

**Smelt Working Group
Tuesday, January 21, 2014**

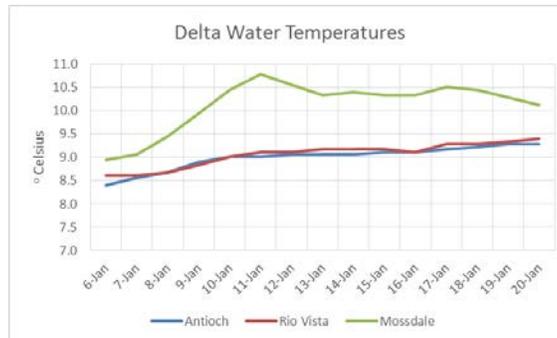
Meeting Summary:

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. The Working Group will continue to monitor salvage, turbidity, and other conditions and reconvene January 27.

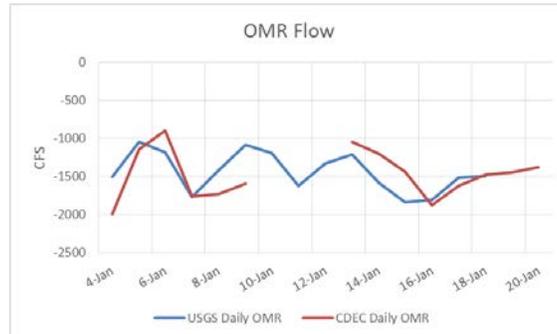
Reported Data:

1. Current environmental data:

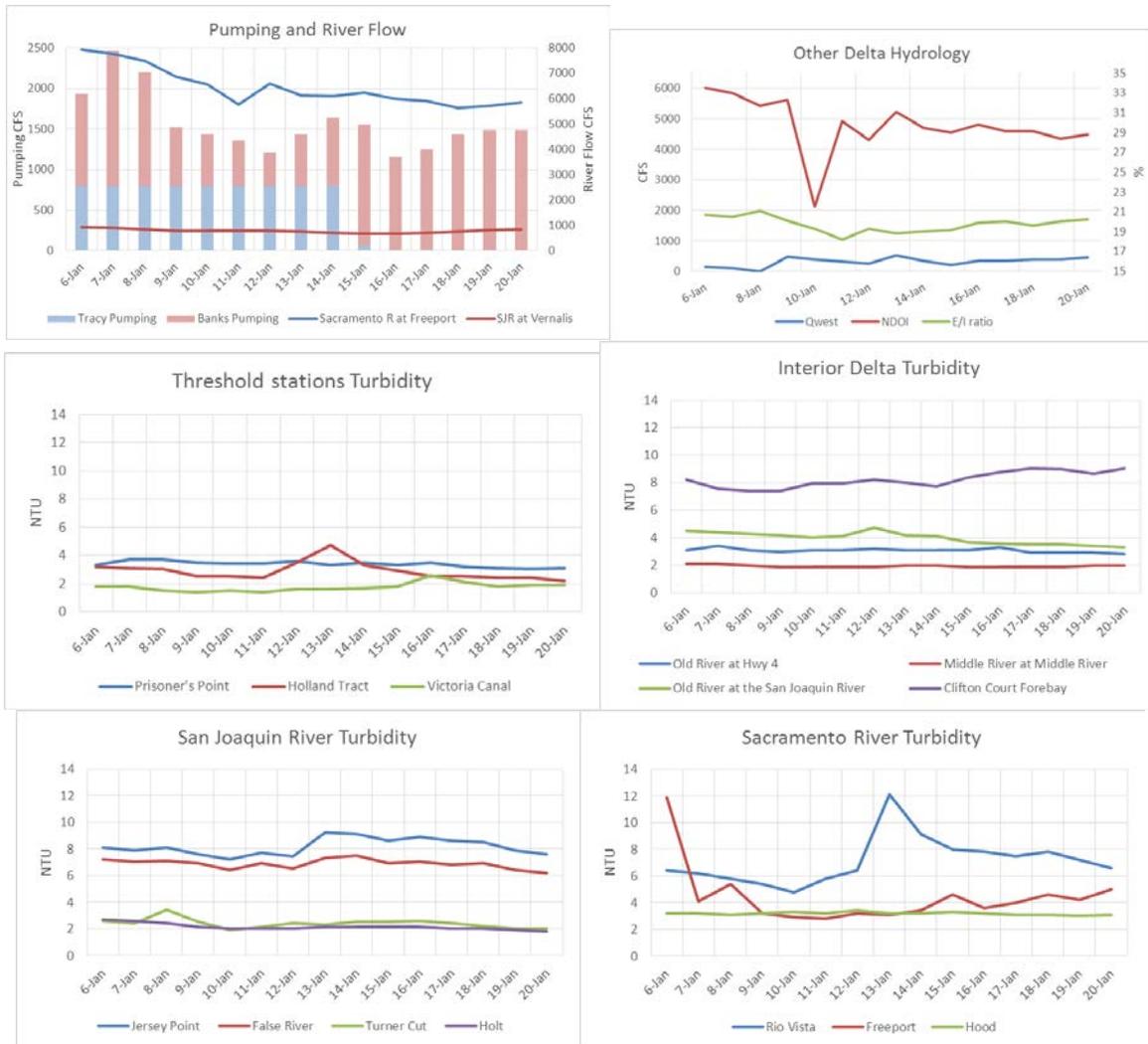
- **Water temperatures:**



- **OMR flow:** USGS tidally averaged daily OMR flow on January 18 was -1499 cfs. CDEC daily OMR flow as of January 20 was -1378 cfs.



- **Flow:** Sacramento River average daily flow for January 20 was 5852 cfs and San Joaquin River average daily flow was 835 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:

The Spring Kodiak Trawl #1 was in the field last week. A total of 148 adult delta smelt were collected: 57 males, 90 females, and 1 undetermined. All were in prespawn condition. Distribution appears to be mostly in the Suisun Bay area, with nearly half the catch in Montezuma Slough. Detections also occurred at the confluence and Sacramento River stations. None were detected at the central and southern Delta stations.

Smelt Larval Survey #2 is in the field this week. SLS #1 was in the field January 8 through 10, and results were reported at the last Working Group meeting.

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. As the Jones Pumping Plant is shut down until Friday (at the earliest), the Tracy Fish Collection Facility is not in operation. All salvage is occurring at the SWP.

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 1500 cfs this week. Currently, exports are controlled by salinity intrusion into the central and south Delta and the monthly outflow standard as set by the State Water Resources Control Board. The Tracy Pumping Facility is shut down until Friday at the earliest for maintenance activities, so all pumping is occurring at the SWP.

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 35).

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.

The Working Group agreed there was no need to modify exports at this time to benefit delta or longfin smelt.

8. Framework for providing advice to the Service:

At the last Working Group meeting, Service management presented a draft framework to the group which contains a new way for the members to provide advice to the Service. Members have submitted comments and the Service is presently consolidating those comments for a final review by Working Group members prior to submittal to Service management this Friday.

The SWG will have the next meeting on January 27.

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

Advice for week of January 21, 2014:

The Smelt Working Group does not have any advice for Longfin Smelt based on recent information.

Barker Slough operations advice was again not provided by the Smelt Work Group, because the larva density (11larva at station 716) was very low and exports were just above those targeted in the criterion (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 January 20, 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 Bay Study sampling collected no Longfin Smelt in the San Joaquin River or the south Delta, suggesting no recent proximity to the export pumps. January Bay Study sampling did not detect Longfin Smelt in the San Joaquin River and south Delta. Distribution information does not indicate advice is warranted based on this criterion.

3 & 4. The first Smelt Larva Survey (SLS) of 2014 was conducted January 6-8. Few Longfin Smelt larvae were collected in the central or south Delta, and neither larva criterion was met (cf., Table 1 and Basis for Advice #s 3 & 4 above). During SLS 1, Longfin Smelt larvae were collected at only 5 criteria stations and in very low numbers at all but one station. SLS 2 is in the field now.

5. Water year 2014 has been classified as critically dry and a single Longfin Smelt larva was collected at 716 (Table 1) and a couple more larvae were collected at 723. Barker Slough exports varied from 52-67 cfs daily (January 10-16), and the criterion target if larval smelt are present is an export pumping limit of 50 cfs. No advice is given because larval densities were so low and recent exports approximated the criterion target.

Current conditions: Net Delta outflow has been low (about 4,200 -6,000 cfs) since January 1. X2 has been >81 in January. Combined State and federal export are at 1,500 cfs and will remain there for the foreseeable future. Qwest has been weakly positive since January 3rd. OMR has been weakly negative in January (ca. -1,000 to -2,000).

Summary of Risk:

Risk of entrainment is very low.

The collection of no adult Longfin Smelt in salvage or in the San Joaquin River or south Delta to date suggests limited spawning in the central or south Delta. The small numbers of larvae collected in the central and south Delta supports 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 a modest -2000 OMR or less negative OMR flows. Currently, X2 located in the lower Sacramento and San Joaquin rivers, which suggests that some adult Longfin Smelt might move into the central and south Delta to spawn. There has not been any adult fish detected by monitoring, but a few larvae were detected. Qwest has been of insufficient magnitude to move larvae one way or the other. 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 1.

Year	Survey #	SLS Station	Sample Status	Species	Smelt Catch
2014	1	340	Processed		No Smelt Catch
2014	1	342	Not yet processed		
2014	1	343	Not yet processed		
2014	1	344	Not yet processed		
2014	1	345	Not yet processed		
2014	1	346	Not yet processed		
2014	1	347	Not yet processed		
2014	1	348	Not yet processed		
2014	1	349	Not yet processed		
2014	1	405	Processed		No Smelt Catch
2014	1	411	Processed		No Smelt Catch
2014	1	418	Processed	Longfin Smelt	3
2014	1	501	Processed	Longfin Smelt	1
2014	1	504	Processed		No Smelt Catch
2014	1	508	Processed	Longfin Smelt	45
2014	1	513	Processed	Longfin Smelt	26
2014	1	519	Processed	Longfin Smelt	4
2014	1	520	Processed	Longfin Smelt	22
2014	1	602	Processed	Longfin Smelt	35
2014	1	606	Processed	Longfin Smelt	4
2014	1	609	Processed	Longfin Smelt	4
2014	1	610	Processed	Longfin Smelt	12
2014	1	703	Processed	Longfin Smelt	9
2014	1	704	Processed	Longfin Smelt	22
2014	1	705	Processed	Longfin Smelt	4
2014	1	706	Processed	Longfin Smelt	6
2014	1	707	Processed	Longfin Smelt	6
2014	1	711	Processed	Longfin Smelt	8
2014	1	716	Processed	Longfin Smelt	1
2014	1	723	Processed	Longfin Smelt	2
2014	1	801	Processed	Longfin Smelt	9
2014	1	804	Processed	Longfin Smelt	8
2014	1	809	Processed	Longfin Smelt	20
2014	1	812	Processed	Longfin Smelt	4
2014	1	815	Processed	Longfin Smelt	1
2014	1	901	Processed	Longfin Smelt	4
2014	1	902	Processed		No Smelt Catch
2014	1	906	Processed		No Smelt Catch
2014	1	910	Processed		No Smelt Catch
2014	1	912	Processed		No Smelt Catch
2014	1	914	Processed		No Smelt Catch
2014	1	915	Processed	Longfin Smelt	1
2014	1	918	Processed		No Smelt Catch
2014	1	919	Processed		No Smelt Catch

SWP ITP Criteria Stations

Processing is complete through 1/10/14.

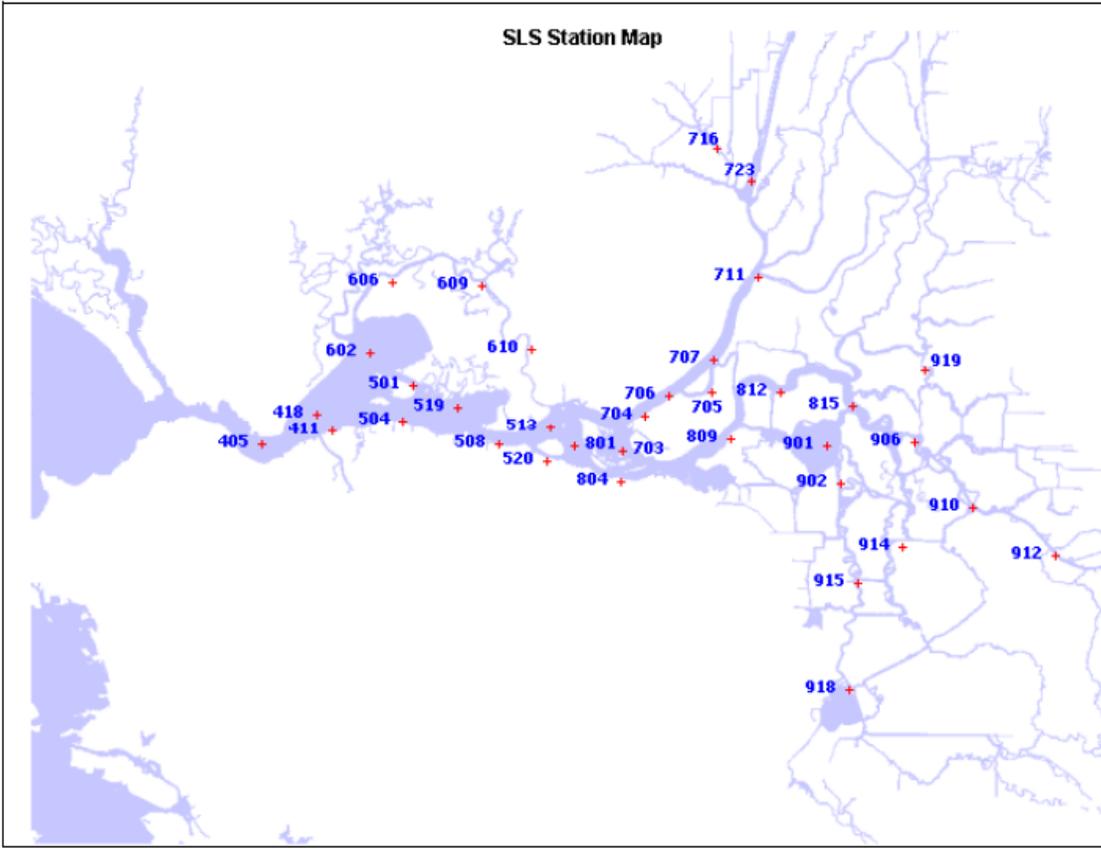


Figure 1. DFG's Smelt Larva Survey station locations.