



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pacific Southwest Region
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IN REPLY REFER TO:
FWS/RR 81420-2008-F-
1481-12

JAN 30 2015

Memorandum

To: Central Valley Office Operations Manager, Central Valley Office
Bureau of Reclamation, Mid-Pacific Region,
Sacramento, California

From: Acting Regional Director, Pacific Southwest Region
Sacramento, California

Subject: Reinitiation of Endangered Species Act Consultation on the Coordinated Operations of
the Central Valley Project and the State Water Project

This memorandum is in response to your January 27, 2015, memorandum continuing the January 9, 2015 reinitiation of the December 15, 2008, Biological Opinion (2008 BiOp) on the Coordinated Operation of the Central Valley Project (CVP) and State Water Project (SWP) (Projects). The 2008 BiOp included a provision for the Bureau of Reclamation (Reclamation) to reinitiate consultation if the water year is classified as dry or critically dry for a second consecutive (or more) year(s). As such, Reclamation is seeking concurrence from the U.S. Fish and Wildlife Service (Service) that the drought response actions proposed by Reclamation and the California Department of Water Resources (DWR) described below will result in no additional adverse effects on Delta Smelt or its critical habitat for the months of February and March 2015 beyond those previous analyzed in the 2008 BiOp. This response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The following sources of information were used to develop this response: (1) your January 27, 2015, memorandum to the Service with the attached *Smelt Supporting Information for Endangered Species Act Compliance for Temporary Urgency Change Petition Regarding Delta Water Quality January 27, 2015* (smelt supporting information document), and the Project Description for February-March Drought Response Actions To Support Endangered Species Act Consultations; and (2) other available information.

Due to critically dry conditions in the current water year following three previous dry years, California's overall water storage levels remain far below average and DWR's December 30, 2014, snow survey found a Sierra Nevada snowpack measuring less than half of normal in terms of the amount and water content for this time of year. Adequate storage is needed throughout the year and especially in dry times of the year in order for the CVP and SWP to supply human needs, continue repelling saltwater in the Delta, and provide for cold water needs of Chinook salmon, steelhead, and green sturgeon.

In response to this water shortage crisis, Reclamation and DWR submitted a Temporary Urgency Change (TUC) Petition Regarding Delta Water Quality on January 23, 2015, requesting that the State Water Resources Control Board (State Board) temporarily modify requirements of D-1641 for 180 days, with specific requests for February and March to enable changes in operations that will provide minimum human health and safety supplies and conserve water for later protections.

As described TUC Petition, Reclamation and DWR specifically request modification of the D-1641 Delta outflow requirements, Export Limits, Delta Cross Channel (DCC) gate operations, and Vernalis flow requirements. The changes would provide that the February and March outflow requirements would be modified to require the Net Delta Outflow Index (NDOI) be no less than 4,000 cubic feet per second (cfs) on a monthly average. Combined exports would be limited to a health and safety level (i.e., 1,500 cfs) if the DCC gates are open or if outflow is between 4,000 cfs and 5,500 cfs. An intermediate combined export level of 3,500 cfs would apply if outflow is greater than 5,500 cfs but less than 7,100 cfs. In addition, the Vernalis flow objective would be reduced to 500 cfs on a monthly average. These changes would reduce reservoir releases from those otherwise required to meet D-1641 in February and March to conserve storage for later fishery protection, minimum health and safety needs, and if necessary, salinity control. The request also includes modifying February and March DCC gate operations to allow for opening of the gates as water quality and fishery conditions warrant and as restricted to specific monitoring of fish.

Reclamation has determined that the proposed drought actions will result in no additional adverse effects on Delta Smelt or its critical habitat for the months of February and March 2015 beyond those previously analyzed in the 2008 BiOp. The Service accepts Reclamation's determination.

The smelt supporting information document includes an analysis of the effects of the actions on larval Delta Smelt production using the recently published new information in the Interagency Ecological Program (IEP) Management, Analysis, and Synthesis Team's (MAST) An Updated Conceptual Model of Delta Smelt Biology technical report. The MAST report may provide valid new information that spring outflow has a positive impact on the relative abundance of Delta Smelt surviving to the early juvenile phase of their life cycle. The evidence for this hypothesis was presented in MAST Fig. 82 (Fig. 12 in the smelt supporting information document) which shows plots of February-June X2 position versus two alternative index ratios (20 mm index per unit prior Spring Kodiak Trawl (SKT) index and 20 mm index per unit prior Fall Midwater Trawl (FMWT) index). These ratios suggest that parent stock abundance has to be accounted for to discern the relationship with X2 (for instance, compare MAST Fig. 81, which does not account for abundance of the prior generation, to MAST Fig. 82, which does).

Previously, it was not common practice to consider parent stock abundance in analyses like the one shown in MAST Fig. 82 prior to papers by Bennett (2005) and Maunder and Deriso (2011). For instance, earlier papers testing for outflow or X2 effects on Delta Smelt did not account for the abundance of the prior generation (e.g., Jassby et al. 1995; Kimmerer 2002). MAST Fig. 82b shows that the positive influence of X2 was also not apparent before the Pelagic Organism Decline (POD; circa 2002-2003). Thus, this potential influence of X2 (or outflow) on this part of the Delta Smelt life cycle might be a relatively new phenomenon that emerged in association with ongoing changes in the Bay-Delta ecosystem, and discovering it was enabled by stricter adherence to fisheries recruitment theory. Whatever the explanation, the MAST analysis differs from previous understanding, creating significant uncertainty as to what represents the best available science on this issue.

Given the ongoing severe drought, lowest-recorded FMWT index in 2014, and the uncertainty in the potentially important new information regarding the effect of late winter and spring outflow on Delta Smelt recruitment suggested by the MAST analysis, the Service believes Reclamation should undertake an expert review of the relevant scientific information and incorporate the results into the current reinitiated consultation on the 2008 BiOp.

The Service recommends the following. The review should be conducted as expeditiously as possible. Source materials for the review should include the Delta outflow/Delta Smelt abundance analysis in the recently released IEP MAST Report and other materials that Reclamation determines to be relevant to the review. The five Delta management agencies (Reclamation, CDWR, the Service, CDFW, and NMFS) should be consulted on the design and conduct of the review. The review should be conducted according to the advice and norms of the Delta Science Program, and should accommodate stakeholder and public participation. The review's report should be appended to the previously mentioned reinitiation of consultation. The Service is committed to working with Reclamation to ensure a good review is conducted.

We remain committed to continued close coordination with you and your staff throughout this extremely challenging water year.

Please refer to Service file number 81420-2008-F-1481-12 in any future correspondence regarding this project.