

National Marine Fisheries Service (NMFS) Determination March 1, 2011:

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

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

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 combined fish loss density	3.32 fish*/TAF	6.64 fish*/TAF
Trigger 2: Daily combined fish loss density	8 fish*/TAF	12 fish*/TAF
Trigger 3: Cumulative loss	0.5% tag recovery of spring-run or winter-run hatchery releases	
Trigger 4: Daily combined steelhead loss density	8 unclipped steelhead/TAF	12 unclipped steelhead/TAF

*Includes all Chinook salmon runs, 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

Since Tuesday, 2/22/2011, the projects have been operating to maintain OMR flows no more negative than -2,500 cfs. During the Tuesday, 3/1/2011, call, DOSS confirmed that the reported combined older juvenile loss densities from 2/25, 2/26, and 2/27¹ were 6.42, 1.22, 0.34 fish/TAF, respectively. Because these loss densities provide three consecutive days below the second stage trigger of 6.64 fish/TAF (associated with an OMR limit of -2,500 cfs), the projects would be allowed to operate to the OMR limit of -3500 cfs starting on 2/28². DOSS also confirmed that the reported combined older juvenile loss density for 2/28³ was 7.88 fish/TAF, based on a combined loss of 135.34 (129.9 fish at the SWP and 5.44 fish at the CVP) and combined exports of 17.178 TAF (10.152 TAF at the SWP and 7.026 TAF at the CVP). This loss density of 7.88 fish/TAF exceeds the second stage fish density trigger that requires the projects to implement the action response of maintaining OMR flows no more negative than -2,500 for a minimum of 5 consecutive days.

¹ Data through 2/27 were provided by DWR based on losses reported by DFG.

² The relaxation to a less restrictive OMR limit may occur immediately, however, the logistics of scheduling operations at the export facilities mean that operational changes are likely to be implemented two days after any such relaxation is allowed.

³ Data for 2/28 were provided by DWR based on calculated losses as reported by the fish facilities, without DFG processing.

Based on these recent loss densities, DWR (Reclamation was not on the DOSS call on 3/1/2011) proposed a schedule of operations that would include maintaining an OMR flow limit of no more negative than -2,500 cfs on Tuesday, 3/1/2011, shift to management to an OMR limit of -3,500 cfs on Wednesday, 3/2/2011 (the allowed relaxation due to three consecutive days below 6.64 fish/TAF), and then back to management to an OMR limit of -2,500 cfs beginning on Thursday, 3/3/2011 (based on the more restrictive OMR limit required by the 7.88 fish/TAF observed on 2/28/2011), for at least five days.

DOSS Advice on 3/01/2011

The DOSS advice to WOMT and NMFS is to support the OMR management schedule proposed by DWR, as follows:

Day/Date	OMR limit (no more negative than)
Tuesday, 3/1/2011	-2,500 cfs
Wednesday, 3/2/2011	-3,500 cfs
Thursday, 3/3/2011	-2,500 cfs
Friday, 3/4/2011	-2,500 cfs
Saturday, 3/5/2011	-2,500 cfs
Sunday, 3/6/2011	-2,500 cfs
Monday, 3/7/2011	-2,500 cfs

The above schedule is sufficiently protective of listed species, as intended by Action IV.2.3. On Tuesday, 3/8/2011, DOSS will review the recent export, OMR flows, and fish loss data and determine if further actions are warranted.

NMFS Determination

NMFS accepts the advice from DOSS and determines that managing CVP/SWP operations, as provided in the chart, above, is consistent with the intended implementation of Action IV.2.3 and sufficiently protective of listed species present in the Delta at this time. Beginning on 3/7/2011, until there is some relaxation of the OMR flow requirement, the 5-day running average OMR shall be no more than 25% more negative than -2,500 cfs.

During the 5-day period beginning Thursday, 3/3/2011, the last three consecutive days in which the combined fish loss density is below an action trigger are required before the OMR flow limit can be relaxed.

- If the combined fish loss density drops to below 6.64 but above 3.32 fish/TAF on 3/5, 3/6, and 3/7, the OMR flow limit may (as early as 3/8) be relaxed to no more negative than -3,500 cfs.
- If the combined fish loss density drops to below 3.32 fish/TAF on 3/5, 3/6, and 3/7, the OMR flow limit may (as early as 3/8) be relaxed to no more negative than -5,000 cfs.
- If the combined fish loss density exceeds 6.64 on 3/5, 3/6, or 3/7, the OMR flow limit of -2,500 cfs shall continue until there are 3 consecutive days of being below the second stage fish loss density trigger.

NMFS will notify DWR on Tuesday 3/8/2011 if further actions are warranted.