

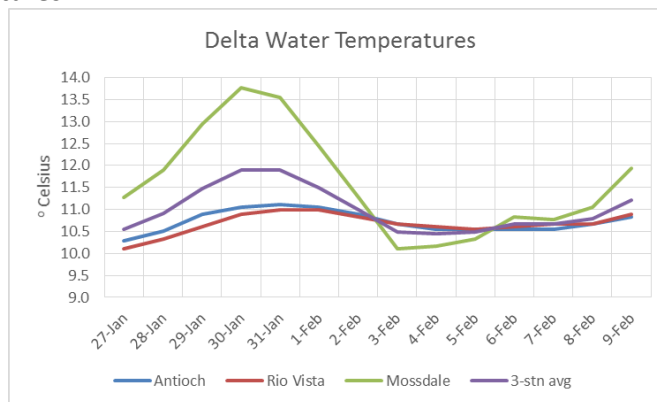
**Smelt Working Group
Monday, February 10, 2014**

Meeting Summary:

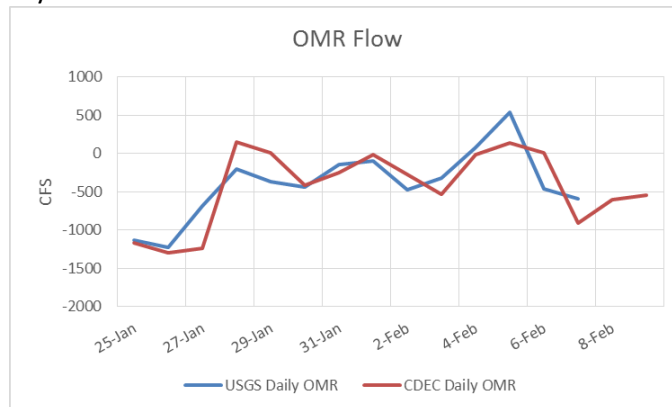
The Working Group agreed that given their present distribution, current salvage, and Delta conditions, the risk of entrainment of delta smelt remains low and therefore, the Working Group recommends that no change in operations is necessary to adequately protect delta smelt from entrainment. The Working Group also agreed that given their present distribution, existing constraining conditions were sufficient to protect longfin smelt from entrainment in the southern Delta. Barker Slough operations are to target 50 cfs exports, as the longfin smelt larva density at Station 716 exceeded the criteria. However, given recent and ongoing changes in hydrology and export pumping, the Working Group will be watching salvage closely this week. Members are prepared for an impromptu call later this week, should one be necessary. The Working Group will continue to monitor salvage, turbidity, and other conditions and reconvene February 18.

Reported Data:

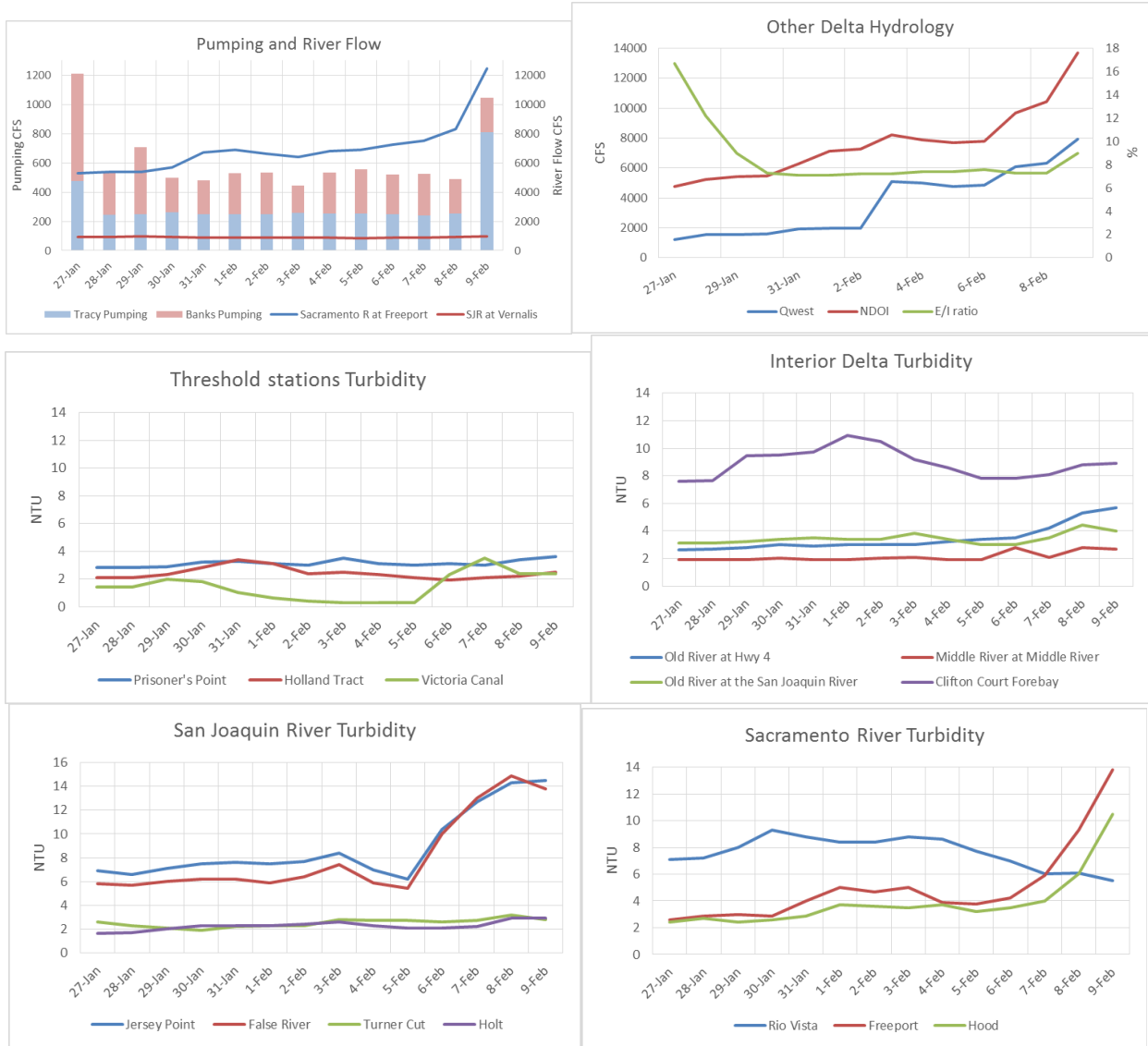
1. **Current environmental data:**
 - **Water temperatures:**



- **OMR flow:** USGS tidally averaged daily OMR flow on February 7 was -597 cfs. CDEC daily OMR flow as of February 9 was -547 cfs.



- **Flow:** Sacramento River average daily flow for February 9 was 12454 cfs and San Joaquin River average daily flow was 997 cfs. X2 calculation from CDEC is upstream of Colinsville (81 km). The graphs below show the most recent trends in Delta hydrology and water quality that were evaluated by the Working Group.



2. Delta Fish Monitoring:

Smelt Larval Survey #3 was in the field last week. Twenty-two of the 44 stations sampled have been processed. A total of 1803 juvenile longfin smelt were collected (18 of the 22 stations processed had larvae). Sizes range from 5 to 12mm, with an average length of approximately 7.4mm.

Spring Kodiak Trawl #2 is in the field this week. Preliminary catch from Jersey Point sampling this morning indicated no delta smelt detections.

Bay Study sampling for February captured two delta smelt in the lower San Joaquin River (Station # 837). A total of seven delta smelt were collected and 17 longfin smelt, mostly in the Suisun Bay and western Delta.

Special Kodiak Trawl sampling conducted by the Service last week at Jersey Point captured a total of 25 delta smelt (12 tows) on the first day of two days of sampling. More information on this study will be distributed to the Working Group by email this week.

The 2013 Annual FMWT surveys have concluded. 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) 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:

No delta smelt or longfin smelt have been salvaged in WY2014 thus far.

Tracy Fish Collection Facility has repaired bypass gate #4 and it is now fully functional.

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>

4. Expected Project Operations:

Combined SWP/CVP exports are expected to be approximately 3800 to 4000 cfs starting tomorrow and through the rest of the week. Operators estimated exports to be controlled by the Delta Outflow standard for February (7100 cfs Outflow), although salinity intrusion into the central and south Delta remains high. Operators indicated some stations continue to be out of compliance, but with increased exports, they believe southern Delta salinity will be lowered. DWR and Reclamation submitted an addendum to the SWRCB for the previously submitted temporary urgency change petition on Friday, which was approved. This addendum allows the operators to revert to compliance with the February Outflow standard of 7100 cfs, and increase pumping above the 1500 cfs included in the TUC petition. Additionally, the DCC gate was closed this morning in response to a NMFS salmonid trigger over the weekend. The board's order from January 31, 2014 states that project operations must maintain a monthly net Delta outflow of no less than 3000 cfs (3-day running average) and must not pump more than combined 1500 cfs.

Although not presently controlling operations, NMFS RPA IV.2.3 is in effect as of January 1, 2014, which restricts OMR flow to no more negative than -5,000 cfs.

5. Particle Tracking Modeling:

No PTM runs were requested for this week.

6. Turbidity Modeling:

No modeling runs were discussed this week.

7. 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 352).

Discussion:

The Working Group reviewed and discussed all relevant data from Delta monitoring, salvage, field surveys, and planned Project operations. Adult take limit is 155 with a concern level of 116 fish. Juvenile take limit is 1007 with a concern level of 671 fish. These numbers reflect the revised take estimate produced last February.

Operators estimated that by Wednesday, OMR would increase to -3500 cfs. Working Group members expressed concern that delta smelt could be drawn into the Old and Middle River corridors in response to this rapidly negative shift in OMR flow, particularly because of the recent increase in turbidity and the detection of large numbers of smelt by the FWS in the lower San Joaquin. Some members felt there was the possibility for salvage as soon as this week. However, the Working Group agreed there was no need to modify exports at this time to benefit delta or longfin smelt, due to the results of surveys, hydrology, and lack of salvage thus far.

8. Framework for providing advice to the Service:

No update was provided to the Working Group.

The SWG will have the next meeting on February 18.

WEEKLY ADVICE FOR THE DEPARTMENT OF FISH AND WILDLIFE FOR LONGFIN SMELT**Advice for week of February 10, 2014:**

The Smelt Working Group believes that current export rates are protective of Longfin Smelt at this time. Although the distribution criterion for larvae was surpassed during Smelt Larva Survey 3, densities in the central and south Delta remain low and exports remain extremely low.

Barker Slough operations advice is provided by the Smelt Work Group to target 50 cfs exports, because the larva density increased substantially at station 716 (see #5 below in Discussion of Criteria).

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 February 10, 2014, no 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.

2. December Fall Midwater Trawl and December and both January and February Bay Study sampling 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 third Smelt Larva Survey (SLS) of 2014 was conducted February 3-5. The larva distribution criterion (#3 above) was met during survey 3 met (cf., Table 1 and Basis for Advice #s 3 & 4 above). Except for 2 stations in the lower San Joaquin River channel, larva densities remained low during survey 3.

5. Water year 2014 has been classified as critically dry and during Smelt Larval Survey #2, 62 Longfin Smelt larva were collected at 716 (Table 1) and a similar number at 723. The criterion target if larval smelt are present is an export pumping limit of 50 cfs as a 7-day mean. The SWG provides advice because larval densities exceeded the criterion and recent exports have surpassed the export target. Since then Barker Slough exports declined sharply from 58 cfs January 30 to 21 cfs February 1. Smelt Larva Survey 3 also caught Longfin Smelt substantial numbers of larvae at stations 716 and 723, so advice continues to limit exports.

Current conditions: Net Delta outflow has been low and slightly increasing since January 27 to about 7,767 cfs on February 2 and has remained at this level since. X2 has been > 81 in January. Combined State and federal export are at 4000 cfs starting February 11 and will continue until Delta outflow recedes. Qwest has been weakly positive since January 3rd, increasing to almost +2,000 cfs, and then to almost +5,000 beginning February 3rd. OMR has been weakly negative into early February (5-day mean: -191; 14-day mean -816), although operators estimate OMR flow will increase to -3,500 cfs as of February 12.

Summary of Risk:

Risk of entrainment is very low due to extremely low exports.

No adult Longfin Smelt have been detected to date in the central or south Delta by fish surveys or by salvage. This suggests limited spawning in the central or south Delta. The small to modest numbers of larvae collected in the central and south Delta support this conclusion, though it is too early in the hatching season to predict this will be the case throughout. The current and predicted exports will result in an OMR less negative than -1,000 cfs. Currently, X2 located in the lower Sacramento and San Joaquin rivers, which suggest that some adult Longfin Smelt might move into the central and south Delta to spawn. Qwest, though positive, has recently been of sufficient magnitude to move larvae downstream slowly. These circumstances all support the conclusion of very low risk of entrainment.

Table 1. Longfin smelt catch per station from 2014 Smelt Larva Survey, Survey 3.

Study Year	Survey #	SLS Station	Sample Status	Species	Smelt Catch	MinOfLength	MaxOfLength	AvgOfLength
2014	3	340	Not yet processed					
2014	3	342	Not yet processed					
2014	3	343	Not yet processed					
2014	3	344	Not yet processed					
2014	3	345	Not yet processed					
2014	3	346	Not yet processed					
2014	3	347	Not yet processed					
2014	3	348	Not yet processed					
2014	3	349	Not yet processed					
2014	3	405	Not yet processed					
2014	3	411	Not yet processed					
2014	3	418	Not yet processed					
2014	3	501	Not yet processed					
2014	3	504	Not yet processed					
2014	3	508	Not yet processed					
2014	3	513	Processed	Longfin Smelt	105	6	11	8.1
2014	3	519	Not yet processed					
2014	3	520	Not yet processed					
2014	3	602	Not yet processed					
2014	3	606	Not yet processed					
2014	3	609	Not yet processed					
2014	3	610	Not yet processed					
2014	3	703	Processed	Longfin Smelt	45	6	9	7.4
2014	3	704	Processed	Longfin Smelt	329	6	10	7.7
2014	3	705	Processed	Longfin Smelt	195	6	9	7.3
2014	3	706	Not yet processed					
2014	3	707	Processed	Longfin Smelt	663	5	9	7.2
2014	3	711	Processed	Longfin Smelt	201	6	9	7.5
2014	3	716	Processed	Longfin Smelt	50	5	9	6.2
2014	3	723	Processed	Longfin Smelt	25	5	10	6.4
2014	3	801	Processed	Longfin Smelt	47	6	10	7.2
2014	3	804	Processed	Longfin Smelt	18	6	8	7.2
2014	3	809	Processed	Longfin Smelt	79	5	12	7.0
2014	3	812	Processed	Longfin Smelt	15	6	8	6.7
2014	3	815	Processed	Longfin Smelt	8	7	10	8.6
2014	3	901	Processed	Longfin Smelt	9	6	8	6.7
2014	3	902	Processed	Longfin Smelt	1	8	8	8.0
2014	3	906	Processed	Longfin Smelt	4	8	9	8.8
2014	3	910	Processed		No Smelt Catch			
2014	3	912	Processed		No Smelt Catch			
2014	3	914	Processed	Longfin Smelt	1	9	9	9.0
2014	3	915	Processed	Longfin Smelt	8	8	12	9.1
2014	3	918	Processed		No Smelt Catch			
2014	3	919	Processed		No Smelt Catch			

SWP ITP Criteria Stations

Processing is complete through 2/7/14.

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

