

National Marine Fisheries Service (NMFS) Determination:

Action IV.2.3 of the Biological Opinion for the Long-Term Operations of the Central Valley Project and State Water Project (Opinion)

February 22, 2011

Summary of Action and Advice from the Delta Operations for Salmonids and Sturgeon (DOSS) group:

Summary of Action: Old and Middle River Flow Management (Action IV.2.3, page 648-652 of the 2009 NMFS Biological Opinion). This action applies from January 1st through June 15th of every year and calls for Old and Middle River (OMR) flows to be managed to no more negative than -5,000 cfs throughout the action period. More positive OMR flows are required for at least 5 days when any of the four triggers as described in the following table is exceeded, while more negative OMR flow may resume when the fish loss is below a trigger for the last 3 days of the reduced export period of time.

Table 1. Fish loss triggers for managing OMR flow

Trigger	First stage: no more negative than -3,500 cfs	Second stage: no more negative than -2,500 cfs
Trigger 1: Daily fish loss density	3.32 fish*/TAF	6.64 fish*/TAF
Trigger 2: Daily fish loss number	8 fish*	12 fish*
Trigger 3: Cumulative loss	0.5% tag recovery of spring-run or winter-run hatchery releases	
Trigger 4: Daily steelhead loss density	8 unclipped steelhead/TAF	12 unclipped steelhead/TAF

*Include all Chinook salmon, except hatchery releases, above the minimum length-at-date for winter-run Chinook salmon, based on the "delta model" length-at-date table.

Background on DOSS Advice

Based on evaluation of the fish salvage and loss data, the first trigger (at the first stage level) under Action IV.2.3 was exceeded on Friday, 2/18/2011, with the reported combined loss density being 4.51 fish/TAF. Estimated daily fish loss was 77.94 fish at the SWP, and 0 fish at the CVP. The second stage level of the first trigger was exceeded on Saturday, 2/19/2011, with the reported combined loss density being 7.51 fish/TAF. Estimated daily loss was 138.56 fish at the SWP, and 2.72 fish at the CVP. DWR notified NMFS on Saturday and indicated they would schedule a change in SWP exports starting on Tuesday to meet OMR flows no more negative than -2,500 cfs. The combined CVP/SWP loss density remained high on Sunday, 2/20/2011 (5.89 fish/TAF), and on Monday, 2/21/2011 (9.36 fish/TAF).

DOSS Advice from the 2/22/2011 call

On Tuesday, 2/22/2011, DOSS confirmed that the first and second stage levels of the first trigger had been exceeded. The recent storm event had caused an increase in juvenile salmon emigration through the Delta. The DOSS advice to WOMT and NMFS is that CVP/SWP operates at reduced export rates to meet the OMR flow limit of no more negative than -2,500 cfs for at least 5 days, from 2/22/2011 through 2/26/2011, pursuant to RPA action IV.2.3 in the NMFS Biological Opinion. Fish losses at the CVP/SWP facilities are expected to decline at less

negative OMR flows and provide enough time for older juvenile salmonids to find their way out of the interior Delta. A follow-up DOSS call was scheduled on Friday, 2/25/2011, to review the export, OMR flow, and fish loss data and determine if further actions are warranted.

NMFS Determination

NMFS accepts the advice from DOSS and determines that CVP/SWP shall operate to reduce exports in order to meet the OMR flows of no more negative than -2,500 cfs from Tuesday, 2/22/2011 through Saturday, 2/26/2011. Beginning with the first full 5-day running average of OMR flows under adjusted operations (which will average OMR flows from 2/22 through 2/26), until there is some relaxation of the OMR flow requirement, the 5-day running average shall be no more than 25% more negative than -2,500 cfs.

During the 5-day period, three consecutive days, in which the combined fish loss density is below an action trigger, are required before the OMR flow reductions can be relaxed. Starting on day 3 of the export reduction, i.e., 2/24/2011, the combined fish loss density shall be below the action trigger (i.e., 6.64 fish/TAF) for the remaining 3 days (i.e., 2/24, 2/25, and 2/26) in order to relax the OMR flow on day 6 (i.e., 2/27). If exceedance of the trigger during the last 3 days of the 5-day period occurs, the OMR flow action continues until there are 3 consecutive days of being below the fish loss density trigger.

If the combined fish loss density drops to below 6.64 but above 3.32 fish/TAF on 2/24, 2/25, and 2/26, the CVP/SWP export may increase on 2/27 to meet the OMR flow limit of no more negative than -3,500 cfs.

If the combined fish loss density drops to below 3.32 fish/TAF on 2/24, 2/25, and 2/26, the CVP/SWP export may increase on 2/27 to meet the OMR flow limit of no more negative than -5,000 cfs.

NMFS will notify DWR if further actions are warranted on Sunday 2/27/2011.