

## **Service Decision June 23, 2009**

The Service has determined that the following action is necessary to avoid jeopardizing the delta smelt from project operations (consistent with and as further explained in the biological opinion):

The OMR flows shall be no more negative than -5,000 cfs on a 14-day running average. Simultaneously, OMR flow shall be no more negative than -6,250 cfs on a 5-day average. Combined exports will go up a maximum of 300-400 cfs per day.

If the combined salvage reaches the take concern level (i.e., if combined salvage reaches 759) before Friday June 26, then the SWG will reconvene to determine if a further recommendation to the Service is needed. However, barring significant additional salvage, it is anticipated that this OMR requirement can be the final one for the season. Although there are no explicit flow restrictions for July, a combined expanded salvage take limit of 1293 fish for the season remains in effect, with a concern level of 862 fish. Operations during this interval need to be consistent with the project description, as modified by the RPA.

### **Analysis**

These flows are necessary to avoid jeopardizing the delta smelt based on the following criteria:

#### **1. Location/distribution of the delta smelt population**

The Service believes that delta smelt appear to have largely moved out of the South and Central Delta and the zone of entrainment of the CVP and SWP pumps for the following reasons:

The most recent 20 mm survey (Survey 8) ran from June 15 through 18. At this time, 66 tows from 51 stations with at least 1 tow from every station have been processed. Results show that 56 delta smelt were collected at eight core stations—520, 703, 704, 706, 716, 719, 723, and 809; and at two supplemental stations (796 and 797). The delta smelt collected in this survey were distributed in the North Delta around the Deepwater Ship Channel and around Chipps Island in the Lower Sacramento River. The previous survey (Survey 7) ran from June 1 through 4. 195 delta smelt were collected at 16 stations, stations 520, 703, 704, 706, 707, 716, 718, 719, 720, 723, 724, 801, 804, 809, and at two supplemental stations, stations 798 and 799. The delta smelt collected in this survey were distributed in the North Delta around Cache Slough and around Decker Island in the Lower Sacramento River.

However, it is difficult to reliably infer the distribution of the delta smelt population from the results of these 20 mm surveys because the abundance of the delta smelt is currently very low (as discussed below). Thus, it is subject to significant scientific uncertainty and cannot be used with a high degree of confidence as a basis for setting the OMR flow target. Even if this survey does accurately reflect the current distribution of the delta smelt population, this distribution may show that a portion of the delta smelt population has moved downstream out of the South and Central Delta. Although there still may be a portion of the delta smelt population in the central Delta, the totality of data this season, in tandem with this week's real-time information, suggest that the population is at relatively lower risk over the final 8 days of June.

Salvage has dropped in June relative to May (based on historic, abundance-weighted numbers), indicating that the salvage event of high entrainment in late May has passed. That salvage is continuing at the facilities in June demonstrates that some delta smelt remained in the Central or South Delta and within the zone of influence of the CVP and SWP pumping facilities. Additional salvage has been observed, though at more moderate relative numbers to date. This salvage is especially significant, as evidence of the distribution of the delta smelt, because OMR flows were tightly limited during May and the first part of June (first by the VAMP and later under Component 2 of the biological opinion) and thus the zone of influence of the CVP and SWP pumping facilities was also limited. In addition, the sampling at the CVP and SWP facilities has a higher efficiency than in-river sampling methods, such as the 20 mm surveys, and, as a result, is likely to provide better evidence of the distribution of the delta smelt population.

## **2. Abundance**

The Service concludes that the delta smelt is at critically low levels of abundance and, as a result, the species is more vulnerable to high entrainment events. The best available scientific and commercial data shows that the abundance of the delta smelt has suffered a precipitous decline since 2000. The most recent (2008) Fall Midwater Trawl abundance index was 23, the lowest ever recorded. Other measures of abundance, such as the numbers of delta smelt captured in the 20 mm surveys, are also very low compared to historical 20 mm trawl catches. The abundance of the species is not expected to recover this year because this is the third consecutive year of dry or critically dry conditions, and, under such conditions, the habitat area available to the delta smelt is reduced and that habitat is less likely to contain the necessary food, temperatures, and flows that the delta smelt need to complete their life cycle.

## **3. Entrainment**

The Service concludes that the risk that significant numbers of delta smelt will be entrained at the CVP and SWP is abating, albeit still present. The Service also concludes that, at the current low level of abundance, the delta smelt population cannot tolerate even moderate levels of take (compared to the levels of take observed historically in recent decades). Thus, the Service concludes that, to avoid jeopardizing the continued existence of the species, exports may continue to increase gradually to avoid another high entrainment event.

Significant numbers of delta smelt were entrained in May, despite very tight limits on OMR flows. For the month of May, 423 juvenile delta smelt were collected at the export facilities. This amount of incidental take exceeded the “level of concern” (299 fish) identified in the biological opinion’s incidental take statement for salvage in May. It approached the cumulative take limit for May of 449 fish. Both the level of concern and the incidental take limit are keyed to the level of abundance measured in the Fall Midwater Trawl index and thus reflect the current, very low level of abundance of the delta smelt.

Juvenile (> 20 mm FL) delta smelt were salvaged on a sporadic, but consistent basis from the CVP and SWP through June. A total of 648 juvenile delta smelt were salvaged (combined facilities) as of June 21. Combined salvage dropped off from June 7 through 18 at the SWP, but has increased to moderate levels over the last weekend (June 19-21). Salvage at the CVP has

been sporadic and low since June 11. The “level of concern” for June is 759 fish. An additional cumulative expanded salvage figure of 111 fish would equal the June cumulative concern limit. The cumulative take limit for June is 1139 fish. Pursuant to the biological opinion, the Bureau of Reclamation would need to pursue reconsultation if the take limit were reached. Only after reconsultation is the Service able to determine if levels of incidental take higher than those set in the biological opinion would avoid jeopardy. In addition, it should be noted that the levels of salvage reported reflect only a portion of the total mortality associated with entrainment.

Like May, the month of June is historically a period when high numbers of delta smelt have become entrained at the export facilities. In light of the observed salvage pattern through June, and current data on the distribution of the delta smelt population (as discussed above), the risk of an entrainment event has probably abated. Less restrictive OMR flow targets are allowable in this case, but need to be implemented vigilantly in case an unexpected increase in salvage/entrainment is observed with more negative flows. Recent data showing moderate entrainment at the SWP facility over the weekend show that the risk, while of low probability, isn’t totally removed.

#### **4. Other criteria**

Water temperatures are increasing, and delta smelt are expected to move out of the South and Central Delta towards their currently preferred summer/fall rearing area near the confluence. The current (6/21) temperature in Clifton Court Forebay is 22.3 degrees C. Once temperatures at Clifton Court Forebay reach 25 degrees C for three consecutive days, the actions under the RPA will end. It appears unlikely that this event will occur prior to the temporal (June 30) RPA Component 2 offramp.

#### **Conclusion**

After reviewing all of the available information, the Service concludes that the OMR flow target set out in this Decision is necessary to protect the delta smelt and avoid jeopardy. This conclusion is based on the best scientific and commercial data available, the explanation set out in this Decision, and the recommendations of the Smelt Working Group (“SWG”) for the week of June 22, which are hereby incorporated by reference.

As explained in detail in the biological opinion, the purpose of this OMR flow target is to prevent the kind of high entrainment events that have occurred historically. The entrainment of larval and juvenile delta smelt at the CVP and SWP pumping facilities is one of the three major factors (related to the operation of the CVP and SWP) that is affecting the long-term viability of the delta smelt. Thus, to protect the species and avoid jeopardy, the CVP and SWP must be managed to avoid such high entrainment events, especially when, as now, the abundance of the delta smelt is very low.

The totality of data collected during June, including distribution from the latest 20mm surveys suggesting a number of delta smelt have moved out of the South and Central Delta, generally lower relative salvage at the facilities, and the approach of higher temperatures and the end of the functional rearing season in the South and Central Delta, have reduced our concern

regarding population-level risk from a subsequent entrainment event. A more negative OMR flow target is now acceptable, with the caveat that future salvage at or above the rates observed over the weekend would suggest reconsideration, and the Service would immediately reconvene the SWG for further discussion.

The basis for the range identified in RPA Component 2 (that is, between -1,250 and -5,000 cfs) is set out in the biological opinion and its Appendix B. The Service has selected the specific OMR flow target of -5,000 cfs within that range because (1) salvage over the past couple weeks has generally dropped, indicating with greater likelihood that the entrainment event of late May and into June has passed; (2) this OMR flow target is believed adequate to protect most of the delta smelt population from becoming entrained, as the data suggest that few fish are likely to remain subject to further entrainment during the remaining temporal risk interval; (3) By keeping OMR flows at this level and having exports go up by a maximum of 300-400 cfs per day, the remaining delta smelt in the Central Delta should be able to move out of these areas to the Confluence Area and Suisun Bay to complete their life history while delta temperatures are relatively cool.

The Service finds that there is no basis to conclude that an alternative, less restrictive OMR flow target would adequately protect the delta smelt and avoid jeopardy. The current OMR requirement is the least restrictive set in the biological opinion, and the support for these flow requirements is provided within that document. The Service recognizes that significant scientific uncertainties surround all of these issues, including the setting of a specific OMR flow target. However, for the reasons described above, the Service concludes that an alternative, less restrictive OMR flow target would not adequately protect the delta smelt or avoid jeopardy.

### **Potential Harms to Humans, the Community, and the Environment**

The United States District Court for the Eastern District of California recently issued a preliminary injunction requiring the Service to “explain why alternative, less restrictive OMR flows would not adequately protect the delta smelt . . . .” Findings of Fact and Conclusions of Law and Order re Plaintiffs’ Motion for Preliminary Injunction (“PI Order”), Docket No. 94 (May 29, 2009), at 49. That explanation is set out above.

The Court also enjoined the Service from setting “unnecessarily restrictive” OMR flow targets “unless and until FWS first considers the harm that these decisions and actions are likely to cause humans, the community, and the environment . . . .” PI Order at 48-49. The Court clarified that the Service is not required to “independently evaluate and/or weigh the harms to humans, the community, and the environment versus any potential harm to the species.” PI Order at 49. Because the Service has concluded that the OMR flow target set by this Decision is not “unnecessarily restrictive,” it is not required by the Court’s order to consider harms to humans, the community, and the environment here.

Nonetheless, the Service acknowledges that there may be socio-economic impacts in the CVP service area in the event that operating to the OMR flow target results in less exports than may otherwise occur in this third year of drought. As discussed above, however, the Service has concluded that this OMR flow target is necessary for compliance with the Endangered Species

Act. In considering the potential harms identified by the Court, the Service has not conducted any economic or “cost/benefit” analysis of the effects of these OMR target flows.