

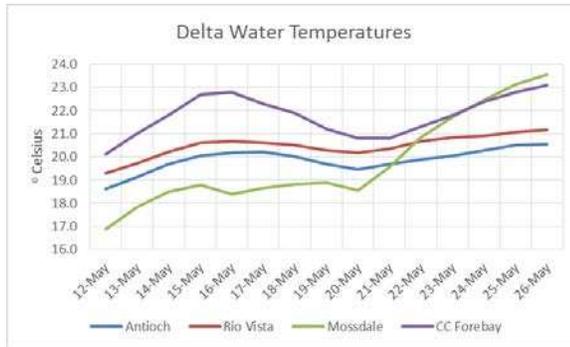
Smelt Working Group
Tuesday, May 27, 2014

Meeting Summary:

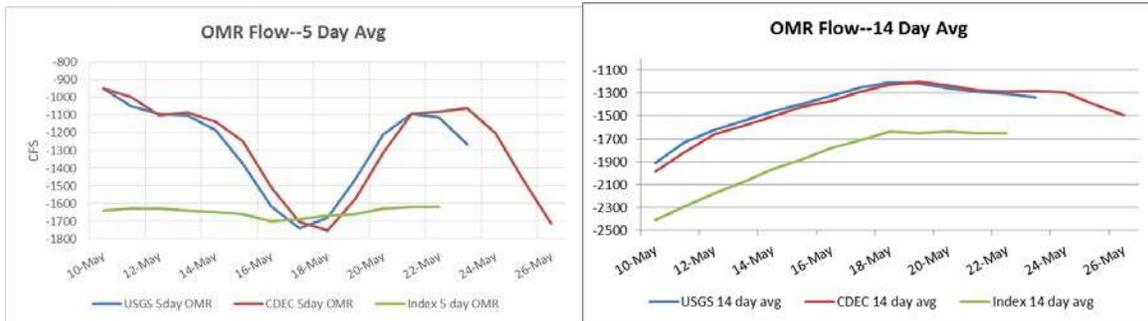
The Working Group agreed that given their present distribution, current salvage, and Delta conditions, there was no indication that projected exports (projected OMR Index value for the week was reported as -1700 cfs) need to be more restrictive for the protection of Delta Smelt adults and larvae. The Working Group also agreed that given their present distribution, existing constraining conditions were sufficient to protect Longfin Smelt from entrainment. The next scheduled SWG meeting will be Monday, June 2.

Reported Data:

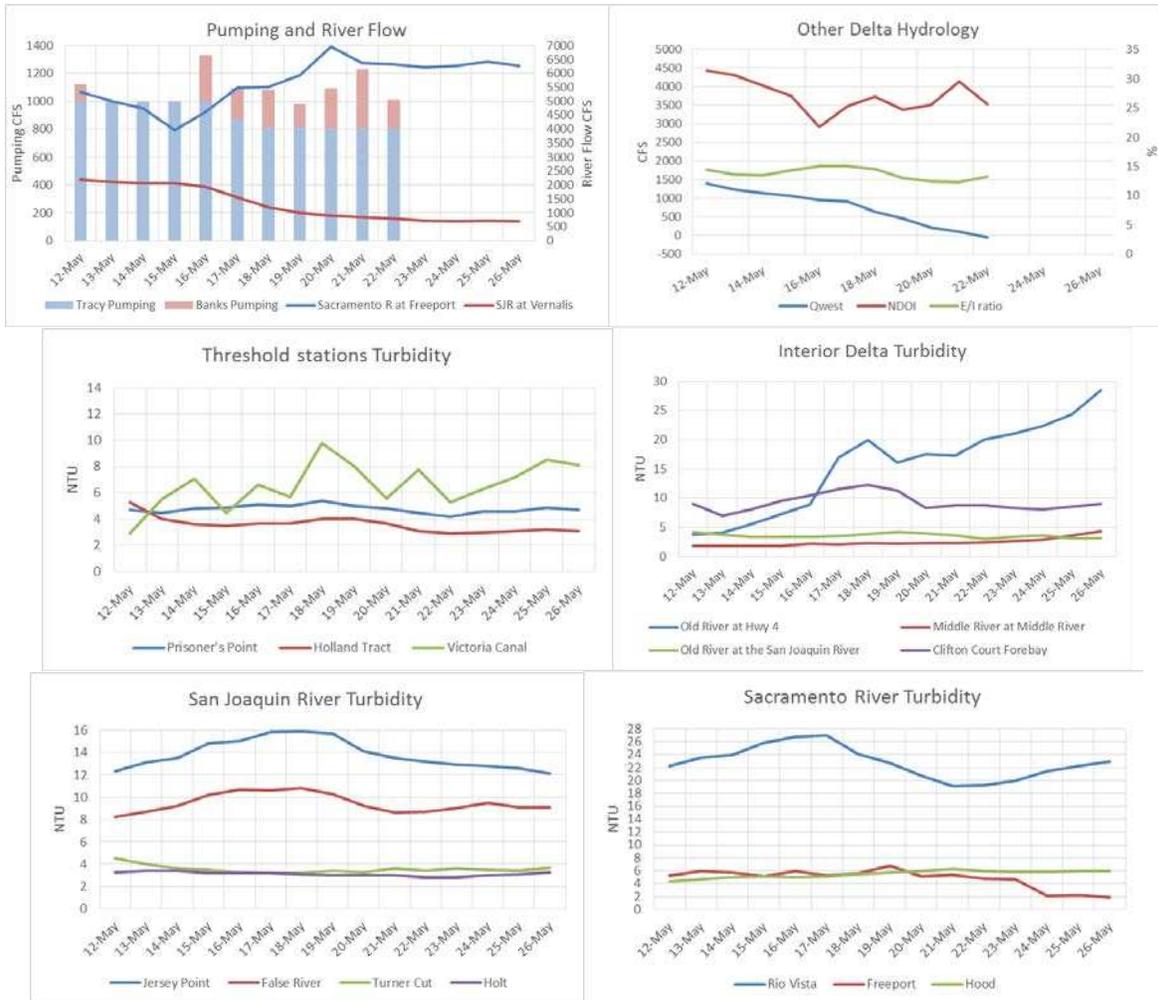
1. **Current environmental data:**
 - **Temperature:**



- **OMR flow:** CDEC OMR flow 5-day and 14-day average for May 26 was -1714 cfs and -1497 cfs, respectively. Operators indicated the OMR flow based on the Index Method was -1700 cfs (both 5-day and 14-day).



- **Flow:** Sacramento River average daily flow for May 26 was approximately 6270 cfs and San Joaquin River average daily flow was 695 cfs. X2 calculation from CDEC was upstream of Collinsville (81 km). As of May 26, Qwest was -210 cfs and E/I was 14%. Outflow was projected to be 3500 cfs for today.



- The weather forecast for this week indicates warm temperatures and no precipitation.

2. Delta Fish Monitoring:

20-mm Survey #5 processing is complete. A total of 112 Delta Smelt larvae have been observed in the samples processed, sizes ranging from 10 to 30 mm. The majority of larvae were collected in the Sacramento River stations and the Sacramento Deepwater Shipping Channel. 20-mm Survey #6 is in the field this week.

The Summer Towntnet Survey will begin the week of June 2.

Spring Kodiak Trawl Survey has completed their trawls for the season.

Jersey Point sampling concluded for the Service's Early Warning Study on April 10.

The 2013 Annual FMWT surveys concluded December 2013. The Annual FMWT Index (based on all four months) for Delta Smelt is 18, the second lowest on record, and statistically indistinguishable from the lowest, 17, from 2009.

The 2013 Delta Smelt Recovery Index (based on September and October FMWT results) is 4. 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/>.

3. Salvage:

Reporting for the period of May 19 through 25: no juvenile or adult Delta Smelt or Longfin Smelt were salvaged at either facility. The seasonal total for juvenile Delta Smelt is 78.

Larval Delta Smelt (<20mm) were not observed in the larval collection at either facility.

Current Longfin Smelt and Delta Smelt salvage information can be downloaded from DFW's salvage FTP site at <ftp://ftp.dfg.ca.gov/salvage/Daily%20Smelt%20Summary/> or queried from DFW's salvage web page at <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>

4. Expected Project Operations:

Exports at the CVP are targeting 800 cfs; exports at the SWP are at 300 cfs. Combined exports should remain at these levels for the week. Operators indicated that the monthly outflow standard of 3000 cfs as well as Delta salinity levels are both controlling operations right now.

The DCC gate was opened for the Memorial Day weekend, but is closing this morning. Reclamation will decide tomorrow if the gates will be closed for the following weekend. Operators indicated there is a high level of salinity in the lower Sacramento River system causing some concern with DCC gate operations.

The State Water Board's (Board) order from January 31, 2014 states that project operations must maintain a monthly net Delta outflow of no less than 3000 cfs and must not pump more than combined 1500 cfs. An addendum was submitted to the Board on February 7. This addendum allows the operators to revert to compliance with the monthly Outflow standard, and increase pumping above the 1500 cfs included in the Temporary Urgency Change Petition (TUCP). A request to extend the Board's January 31, 2014 order was approved through the end of March. An additional addendum was approved to modify the number of days required to meet an X2 at Chipps Island (11,400 cfs on a 3-day running average) for the remainder of March. The projects will continue to meet X2 at Collinsville (7,100 cfs on a 3-day running average) prescribed in the Board's plan. An addendum was submitted and approved on April 9, 2014 to allow the projects to continue with their drought operations as approved by the Board through the month of April. An addendum submitted and approved on April 18, 2014 allows the projects to match the 1:1 Vernalis inflow to export pumping ratio (and exceed the 1500 cfs pumping restrictions as per earlier TUCP orders) during the NMFS RPA and D-1641 Stanislaus River pulse flow. An additional addendum was approved on May 2, allowing the monthly outflow standard to be reduced to 3000 cfs.

5. Particle Tracking Modeling:

No modeling runs were discussed.

6. Turbidity Modeling:

No modeling runs were discussed.

7. Assessment of Risk:

Background:

The timing for RPA Component 1, Action 1 has passed. The SWG is following the guidance for RPA Component 1, Actions 2 and 3, as described below.

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 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).

“Upon completion of RPA Component 1 or when Delta water temperatures reach 12°C (based on a 3-station average of daily average water temperature at Mossdale, Antioch, and Rio Vista) or when a spent female Delta Smelt is detected in the trawls or at the salvage facilities, the projects shall operate to maintain OMR flows no more negative than -1,250 to -5000 cfs based on a 14-day running average with a simultaneous 5-day running average within 25 percent of the applicable 14-day OMR flow requirement. Depending on the extant conditions, the SWG shall make recommendations for the specific OMR flows within this range from the onset of implementing RPA Component 2 through its termination. The Service shall make the final determination regarding specific OMR flows” (page 282). The action ends on June 30 or when the “...water temperature reaches a daily average of 25°C for three consecutive days at Clifton Court Forebay” (page 358).

Discussion:

The SWG reviewed and discussed all relevant data from Delta monitoring, salvage, field surveys, and planned Project operations. The adult incidental take limit is 155 with a concern level of 116 fish. The juvenile incidental take limit is 1007 with a concern level of 671 fish. These numbers reflect the revised incidental take calculation, as reported in the Service’s February 2013 memorandum.

Catch data from 20-mm Survey #5 indicate that the majority of juvenile Delta Smelt are located out of the south and central Delta.

Salvage of Delta Smelt juveniles was zero this week. As pumping remains at minimal levels, members do not anticipate additional salvage this week.

OMR flows are expected to remain at current levels for the remainder of the week. Projects are constrained by the monthly outflow standard of 3000 cfs and the interior Delta salinity standards. Additionally, Qwest remains weakly negative at -210 cfs.

Based on this review of the Delta Smelt distribution and salvage data, current Delta conditions and projected operations, the SWG agreed that no change in operations is necessary to adequately protect Delta Smelt from entrainment. The SWG will continue to monitor turbidity, salvage and survey data through this week, and will request a call to discuss Delta Smelt entrainment risk, should one be necessary.

8. Framework for providing advice to the Service:

No update was provided.

The SWG will have the next meeting on June 2.

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

Advice for week of May 27, 2014:

The Smelt Working Group believes that current and planned export rates are protective of Longfin Smelt at this time.

Barker Slough operations advice terminated for the year as of March 31.

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. As of May 18, 2014, no age-1 or adult Longfin Smelt have been salvaged for the water year. The Fall Midwater Trawl Longfin Smelt annual abundance index was 164. The total salvage level threshold for advice is >820 (see criterion in #1). No advice is warranted based on this criterion.

On February 24, the first Longfin Smelt larva was detected at the SWP and larvae were detected almost daily for about a week before declining (CVP started sampling for larvae as of March 13 on a day-time work-week schedule). On February 28, the first juvenile (age-0) Longfin Smelt was detected at the SWP. From April 21 and through May 4, no juvenile Longfin Smelt were collected at either facility. Only a single Longfin Smelt larvae was collected at the CVP on April 21; that's been the only the second Longfin Smelt larvae detected at either facility since early April. This information is not related to a criterion and does not have a direct effect on advice.

2. December Fall Midwater Trawl and Bay Study sampling in December through March collected no Longfin Smelt in the central or south Delta, suggesting limited or no recent proximity to the export pumps. Distribution information does not indicate advice is warranted based on this criterion.

3 & 4. The fifth 20mm Survey of 2014 took place May 12-15. Longfin Smelt larvae were not detected at any central and south Delta station (Table 1). These data indicate very low risk of entrainment.

5. The Barker Slough concern period ended for the water year 2014 on March 31. No additional advice will be given for this water year.

Current conditions: The outflow index has been running in the low 3,000 cfs range for most of the past week and will remain at that level. Combined State and federal exports have been extremely low at about 1,000 combined since about May 17 and were increased to 1,100 cfs and are expected to remain at this level into the near future. Qwest flows cycled slightly negative beginning May 22, but remain only weakly negative at -210 on May 26. Recently, Vernalis flows have been low at about 700 cfs.

Summary of Risk: No Longfin Smelt larvae or small juveniles have been detected in the central or south Delta region of export influence (Table 1) or in salvage, exports are extremely low and no additional larvae are expected to hatch this season, so the overall risk is very low.

The concern period for Barker Slough exports ended for the water year 2014 on March 31.

Table 1. Longfin Smelt catch per station from 2014 20mm Survey, Survey 5 (partial). These data are preliminary and subject to change.

Year	Survey	Station	Date	# Tows Processed	Species	Total Catch	Min Length	Max Length	Avg Length	
2014	5	323	14-May-14	3	No Longfin Catch	0				Suisun Bay & West
2014	5	340	14-May-14	3	No Longfin Catch	0				
2014	5	342	14-May-14	3	No Longfin Catch	0				
2014	5	343	14-May-14	3	No Longfin Catch	0				
2014	5	344	14-May-14	3	No Longfin Catch	0				
2014	5	345	14-May-14	3	No Longfin Catch	0				
2014	5	346	14-May-14	3	No Longfin Catch	0				
2014	5	405	15-May-14	3	Longfin Smelt	1	24	24	24.00	
2014	5	411	15-May-14	3	No Longfin Catch	0				
2014	5	418	15-May-14	3	Longfin Smelt	5	29	37	32.60	
2014	5	501	13-May-14	3	Longfin Smelt	2	33	34	33.50	
2014	5	504	13-May-14	3	No Longfin Catch	0				
2014	5	519	13-May-14	3	Longfin Smelt	2	29	30	29.50	
2014	5	602	13-May-14	3	Longfin Smelt	1	30	30	30.00	
2014	5	606	13-May-14	3	Longfin Smelt	5	29	36	31.80	
2014	5	609	13-May-14	3	Longfin Smelt	1	42	42	42.00	
2014	5	610	13-May-14	3	No Longfin Catch	0				
2014	5	508	14-May-14	3	Longfin Smelt	17	21	36	30.24	Confluence
2014	5	513	14-May-14	3	Longfin Smelt	10	24	34	30.00	
2014	5	520	14-May-14	3	No Longfin Catch	0				
2014	5	801	14-May-14	3	Longfin Smelt	16	26	33	29.94	
2014	5	804	14-May-14	3	No Longfin Catch	0				
2014	5	703	14-May-14	3*	No Longfin Catch	0				Sac. River System
2014	5	704	14-May-14	3	Longfin Smelt	9	22	31	27.33	
2014	5	705	13-May-14	3	No Longfin Catch	0				
2014	5	706	13-May-14	3	Longfin Smelt	38	20	35	27.79	
2014	5	707	13-May-14	3	No Longfin Catch	0				
2014	5	711	12-May-14	3	No Longfin Catch	0				
2014	5	716	12-May-14	3	Longfin Smelt	1	43	43	43.00	
2014	5	718	12-May-14	3	No Longfin Catch	0				
2014	5	719	12-May-14	3	Longfin Smelt	1	44	44	44.00	
2014	5	720	12-May-14	3	No Longfin Catch	0				
2014	5	723	12-May-14	3	No Longfin Catch	0				
2014	5	724	12-May-14	3	No Longfin Catch	0				
2014	5	726	12-May-14	3	No Longfin Catch	0				
2014	5	809	12-May-14	3	No Longfin Catch	0				Central & South Delta
2014	5	812	13-May-14	3	No Longfin Catch	0				
2014	5	815	13-May-14	3	No Longfin Catch	0				
2014	5	901	12-May-14	3	No Longfin Catch	0				
2014	5	902	12-May-14	3	No Longfin Catch	0				
2014	5	906	13-May-14	3	No Longfin Catch	0				
2014	5	910	12-May-14	3	No Longfin Catch	0				
2014	5	912	12-May-14	3	No Longfin Catch	0				
2014	5	914	12-May-14	3	No Longfin Catch	0				
2014	5	915	12-May-14	3	No Longfin Catch	0				
2014	5	918	12-May-14	3	No Longfin Catch	0				
2014	5	919	13-May-14	3	No Longfin Catch	0				

Processing complete through 05/21/2014

*Five minute tows

Figure 1. DFW's Smelt Larva Survey/20-mm Survey station locations.

