



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Pacific Southwest Region  
2800 Cottage Way, Room W-2606  
Sacramento, California 95825-1846

In reply refer to:

January 21, 2016

Subject: Determination Under Component 1, Action 2 of the 2008 Coordinated Long-term Operation of the Central Valley Project and State Water Project Biological Opinion

On January 14, 2016, the Service determined that conditions warranted implementation of Action 2 of the 2008 Biological Opinion (BiOp) Reasonable and Prudent Alternative (RPA) on the Coordinated Long-term Operation of the Central Valley Project and State Water Project and that Reclamation and Department of Water Resource's proposed operation targeting -3500 cfs Old and Middle River (OMR) flow from January 15 through January 19 was prudent. The Service received the Smelt Working Group notes from January 19. The Smelt Working Group assessed the level of Delta Smelt entrainment risk to the export facilities at levels of OMR flow within Action 2 (-1250 cfs to -5000cfs). The Service reviewed this risk assessment, and for the reasons discussed below, has determined that Delta Smelt remain vulnerable during their migration period and that more positive OMR flows at this time would reduce the risk of Delta Smelt being entrained in the Central and South Delta. Therefore, the Service determines that -2500cfs OMR on a 14-day running average, with a simultaneous 5-day running average no more negative than -3125 cfs (within 25 percent), should be implemented at the present time, and at least through Monday, January 25. Conditions will be monitored continuously for changes and if warranted, a new determination will be issued. A full review will occur on Monday, January 25, or sooner if needed.

The Smelt Working Group provided the following risk assessment. Regarding risk of entrainment to the facilities:

- -1250 to -2000 cfs = low
- -2000 to -3500 cfs = moderate to high
- -3500 to -5000 cfs = high

Further, the Smelt Working Group observed that formation of a turbidity bridge is highly likely at current conditions on January 19 (daily average OMR flow on January 18 of approximately -3800cfs), and that river and weather forecasts for this week indicate that increased turbidity into the central and south Delta is occurring. The Smelt Working Group notes indicate that if increases in turbidity occur, the risk level assessment would shift to add increased risk to more negative OMR flow. Additional data and discussion regarding conditions is in the Smelt Working Group notes from January 19, 2016.

The Service believes that an OMR flow of -2500cfs is warranted for several reasons. First, we have evidence that Delta Smelt are continuing to migrate in preparation for spawning. The catch during the Prisoner's Point Early Warning Surveys (EWS) on Saturday was the highest yet

recorded this year, up from 2 adult Delta Smelt on Thursday, January 15, to 6 adult Delta Smelt on Saturday, January 17. The catch on Saturday also included a gravid female, indicating that some Delta Smelt are already in spawning condition. Historical DSM-2 PTM runs indicate that the risk of entrainment of neutrally buoyant particles (from Prisoner's Point) increases rapidly as OMR flow becomes more negative. Thus, the Service believes that an OMR flow of -2500cfs is more protective of Delta Smelt at Prisoner's Point than more negative OMR flow, and is in the lower end of the moderate to high risk assessment by the Smelt Working Group for risk of entrainment to the facilities.

Further, turbidity appears to be on the rise, both from the Sacramento and San Joaquin rivers. The January 19 turbidity transect indicates that turbidity greater than 12 NTU has dispersed throughout most of the Old and Middle River corridor and the California Data Exchange Center (CDEC) data also indicate an increase in turbidity further upstream at Bacon Island and Clifton Court. Given this level of turbidity, we believe less negative OMR flows are warranted.

Finally, survey indicators of Delta Smelt abundance continue to remain at historical lows. The January Spring Kodiak Trawl (SKT) caught just 7 Delta Smelt at 40 stations; this is only one-third of the previous low for January catch (21 Delta Smelt were caught in January 2015). Moreover, SKT catches in areas historically known to support Delta Smelt were extremely low. Thus, current distribution is unclear. The Service believes that low adult abundance will translate into low numbers of offspring in 2016. This elevates the Service's concern for pre-spawning adult Delta Smelt in the San Joaquin River that are currently moving in preparation for spawning. Given this depressed level of abundance, the Service must take a precautionary approach to protect this portion of the population during the critical migration and spawning period.

We will continue to seek recommendations from the Smelt Working Group and monitor conditions, including turbidity, Sacramento River flow levels, other Delta inflows, salvage, and the results of the EWS (particularly at Prisoner's Point) and the Department of Fish and Wildlife's Spring Kodiak Trawl.