

Smelt Working Group  
February 6, 2017

**Meeting Summary**

The Working Group reviewed current Delta conditions, survey data, and forecasted weather. Hydrology that meets the temporary release from OMR prescriptions as identified in the RPA Component 1, Action 2 (page 356) is expected to be in effect by February 7. The SWG indicated that the anticipated OMR flows (Index -4,000 cfs today) are sufficiently protective of Delta Smelt.

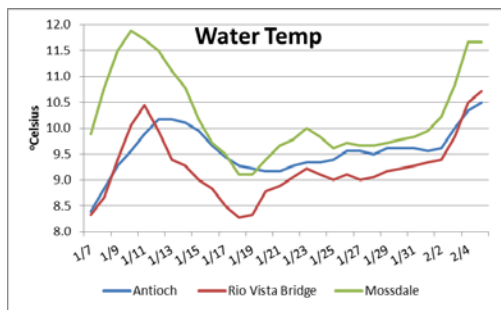
The Working Group is following guidance for entrainment protections from Action 2 (adult Delta Smelt). The Working Group will continue to monitor Delta Smelt survey and salvage data and Delta conditions, and will meet again on Monday, February 13, 2017 at 10 am.

**Reported Data**

1. **Current environmental data**

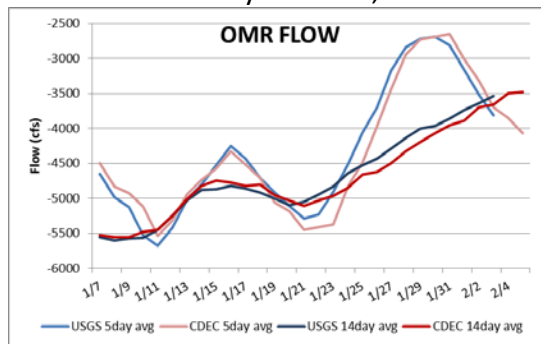
a. **Temperature**

Daily average of the three Delta stations (Rio Vista, Antioch, Mossdale) was 11°C on February 5.



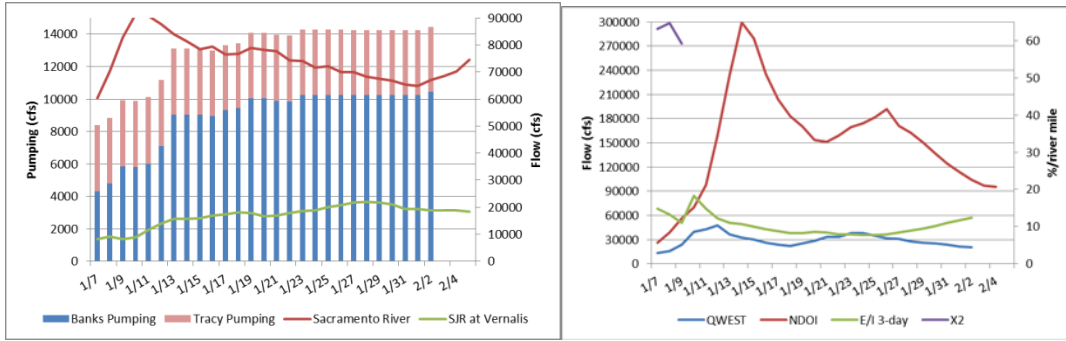
b. **OMR flow**

The CDEC daily average OMR flow for February 5 was -4,410 cfs. USGS daily average OMR flow for February 3 was -4,320 cfs.

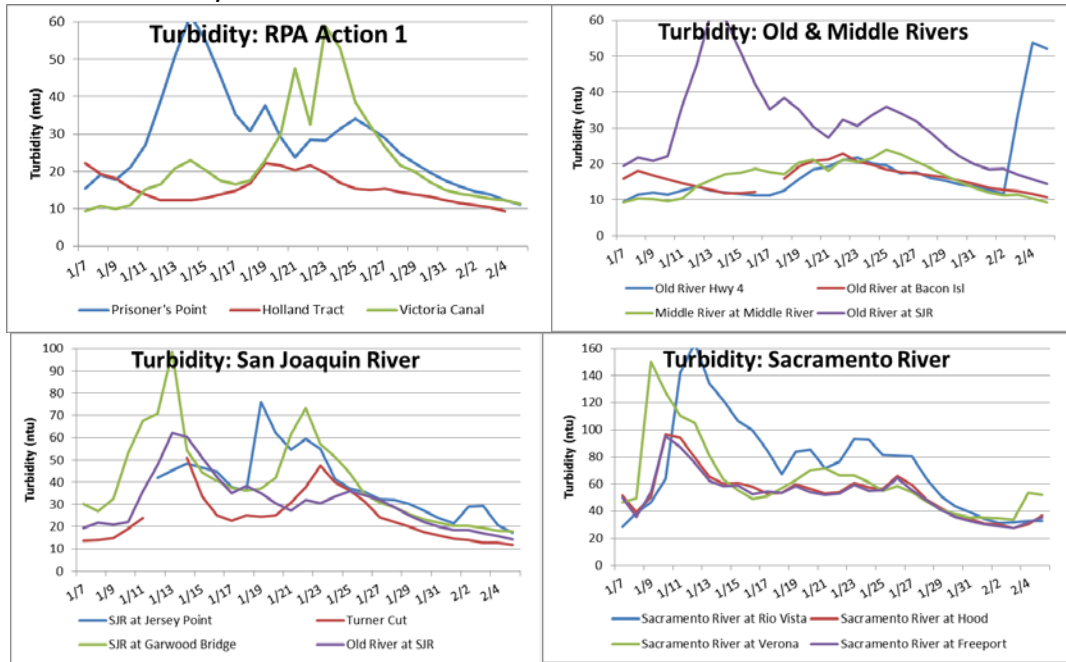


c. **River flows and pumping**

Sacramento River at Freeport flow for February 5 was 74,576 cfs. San Joaquin River at Vernalis flow for February 5 was approximately 18,300 cfs. X2 was downstream of 59 km as of February 5.



**d. Turbidity**



**2. Delta fish monitoring**

The 2016 FMWT Index is 8. This is the 2nd lowest index on record.

SLS #3 was in the field last week. Processing is 30% complete. No Delta Smelt were caught. Five larval Longfin Smelt were caught: one in the lower San Joaquin River, two in Suisun Bay, and two in the Napa River

SLS #4 is in the field next week, running February 13 through February 16.

SKT #2 is in the field this week. This morning, one Delta Smelt was caught at station 812 (prespawn male, 75mm).

Enhanced Delta Smelt Monitoring was in the water last week. It was the first week that all four strata were surveyed, although not all tows were completed in the high risk/low density zone. Four Delta Smelt were caught and abundance estimates showed a large decline over the previous week.

**3. Modeling**

No new PTM runs were distributed to the group this morning for discussion.

#### **4. Salvage**

No Longfin Smelt or Delta Smelt have been salvaged since January 10<sup>th</sup>. The seasonal total of Delta Smelt salvage so far is 4 fish.

Last week, it was reported that operations at the Skinner Fish Facility indicated that during predator flushes and debris removal, salvage operations were not taking place and that any listed fish seen at these times were not being recorded. The SWP staff are continuing to gather information to distribute to the Service, NMFS, and CDFW regarding the operating protocols.

#### **5. Expected Project Operations**

Combined pumping today is 14,500 cfs. Pumping is currently unrestrained by OMR levels. Operators indicated that the OMR Index for today is approximately -4,000 cfs. Due to potentially decreasing flows at Vernalis, operators indicated that an OMR of -5,000cfs might be in place later in the week (and constraining operations).

Wet weather is anticipated this week throughout California.

#### **6. Delta Conditions Team**

No DCT update was given.

#### **7. DWR Turbidity Transects**

Transects are expected to be in the field later this week. Results will be distributed to the SWG.

#### **8. Biological Opinion Background:**

RPA Component 1, Action 2 states, "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 Working Group from the onset of Action 2 through its termination..."

The timing of Action 2 is immediately after Action 1. Before this date (in time for operators to implement the flow requirement) the SWG will recommend specific requirement OMR flows based on salvage and on physical and biological data on an ongoing basis. If Action 1 is not implemented, the SWG may recommend a start date for the implementation of Action 2 to protect adult Delta Smelt. (BiOp page 352).

#### *Temporary Suspension of Action 2*

"OMR flow requirements do not apply whenever a three day flow average is greater than or equal to 90,000 cfs in Sacramento River at Rio Vista and 10,000 cfs in San Joaquin River at Vernalis. Once such flows have abated, the OMR flow requirements of the Action are again in place" (page 352).

Based on guidance from the Service, the Rio Vista flow value will be tracked by DWR according to a calculation based on an equation used for the DAYFLOW program. Any Rio Vista trigger or offramp terms relating to the suspension of Action 2 will use the 3-day average of this calculation.

## **9. Assessment of Risk Discussion**

### *Turbidity*

Members noted that conditions which reflect elevated turbidity throughout the Delta have been in place for the past few weeks. Turbidity levels are presently decreasing, but storms this week could result in increasing turbidity before the end of the week.

### *Delta Smelt Detections*

Since only four fish were detected in last week's EDSM, members could not draw any significant conclusions as far as distribution.

### *Spawning Migration*

Members indicated that Delta Smelt remain in their spawning migration, and may see additional smaller movements within their range until spawning begins. Given the increasing water temperatures, members indicated that spawning could potentially begin later this month.

### *Release from Prescriptions of Action 2*

Hydrologic conditions that meet the temporary suspension of action indicated in the Biological Opinion (page 356) are expected to be in place by tomorrow. However, once Action 3 is triggered (expected this week or next given rising temperatures), there will no longer be a high flow offramp trigger.

### *General discussion*

The group agreed that given the anticipated OMR flows and turbidity field and considering that no salvage has occurred in response to similar conditions over the past several weeks, expected conditions may be sufficient to prevent large numbers of Delta Smelt from moving into the Old and Middle River, and expectations of a salvage event occurring are low.

The Working Group will continue to monitor conditions and Delta Smelt distribution and will meet again on Monday, February 13, 2017.

## **WEEKLY ADVICE FOR THE DEPARTMENT OF FISH AND WILDLIFE FOR LONGFIN SMELT**

### **Advice for week of February 6, 2017:**

The Smelt Working Group has no advice for Longfin Smelt: Advice is not warranted at this time given current flow conditions above the off-ramp thresholds at Rio Vista and Vernalis.

No Barker Slough operations advice. Water year runoff is listed to be above normal, eliminating the need for Barker Slough restrictions this water year.

**Basis for advice:**

The 2009 State Water Project 2081 for Longfin Smelt states that advice to WOMT and the DFW 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.
5. During the period January 15 through March 31 of a dry or critically dry water year only, advice for Barker Slough pumping plant operations may be warranted if larval Longfin Smelt are detected at station 716 and other information indicates risk of entrainment.

**Discussion of Criteria**

1. As of January 22<sup>st</sup>, only one Longfin Smelt has been salvaged during the current water year. The 2016 Fall Midwater Trawl annual abundance index for Longfin Smelt is 7, so the incidental take limit for adult Longfin Smelt is 35. Given the current water conditions, it is unlikely that many more adults will be salvaged. Advice is not warranted based on this criterion.

2. Bay Study Survey for February has not yet begun. In January, the Bay Study Survey collected four Longfin Smelt; one was collected in the San Joaquin River just upstream of the Antioch Bridge; all others were caught farther downstream. Chipps Island Trawl continues to collect low numbers of Longfin Smelt weekly. Enhanced Delta Smelt Monitoring collected a single Longfin Smelt near Twitchell Island on January 24. No additional survey data are available that would indicate the presence of adult Longfin Smelt in the San Joaquin River or south Delta. Sacramento River flow at Rio Vista appears 82,000 cfs and increasing, and well above 55,000 cfs off-ramp; San Joaquin River flow above 18,000 cfs; both continue to exceed flow off-ramp outlined in the Incidental Take Permit. X<sub>2</sub> remains downstream ( $< 59$  km).

3&4. The third Smelt Larva Survey (SLS) of 2017 detected no Longfin Smelt larvae in the central or south Delta during the week of January 30; processing for other regions remains ongoing (Table 1). Qwest has been positive since January 1, reaching about 64,000 cfs on January 13<sup>th</sup>, and as of February 5<sup>th</sup> was over 25,100 cfs and increasing. OMR is limited to -5,000 cfs based on the Delta Smelt BO. Vernalis flows remained above 18,000 on February 5, and well above the 8,000 cfs off-ramp for the Incidental Take Permit; thus, no need for OMR restrictions for protecting larvae. Any larvae recently hatched in the San Joaquin River have a low risk of entrainment into the south Delta in the near future so long as Vernalis flows remain above 5,000 cfs and Qwest remains positive.

5. Current measurements place the water year as above normal, thus, Barker Slough export restrictions will not be implemented this water year.

**Current conditions:** As of February 2nd, Sacramento River flow at Rio Vista was reported at 97,736 cfs and the San Joaquin at Vernalis at 18,300 cfs. Both remain well above the off-ramp thresholds for the Longfin Smelt Incidental Take Permit. Although flows are declining, storms expected at the end of the week will substantially increase river flows.

**Summary of Risk:** Risk of entrainment is very low due to high outflow surpassing off-ramp triggers (i.e., no OMR restrictions based on Longfin Smelt ITP).

Table 1. Longfin Smelt catch by station in the 20-mm Survey, #3. Sample processing is incomplete.

Year	Survey #	SLS Station	Sample Status	Species	Smelt Catch	Min Length	Max Length	Mean Length
2017	3	340	Not yet processed					
2017	3	342	Not yet processed					
2017	3	343	Not yet processed					
2017	3	344	Not yet processed					
2017	3	345	Not yet processed					
2017	3	346	Not yet processed					
2017	3	347	Not yet processed					
2017	3	348	Not yet processed					
2017	3	349	Not yet processed					
2017	3	405	Not yet processed					
2017	3	411	Not yet processed					
2017	3	418	Not yet processed					
2017	3	501	Not yet processed					
2017	3	504	Not yet processed					
2017	3	508	Not yet processed					
2017	3	513	Not yet processed					
2017	3	519	Not yet processed					
2017	3	520	Not yet processed					
2017	3	602	Not yet processed					
2017	3	606	Not yet processed					
2017	3	609	Not yet processed					
2017	3	610	Not yet processed					
2017	3	703	Not yet processed					
2017	3	704	Processed		No Smelt Catch			
2017	3	705	Processed		No Smelt Catch			
2017	3	706	Not yet processed					
2017	3	707	Not yet processed					
2017	3	711	Not yet processed					
2017	3	716	Not yet processed					
2017	3	723	Not yet processed					
2017	3	801	Not yet processed					
2017	3	804	Not yet processed					
2017	3	809	Processed		No Smelt Catch			
2017	3	812	Processed		No Smelt Catch			
2017	3	815	Processed		No Smelt Catch			
2017	3	901	Processed		No Smelt Catch			
2017	3	902	Processed		No Smelt Catch			
2017	3	906	Processed		No Smelt Catch			
2017	3	910	Processed		No Smelt Catch			
2017	3	912	Processed		No Smelt Catch			
2017	3	914	Processed		No Smelt Catch			
2017	3	915	Processed		No Smelt Catch			
2017	3	918	Processed		No Smelt Catch			
2017	3	919	Processed		No Smelt Catch			

Barker ITP

SWP ITP Criteria Stations

Processing is complete through 2/2/2017

Figure 1. CDFW's 2017 Smelt Larva Survey station locations.

