

**Smelt Working Group  
Monday, June 2, 2014**

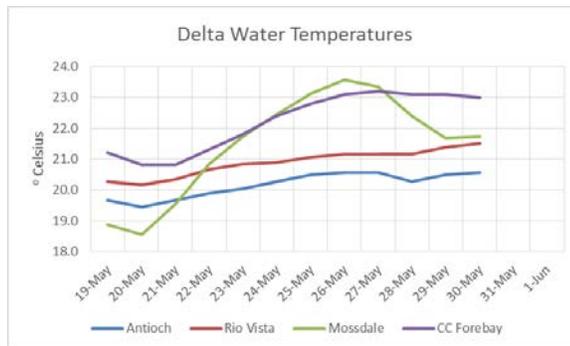
**Meeting Summary:**

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 -2000 cfs) need to be more restrictive for the protection of Delta Smelt adults and larvae. The Working Group also agreed that risk of entrainment for Longfin Smelt has passed for the season. The next scheduled SWG meeting will be Monday, June 9.

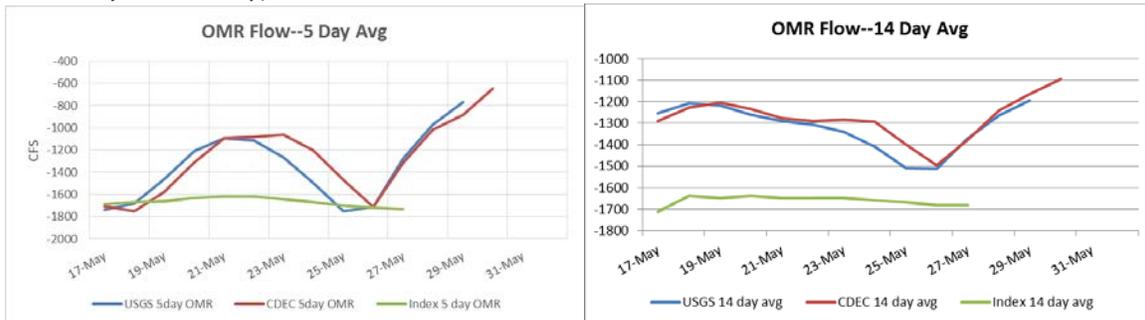
**Reported Data:**

**1. Current environmental data:**

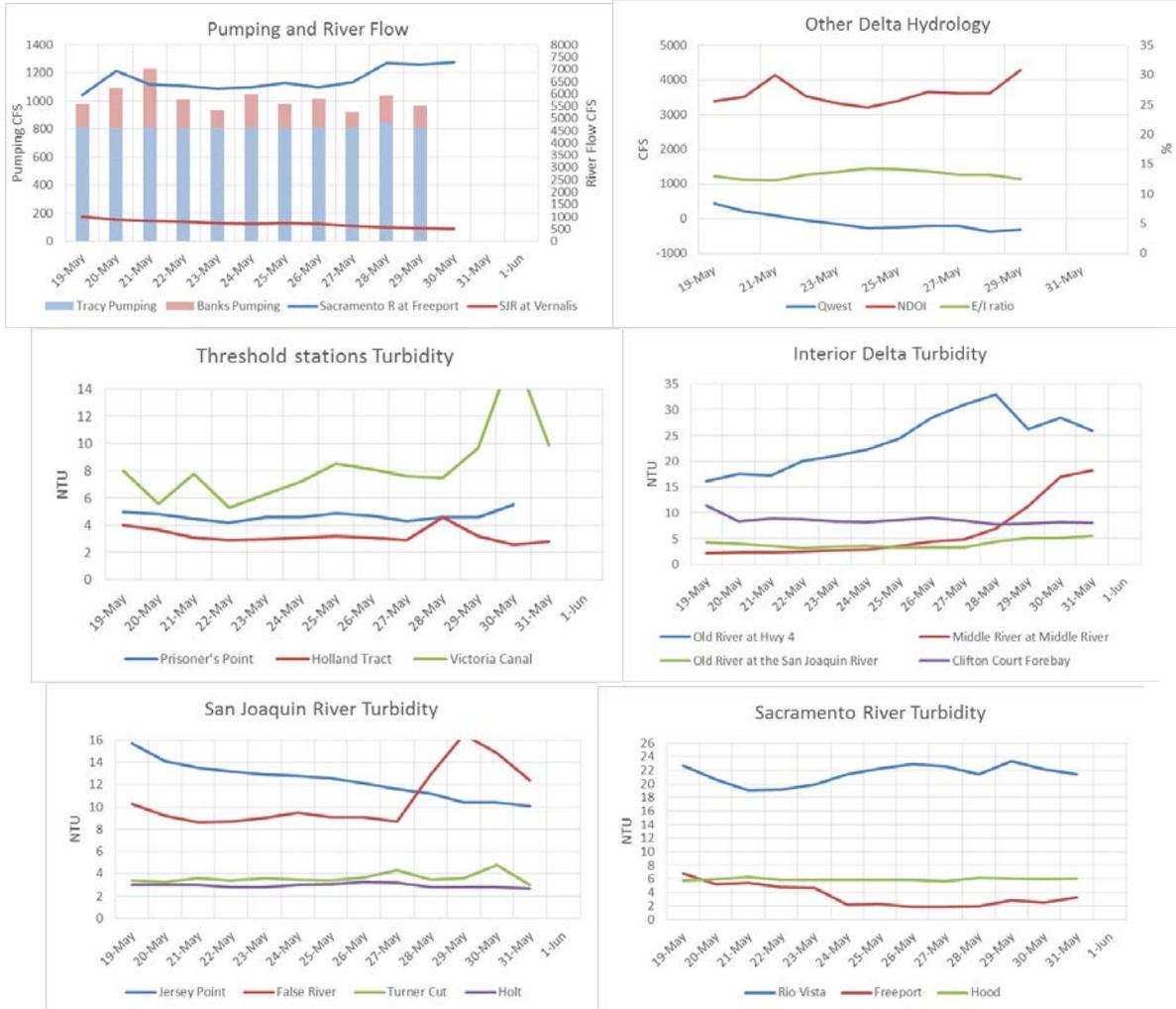
• **Temperature:**



- **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 June 1 was approximately 7529 cfs and San Joaquin River average daily flow was 487 cfs. X2 calculation from CDEC was upstream of Collinsville (81 km). As of June 1, Qwest was -600 cfs and outflow was projected to be 3800 to 3900 cfs for today.



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

## 2. Delta Fish Monitoring:

20-mm Survey #6 was in the field last week and is also in the field today, due to complications with the field work last week. Processing is 28% complete. A total of 46 Delta Smelt larvae have been observed in the samples so far, sizes ranging from 16 to 35 mm. All but two of larvae processed so far were collected in the Sacramento Deepwater Shipping Channel. 20-mm Survey #7 is in the field next week.

The Summer Towntnet Survey #1 is in the field this week.

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](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 26 through June 1: 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 for June of 4000 cfs is controlling, but that Delta salinity levels are of concern as well.

The DCC gate was opened for the Memorial Day weekend, but has remained closed since May 27.

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.

Preliminary catch data from 20-mm Survey #6 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 -2000 cfs for the remainder of the week. Projects are constrained by the monthly outflow standard of 4000 cfs and the interior Delta salinity standards. Additionally, Qwest remains weakly negative at -600 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 9.

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

**Advice for week of June 2, 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 ( $\geq 80$ 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 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 sixth 20mm Survey of 2014 took place May 27 through June 2. In limited processing, Longfin Smelt larvae were not detected at any central and south Delta station (Table 1). Sampling from survey five did not detect Longfin Smelt in the central or south Delta. 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 3,900 cfs range and will remain at that level. Combined State and federal exports have been very low at about 1,300 , but are expected to drop slightly this week. Qwest flows cycled to slightly negative beginning May 22, remain only weakly negative at -200 to -300 through May 29 and to -600 on June 1. Recently, Vernalis flows have been low at a little over 500 cfs.

**Summary of Risk:** No Longfin Smelt larvae or small juveniles have been detected in the central or south Delta region of export influence during 20-mm survey 6 (Table 1), or in the previous survey, 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 6 (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	6	323		0	Not Yet Processed	0				Suisun Bay & West
2014	6	340		0	Not Yet Processed	0				
2014	6	342		0	Not Yet Processed	0				
2014	6	343		0	Not Yet Processed	0				
2014	6	344		0	Not Yet Processed	0				
2014	6	345		0	Not Yet Processed	0				
2014	6	346		0	Not Yet Processed	0				
2014	6	405		0	Not Yet Processed	0				
2014	6	411		0	Not Yet Processed	0				
2014	6	418		0	Not Yet Processed	0				
2014	6	501		0	Not Yet Processed	0				
2014	6	504		0	Not Yet Processed	0				
2014	6	519		0	Not Yet Processed	0				
2014	6	602		0	Not Yet Processed	0				
2014	6	606		0	Not Yet Processed	0				
2014	6	609		0	Not Yet Processed	0				
2014	6	610		0	Not Yet Processed	0				
2014	6	508		0	Not Yet Processed	0				Confluence
2014	6	513		0	Not Yet Processed	0				
2014	6	520		0	Not Yet Processed	0				
2014	6	801		0	Not Yet Processed	0				
2014	6	804		0	Not Yet Processed	0				Sac. River System
2014	6	703		0	Not Yet Processed	0				
2014	6	704		0	Not Yet Processed	0				
2014	6	705		0	Not Yet Processed	0				
2014	6	706		0	Not Yet Processed	0				
2014	6	707		0	Not Yet Processed	0				
2014	6	711	27-May-14	3	No Longfin Catch	0				
2014	6	716	27-May-14	3	No Longfin Catch	0				
2014	6	718	27-May-14	3	No Longfin Catch	0				
2014	6	719	27-May-14	3	No Longfin Catch	0				
2014	6	720	27-May-14	2	No Longfin Catch	0				
2014	6	723	27-May-14	3	No Longfin Catch	0				
2014	6	724	27-May-14	3	No Longfin Catch	0				
2014	6	726	27-May-14	3	No Longfin Catch	0				
2014	6	809	27-May-14	3	No Longfin Catch	0				Central & South Delta
2014	6	812		0	Not Yet Processed	0				
2014	6	815		0	Not Yet Processed	0				
2014	6	901	27-May-14	3*	No Longfin Catch	0				
2014	6	902	27-May-14	3*	No Longfin Catch	0				
2014	6	906		0	Not Yet Processed	0				
2014	6	910		0	Not Yet Processed	0				
2014	6	912		0	Not Yet Processed	0				
2014	6	914	27-May-14	3	No Longfin Catch	0				
2014	6	915	27-May-14	3	No Longfin Catch	0				
2014	6	918	27-May-14	2**	No Longfin Catch	0				
2014	6	919		0	Not Yet Processed	0				

Processing complete through 05/30/2014

\*Five minute tows

\*\*Two replicates at this station

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

