

SMELT WORKING GROUP
Tuesday, January 22, 2013

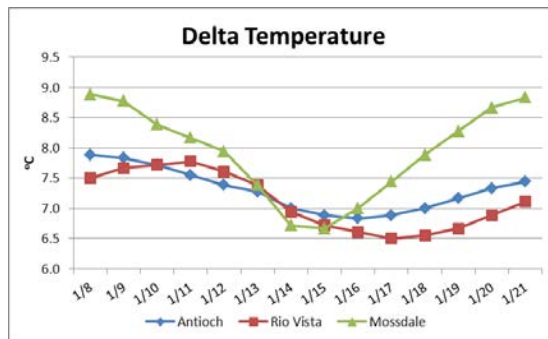
Meeting Summary:

The Working Group recommended that OMR flow should be set at a 14-day average flow of no more negative than -2,500 cfs with a corresponding 5-day average flow of no more negative than -3,125 cfs. Implementation of Action 2 began January 2, 2013, immediately following the end of Action 1. The Working Group will continue to monitor salvage, turbidity, and other conditions, and will reconvene Monday, January 28.

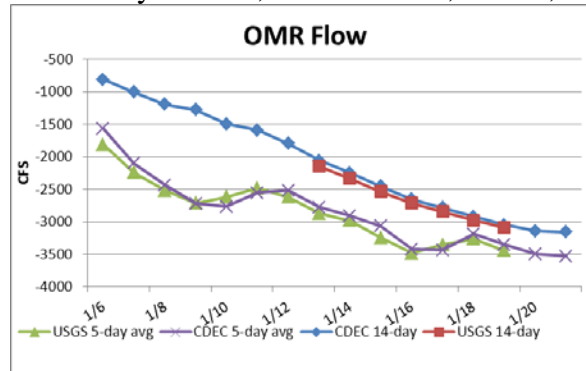
Reported Data:

1) Current environmental data:

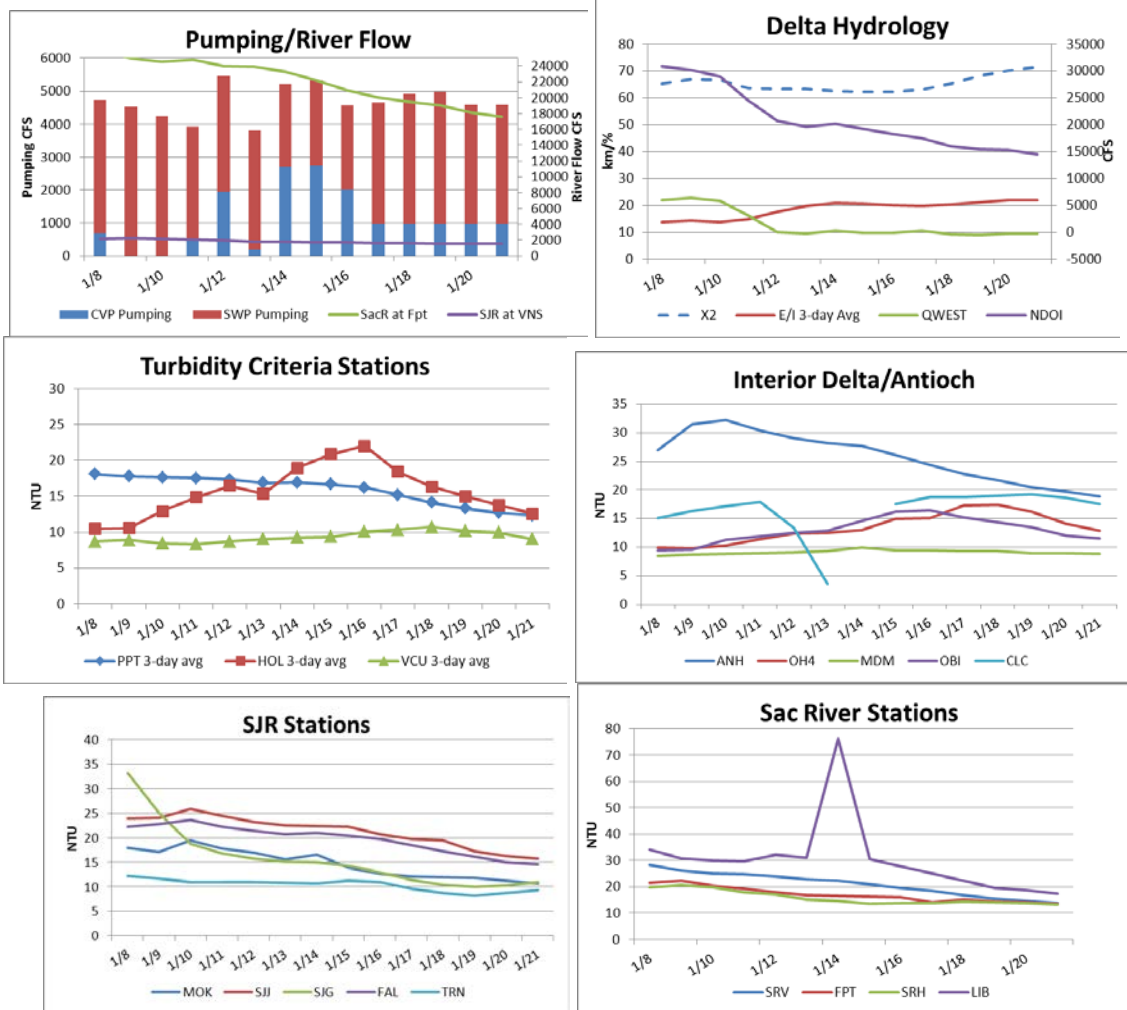
- **Water temperatures** are as follows:



- **OMR:** USGS tidally-averaged 5-day average OMR flow and 14-day average OMR flow on January 19 was -3,442 cfs and -3,008 cfs, respectively. CDEC 5-day OMR flow and 14-day average OMR flow as of January 21 is -3,531 cfs and -3,163 cfs, respectively.



- **Flow:** Sacramento River inflow is 17,636 cfs and San Joaquin River is 1,526 cfs. X_2 calculation from CDEC is at 71.6km. The graphs below show the most recent trends in Delta hydrology and water quality that were evaluated by the Working Group.



Delta Fish Monitoring:

Spring Kodiak Trawl #2 is in the field the week of February 4.

Smelt Larval Survey #2 was in the field last week. No delta smelt larvae were detected, although 3 adult delta smelt were detected (Montezuma Slough and the lower San Joaquin River stations). A total of 452 longfin smelt larvae were collected, 17 of which were at stations in the central and southern Delta. SLS #3 is in the field next 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:

Twenty-one adult delta smelt were salvaged during the period from January 14 through 20. Eleven and 5 delta smelt were salvaged at the CVP on January 15 and 19, respectively. Six delta smelt were salvaged at the SWP on January 20. Eight delta smelt were salvaged at the SWP on January 21 (preliminary estimate). The total combined delta smelt salvage for the season is now 141 (60 at the SWP and 81 at the CVP) as of January 21, approximately 46% of the total allowable take. Two longfin smelt were salvaged at the SWP on both January 20 and 21. The total combined longfin smelt salvage for the season is now 4.

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 4,500 cfs for the week of January 22, 2013.

4) Particle Tracking Modeling:

No PTM runs were requested for this week.

5) Turbidity Modeling:

Modeling runs discussed by the Delta Conditions Team (DCT) earlier this morning were distributed to the Working Group immediately prior to the call. Members of the SWG that attended the DCT conveyed the opinion of the DCT members that the turbidity bridge between the confluence/Sacramento River and the central/southern Delta is no longer in place.

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, including the Old River stations, which had increased last week. Some members suggested that although the turbidity in the Old River corridor had decreased from last week, readings were still elevated and could potentially increase the likelihood of delta smelt moving into the southern Delta.

The Working Group reviewed the Adaptive Take Management Calculator distributed by CDFW regarding historical salvage and patterns.

Members continued to be concerned regarding the current level of take and season total to date of adult delta smelt salvage. The Working Group agreed that current hydrological data and delta smelt salvage data were comparatively similar to what was discussed during our January 14th call and that the rationale for last week's recommendation was still valid given current conditions.

The Working Group acknowledged that the current salvage trend, if continued, would likely result in an exceedance of the ITL. The Working Group decided that in order to be proactive and reduce the current salvage trend, OMR flows should be no more negative than -2,500cfs.

The SWG will meet again on January 28.

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

Advice for week of January 22, 2013:

The Smelt Working Group does not have any longfin smelt advice at this time. There is very low risk of entrainment 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. On January 20 and 21, 2013, longfin smelt salvage occurred at the SWP for a total salvage of 4. These are the first instances of adult longfin smelt salvage this water year. The Fall Midwater Trawl longfin smelt annual abundance index has completed and is 61. The total salvage level threshold for advice is >305 (see criterion in #1). No advice is warranted based on this criterion.

2. January Bay Study sampling collected a single longfin smelt in the San Joaquin River at their station 863 (Santa Clara Shoals, between Twitchell and Bradford Islands). Distribution information does not indicate advice is warranted based on this criterion.

3 & 4. The second Smelt Larva Survey (SLS) of 2013 was conducted January 14 and 15. During survey 2, longfin smelt larvae were collected at only 3 central or south Delta stations, so neither larva criterion was met (cf., Table 1 and Basis for Advice #s 3 & 4 above). No advice is warranted based on this information.

Current conditions: Net Delta outflow peaked at 106,000 cfs on December 27 and declined steadily through January. As of January 21 net Delta outflow was 14,913. Vernalis flows averaged 1,525 cfs on January 21. X2 remained below 60 km from December 26 through January 3, but has been increasing and as of January 21 was 71.6. Combined State and federal exports are currently about 4,500 cfs and predicted to remain stable. The Smelt Working Group today recommended maintaining the OMR target at -2500. Qwest has been slightly negative since January 13 and is about -272 cfs currently, essentially zero.

Summary of Risk:

Risk of entrainment remains very low.

The salvage of 4 adult longfin smelt and collection of a single adult during monitoring surveys in the San Joaquin River or south Delta to date suggests limited spawning in the central and south Delta. The small numbers of larvae collected in the central and south Delta supports this conclusion, though it is still too early in the hatching season to predict this will remain the case. The recent and current exports should result in a roughly -3500 OMR and the SWG has set a lower target of -2500 OMR. The current X2 located in eastern Suisun Bay suggests that relatively few adult longfin smelt will move into the central and south Delta to spawn. A Qwest of about zero cfs indicates that any larvae hatching in the lower San Joaquin River and northern portion of the south Delta, particularly the Franks Tract region, are likely to disperse with the tides, but not be transported in any particular direction. These circumstances all support the conclusion of very low risk of entrainment.

Table 1. Longfin smelt catch per station from 2013 Smelt Larva Survey, Survey 2.

Study Year	Survey #	SLS Station	Sample Status	Species	Smelt Catch
2013	2	405	Processed	Longfin Smelt	3
2013	2	411	Processed	Longfin Smelt	21
2013	2	418	Processed	Longfin Smelt	29
2013	2	501	Processed	Longfin Smelt	62
2013	2	504	Processed	Longfin Smelt	61
2013	2	508	Processed	Longfin Smelt	26
2013	2	513	Processed	Longfin Smelt	17
2013	2	519	Processed	Longfin Smelt	37
2013	2	520	Processed	Longfin Smelt	12
2013	2	602	Processed	Longfin Smelt	26
2013	2	606	Processed	Longfin Smelt	2
2013	2	609	Processed	Longfin Smelt	1
2013	2	610	Processed	Longfin Smelt	1
2013	2	703	Processed	Longfin Smelt	16
2013	2	704	Processed	Longfin Smelt	1
2013	2	705	Processed	Longfin Smelt	4
2013	2	706	Processed	Longfin Smelt	39
2013	2	707	Processed	Longfin Smelt	30
2013	2	711	Processed	Longfin Smelt	2
2013	2	716	Processed	Longfin Smelt	11
2013	2	723	Processed	Longfin Smelt	7
2013	2	801	Processed	Longfin Smelt	13
2013	2	804	Processed	Longfin Smelt	14
2013	2	809	Processed	Longfin Smelt	10
2013	2	812	Processed		No Smelt Catch
2013	2	815	Processed	Longfin Smelt	No Smelt Catch
2013	2	901	Processed	Longfin Smelt	6
2013	2	902	Processed		No Smelt Catch
2013	2	906	Processed		No Smelt Catch
2013	2	910	Processed		No Smelt Catch
2013	2	912	Processed		No Smelt Catch
2013	2	914	Processed		No Smelt Catch
2013	2	915	Processed		No Smelt Catch
2013	2	918	Processed		No Smelt Catch
2013	2	919	Processed	Longfin Smelt	1

SWP ITP Criteria Stations

Processing is complete through 1/18/13.

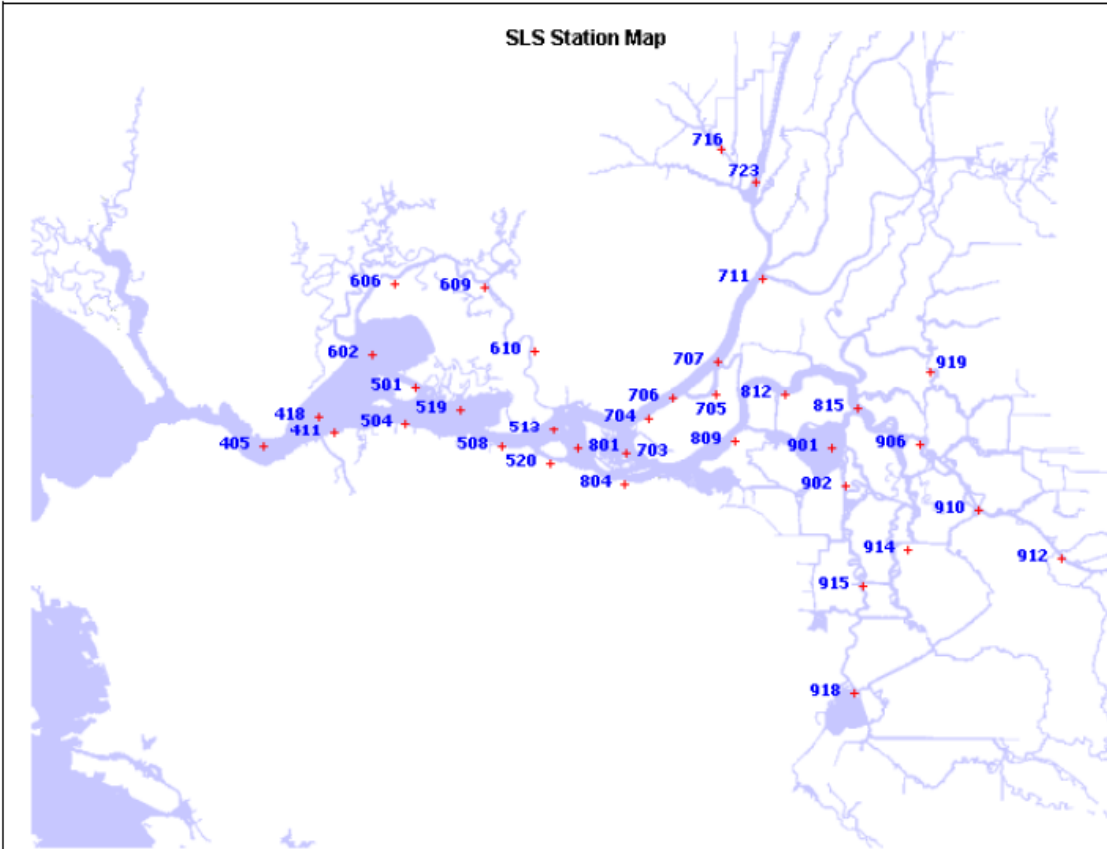


Figure 1. DFG's Smelt Larva Survey station locations.