

Smelt Working Group
May 30, 2017

Meeting Summary

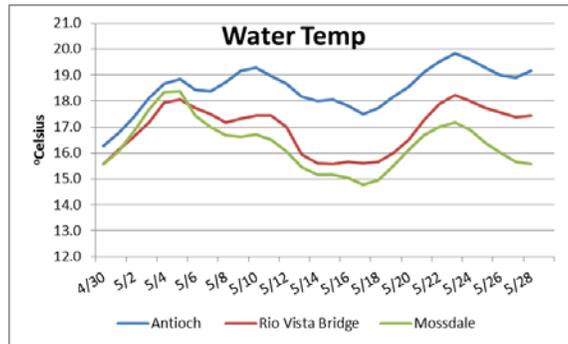
The Working Group reviewed current Delta conditions, survey data, and forecasted weather and also reviewed projected conditions based on a scheduled increase in exports beginning on June 1. The SWG indicated that the anticipated negative OMR flows later this week are sufficiently protective of Delta Smelt.

The Working Group is following guidance for entrainment protections from Action 3 (larval/juvenile Delta Smelt). The Working Group will continue to monitor Delta Smelt survey and salvage data and Delta conditions, and will meet again on Monday, June 5, 2017 at 10 am.

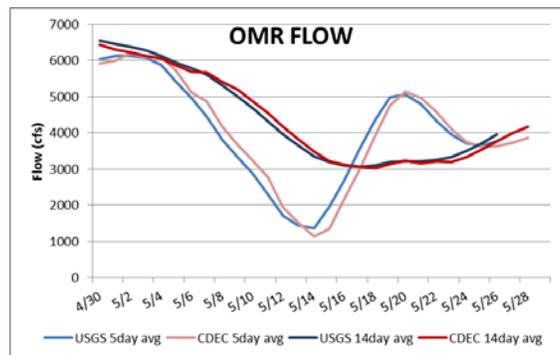
Reported Data

1. **Current environmental data**

a. **Temperature**

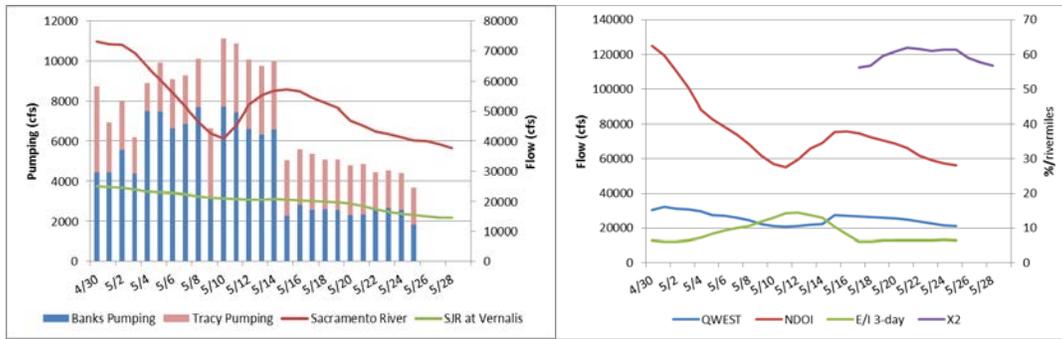


b. **OMR flow**



c. **River flows and pumping**

Sacramento River at Freeport flow for May 30 was approximately 37,400 cfs. San Joaquin River at Vernalis flow for May 30 was approximately 14,400 cfs. Position of X2 was approximately 57 km as of May 30.



d. Turbidity data was not distributed.

2. Delta fish monitoring

The 2016 FMWT Index is 8. The 2017 SKT Index is 3.8. Both indices are the 2nd lowest on record.

20mm survey #6 was in the field the week of May 22. Processing of samples is 36% complete. Central and south Delta stations have been processed; no smelt were detected at those stations.

Enhanced Delta Smelt Monitoring was in the water last week on May 22-24. The last detection of larval Delta Smelt (one individual; 10.5mm) was on 5/16 in Honker Bay. Crews are in the field this week.

3. Modeling

No PTM runs were distributed to the group this morning for discussion. A PTM request will be submitted to DWR this week to model a range of OMR scenarios under the scheduled increase in exports.

4. Salvage

No Delta Smelt salvage has occurred since March 16. Cumulative adult Delta Smelt salvage for the season remains at 56.5.

No larval or juvenile Delta Smelt have been observed in salvage so far this season.

No Longfin Smelt of any life stage has been observed in salvage so far this season.

5. Expected Project Operations

Combined pumping on May 30 is 3,700 cfs. Beginning on June 1, both projects are scheduled to ramp up exports to a combined pumping rate of 10,880 cfs, barring any outages or changes in conditions. As a result of this scheduled change, OMR flows are expected to drop to -4,000 cfs and to hold there until further notice.

6. Delta Conditions Team

The DCT has ended regular meetings for the remainder of the water year.

7. DWR Turbidity Transects

DWR has suspended the survey for the remainder of this water year.

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).

RPA Component 2, Action 3: “The objective of this RPA component (which corresponds to Action 3 in Attachment B), is to improve flow conditions in the Central and South Delta so that larval and juvenile Delta Smelt can successfully rear in the Central Delta and move downstream when appropriate” (page 282).

The ITL for adult Delta Smelt in WY2017 is 151, as amended in the Service’s April 10, 2017 memo to Reclamation addressing targeted reinitiation of the adult incidental take number. The ITL for juvenile Delta Smelt is 448 fish with a concern level of 298 fish.

9. Assessment of Risk Discussion

Delta Smelt Detections

Recent surveys from the EDSM and 20mm survey have not picked up any fish near the central or south Delta in the past several weeks. Delta Smelt detections in the Napa River suggest that a portion of the population may be further out west than in a typical water year, having been pushed out by higher outflows. Additionally, the absence of larval smelt in salvage also suggests that the number of fish present in the south Delta is low.

Expected Project Operations

A concern was raised regarding the rate at which project exports would ramp up to the scheduled June 1 combined pumping rate of 10,880 cfs. After the NMFS I:E ratio action ends on May 31, projects would increase exports by approximately 7,000 cfs. This would result in OMR to swing from current levels of positive 3,000 cfs to -4,000 cfs on June 1. To avoid the possibility of drawing a large number of fish from the high density areas in one day, a recommendation was made to gradually increase pumping over a number of days in order to reduce the impact of the hydrological change. This would be similar to past project operations in which the ramp-up to a high export rate was implemented gradually to avoid a salvage event. Due to continued

low abundances, a conservative operations scenario would be prudent to minimize take. It was noted that at this time, the current project take levels for larval/juvenile Delta Smelt is zero, and that a single salvage event would be unlikely to result in take levels near the ITL. A particle tracking modeling request was made to DWR to model the scheduled export scenario as well as a gradual increase in pumping. The group will review the results next week.

General discussion

Flows earlier this season during the transition from the adult season to the expected hatching of larval smelt have been very positive and it is unlikely that larvae hatched in the south Delta remain. Forecasted flows on the San Joaquin River are expected to rise and would not experience a strong influence from OMR flows of -4,000 cfs. Members indicated that the anticipated OMR flow rate of -4,000 cfs should be sufficiently protective of Delta Smelt for the remainder of the week.

The Working Group will continue to monitor conditions and Delta Smelt distribution and will meet again on Monday, June 6, 2017.

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

Advice for week of May 30, 2017:

The Smelt Working Group has no advice for Longfin Smelt: advice is not warranted at this time given the absence of larvae/juveniles at risk of entrainment as well as current and predicted flow conditions at 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 (≥ 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. No age-1 or adult Longfin Smelt have been salvaged this water year. Based on a genetic analysis, the Longfin Smelt identification in salvage January 6th was revised to Wakasagi. 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 any more adults will be salvaged. Advice is not warranted based on this criterion.
2. USFWS Chipps Island trawling has not captured a Longfin Smelt since March 11. The May Bay Study survey collected no Longfin Smelt in the central Delta. River flows at Rio Vista dropped below off-ramp level, while flow in the San Joaquin River at Vernalis continued to exceed flow off-ramp included in the Incidental Take Permit (see Current Conditions below).
- 3&4. No Longfin Smelt larvae were collected within the central or south Delta by the sixth 20-mm Survey (http://www.dfg.ca.gov/delta/data/20mm/CPUE_Map3.asp). The 20-mm Survey has not detected a Longfin Smelt larva in the central or south Delta this sampling year. As of May 29, Qwest was 19,297 cfs. High Vernalis flows (14,394 cfs on May 21) remain 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 low risk of entrainment into the south Delta in the near future as 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 May 29st, the San Joaquin River flow at Vernalis was reported at 14,394 cfs and the Sacramento River flow at Rio Vista was reported at 31,687 cfs. San Joaquin River flows remain above the off-ramp thresholds for the Longfin Smelt Incidental Take Permit. Qwest was 19,297 cfs.

Previously triggered OMR restrictions resume when Sacramento River at Rio Vista drops below 40,000 cfs, or when San Joaquin River at Vernalis flows drop below 5,000 cfs. No previous restrictions exist.

Summary of Risk: Risk of entrainment is very low due to continued lack of larval or juvenile detections in the central or south Delta and high outflow in the San Joaquin River along with predicted positive transport (i.e., Qwest at +11,000 cfs) after export increases June 1. The predicted conditions will continue to provide excellent downstream transport for any larvae hatching in the central Delta, though none is expected.

Table 1. Longfin Smelt catch by station in the 20-mm Survey, #4. Sample processing is incomplete.

Year	Survey	Station	Date	# Tows Processed	Species	Total Catch	Min Length	Max Length	Avg Length
2017	4	328		0	Not Yet Processed	0			
2017	4	329		0	Not Yet Processed	0			
2017	4	334		0	Not Yet Processed	0			
2017	4	335		0	Not Yet Processed	0			
2017	4	336		0	Not Yet Processed	0			
2017	4	323		0	Not Yet Processed	0			
2017	4	340		0	Not Yet Processed	0			
2017	4	342		0	Not Yet Processed	0			
2017	4	343		0	Not Yet Processed	0			
2017	4	344		0	Not Yet Processed	0			
2017	4	345		0	Not Yet Processed	0			
2017	4	346		0	Not Yet Processed	0			
2017	4	405		0	Not Yet Processed	0			
2017	4	411		0	Not Yet Processed	0			
2017	4	418		0	Not Yet Processed	0			
2017	4	501		0	Not Yet Processed	0			
2017	4	504		0	Not Yet Processed	0			
2017	4	519		0	Not Yet Processed	0			
2017	4	602		0	Not Yet Processed	0			
2017	4	606		0	Not Yet Processed	0			
2017	4	609		0	Not Yet Processed	0			
2017	4	610		0	Not Yet Processed	0			
2017	4	508	24-Apr-17	1	No Smelt Catch	0			
2017	4	513	24-Apr-17	1	No Smelt Catch	0			
2017	4	520		0	Not Yet Processed	0			
2017	4	801	24-Apr-17	3	No Smelt Catch	0			
2017	4	804		0	Not Yet Processed	0			
2017	4	703		0	Not Yet Processed	0			
2017	4	704*	24-Apr-17	2	No Smelt Catch	0			
2017	4	705	25-Apr-17	3	No Smelt Catch	0			
2017	4	706		0	Not Yet Processed	0			
2017	4	707	25-Apr-17	2	No Smelt Catch	0			
2017	4	711		0	Not Yet Processed	0			
2017	4	716		0	Not Yet Processed	0			
2017	4	718		0	Not Yet Processed	0			
2017	4	719		0	Not Yet Processed	0			
2017	4	720		0	Not Yet Processed	0			
2017	4	723		0	Not Yet Processed	0			
2017	4	724*	26-Apr-17	1	No Smelt Catch	0			
2017	4	726		0	Not Yet Processed	0			
2017	4	809	24-Apr-17	3	No Smelt Catch	0			
2017	4	812	25-Apr-17	3	No Smelt Catch	0			
2017	4	815	25-Apr-17	3	No Smelt Catch	0			
2017	4	901	24-Apr-17	3	No Smelt Catch	0			
2017	4	902	24-Apr-17	2	No Smelt Catch	0			
2017	4	906	25-Apr-17	3	No Smelt Catch	0			
2017	4	910	24-Apr-17	3	No Smelt Catch	0			
2017	4	912	24-Apr-17	3	No Smelt Catch	0			
2017	4	914	24-Apr-17	3	No Smelt Catch	0			
2017	4	915	24-Apr-17	2	No Smelt Catch	0			
2017	4	918	24-Apr-17	3	No Smelt Catch	0			
2017	4	919	25-Apr-17	3	No Smelt Catch	0			

Processing is complete through 4/28/2017
 *Indicates reduced tow time