December 16, 2016

FWS Response to Operations Proposal

On Monday, December 12, the Smelt Working Group (SWG) recommended that Old and Middle River (OMR) flows of no more negative than -5,000 cfs should be implemented for the protection of Delta smelt based on their review of current and forecasted Delta conditions and recent survey data. The Service responded by raising concerns that issuing a determination based on this advice could be problematic because Action 1 of the 2008 Biological Opinion does not address the implementation of an alternative OMR flow prescription other than OMR flow of no more negative than -2000 cfs. Hearing this concern, the SWG reconvened on Tuesday and recommended that, absent an alternative OMR flow prescription, Action 1 should be implemented as soon as -practicable. The SWG found that an immediate reduction in exports was necessary to limit turbidity distribution with the incoming storm and consequently limit the extent of delta smelt dispersal into the south Delta which could result in continual losses throughout the entrainment season.

The Service has reviewed the SWG's advice. We concur that increasing river flows and turbidity already beginning to enter the Delta are indicative of first flush conditions. Delta smelt will respond to this storm by dispersing or migrating.Some of those migrants will be drawn into Old and Middle Rivers if OMR flows remain in the present range of -8000 to -10,000 cfs.

With the exception of the very high catch at station 706, smelt catches in the December Kodiak Trawl have ranged from 0 to 3 fish per tow, and have been distributed similarly to other recent-past Kodiak trawl surveys with smelt detections concentrated in Montezuma Slough, the lower Sacramento River, and the Cache Slough area and no catch at most sampling locations including all south Delta sampling locations. The Service's Enhanced Delta Smelt Monitoring (EDSM) was initiated this week and has only surveyed in the San Joaquin River. Thus, the Service does not currently have enough delta smelt catch information to make a robust estimate of delta smelt's current system-wide distribution. We note it is possible that delta smelt in the vicinity of Decker Island on the Sacramento River could end up in the San Joaquin River or areas south of it

under current OMR flow conditions. In addition, the EDSM collected three delta smelt along the San Joaquin River on December 15. Fish occupying this part of the Delta already face a high risk of entrainment under current conditions and based on the past several years of Early Warning Surveys, we can expect more to follow in response to Thursday's storm.

Delta inflow at Freeport wasnearly 50,000 cfs on December 15 and will stay elevated into the weekend. The 14-day OMR flow as of the morning of December 16 was -8,000 cfs and the 5-day average was -9,022 cfs. The California Department of Water Resources (DWR) reduced its exports December 15 and December 16 pursuant to a determination from the California Department of Fish and Wildlife (DFW) under the Incidental Take Permit to protect Longfin Smelt, a species listed under the California Endangered Species Act. An additional reduction will be taken on December 17. The DFW has informed us that the required action to protect Longfin Smelt will end when flows increase above 55,000 cfs at Rio Vista.

Turbidity is thought to be the primary water quality factor influencing the distribution of Delta smelt during December. Turbidity at Prisoner's Point exceeded 10 NTU on December 14 and on December 16was around 15 NTU. Turbidity at Bacon Island exceeded 10 NTU a couple of times during the morning of December 16 and has also reached that level in the Middle River at Holt. Although not a consideration in December real-time operations mangagment, December water temperatures this year have been slightly lower than is typical due to cooler air temperatures and wetter conditions.

One of the key management strategies of the Service's RPA is to avoid large losses of adult smelt to entrainment because of the immediate effect of those losses on the population's reproductive potential. As noted by the SWG, the intent of Action 1 is to pre-empt major delta smelt dispersal into the south Delta to avoid large entrainment losses and resulting persistent take problems throughout the winter months. No salvage has been reported as of December 15, but no salvage would be expected until flow had increased enough to cue active dispersal. The low abundance in recent years decreases the likelihood of salvage observations prior to substantial movement into the southern Delta. However, if OMR flows remain highly negative, based on past experience, the risk of salvage will increase.

Subsequent to the SWG's revised recommendation, Reclamation and DWR have updated their planned operations to achieve combined exports of 7000 cfs by Sunday, December 18. This change in operations is estimated to result in OMR flows of-5000 to -6000 cfs. . Reclamation and DWR will monitor conditions over the weekend and absent any changes in smelt distribution or other factors, revisit the operational proposal on Monday. Operation of OMR at -5000 cfs is consistent with the SWG's initial recommendation. These planned operations should be adequate to ensure more positive OMR flow values during the peak of flow and turbidity from this week's storm, with less water supply impact than would have occurred under Action 1. The Service believes that in light of the risk to delta smelt, the planned operations are prudent.As stated above, continuing to operate with more negative OMR flows would increase the risk of drawing delta smelt into the South Delta, potentially creating a scenario where delta smelt would be at higher risk of entrainment throughout the winter and spring. Reclamation and DWR report that they will reassess conditions throughout the weekend, and that they will be available to meet over the weekend to confer about real time conditions and if warranted, to reassess and adjust operations. We greatly appreciate the collaborative efforts of the agencies to reduce risk to delta smelt during this ecologically sensitive time and will also be available to confer over the weekend if needed.

The Service remains prepared to make a determination under Action 1 of the BiOp if necessary. We will continue to seek recommendations from the Smelt Working Group and monitor conditions, including turbidity, results of the Enhanced Delta SmeltMonitoring, Sacramento River flow levels and other Delta inflows, and salvage.