

Service Decision June 2, 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 -1,500 cfs on a 14-day running average. Simultaneously, OMR flow shall be no more negative than -1,875 cfs on a 5-day average.

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 concludes that a significant proportion of the delta smelt population is present in the central or south Delta and within the zone of entrainment of the CVP and SWP pumps for the following reasons:

The most recent 20 mm survey ran from May 18 through 22. A total of 48 delta smelt were collected at eight stations, stations 504, 519, 716, 719, 723, 804, 809, and 919. These fish were distributed in the Cache Slough area as well as in the Central Delta and Suisun Bay.

It is difficult to reliably infer the distribution of the delta smelt population from the results of this 20 mm survey, however, because the abundance of the delta smelt is currently very low (as discussed below) and because very few delta smelt were caught in this survey (only a total of 48). 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, it still indicates that a proportion of the delta smelt population is in the central Delta.

As discussed below, significant salvage, approaching the biological opinion's incidental take limit, occurred at the CVP and SWP facilities during May 2009. This salvage demonstrates that delta smelt are located in the central or south Delta and within the zone of influence of the CVP and SWP pumping facilities. This salvage is especially significant, as evidence of the distribution of the delta smelt, because OMR flows were tightly limited during May (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 (with only 48 delta smelt caught in the most recent 20

mm survey). 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 remains very high. 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, it continues to be necessary to avoid high entrainment events.

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 entrained 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. The “level of concern” for June is 759 fish and 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 would the Service be able to determine if levels of incidental take higher than those set in the biological opinion would avoid jeopardy. It is significant that this level of incidental take occurred despite the very tight restrictions on OMR flows during May. 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 significant take that occurred during May, and the current data on the distribution of the delta smelt population (as discussed above), the risk of a high entrainment event remains very high. Less restrictive OMR flow targets could lead to a significant increase in entrainment and jeopardize the continued existence of the species.

4. Other criteria

Water temperatures in the Delta are above the range that most successful spawning takes place, which is 12-18 degrees C. Any spawning that is currently occurring is not likely to result in a viable cohort of delta smelt. As temperatures increase, delta smelt move out of the South and Central Delta and may become subject to entrainment. The current temperature in Clifton Court Forebay is 23.4 degrees C. Once temperatures at Clifton Court Forebay reach 25 degrees C for three consecutive days, the actions under the RPA will end.

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. The Service also concludes that an alternative, less restrictive OMR flow target would not adequately protect the delta smelt or avoid jeopardy. To the contrary, the Service finds that a less restrictive OMR flow target could jeopardize the continued existence of the species by causing a high entrainment event and drawing delta smelt into the less suitable habitat of the central and south Delta. The Service concludes that the OMR flow target set by this Decision is not “unnecessarily restrictive,” but rather is the minimum OMR flow target necessary to ensure compliance with the requirements of the Endangered Species Act. These conclusions are 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 1, 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.

Without a sufficiently protective OMR flow target, the risk of a high entrainment event is currently very high because, as discussed above, the best available scientific and commercial data shows that a significant proportion of the delta smelt population is located in the central or south Delta (within the zone of influence of the CVP and SWP pumps), significant levels of salvage occurred in May despite tight restrictions on OMR flows, and June has historically been a month with high levels of salvage. The effect of a high entrainment event on the species at this time could be catastrophic because the delta smelt is already at critically low levels of abundance. In addition, a protective OMR flow target must be set before a high entrainment event begins because, once such an event starts, it may not be possible to stop it by reducing pumping at the CVP and SWP facilities. Finally, an OMR flow target is also necessary to ensure that delta smelt are not drawn into the central or south Delta, where they are more vulnerable to high water temperatures, predation, entrainment at the facilities, and potential adverse contaminant effects.

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 -1,500 cfs within that range because (1) it is comparable to the OMR flow targets set during May (first by VAMP and later under RPA Component 2), which avoided a high entrainment event but still resulted in levels of incidental take near the limits identified in the biological opinion; (2) particle tracking modeling show that 4.4 percent of particles injected at station 815 will become entrained at the export facilities over 31 days. This level of entrainment should be protective of most of the delta smelt population, since the 20 mm survey has shown there were delta smelt found outside the zone of entrainment. However, as described above, the uncertainty with the 20 mm survey may not provide accurate results and entrainment at the facilities will continue to be monitored to ensure that the incidental take concern level and take limit are not reached.

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. As discussed above, a significant proportion of the delta smelt population is within the zone of influence of the pumps and significant salvage of delta smelt occurred during May despite tight OMR flow restrictions. An alternative, less restrictive OMR flow target would result in higher levels of salvage, increase the number of delta smelt drawn into the central and south Delta, and could lead to a high entrainment event of kind that the Service has concluded have had a significant, population-level effect on the species. In addition, an alternative, less restrictive OMR flow target would not adequately protect the delta smelt in light of the species' current, very low level of abundance.

In particular, the results of the most recent 20 mm survey are not sufficient to support an alternative, less restrictive OMR flow target. As discussed above, the distribution of the delta smelt cannot be reliably inferred from the results of that survey, at the current low levels of abundance and given the extremely limited number of delta smelt actually caught during the survey. Moreover, to the extent that the results of the most recent 20 mm survey could be interpreted to suggest that delta smelt are not present in the central and south Delta, that interpretation has already been disproven by the significant levels of salvage that occurred during May.

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.