

SMELT WORKING GROUP
Monday, January 7, 2013

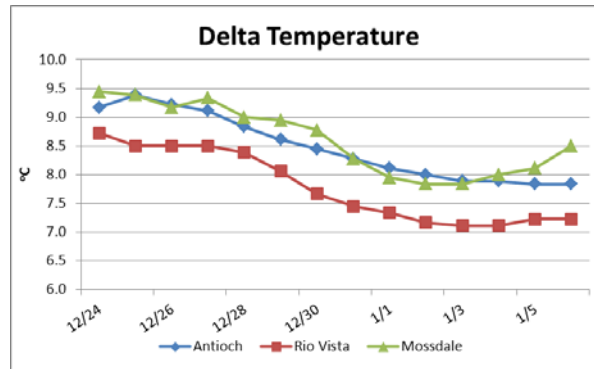
Meeting Summary:

The Working Group recommended that OMR flow should be set at a 14-day average flow of no more negative than -3,500 cfs with a corresponding 5-day average flow of no more negative than -4,375 cfs. Implementation of Action 2 began January 2, 2013, following immediately the end of Action 1. The Working Group will continue to monitor salvage, turbidity, and other conditions, and will reconvene Monday, January 14, or sooner, if salvage increases.

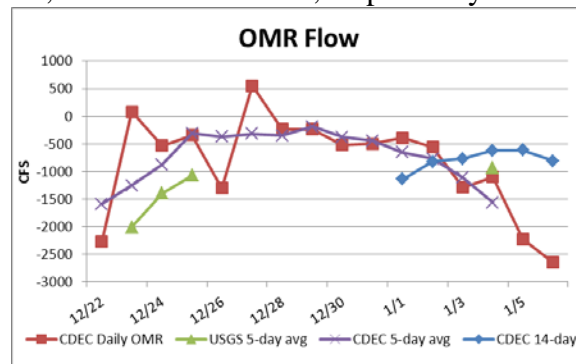
Reported Data:

1) Current environmental data:

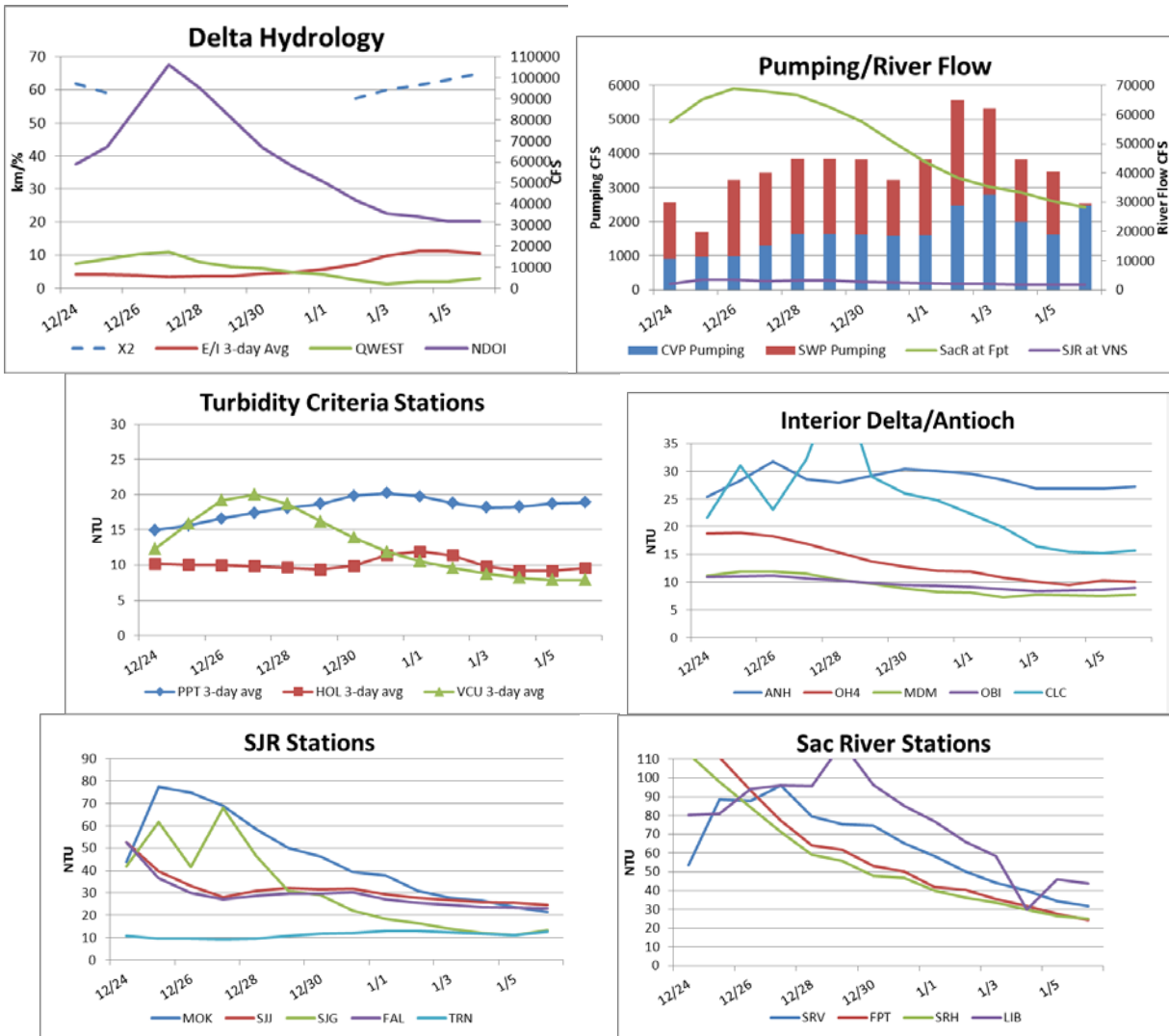
- **Water temperatures** are as follows:



- **OMR:** USGS tidally-averaged daily OMR flow and 5-day average OMR flow on January 4 was -1,569 cfs and -936 cfs, respectively. CDEC 5-day OMR flow and 14-day average OMR flow as of January 7 is -1,562 cfs and -809 cfs, respectively.



- **Flow:** Sacramento River inflow is 28,345 cfs and San Joaquin River is 1,862 cfs. X_2 calculation from CDEC is at 65km. The graphs below show the most recent trends in Delta hydrology and water quality that were evaluated by the Working Group.



Delta Fish Monitoring:

Smelt Larval Survey #1 was in the field last week. No delta smelt larvae were detected. Longfin smelt larvae were collected in the lower San Joaquin River and Frank’s Tract, but most larvae were collected west of the confluence. Capture at the Sacramento River stations will be reported by the next SWG call. SLS #2 is in the field next week. Spring Kodiak Trawl #1 is in the field this week. Preliminary results are anticipated by the end of this week.

The Final Fall Midwater Trawl Index (all four months) is 42. Smelt Larval Survey began sampling January 2, 2013 and the Spring Kodiak Trawl began sampling January 7, 2013. The combined SWP and CVP total allowable take for adult delta smelt for the WY 2013 as calculated from the FMWT Index using the formula prescribed in the BO is 305.

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 on both January 1 and 2 at the CVP facility. The total combined delta smelt salvage for the season is now 90. 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 expected to be approximately 4,000 to 4,500 cfs for the week of January 7, 2013.

4) Particle Tracking Modeling:

No PTM runs were requested for this week.

5) Turbidity Modeling:

The Working Group did not discuss turbidity modeling runs this week.

6) Assessment of Risk:

Background:

RPA Component 1, Action 2: "An action implemented using an adaptive process to tailor protection to changing environmental conditions after Action 1. As in Action 1, the intent is to protect pre-spawning adults from entrainment and, to the extent possible, from adverse hydrodynamic conditions."

"The range of net daily OMR flows will be no more negative than -1,250 to -5,000 cfs. Depending on extant conditions (and the general guidelines below) specific OMR flows within this range are recommended by the SWG from the onset of Action 2 through its termination..." (page 35).

Discussion: The Working Group reviewed and discussed all relevant data from Delta monitoring, salvage, field surveys, and planned Project operations. Turbidity has continued to decrease over the entire system, with stations in the central and southern Delta typically at or below 10 ntu.

Members continued to be concerned over the high degree of uncertainty we have regarding the current distribution of adult delta smelt; more information, from SKT #1 is anticipated prior to

the weekend. The Working Group noted that to be conservative and allow the delta smelt in the lower San Joaquin River to remain in the mainstem, OMR flows should be no more negative than -3,500cfs. There was some concern expressed that if OMR flow should become much more negative, many of these fish could end up within the influence of the pumps, and the take limit could be surpassed prior to the end of March. The Working Group agreed that although some small amount of salvage was anticipated over the next week, should an increasing trend be observed in salvage, OMR flow may need to be set more positive than -3,500 cfs.

Members discussed previous years when “first flush” conditions occurred prior to the end of December. Some members will be examining these years for any trends in salvage that could be helpful for future recommendations.

The SWG will meet again on January 14.

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

Advice for week of January 7, 2013:

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; see Figure 1).
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 January 6, 2013, 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 recent proximity to the export pumps. January Bay Study sampling has yet to be reported. Distribution information does not indicate advice is warranted based on this criterion.

3 & 4. The first Smelt Larva Survey (SLS) of 2013 was conducted January 2-3. Few longfin smelt larvae were collected in the central or south Delta, and neither larva criterion was met (cf., Table 1 and Basis for Advice #s 3 & 4 above). During SLS survey 1, longfin smelt larvae were collected at only 3 criteria stations and in very low numbers.

Current conditions: Net Delta outflow peaked at 106,000 cfs on December 27 and declined to about 40,000 cfs on January 3 and to 31,000 on January 6. X2 remained below 60 km from December 26 through January 3, but is currently increasing and at about 65 January 6. Combined State and federal exports remained below 4,000 cfs from December 19 through January 1, but are currently well over 5,000 cfs and predicted target about 4,500. Qwest has been positive since December 19 and is currently about 4,700 cfs. OMR has been more positive than -1500 cfs from December 23 through January 4, but is currently trending more negative and the CDEC daily estimate was -2,644 cfs for January 6 (CDEC daily) and targeted for -3500 for the upcoming week.

Summary of Risk:

Risk of entrainment is very low.

The collection of no adult longfin smelt in salvage or in the San Joaquin River or south Delta to date suggests limited spawning in the central or south Delta. The small numbers of larvae collected in the central and south Delta supports this conclusion, though it is too early in the hatching season to predict this will be the case throughout. The current predicted exports will result in a modest -3500 OMR; current X2 located in Suisun Bay suggests that few adult longfin smelt will move into the central and south Delta to spawn; and Qwest >4000 cfs indicates that many larvae hatching in the lower San Joaquin River and northern portion of the south Delta, particularly the Franks Tract region, are likely to be transported west rather than south. These circumstances all support the conclusion of extremely low risk of entrainment.

Table 1. Longfin smelt catch per station from 2013 Smelt Larva Survey, Survey 1.

Year	Survey	SLS Station	Sample Status	Species	Smelt Catch
2013	1	405	Not yet processed		
2013	1	411	Not yet processed		
2013	1	418	Not yet processed		
2013	1	501	Processed	Longfin Smelt	4
2013	1	504	Processed	Longfin Smelt	10
2013	1	508	Processed		No Smelt Catch
2013	1	513	Processed	Longfin Smelt	15
2013	1	519	Processed		No Smelt Catch
2013	1	520	Processed		No Smelt Catch
2013	1	602	Not yet processed		
2013	1	606	Not yet processed		
2013	1	609	Not yet processed		
2013	1	610	Not yet processed		
2013	1	703	Processed		No Smelt Catch
2013	1	704	Not yet processed		
2013	1	705	Processed		No Smelt Catch
2013	1	706	Processed		No Smelt Catch
2013	1	707	Not yet processed		
2013	1	711	Not yet processed		
2013	1	716	Processed		No Smelt Catch
2013	1	723	Processed		No Smelt Catch
2013	1	801	Processed	Longfin Smelt	1
2013	1	804	Processed		No Smelt Catch
2013	1	809	Processed	Longfin Smelt	1
2013	1	812	Processed	Longfin Smelt	1
2013	1	815	Processed		No Smelt Catch
2013	1	901	Processed	Longfin Smelt	4
2013	1	902	Processed		No Smelt Catch
2013	1	906	Processed		No Smelt Catch
2013	1	910	Processed		No Smelt Catch
2013	1	912	Processed		No Smelt Catch
2013	1	914	Processed		No Smelt Catch
2013	1	915	Processed		No Smelt Catch
2013	1	918	Processed		No Smelt Catch
2013	1	919	Processed		No Smelt Catch

SWP ITP Criteria Stations

Processing is complete through 1/4/13.

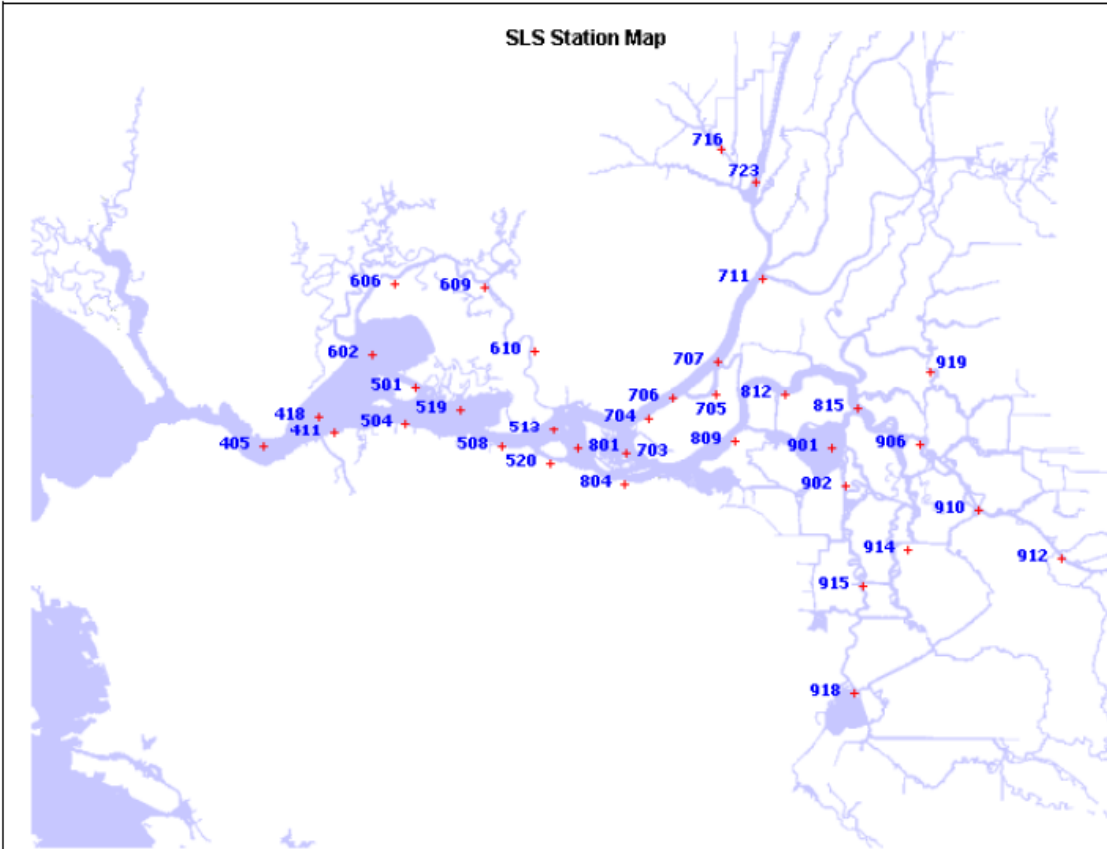


Figure 1. DFG's Smelt Larva Survey station locations.