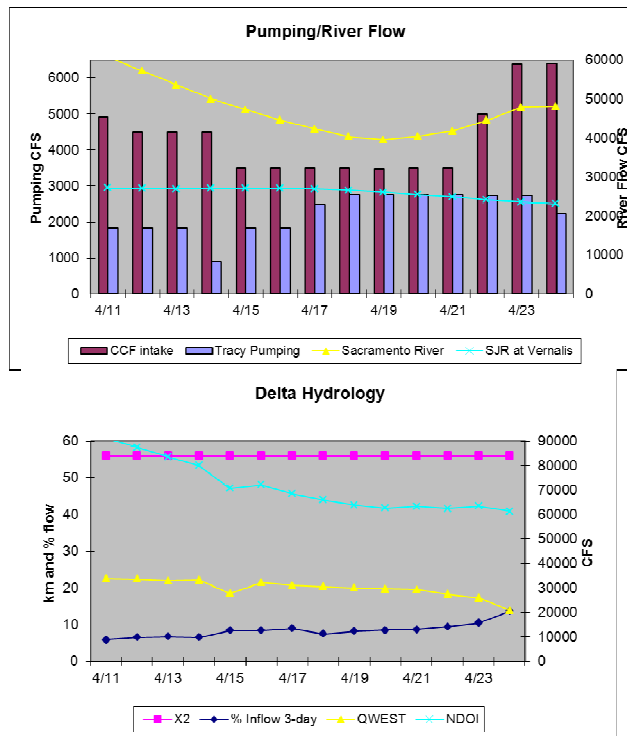


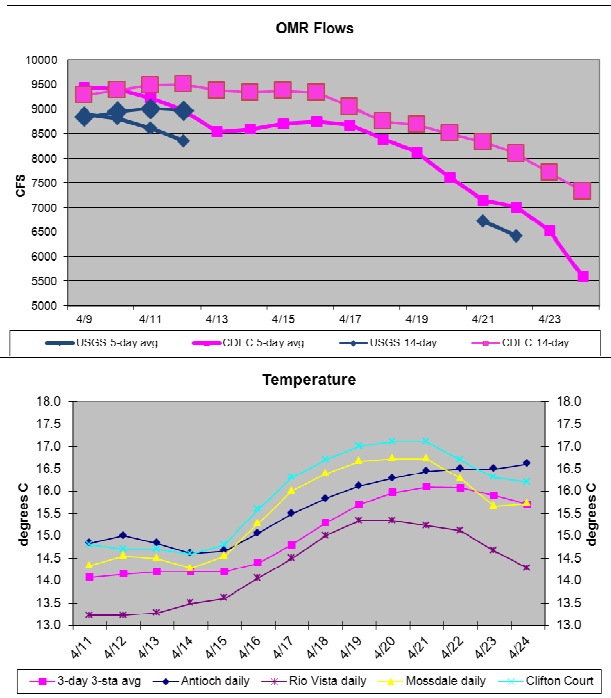
SMELT WORKING GROUP
 Monday, April 25, 2011

The Working Group will continue to monitor salvage, survey data, and hydrological conditions and will reconvene May 2. No recommendations were made.

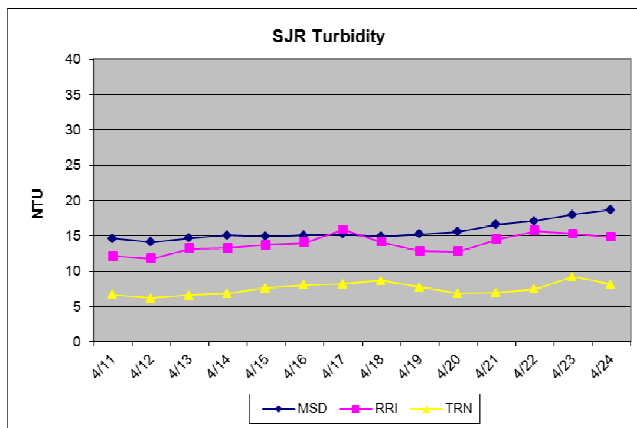
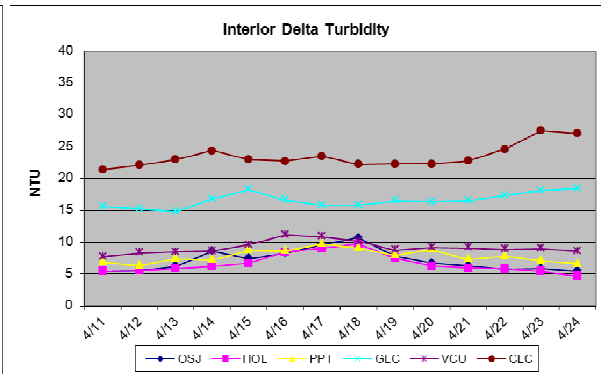
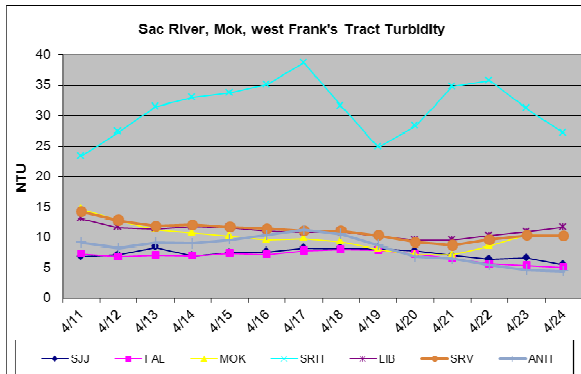
1) Current environmental data.

- **Water temperature** for the 3 station average is 15.7°C.
- **OMR** USGS tidally-averaged OMR was 4,850 cfs on April 22, 2011. The 5-day average OMR was 6,416 cfs. The OMR average estimate from CDEC on April 24 was 3,619 cfs. The 5-day CDEC OMR is 5,595 cfs.
- **Flow** Sacramento River inflow is 48,116 cfs and San Joaquin 23,088 cfs. X₂ calculation from CDEC is less than 56km. For April 24, the E/I ratio was 13.6%, QWEST was 20,907 cfs, and NDOI was 61,327 cfs. 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 #3 was in the field the week of April 11. 42 of 47 stations were sampled and sample processing is complete. One juvenile delta smelt was collected at both station 519 and 345 (6mm and 11mm, respectively). One adult delta smelt was collected in the Sacramento Deep Water Shipping Channel. 20mm Survey #4 is in the field this week and will include samples from stations in eastern San Pablo Bay. Spring Kodiak Trawl #5 will be in the field the week of May 2. 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/>

3) Salvage

No longfin smelt were salvaged from January 15 through April 24. 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. No salvage has been reported for longfin smelt or delta smelt at the SWP since June 2010. No larvae or juveniles for 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 around 8,500 cfs as of April 24. The CVP and SWP have filled their shares of San Luis Reservoir.

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 1, Action 1 is intended to protect pre-spawning adults during the first flush, as they move into their spawning areas. The WY 2011 first flush has likely passed through the Delta. Component 1, Action 2 (pp 280-281 and Attachment B, pp 352-356) may be implemented following the conclusion of Action 1, or the first flush. Criteria for the implementation of Action 2 are more varied and more flexible than those for Action 1. 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 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. Under the low-entrainment risk scenario for the implementation of Action 2, the salvage criterion is a Daily Salvage Index greater than or equal to 1 (i.e., 29, estimated; B.O. p 338).

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 3-day, 3-station average water temperature surpassed 12°C on March 10, 2 spent female delta smelt were detected in SKT survey 3, and 1 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. Peak daily adult salvage exceeding a one:one ratio to the FMWT Index may also indicate that the risk of entrainment is unacceptably high (B.O., pp 346-347).

The Working Group estimated that the overall risk of entrainment for larvae and adults was low given the distributional data from recent surveys. Turbidity throughout the delta has remained relatively clear for the past couple of weeks. Hydrology remains favorable, indicating a low level of risk for entrainment. Apparent abundance remains very low, which raises the concern level for the species into the moderate range. The risk of delta smelt entering the central and south Delta is expected to remain low, due to anticipated export pumping and flows for the San Joaquin and Sacramento Rivers.

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.

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

Recommendation for week of April 25, 2011:

The Smelt Working Group does not have any advice based on longfin smelt information. San Joaquin River at Vernalis flow remains above the level indicating virtually no risk entrainment.

Basis for recommendation:

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 (State Water Project + Central Valley Project) 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, and 919).
4. Larva catch per tow exceeds 15 longfin smelt larvae or juveniles in 4 or more of the 12 survey stations listed.

As of April 3, no longfin smelt have been salvaged since the first longfin smelt of the season was salvaged on January 14, 2011 and none have been collected in the central or south Delta in fish surveys in March or April. No advice is warranted based on this criterion.

Longfin smelt larvae were detected during the Smelt Larva Survey #1 (January 18-19), providing evidence of spawning, which initiated SWP Longfin Smelt ITP section 5.2 to protect larval and juvenile longfin smelt. However, OMR restrictions under section 5.2 are not required when river flows are: 1) greater than 55,000 cfs on the Sacramento River at Rio Vista; or 2) greater than 8,000 cfs on the San Joaquin River at Vernalis.

San Joaquin River flow at Vernalis surpassed 8,000 cfs flow criterion on February 19th and has remained above it since (Figure 1). Sacramento River flow at Rio Vista surpassed the 55,000 cfs flow criterion about March 18 and has remained above it until about April 12 (Figure 2). As of April 24, Qwest was about 20,900 cfs (Delta Hydrologic Conditions), indicating strong westward flows and little risk of entrainment for longfin smelt larvae.

The last Smelt Larva Survey data available (#5, March 22-23) indicated that recently hatched larvae were transported westward out of the central Delta, though a few larvae continued to hatch within the Delta. The most recent 20mm Survey (#3) show only a single longfin smelt larva within the Delta -- though much of the north Delta was not sampled due to boat problems -- and most coming from Carquinez Strait, Napa River and San Pablo Bay (Table 1). The risk to longfin smelt larvae is very low. No additional advice to protect larvae is warranted at this time based on criteria 3 and 4.

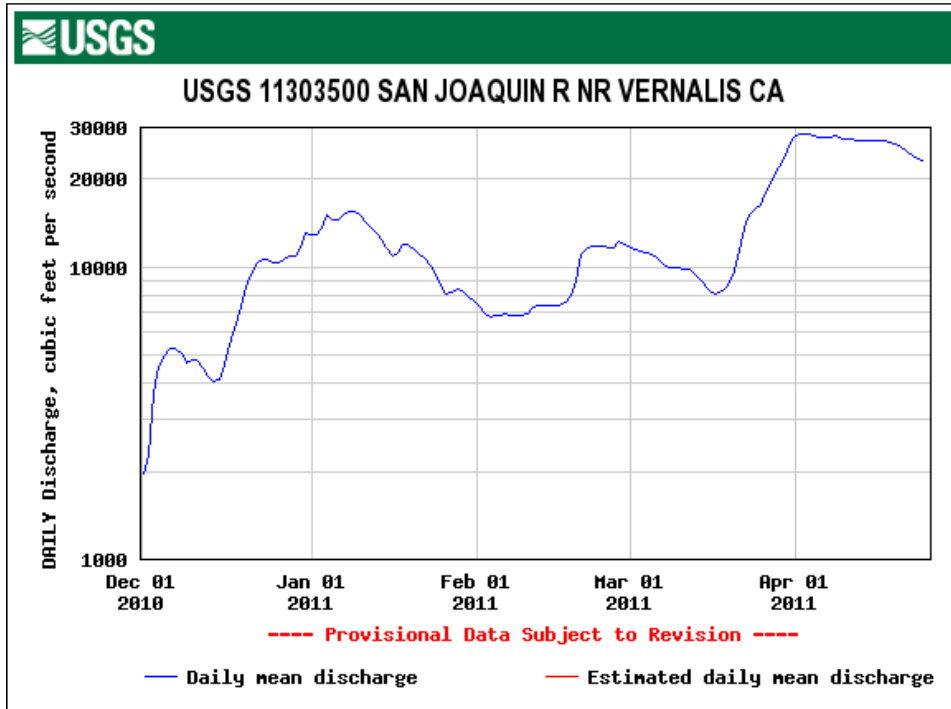


Figure 1. Tidally averaged San Joaquin River flow measured near Vernalis, December 1, 2010 through April 24, 2011.

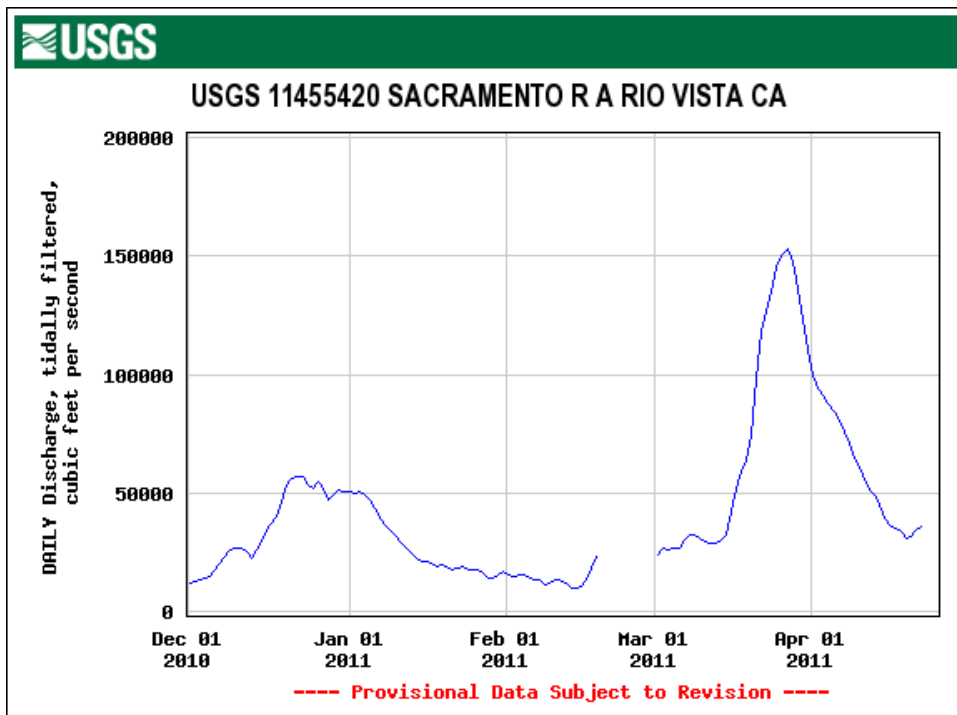


Figure 2. Tidally averaged Sacramento River flows measured at Rio Vista, December 1, 2010 through April 22, 2011.

Table 1. Longfin smelt catch per station from 2011 20mm Survey, Survey 3 (sample processing complete).

Year	Survey	Station	Date	# Tows Processed	Species	Total Catch
2011	3	323	13-Apr-11	3	Longfin Smelt	16
2011	3	340	13-Apr-11	3	Longfin Smelt	11
2011	3	342	13-Apr-11	3	Longfin Smelt	77
2011	3	343	13-Apr-11	3	Longfin Smelt	553
2011	3	344	13-Apr-11	3	Longfin Smelt	99
2011	3	345	13-Apr-11	3	Longfin Smelt	51
2011	3	346	13-Apr-11	3	No Longfin Catch	
2011	3	405	14-Apr-11	3	Longfin Smelt	103
2011	3	411	14-Apr-11	3	No Longfin Catch	
2011	3	418	14-Apr-11	3	Longfin Smelt	10
2011	3	501	12-Apr-11	3	No Longfin Catch	
2011	3	504	12-Apr-11	3	No Longfin Catch	
2011	3	519	12-Apr-11	3	No Longfin Catch	
2011	3	602	12-Apr-11	3	Longfin Smelt	1
2011	3	606	12-Apr-11	3	Longfin Smelt	4
2011	3	609	12-Apr-11	3	No Longfin Catch	
2011	3	610	12-Apr-11	3	No Longfin Catch	
2011	3	508	13-Apr-11	3	No Longfin Catch	
2011	3	513	13-Apr-11	3	No Longfin Catch	
2011	3	520	13-Apr-11	3	No Longfin Catch	
2011	3	801	13-Apr-11	3	No Longfin Catch	
2011	3	804	12-Apr-11	3	No Longfin Catch	
2011	3	703	12-Apr-11	3	No Longfin Catch	
2011	3	704	12-Apr-11	3	No Longfin Catch	
2011	3	705	12-Apr-11	3	No Longfin Catch	
2011	3	706	12-Apr-11	3	No Longfin Catch	
2011	3	707	11-Apr-11	3	No Longfin Catch	
2011	3	711	11-Apr-11	3	No Longfin Catch	
2011	3	716	11-Apr-11	3	No Longfin Catch	
2011	3	718	NOT SAMPLED			
2011	3	719	NOT SAMPLED			
2011	3	720	NOT SAMPLED			
2011	3	723	11-Apr-11	3	Longfin Smelt	1
2011	3	724	NOT SAMPLED			
2011	3	726	NOT SAMPLED			
2011	3	809	11-Apr-11	3	No Longfin Catch	0
2011	3	812	12-Apr-11	3	No Longfin Catch	0
2011	3	815	12-Apr-11	3	No Longfin Catch	0
2011	3	901	11-Apr-11	3	No Longfin Catch	0
2011	3	902	11-Apr-11	3	No Longfin Catch	0
2011	3	906	12-Apr-11	3	No Longfin Catch	0
2011	3	910	11-Apr-11	3	No Longfin Catch	0
2011	3	912	11-Apr-11	3	No Longfin Catch	0
2011	3	914	11-Apr-11	3	No Longfin Catch	0
2011	3	915	11-Apr-11	3	No Longfin Catch	0
2011	3	918	11-Apr-11	3	No Longfin Catch	0
2011	3	919	12-Apr-11	3	No Longfin Catch	0

The Smelt Working Group will reconvene on Monday, May 2 at 10 am to review the updated environmental, salvage, and survey data.