 1995 WQCP (see Attachment 1). We have also attached our suggested revisions to the Delta inflow calculations that simply entails adding in-Delta storage releases as a component of Delta inflow in the E/I ratio equation (see Attachment 2).

The E/I ratio is important to all water storage projects because Delta exports at Banks and Tracy are often controlled by this operating constraint. The E/I ratio was established to protect the habitat of estuarine-dependent species by reducing entrainment at the major export pumps in the

southern Delta. The E/I ratio limits the quantity of water exported *from* the Delta relative to the volume of water *entering* the Delta, effectively protecting fishery resources, including delta smelt and Chinook salmon, during low flow periods when cross-Delta flows from the Sacramento River make their way through the Delta to the Banks and Tracy pumping plants in the southern Delta.

**Figure 1: In-Delta Storage Project Islands and Integrated Facility Locations**



In-Delta storage was not contemplated in the E/I accounting of the 1995 WQCP. As can be seen above in Figure 1, the Delta Wetlands reservoir islands are located in the central Delta about halfway between the Sacramento River of the northern Delta and the Banks and Tracy pumping plants of the southern Delta. Because the E/I ratio could not be addressed in the Delta Wetlands water right hearing, diversions to the reservoir islands are treated as exports subject to the E/I ratio, even though the water never actually leaves the Delta and has little of the transport and entrainment impacts of exports at Banks and Tracy. When this same water is later released for export, it is again included as export in the E/I ratio despite the close proximity of Banks and Tracy. In essence, Delta Wetlands is hit twice by the E/I ratio, once during diversions and then again during export of this same water. Furthermore, releases from in-Delta storage are not included as sources of inflow in calculating the E/I ratio when the water is released. Therefore,

export limits and the E/I ratio should be updated to include consideration for in-Delta storage operations.

In-Delta storage releases represent a significant source of new water for the Delta and should be included in the E/I ratio inflow calculations. Yolo Bypass flows, Stockton Diverting Canal, and even the Sacramento Regional Treatment Plant discharges are defined as Delta inflow. In-Delta storage releases are as reasonably inflow as river flows and perhaps more so than many of the other inflows defined in the 1995 WQCP. More importantly, if in-Delta releases are not defined as inflow to the Delta, it could unduly restrict opportunities to make beneficial use of this water.

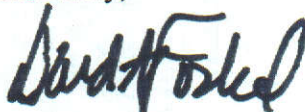
The absence of in-Delta storage releases from the Delta inflow calculations is easily corrected. At a minimum, the equation for Delta inflow should be revised to include releases from in-Delta storage. Delta Wetlands suggests revisions to "Footnote 11 and 23 for Table 3" (page 25) of the 1995 WQCP, as follows:

$$\text{DELTA INFLOW} = \text{SAC} + \text{SRTP} + \text{YOLO} + \text{EAST} + \text{MISC} + \text{SJR} + \text{IDS}$$

This change is consistent with Delta Wetlands' permits and biological opinions, which contemplate revision of the E/I ratio to include in-Delta storage releases.<sup>1</sup> Including In-Delta storage (IDS) releases in the E/I equations, as indicated above, will result in an appropriate and logical modification of the 1995 WQCP. For more complete details of our suggested revision, see Attachment 2.

If you have any questions, please contact me at (925) 932-0251.

Sincerely,



David A. Forkel  
Assistant General Manager  
Delta Wetlands Project

cc: Cathy Crothers (DWR)  
Steve Roberts (DWR)  
Andy Moran (DW)  
Anne Schneider (ESH)

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<sup>1</sup> Delta Wetlands' water rights permits acknowledge that the SWRCB may amend the E/I ratio provided that Delta Wetlands diversions to storage are accounted for in the Delta export equation. Decision 1643, p. 92, Special Condition 15(b). In the Delta Smelt Biological Opinion the U.S. Fish & Wildlife Service agreed to not take a position or impose a condition in the biological opinion that would preclude releases of stored water from being considered as Delta inflow under the E/I ratio should the SWRCB make such a determination. Delta Smelt Biological Opinion for the Delta Wetlands Project, May 6, 1997, p. 3.

# ATTACHMENT 1

1995 WQCP – Page 25

## FOOTNOTES 11 AND 23 FOR TABLE 3

### NDOI and PERCENT INFLOW DIVERTED<sup>1</sup>

The NDOI and the percent inflow diverted, as described in this footnote, shall be computed daily by the DWR and the USBR using the following formulas (all flows are in cfs):

$$NDOI = DELTA INFLOW - NET DELTA CONSUMPTIVE USE - DELTA EXPORTS$$

$$PERCENT INFLOW DIVERTED = (CCF + TPP) \div DELTA INFLOW$$

where  $DELTA INFLOW = SAC + SRTP + YOLO + EAST + MISC + SJR$

- SAC* = Sacramento River at Freeport mean daily flow for the previous day; the 25-hour tidal cycle measurements from 12:00 midnight to 1:00 a.m. may be used instead.
- SRTP* = Sacramento Regional Treatment Plant average daily discharge for the previous week.
- YOLO* = Yolo Bypass mean daily flow for the previous day, which is equal to the flows from the Sacramento Weir, Fremont Weir, Cache Creek at Rumsey, and the South Fork of Putah Creek.
- EAST* = Eastside Streams mean daily flow for the previous day from the McKelumne River at Woodbridge, Cosumnes River at Michigan Bar, and Calaveras River at Bellota.
- MISC* = Combined mean daily flow for the previous day of Bear Creek, Dry Creek, Stockton Diverting Canal, French Camp Slough, Marsh Creek, and Morrison Creek.
- SJR* = San Joaquin River flow at Vernalis, mean daily flow for the previous day.

where  $NET DELTA CONSUMPTIVE USE = GDEPL - PREC$

- GDEPL* = Delta gross channel depletion for the previous day based on water year type using the DWR's latest Delta land use study.<sup>2</sup>
- PREC* = Real-time Delta precipitation runoff for the previous day estimated from stations within the Delta.

and where  $DELTA EXPORTS^3 = CCF + TPP + CCC + NBA$

- CCF* = Clifton Court Forebay inflow for the current day.<sup>4</sup>
- TPP* = Tracy Pumping Plant pumping for the current day.
- CCC* = Contra Costa Canal pumping for the current day.
- NBA* = North Bay Aqueduct pumping for the current day.

1 Not all of the Delta tributary streams are gaged and telemetered. When appropriate, other methods of estimating stream flows, such as correlations with precipitation or runoff from nearby streams, may be used instead.

2 The DWR is currently developing new channel depletion estimates. If these new estimates are not available, DAYFLOW channel depletion estimates shall be used.

3 The term "Delta Exports" is used only to calculate the NDOI. It is not intended to distinguish among the listed diversions with respect to eligibility for protection under the area of origin provisions of the California Water Code.

4 Actual Byron-Bethany Irrigation District withdrawals from Clifton Court Forebay shall be subtracted from Clifton Court Forebay inflow. (Byron-Bethany Irrigation District water use is incorporated into the GDEPL term.)

## ATTACHMENT 2

### Suggested Revision to 1995 WQCP

Export limits should be updated to include consideration for in-Delta storage operations. The equation for Delta inflow should be revised to include releases from in-Delta storage. Delta Wetlands suggests the following revisions to "Footnote 11 and 23 for Table 3" (page 25) of the 1995 WQCP (see highlighted text below):

$$\text{DELTA INFLOW} = \text{SAC} + \text{SRTP} + \text{YOLO} + \text{EAST} + \text{MISC} + \text{SJR} + \text{IDS}$$

Where:

- SAC = Sacramento River flow at Freeport mean daily for the previous day; the 25-hour tidal cycle measurements from 12:00 midnight to 1:00 am may be used instead.
- SRTP = Sacramento Regional Treatment Plant average daily discharge for the previous week.
- YOLO = Yolo Bypass mean daily flow for the previous day, which is equal to the flows from the Sacramento Weir, Fremont Weir, Cache Creek at Ramsey, and the South Fork at Putah Creek.
- EAST = Eastside Streams mean daily flow for the previous day from the Mokelumne River at Woodbridge, Consumnes River at Michigan Bar, and the Calaveras River at Bellota.
- MISC = Combined mean daily flow for the previous day of Bear Creek, Dry Creek, Stockton Diverting Canal, French Camp Slough, Marsh Creek, and Morrison Creek.
- SJR = San Joaquin River flow at Vernalis mean daily flow for the previous day.
- IDS = In-Delta storage releases mean daily flow from the previous day.**