SMELT WORKING GROUP
Tuesday, May 31, 2011

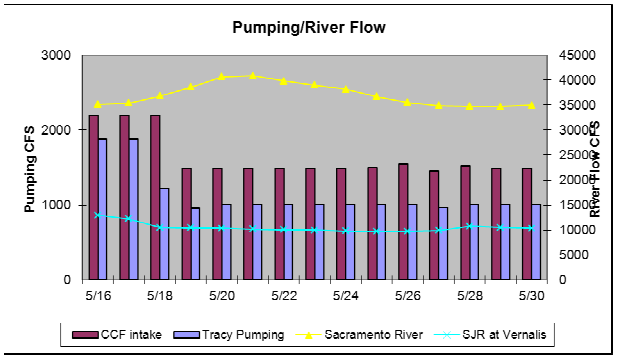
The Working Group will continue to monitor salvage, survey data, and hydrological conditions and will reconvene June 6. No recommendations were made.

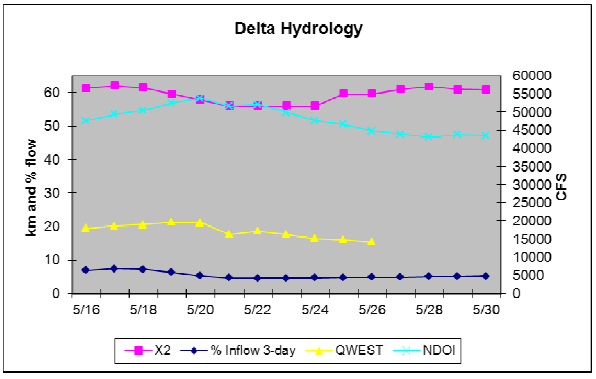
1) Current environmental data.

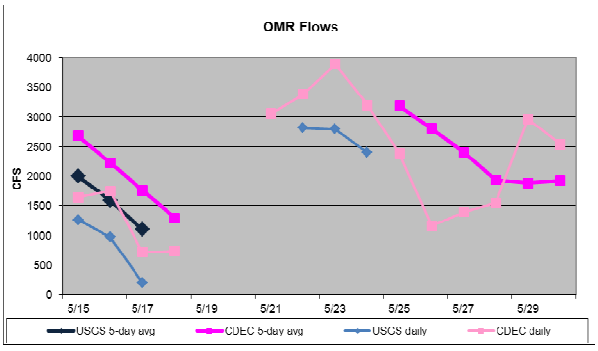
- **Water temperature** for the 3 station average is 16.2°C.

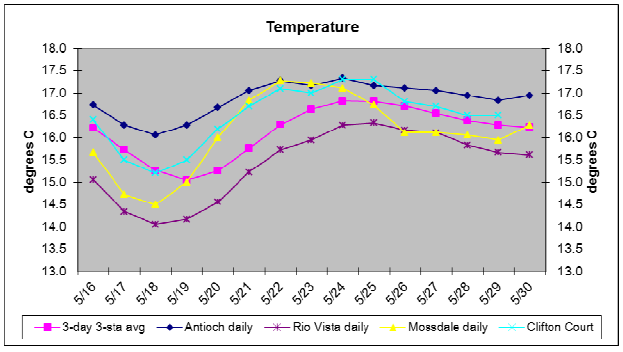
- **OMR** USGS tidally-averaged OMR currently is unavailable. The OMR average estimate from CDEC on May 31 was 2,544 cfs. The 5-day CDEC OMR was 1,922 cfs.

- **Flow** Sacramento River inflow is 34,919 cfs and San Joaquin 10,350 cfs. X_2 calculation from CDEC is 61km. The E/I ratio was 5.1% and NDOI was 43,475 cfs. QWEST currently is unavailable. The graphs below show the most recent trends in Delta hydrology and water quality that were evaluated by the Working Group.

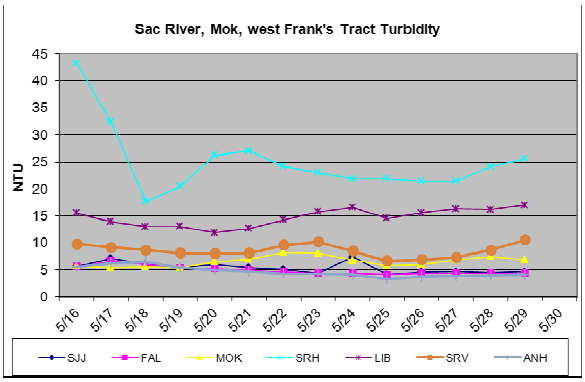


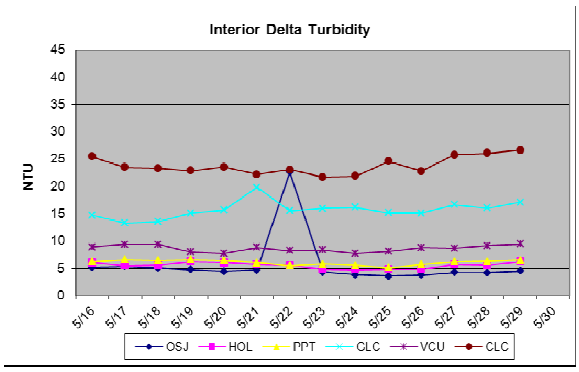


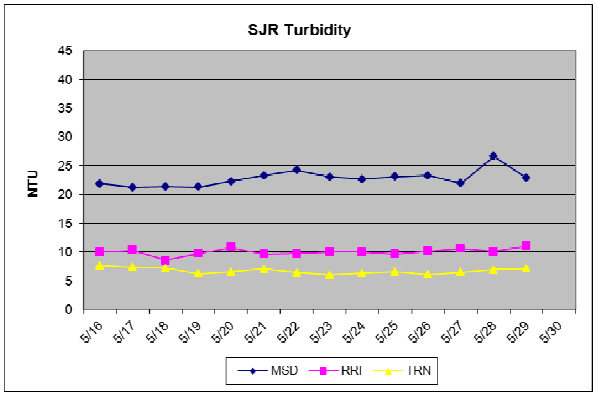




- **Turbidity** Turbidities are generally at a steady state.







2) Delta fish monitoring:

20mm Survey #6 was in the field the week of May 23. The only delta smelt collected in the central and south delta was a single 13mm larva from station 901. The greatest concentration of larvae was from the Sacramento Deep Water Shipping Channel, with 36 collected. Larvae were also collected at other Sacramento River stations, the confluence, Suisun Bay, and other stations downstream of the confluence. A total of 78 larvae were collected, with additional stations in the Napa River remaining to be reported. The final 2010 FMWT Index is 29 for delta smelt and 191 for longfin smelt. The 2010 Delta Smelt Recovery Index (based on September and October) is 11. More information on the Recovery Index can be found on the Bay-Delta Office's web site at http://www.fws.gov/sfbaydelta/ under "hot topics." Results from larval surveys, SKT, and 20mm Surveys are available online at: http://www.dfg.ca.gov/delta/

Longfin smelt are beginning to recruit to the Bay Study gear in western Suisun, San Pablo and Central San Francisco bays and are no longer considered at risk for entrainment. Only a single longfin smelt was detected in the Delta by the 20mm Survey during survey 6.

3) Salvage

No longfin smelt were salvaged from January 15 through May 30. Four adult delta smelt were salvaged at the CVP on January 15 and 17, February 24, and March 15, 19, and 20, and 12 were salvaged at the CVP on March 22, 8 on March 23, 4 on March 30, 2.1 on April 1, and 1 on April 5 for a seasonal cumulative total of 51 fish. The 2010 FMWT index for delta smelt is 29. This means that the authorized incidental take of adults is 210 (estimated) and the concern level is 157

(estimated), cumulative for the December through March period. No salvage has been reported for longfin smelt or delta smelt at the SWP since June 2010. No larvae or juvenile salvage of either delta smelt or longfin smelt has been reported at either facility for the season. Criteria for the implementation of an action were not met or exceeded.

Incidental take for juvenile delta smelt at least 20mm in size is as follows:

	Concern Level	**Authorized Take**
April	9	13
May	378	567
June	958	1436
July	1086	1630

Numbers are estimated salvage for the SWP and the CVP combined. The monthly numbers are cumulative. For example, the authorized take for July includes the salvage from April, May, and June.

4) Expected Project Operations

Combined CVP/SWP exports are approximately 2,300 cfs as of May 31. Tomorrow, the combined exports are anticipated to rise to 6,800 cfs. By June 2, combined pumping is anticipated to rise to 9,000 cfs. The density criterion for salvage of steelhead under the NMFS RPA (8/TAF) was exceeded on Friday, May 27; OMR will be restricted to no more negative than -3500 cfs through Wednesday, June 1. The OMR restriction to protect steelhead could be extended if salvage densities continue to exceed criteria. If not extended, the Projects will operate to 1:1 exports to Q-SJR or no more negative than -5000 OMR, whichever is more restrictive, as required by the NMFS B.O. The NMFS RPA remains in effect through June 15.

5) Particle Tracking Modeling

The Working Group did not request PTM runs for this week.

6) Discussion for Recommendation

The Working Group reviewed and discussed all relevant data from fish surveys, Delta monitoring, salvage, and planned Project operations. No recommendation was made.

RPA Component 2, Action 3 is intended to minimize the entrainment of larval delta smelt. Criteria for the implementation of Action 3 are based upon the onset of spawning or the presence of larvae in the system. Risk of entrainment is estimated based upon survey data, Delta conditions, and the occurrence of salvage.

The Working Group will continue to evaluate the risk of entrainment according to the guidance provided in the RPA, as in previous years. The recent OCAP settlement does not change any of the parameters that the Working Group is required to discuss (B.O., pp 358-368). However, the newly-created Delta Condition Team (DCT) may provide additional information for the Working Group's consideration. The settlement additionally provides that the Service may set OMR flows more negative than -5,000 cfs; flows as negative as -6,100 cfs are allowed on an experimental basis if the "best available science and consideration of all factors…indicate that such flows would be adequately protective" of delta smelt. This rate of flow could apply if the risk of entrainment is believed to be low, based upon evaluation of physical and biological monitoring results. The Working Group has not as yet received any communication from the DCT.

The 3-day, 3-station average water temperature surpassed 12°C on March 10, two spent female delta smelt were detected in SKT survey #3, and one delta smelt larva was collected during the 20mm Survey #1, any of which meet or exceed the criteria for the implementation of Action 3, entrainment protection for larval smelt. The temperature criterion may indicate that protections are needed based upon the assumption that delta smelt spawning is in progress, whereas the observation of spent females and/or larvae provides direct evidence of spawning. The Working Group noted that the only larva collected from the central and southern Delta in the most recent 20mm Survey was from station 901, on the west side of Franks Tract. Given that the apparent distribution exhibited by 20mm Survey #6 was favorable, the Working Group did not feel that this single collection indicated an increased risk of larval delta smelt entrainment.

Combined pumping is anticipated to increase by 7,000 cfs by June 2. The Working Group noted that the total pumping as of June 2 (approximately 9,000 cfs) will pull most of the San Joaquin River flow, in accordance with the NMFS RPA requiring a 1:1 ratio of San Joaquin flow to exports, and is anticipated to result in a slightly negative OMR flow. Although the Working Group did not believe that this level of OMR flow and pumping would result in an increased risk of entrainment, the Group did decide to closely watch the OMR flow response over the next several days as pumping increases.

Given Delta water temperatures and the detection of adults in the final Kodiak Trawl Survey at stations 919 and 912 in the lower Mokelumne, the Working Group noted that hatching would likely continue for the present, and additional larvae would likely be collected in future surveys. Concern was expressed that the numbers of delta smelt larvae collected in this year's 20mm Survey are low compared to previous wet years. The sizes of smelt collected, however, are comparable for this time of year.

The Working Group estimated that the overall risk of entrainment for larvae was low given the distributional data from recent surveys. Turbidity throughout the delta has remained relatively clear for the past couple of weeks. Hydrology is currently and is expected to remain favorable, indicating a low risk for entrainment. Apparent abundance remains very low, which raises the overall concern for the species into the moderate range.

The Working Group did not receive any advice from the DCT.

The Working Group believes that, based upon what is known of Delta conditions and delta smelt distribution, a modification of Project operations to protect delta smelt is not yet warranted. The Working Group will meet again on June 6 at 10:00 am, via conference call.

ADDENDUM to notes:

During the WOMT meeting on May 31, additional information was provided regarding projected OMR flows. OMR flows are likely to be more negative than what was anticipated by the SWG when estimating the risk of entrainment for delta smelt – potentially as negative as -5000 cfs by the end of the week. However, this information did not change the estimate of the risk of entrainment, which remains low. No recommendation for a modification of Project operations is needed.