

Delta Smelt Working Group Meeting Notes

January 29, 2007

Participating: Gonzalo Castillo (USFWS), Kevin Fleming (CDFG), Lenny Grimaldo (CDWR), Bruce Herbold (EPA), Tracy Hinojosa (CDWR), Ann Lubas-Williams (USBR), Ryan Olah (USFWS), Victoria Poage (USFWS), Ted Sommer (CDWR), Kevin Sun (CDWR, guest), Jim White (CDFG), and Peter Johnsen (USFWS, convener and scribe)

For Discussion:

1. Delta smelt distribution and expected future behavior
2. Action after the 80TAF EWA assets are used up (and the possibility of restricting exports instead of Old and Middle River flows)
3. Action after Feb 15
4. Head-of-Old River and Agricultural Barriers
5. Spring action

Recommendation for WOMT:

The Working Group had no new recommendations or refinements of previous recommendations.

Previous recommendations:

Maintain Old and Middle Rivers combined flow between negative 5000 cfs to negative 3500 cfs until February 15. (DSWG Notes, December 11, 2006)

Continue moderating Old and Middle Rivers combined flow to a range of negative 5000 cfs to negative 3500 cfs after February 15. The Working Group will consider and/or generate additional analyses of existing data and continue to monitor conditions in the Delta and survey sampling results to determine whether further refinements to the recommendation are needed. (DSWG Notes, January 11, 2007)

Forego installation of the spring Head-of-Old River Barrier. (DSWG Notes, December 11, 2006)

Meeting Notes:

1. The Delta Smelt Working Group briefly discussed the delta smelt distribution and maturity. The first Spring Kodiak Trawl (Survey 1, January 8 through 11) collected 109 adult delta smelt, most at gonadal development stages 1, 2 or 3 (pre-spawning) from Suisun Bay and up into the Sacramento River Deep Water Ship Channel but not from the South Delta. With the exception of 2006 (n=42), the number collected was low compared to January surveys in other years. That no salvage has occurred supports that delta smelt are not yet present in the South Delta in any significant numbers. A

supplemental Kodiak trawl (Survey 11) was completed on January 23 and all 152 smelt collected at five stations in Montezuma Slough and the Ship Channel were in pre-spawn condition (stage 1 through 3) as expected. The supplemental trawl only samples a subset of the SKT stations where delta smelt have been previously collected and is not intended to provide new information on delta smelt distribution in the Delta. Water temperatures in the Delta are relatively low, in the 5-7⁰C range. This data represents an early picture of delta smelt distribution, from which it is not possible to predict distribution later in the year. However, given their present gonadal maturity and environmental conditions, most delta smelt spawning is not anticipated for several more weeks. DFG staff has posted the results of SKT sampling to the web (<http://www.delta.dfg.ca.gov/data/skt/>).

2. The Delta Smelt Working Group discussed the implementation of the current action to moderate the flows at Old and Middle Rivers. All of the 80 TAF of assets acquired for the EWA by the SWP in San Luis Reservoir have been expended. Continuing the action will result in accrual of EWA debt to the SWP. This and any subsequent actions will draw upon EWA purchased assets. Concern was expressed that the current action would exhaust EWA assets, leaving nothing for potential later actions to protect larvae and juveniles. However, it was noted that EWA is sufficiently funded to have purchased assets available, and that the Projects' need to meet Delta water quality standards is expected to minimize use of EWA assets through February 15. Further, it was noted that if the current action were to be considered successful and few adults entered the south Delta to spawn, the need for future actions would become less likely.

The Working Group was asked by WOMT to review the current action to (a) determine whether -5000 cfs at OR/MR could be as effective as the -4000 cfs currently implemented, and (b) whether it would be appropriate for the Projects to modify exports directly, rather than to modify OR/MR flows. The Working Group reviewed an alternate analysis of OR/MR data produced by DWR. Analyses previously reviewed by the Working Group included transforming positive OR/MR flows to zero, as other factors were thought to be more important to salvage at positive OR/MR flows. DWR staff used all data in its original format, and found that a log salvage relationship provided a better fit of the data in terms of r^2 and residuals. However, the resulting curve showed an increasing tendency at about -5000, indicating that salvage could begin to occur at that level of flow. Because the Working Group was not convinced that -5000 cfs would meet the goal of no adult salvage as well as a more-conservative -4000 cfs, it found no compelling reason to change its earlier recommendation. The Working Group also reviewed new analyses of OR/MR and other hydrologic data showing autocorrelations between variables and large variation in the Old/Middle River response to changes in export rates. Salvage was found to be correlated with OR/MR flows, exports, hours of operation of the Clifton Court Forebay (CCF) intake gates, and CCF turbidity. However, the environmental variables were also found to be correlated to each other, meaning that a correlation between a variable and salvage gives little insight into cause-effect relationships. Of the correlated variables analyzed, mean O&M flow integrates several physical mechanisms and best reflects hydrodynamic conditions that directly affects the non-entrained smelt population. The Working Group also discussed substituting a level of exports for an OR/MR flow target in the current action. Although the data show that exports and OR/MR flows are highly correlated, variability in the relationship increases at low export levels, making it less likely that a given level of exports would produce the

desired OR/MR flow. Based on existing information and data analysis, the Working Group found no compelling biological reason to modify its earlier recommendation.

3. The Work Group briefly reviewed its early recommendation to continue moderating OR/MR flows after February 15. The Working Group agreed that necessary information on delta smelt distribution and Delta conditions was not yet available to evaluate whether continuing the action after February 15 would provide additional needed protection. The group will discuss a post-February 15 action at the next meeting when the second Spring Kodiak Trawl has been completed and more information is available.

4. The group discussed the agricultural barriers. It was agreed not to request any further particle tracking modeling.

It was noted that the three agricultural barriers do have some hydrological effect and that the fate of particles in the model does depend on injection points. However, any larvae at injection points potentially affected by the agricultural barriers would likely have a low survival whether or not the agricultural barriers were in place. The Working Group therefore does not see a need for further particle tracking modeling at this time. It was also noted that under the Service's B.O. on the temporary barriers, installation and operation of the agricultural barriers would be postponed until May 15 if the Head-of-Old River barrier was not installed. Considering this together with results of previous PTM runs, the Working Group concluded that the difference between May 15 and June 1, as was originally recommended, may not be significant but required further discussion. The Working Group did, however, reaffirm its recommendation to forego the installation of the Head-of-Old River barrier.

5. The group briefly discussed potential spring actions and agreed that it would be premature to offer recommendations at this time.

Next meeting: Friday, February 9 at 1:00 pm via conference call.

Submitted,
PJ