



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pacific Southwest Region  
2800 Cottage Way, Suite W-2606  
Sacramento, California 95825

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DEC 23 2015

## Memorandum

To: Regional Director, Bureau of Reclamation, Mid-Pacific Region  
Sacramento, California

From: Regional Director, Fish and Wildlife Service, Pacific Southwest Region  
Sacramento, California

Subject: Update on the Incidental Take Statement for the 2008 Formal Endangered Species Act Consultation on Coordinated Long-term Operation of the Central Valley Project and State Water Project and Conveyance of a Revised Incidental Take of 56 Delta Smelt for the 2016 Water Year

With this memorandum, the U.S. Fish and Wildlife Service (Service) provides an amended adult delta smelt incidental take statement for the Service's 2008 Biological Opinion (2008 BiOp) concerning the Coordinated Long-term Operation of the Central Valley Project and State Water Project (Service File No. 81420-2008-F-1481-5) to the Bureau of Reclamation (Reclamation).

In the 2008 BiOp, the Service calculated expected salvage levels due to project operations under the Reasonable and Prudent Alternative (RPA), using historic salvage information from years when similar water operations were in effect (2006 to 2008; see page 386 of the 2008 BiOp). We calculated a Cumulative Salvage Index (CSI) for each of the three years by dividing observed salvage by the previous fall midwater trawl index (FMWT). We then calculated an average CSI for the years 2006 through 2008. Estimated salvage was expected to vary as a function of the delta smelt population size, therefore, take is calculated using a multiplier of the average CSI \* FMWT for each water year.

In a January 9, 2015 memorandum to Reclamation, the Service accepted Reclamation's alternative incidental take calculation method with the modification provided by the Independent Review Panel for the 2014 Long-term Operation Biological Opinions (LOBO) Annual Science Review as a viable interim approach to addressing incidental take estimation to the method set forth in the 2008 BiOp. Subsequently, the Service corrected the initial 2015 approach by reducing the data set to only years that included Old and Middle river flow values less negative or equal to -5000 cfs during the relevant months. This correction was necessary because the calculated incidental take should estimate the amount of take anticipated from project operations analyzed in the 2008 Biological Opinion. The corrected CSI variable is 7.98. Using the data for this water year (the 2015 FMWT index is 7) the adult delta smelt anticipated incidental take for WY 2016 is 56 ( $7.98 * 7 = 56$ ) delta smelt.

In November 2015, the Service presented an alternative approach to calculating anticipated adult incidental take to the 2015 LOBO Independent Review Panel. In this alternative approach, an estimate of delta smelt absolute abundance is calculated using California Department of Fish and Wildlife's data and a recently implemented December Kodiak Trawl (DKT) survey.

The Service has reviewed the Panel's comments and will pilot the alternative approach in Water Year 2016 using DKT to calculate incidental take. Because the DKT is new and untested, we intend to use this year to see if the estimates of salvage generated by the alternative approach correspond with the actual salvage that occurs in the 2016.

Thank you for your continued leadership in protecting the Bay Delta Ecosystem. If you have any questions, please do not hesitate to call.

cc: Supervisor, Bay Delta Fish and Wildlife Office  
Assistant Regional Director, Fish and Aquatic Conservation