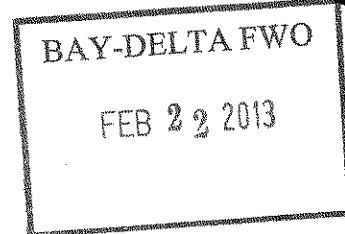




United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife Office
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Sacramento, California 95814



Memorandum

To: Area Manager, Bay-Delta Office, Bureau of Reclamation, Sacramento, California

From: Field Supervisor, Bay-Delta Fish and Wildlife Office, Fish and Wildlife Service, Sacramento, California *Mike Chander*

Subject: Corrected Delta Smelt Incidental Take Statement for the 2008 Formal Endangered Species Act Consultation on the Proposed Coordinated Operations of the Central Valley Project and State Water Project

With this memorandum, the U.S. Fish and Wildlife Service (Service) provides to the Bureau of Reclamation corrections to the adult delta smelt incidental take statement and larval-juvenile incidental take statement for the Service's 2008 Biological Opinion (BiOp) for the Proposed Coordinated Operations of the Central Valley Project and State Water Project (Service File No. 81420-2008-F-1481-5). These corrections are being made during the reinitiation period.

In the 2008 BiOp, the Service calculated expected salvage levels due to project operations under the Reasonable and Prudent Alternative, using historic salvage information from years when similar water operations were in effect (2006 to 2008; see page 386 of the 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 2006-2008 period. Estimated salvage was expected to vary as a function of the population, therefore, take is calculated using a multiplier of the average CSI * the FMWT for each water year.

On February 15, 2013, the Service received notification that the salvage numbers used in the BiOp appeared to be incorrect. In the BiOp, 2006 adult salvage was reported as 216, 2007 salvage was 36, and 2008 salvage was 352. The BiOp calculation presented on page 386 uses these numbers to derive a CSI of 7.25. Using this CSI, the annual incidental take of adult delta smelt for water year (WY) 2013 is:

Original WY 2013 adult incidental take is $7.25 * 42 = 305$ delta smelt

After evaluating this information, we have determined that, in fact, we used incorrect salvage numbers for 2006 and 2008 in the calculation. The correct adult salvage number for 2006 is 324, and the correct number for 2008 is 350. Using these corrected numbers in the calculation on page 386 yields a CSI of 8.63; thus, the 2013 incidental take limit for adult delta smelt becomes:

Revised WY 2013 adult incidental take is $8.63 * 42 = 362$ delta smelt

The Service also reviewed the take estimate associated with larval-juvenile incidental take (see Table C-4, page 392 of the 2008 BiOp). We have determined that there are discrepancies between the salvage data provided in Table C-4 and updated salvage information provided by the California Department of Fish and Wildlife (CDFW) on February 21, 2013 (Table 1, below, presents the original and updated annual values for the years relevant to the larval-juvenile take calculation and updated monthly values). Using the originally reported salvage data and method described on pages 389-390, the BiOp calculated an incidental take statistic for annual larval-juvenile incidental take to be:

Original WY 2013 larval-juvenile incidental take is $56.2 * 42 = 2360$ delta smelt

Using the updated salvage information in Table 1 below, and applying the method described on pages 389-390 of the BiOp to re-derive the incidental take statistic for annual larval-juvenile incidental take, the 2013 incidental take for larval-juvenile delta smelt becomes:

Revised WY 2013 larval-juvenile incidental take is $55.95 * 42 = 2350$ delta smelt

During our review, we also found that 2005 FMWT value used in the BiOp in Table C-4 was given as 27, when it should be 26. The revised larval-juvenile incidental take calculation given for WY 2013 above reflects this correction.

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

Table 1. Updated monthly salvage, April through July, for 2005 through 2008. The column headed "Salvage 2008 BiOp" gives the April through July salvage number as reported in the 2008 BiOp.

	April	May	June	July	Revised April through July Salvage	Salvage Reported in 2008 BiOp
2005	0	529	1193	0	1722	1734
2006	12	0	0	0	12	12
2007	24	428	1509	711	2672	2669
2008	6	911	757	14	1688	1705