

SMELT WORKING GROUP
Monday, December 17, 2012

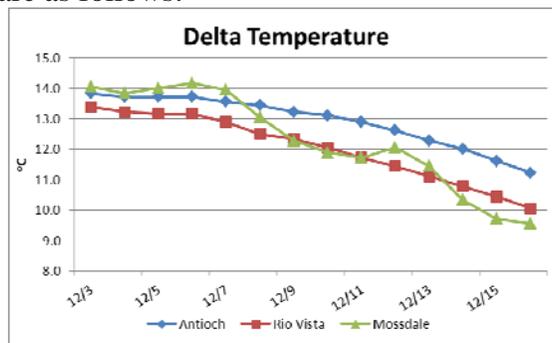
Meeting Summary:

The Working Group recommended that OMR flow be reduced to no more negative than -2,000 cfs for 14 days, with a concurrent 5-day running average no more negative than -2,500 cfs beginning as soon as possible. This recommendation is based on delta smelt salvage occurring over five consecutive days at the Delta facilities (from December 12 through December 16). The Working Group requested that the Service convene a WOMET meeting this afternoon so a Determination and change in operations can be moved forward with all expediency, due to the urgent need of this action to protect adult delta smelt from entrainment. The Working Group will continue to monitor salvage and other conditions, but does not anticipate meeting again prior to the end of this initial action.

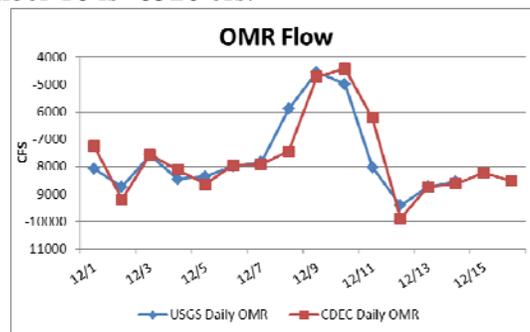
Reported Data:

1) Current environmental data:

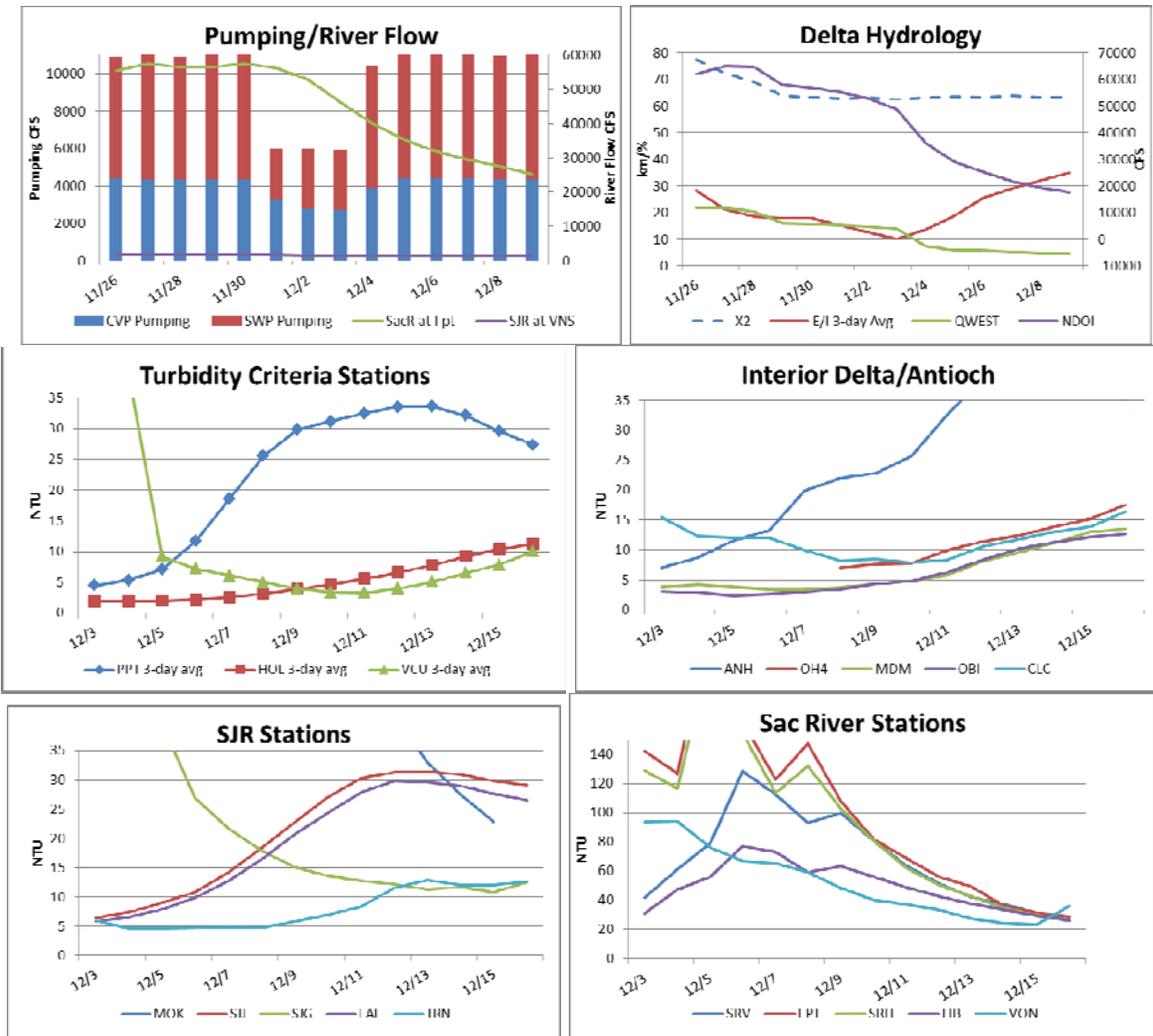
- **Water temperatures** are as follows:



- **OMR:** USGS tidally-averaged daily OMR as of December 14 is -8,540 cfs. CDEC daily OMR flow as of December 16 is -8520 cfs.



- **Flow:** Sacramento River inflow is 25,214 cfs and San Joaquin River is 1,401 cfs. X_2 calculation from CDEC was 63.5km. The graphs below show the most recent trends in Delta hydrology and water quality that were evaluated by the Working Group.



Delta Fish Monitoring:

No new information was presented regarding fish surveys since the previous meeting on December 14.

Fall Midwater Trawl (FMWT) has concluded field sampling for 2012. The Final FMWT Index (all four months) is anticipated to be released later this week. Preliminary results indicate no detections of smelt in the interior Delta stations, and a few detections in Suisun Bay, with only slightly larger numbers in the Sacramento River system and Cache Slough.

The 2012 Delta Smelt Recovery Index (based on September and October) is 13. More information on the Recovery Index can be found on the Bay-Delta Office’s web site at http://www.fws.gov/sfbaydelta/species/delta_smelt.cfm. Results from CDFG surveys are available online at: <http://www.dfg.ca.gov/delta/>.

2) Salvage:

Four delta smelt were salvaged at the Skinner Fish Facility (SWP facility) on December 12, 2012. Another two delta smelt were salvaged at the SWP facility on December 13, 2012. Four delta smelt were salvaged at the CVP facility on both December 14 and 15. Twelve delta smelt were salvaged at the CVP facility on December 16. The total combined delta smelt salvage for the season is now 26. This is an unusually high total at this point in the season, particularly given the expected low 2012 FMWT index. No longfin smelt have been salvaged at either facility for the season.

Current longfin smelt and delta smelt salvage information can be downloaded from DFG's salvage FTP site at <ftp://ftp.dfg.ca.gov/salvage/Daily%20Smelt%20Summary/> or queried from DFG's salvage web page at <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>

3) Expected Project Operations:

Combined CVP/SWP exports are approximately 11,600 cfs as of December 17, and are anticipated to remain steady.

Operators indicated that although some precipitation events were anticipated over the next week, little measureable rain was expected.

4) Particle Tracking Modeling:

No PTM runs were requested for this week.

5) Assessment of Risk:

Background:

RPA Component 1: "Beginning in December of each year, the Service shall review data on flow, turbidity, salvage, and other parameters that have historically predicted the timing of delta smelt migration into the Delta. On an ongoing basis, and consistent with the parameters outlined... [in the BO]...the SWG shall recommend to the Service OMR flows that are expected to minimize entrainment of adult delta smelt" (page 280).

RPA Component 1, Action 1, Part A: "Low-entrainment risk period: delta smelt salvage has historically been low between December 1 and December 19, even during periods when first flush conditions (i.e., elevated river inflow and turbidity) occurred. During the low-entrainment risk period, the SWG shall determine if the information generated by physical (i.e. turbidity and river inflow) and biological (e.g., salvage, DFG trawls) monitoring indicates that delta smelt are vulnerable to entrainment or are likely to migrate into a region where future entrainment events may occur. If this occurs, the Service shall require initiation of Action 1 as described in Attachment B [of the BO]. Action 1 shall require the Projects to maintain OMR flows no more

negative than -2,000 cfs (14-day average) with a simultaneous 5-day running average flow no more negative than -2,500 cfs to protect adult delta smelt for 14 days” (page 281).

Discussion: The Working Group reviewed and discussed all relevant data from fish surveys, Delta monitoring, salvage, and planned Project operations. The members were concerned with the highly negative daily OMR flow and negative Qwest, the five consecutive days of adult delta smelt salvage, and overall Delta hydrological conditions, which were deemed favorable for delta smelt movement into the central and southern Delta. Turbidity has continued to remain at higher levels in the central and part of the southern Delta. The members reviewed the discussion from the previous meeting on December 14.

The salvage density criterion for RPA Component 1, Action 1, Part B was discussed. The Working Group stated that the justification in the BO for the salvage thresholds in Part B could apply to earlier in December than the December 20 stated in the RPA. Table B-2 (page 339) of the BO, which displays WY2002 OMR flow, turbidity, and salvage, was discussed as evidence to support this assertion.

The members recognized the lack of fish data post-storm for the San Joaquin River and central and southern Delta stations, and acknowledged that until the January 2013 surveys begin, the only new fish data will be from salvage. The members agreed that the five concurrent days of adult delta smelt salvage was sufficient evidence to say that the recent salvage reflects a salvage trend, which is anticipated to continue and possibly increase without a reduction in the negative OMR flow. Even with a reduction in OMR flow to no more negative than -2,000 cfs, the Working Group anticipates continued low levels or sporadic salvage over the next couple of weeks. Without this protective action, the Working Group anticipates that much larger numbers of delta smelt would be salvaged.

The Working Group requested that the Service convene a WOMT meeting later this afternoon so that a Determination can be made and a change in operations can be moved forward with all expediency, due to the level of concern the members have for the risk of entrainment to delta smelt.

The Working Group also discussed the recent occasional reductions in count duration at the SWP fish facility. Due to large numbers of American shad being salvaged during overnight hours, the sampling has been reduced to as little as ten minutes per two hours. The members were concerned that this could result in a low probability of detection for delta smelt, at a time when detection and accurate salvage estimates are essential and when salvage is the only new data anticipated for detection (no new field surveys until January 2013). The Working Group requested that all effort be made at both salvage facilities to maintain the normal sampling routine of 30 minutes every two hours. The Working Group also requests that salvage reporting be done without delay, from the recording of fish into the facility until the numbers are reported to CDFG and that reporting be made twice daily, if at all possible.

WEEKLY ADVICE FOR THE DEPARTMENT OF FISH AND GAME FOR LONGFIN SMELT

Advice for week of December 17, 2012:

The Smelt Working Group does not have any longfin smelt advice at this time.

Basis for advice:

The 2009 State Water Project 2081 for longfin smelt states that advice to the DFG Director shall be based on:

1. Adult Salvage – total adult (≥ 80 mm) longfin smelt salvage (SWP+CVP) for December through February > 5 times the Fall Midwater Trawl longfin smelt annual abundance index.
2. Adult abundance, distribution or other information indicates that OMR flow advice is warranted.
3. Larva distribution in the Smelt Larva Survey or the 20mm Survey finds longfin smelt larvae present at 8 of 12 Central and South Delta sampling stations in 1 survey (809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918, 919).
4. Larva catch per tow exceeds 15 longfin smelt larvae or juveniles in 4 or more of the 12 survey stations listed.

Discussion of Criteria

1. As of December 16, 2012, no longfin smelt have been salvaged for the water year. The Fall Midwater Trawl longfin smelt annual abundance index has not been completed. The total salvage level threshold for advice is >40 (see criterion in #1). No advice is warranted based on this criterion.

2. December Fall Midwater Trawl and Bay Study sampling collected no longfin smelt in the San Joaquin River or the south Delta, suggesting no current proximity to the export pumps. Distribution information does not indicate advice is warranted based on this criterion.

3 & 4. No information is available yet. The first Smelt Larva Survey of 2013 begins in early January. Information should be available for discussion about 1 week after sampling is completed.

Current conditions: Net Delta outflow declined to about 17,600 cfs and X2 remained in the low 60 km range. Even though Qwest was -5,500, these hydrodynamic conditions overall result in low risk of entrainment for adult longfin smelt. Combined State and federal exports are currently over 10,000 cfs, but a reduction in exports is recommended by the SWG for delta smelt and could be implemented later this week. The proposed reduction, to achieve an OMR no more negative than -2000 cfs, would virtually eliminate a risk of entrainment to adult longfin smelt. The collection of no adult longfin smelt in the San Joaquin River or south Delta to date suggests very low risk. The current eminent reductions in exports coupled with X2 in Suisun Bay and Qwest >6000 cfs bolster support for extremely low risk of entrainment.