

**SMELT WORKING GROUP**  
**Monday, January 28, 2013**

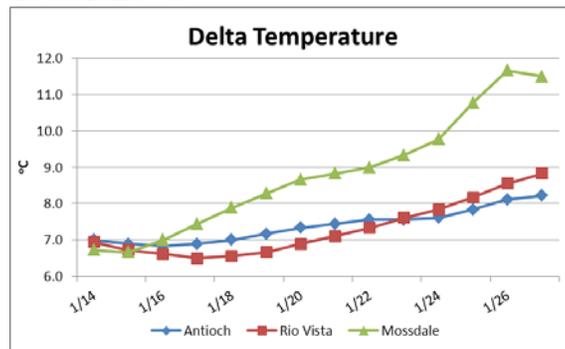
**Meeting Summary:**

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, February 4.

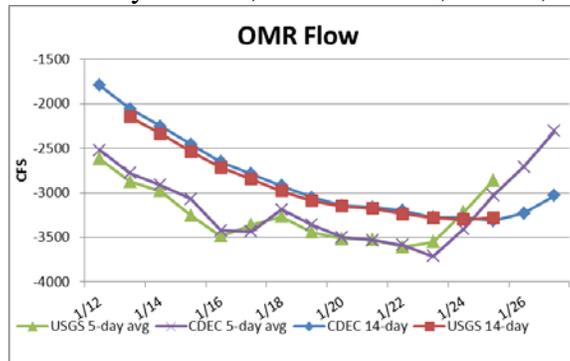
**Reported Data:**

**1) Current environmental data:**

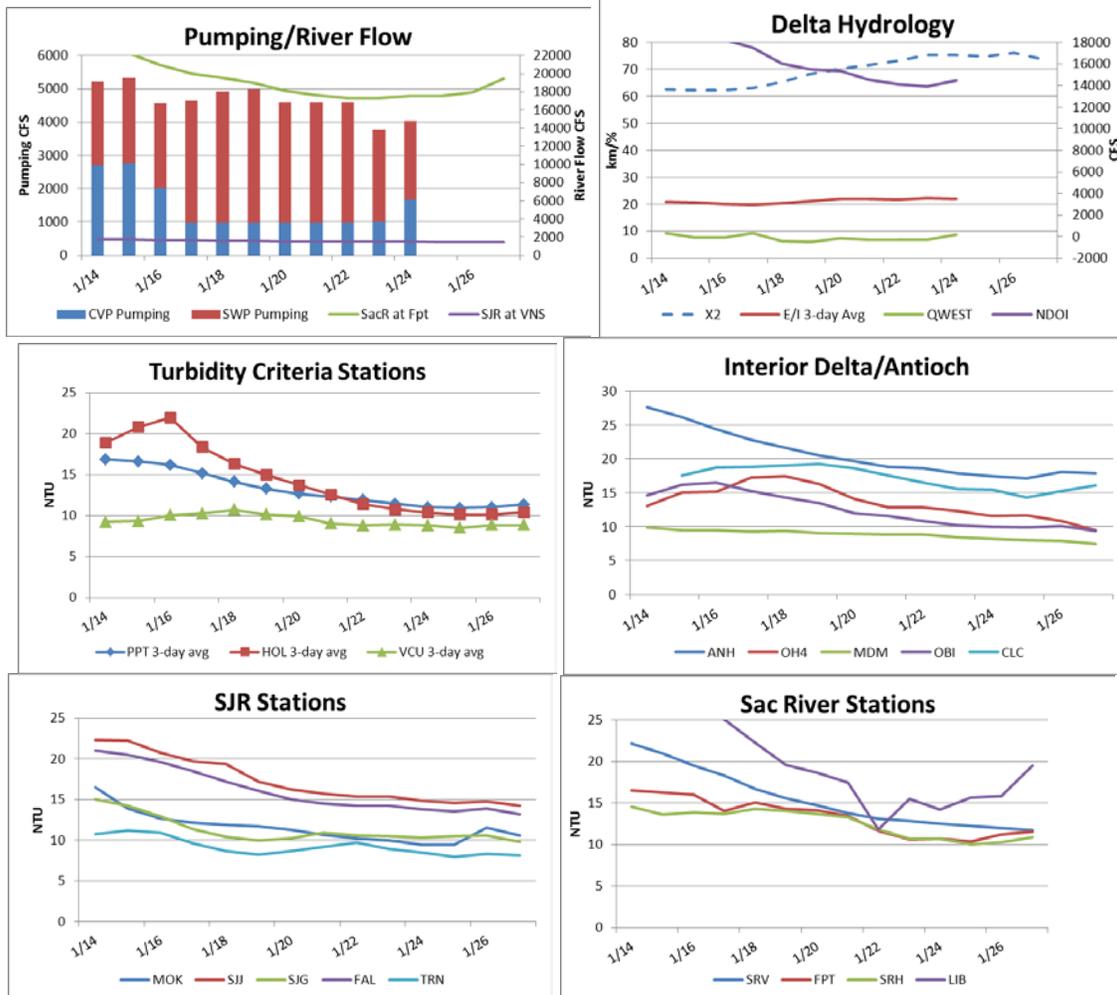
- **Water temperatures** are as follows:



- **OMR:** USGS tidally-averaged 5-day average OMR flow and 14-day average OMR flow on January 25 was -2,856 cfs and -3,279 cfs, respectively. CDEC 5-day OMR flow and 14-day average OMR flow as of January 27 is -2,307 cfs and -3,029 cfs, respectively.



- **Flow:** Sacramento River inflow is 19,435 cfs and San Joaquin River is 1,454 cfs.  $X_2$  calculation from CDEC is at 73.6km. 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 the week of January 14. 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 today and tomorrow.

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](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:**

Forty-six adult delta smelt were salvaged during the period from January 21 through 27. Four and eight delta smelt were salvaged at the CVP on January 25 and 26, respectively. Eight delta smelt were salvaged at the SWP on both January 21 and 22, while 14 and four were salvaged at the SWP on January 23 and 26, respectively. The total combined delta smelt salvage for the season is now 179 (86 at the SWP and 93 at the CVP) as of January 27, approximately 59% 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 3,000 cfs for the week of January 28, 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 overall discussion of the DCT meeting this morning. In particular, the DCT is planning to provide a definition of the "turbidity bridge" to the SWG at a later date. The DCT also discussed salvage patterns and the sources of the fish within the system at any given point in time.

## **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 readings in general were lower the week of January 21 than in the previous week. Some members indicated that although turbidities appear to be decreasing, readings were still high enough, especially during high tide that delta smelt could potentially move 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. Although the Working Group discussed the potential to observe a decreasing trend in delta smelt salvage this week due to reduced exports that commenced on Friday, January 25th, members agreed that the level of concern over salvage indicated the need for a continued higher level of protection.

Following discussions at the DCT, SWG members discussed the potential source of salvaged fish over the last week. Most members agreed that a likely source was from fish that had migrated upstream during and immediately following the December first flush event and had been holding in the interior Delta, although some members expressed concern that at least some of the salvaged fish could have moved from the lower San Joaquin River subsequent to the first flush. Members also discussed the potential for delta smelt in the interior Delta to move downstream to the lower San Joaquin River with OMR flows set at no more negative than -2,500cfs. Members also noted concern that should turbidities increase again in the coming weeks, the likelihood of delta smelt moving from the lower San Joaquin River into the south Delta could increase.

The Working Group acknowledged that the current salvage trend, if continued, would likely result in an exceedance of the ITL by the second half of February. The Working Group decided that in order to reduce the potential for salvage, OMR flows should continue to be set at no more negative than -2,500cfs.

The SWG will meet again on February 4.

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

### **Advice for week of January 28, 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 ( $\geq 80$ 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 and only 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). SLS #3 begins sampling today. 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 27 net Delta outflow was 17,212. X2 remained below 60 km from December 26 through January 3, but has been increasing and as of January 27 was 74. Combined State and federal exports are currently about 3000 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 but turned positive on January 24 and has been increasingly positive since; as of January 27 Qwest was about +2000.

### **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 -2500 OMR and the SWG target of -2500 OMR. The current X2 located at about Chipps Island suggests that a few adult longfin smelt might 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.

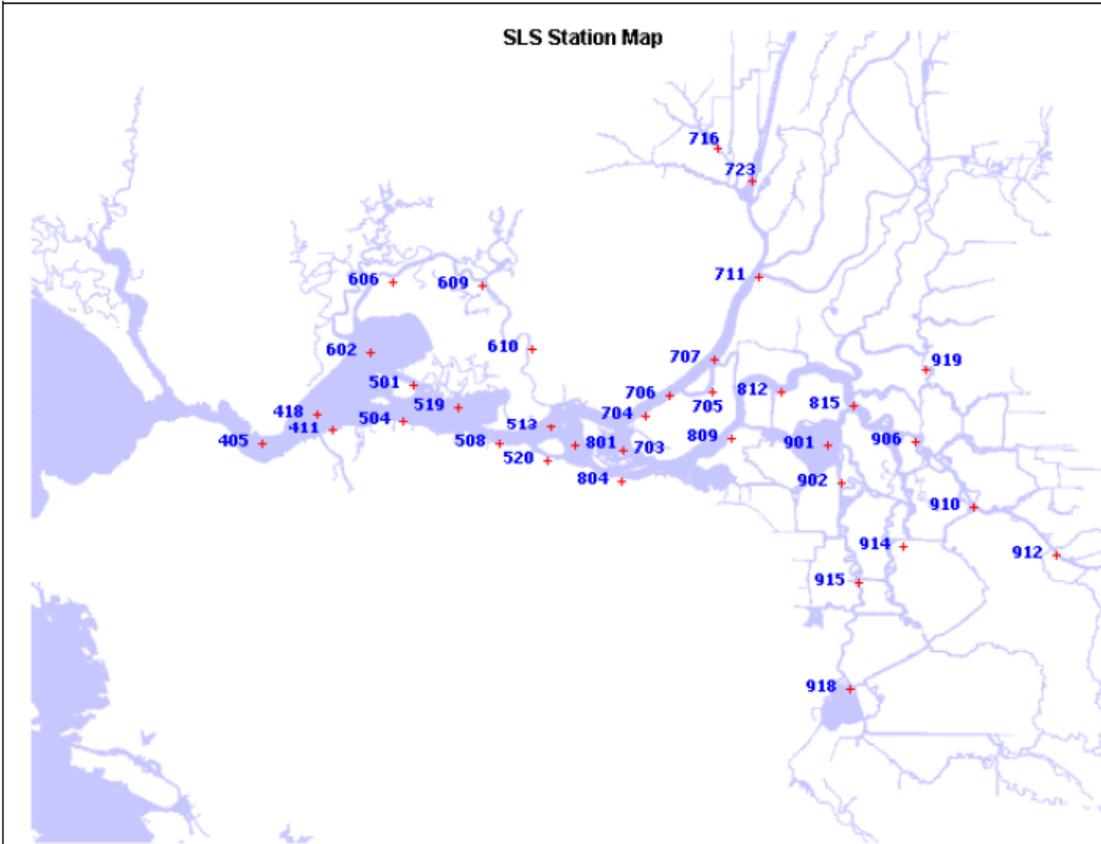


Figure 1. DFG's Smelt Larva Survey station locations.