

SMELT WORKING GROUP
Tuesday, January 17, 2012

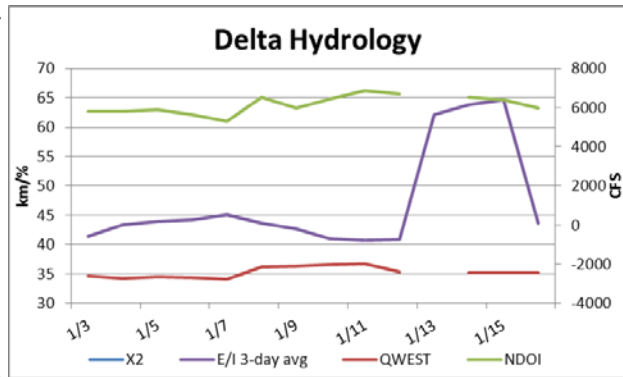
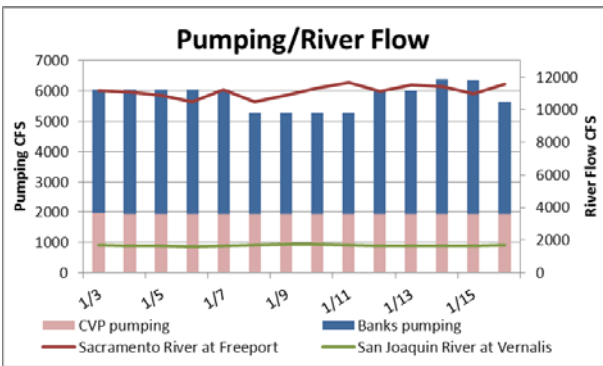
Meeting Summary:

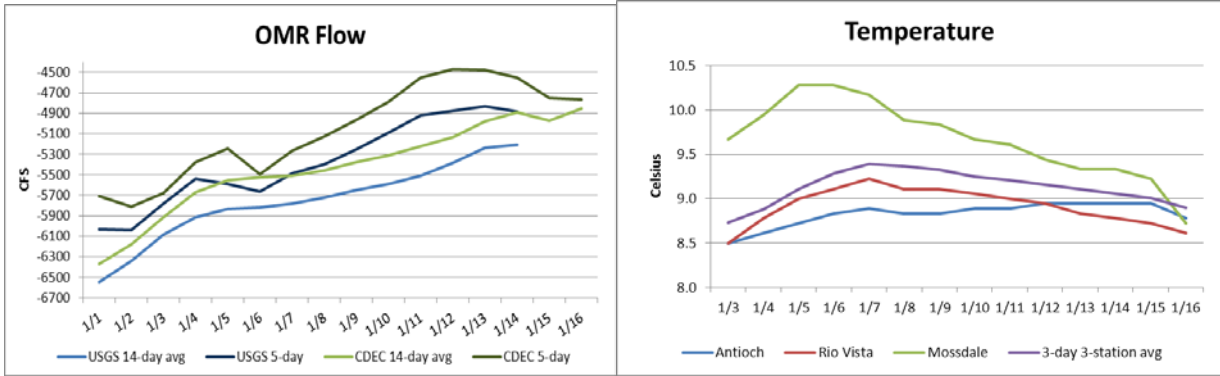
The Working Group will continue to monitor salvage, survey data, and hydrological conditions and will reconvene January 20 at 10am, if conditions warrant. The Working Group agreed that conditions obviate discussion of entrainment risk for delta smelt for this week. The Working Group also agreed that the current -5000cfs OMR flow restriction was sufficient to protect longfin smelt.

Reported Data:

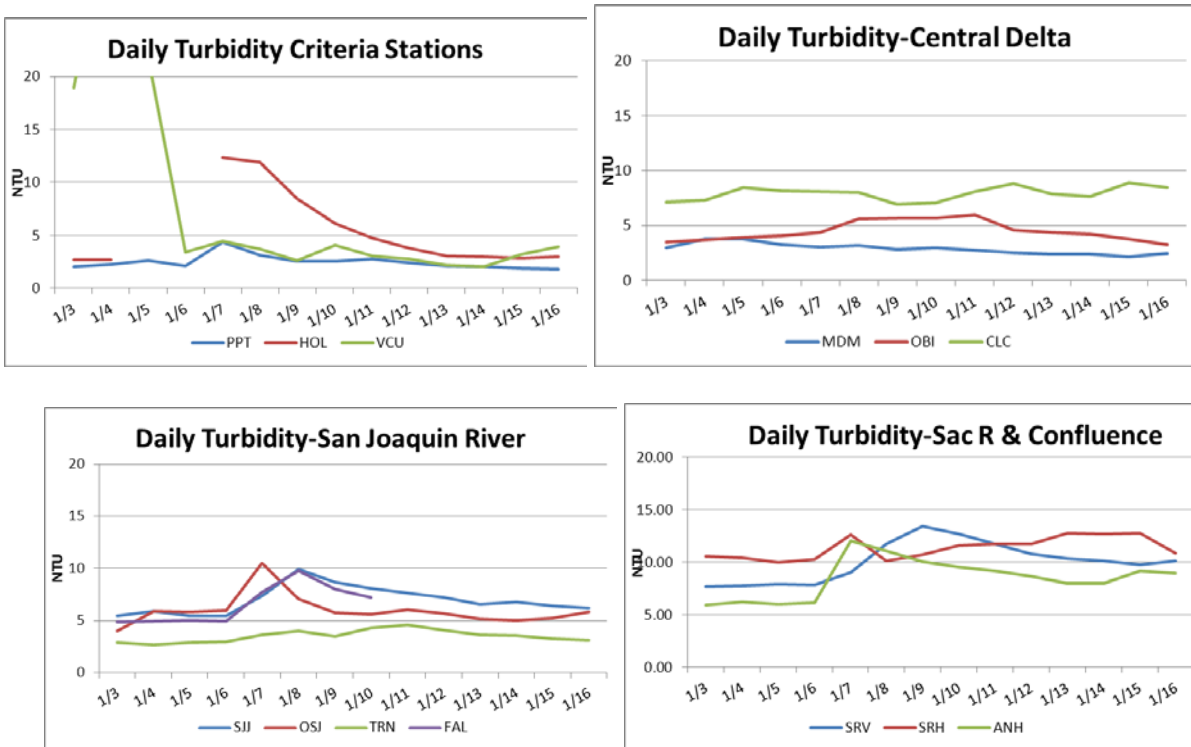
1) Current environmental data:

- **Water temperature** for the 3 station average is 8.9°C.
- **OMR:** USGS tidally-averaged OMR 5-day average for January 14 was -4,886cfs and the 14-day average was -5,209cfs. CDEC 5-day average on January 16 was -4,768cfs and the 14-day average was -4,852cfs.
- **Flow:** Sacramento River inflow is 11,583cfs and San Joaquin River is 1,673cfs. X₂ calculation from CDEC is upstream of 81km since December 8 (precise location not calculated. The E/I ratio, NDOI, and QWEST for January 16 were 43.7%, 5,985cfs, and -2,431cfs, respectively. The graphs below show the most recent trends in Delta hydrology and water quality that were evaluated by the Working Group.





- **Turbidity:** Most stations indicating relatively low, baseline-level turbidity.



2) Delta Fish Monitoring:

Results from the first Smelt Larval Survey indicate that the greatest concentration of longfin smelt larvae is in the area of the confluence. Stations 703 (Broad slough) and 801 (Sherman Lake) exhibited the highest station catches, but larval longfin were collected at central and south Delta stations as well. No larval delta smelt were detected, although 2 adults were collected; one at station 606 and one at station 706. See “WEEKLY ADVICE FOR THE DEPARTMENT OF FISH AND GAME FOR LONGFIN SMELT” for additional details. SLS #2 will be in the field the week of January 23. The first Spring Kodiak Trawl is ongoing and results will be available next Monday. The annual FMWT Delta Smelt Index for 2011 is calculated as 343 (sum of all four months). The 2011 Delta Smelt Recovery Index (based on September and October) is 55.

More information on the Recovery Index can be found on the Bay-Delta Office's web site at <http://www.fws.gov/sfbaydelta/> under "hot topics." Results from CDFG surveys are available online at: <http://www.dfg.ca.gov/delta/>

3) Salvage:

No longfin smelt or delta smelt have been salvaged in water year 2012.

4) Expected Project Operations:

Combined CVP/SWP exports are approximately 6,000 cfs as of January 17. CVP reduced pumping to 2,000cfs on December 31, due to attaining full storage in San Luis Reservoir. SWP will continue to adjust their delta pumping to meet the following standards: NMFS RPA restrictions, state board d-1641 average monthly outflow 4,500cfs, and Contra Costa water quality standards.

Operators reported that the weather forecast is wet, with 9in anticipated for the Shasta basin and 5in anticipated for the Nimbus basin.

5) Particle Tracking Modeling:

The Working Group did not request PTM runs for this week.

6) Assessment of Risk:

Background: The period covered by RPA Component 1, protection for pre-spawning adult delta smelt, Action 1(a) (pp 280-282 in the B.O. and Attachment B, pp 329-351), is December 1 through 20. Historic salvage patterns indicate that an entrainment event is unlikely during this period. The Working Group may recommend an action during this period based upon examination of turbidity and salvage data, as well as parameters such as the location of X2, apparent abundance, and river flows. The historic likelihood of an entrainment event increases after December 20, the period covered by Component 1, Action 1(b). If turbidity criteria are met or exceeded after December 20, Action 1(b), setting average daily OMR flow no more negative than -2000 cfs for a 14-day period, will begin. The salvage criteria for initiating an action are three consecutive days of salvage or a one-time salvage of 343 delta smelt (estimated). Component 1, Action 2 (pp 280-281 and Attachment B, pp 352-356) is implemented following the conclusion of Action 1.

Combined incidental take levels for State and federal fish facilities are based on the most recent FMWT abundance index. The 2011 FMWT index for delta smelt is 343. This means that the authorized incidental take of adults is 2,487 (estimated) and the concern level is 1,862 (estimated), cumulative for the December through March period. Irrespective of Delta conditions, Action 1 would be initiated if salvage at the export facilities occurs on three consecutive days, or exceeds 343 on any given day (B.O. p 329).

Discussion: The Working Group reviewed and discussed all relevant data from fish surveys, Delta monitoring, salvage, and planned Project operations. Stable conditions in the Delta obviate discussion of entrainment risk for delta smelt for this week. Longfin smelt larval distribution exceeded the criteria for advice from the SWG under the SWP's 2081 permit; CDFG therefore requested that the Working Group discuss entrainment risk for longfin smelt. The 2081 identifies OMR flow between -1250 and -5000cfs as the range to select from in determining a level adequately protective of longfin larvae. Because relatively few larvae were collected in the central and south Delta, the risk is currently low. However, longfin smelt hatching typically increases through January, peaking early to late February, thus risk is likely to increase unless outflow conditions change and Qwest becomes positive for a couple weeks. See "WEEKLY ADVICE FOR THE DEPARTMENT OF FISH AND GAME FOR LONGFIN SMELT" for additional details regarding this discussion.

The Working Group will hold the next call on January 20 at 10am, if conditions warrant, or Monday, January 23 as usual.

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

Advice for week of January 17, 2012:

The Smelt Working Group believes that OMR no more negative than -5000 cfs is protective of longfin smelt at this time.

Basis for advice:

The 2009 State Water Project 2081 for longfin smelt states that advice to the DFG 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).
4. Larva catch per tow exceeds 15 longfin smelt larvae or juveniles in 4 or more of the 12 survey stations listed.

Discussion of Criteria and Conditions

Longfin smelt larvae were collected in the first Smelt Larva Survey, so adult salvage and distribution are now informational and can be viewed as suggestive possible future larvae

distribution. As of January 16, 2012, no longfin smelt have been salvaged for the water year. The Fall Midwater Trawl longfin smelt annual abundance index for 2011 is 477. The total salvage level threshold for advice is 2385 (see criterion in #1).

December fish surveys (Fall Midwater Trawl and Bay Study) collected longfin smelt in the San Joaquin River just downstream and just upstream of the Antioch Bridge. In early January, Bay Study collected longfin smelt as far upstream as San Andreas Shoals on the San Joaquin River, but catches have yet to be summarized.

The first Smelt Larva Survey of 2012 caught longfin smelt larvae at 9 of 12 criteria stations in the central and south Delta (Table 1, Figure 1) triggering the need for advice. Larva catches (densities) at the criteria stations are currently very low, so the current conditions pose little risk to longfin smelt. Larva catches and densities are expected to increase with hatching in late January and into February.

Current conditions: Combined State and federal exports declined beginning 20 December and were about 6,000 cfs and Qwest was about -2400 cfs as of 16 January (DWR Daily Hydrologic Conditions). San Joaquin River flow was at 1670 cfs and Sacramento River flow at 11,760 cfs, also measured 16 January. OMR, estimated for 16 January, was -4492 cfs and trending slightly less negative.

Table 1. Delta and Longfin smelt catch per station from 2012 Smelt Larva Survey, Survey 1.

Year	Survey	SLS Station	Sample Status	Species	Smelt Catch
2012	1	405	Not yet processed		
2012	1	411	Not yet processed		
2012	1	418	Not yet processed		
2012	1	501	Not yet processed		
2012	1	504	Not yet processed		
2012	1	508	Not yet processed		
2012	1	513	Processed	Longfin Smelt	195
2012	1	519	Not yet processed		
2012	1	520	Not yet processed		
2012	1	602	Not yet processed		
2012	1	606	Not yet processed		
2012	1	609	Not yet processed		
2012	1	610	Not yet processed		
2012	1	703	Processed	Longfin Smelt	29
2012	1	704	Processed	Longfin Smelt	132
2012	1	705	Processed	Longfin Smelt	24
2012	1	706	Processed	Longfin Smelt	47
2012	1	706	Processed	Delta Smelt*	1
2012	1	707	Processed	Longfin Smelt	46
2012	1	711	Processed		No Smelt Catch
2012	1	716	Processed	Longfin Smelt	33
2012	1	723	Processed	Longfin Smelt	26
2012	1	801	Processed	Longfin Smelt	130
2012	1	804	Processed	Longfin Smelt	38
2012	1	809	Processed	Longfin Smelt	78
2012	1	812	Processed	Longfin Smelt	9
2012	1	815	Processed	Longfin Smelt	7
2012	1	901	Processed	Longfin Smelt	1
2012	1	902	Processed	Longfin Smelt	10
2012	1	906	Processed	Longfin Smelt	4
2012	1	910	Processed	Longfin Smelt	1
2012	1	912	Processed		No Smelt Catch
2012	1	914	Processed		No Smelt Catch
2012	1	915	Processed	Longfin Smelt	1
2012	1	918	Processed	Longfin Smelt	4
2012	1	919	Processed		No Smelt Catch

SWP ITP Criteria Stations

*Adult Delta Smelt (Fork Length = 75 mm)
Processing is complete through 1/13/12

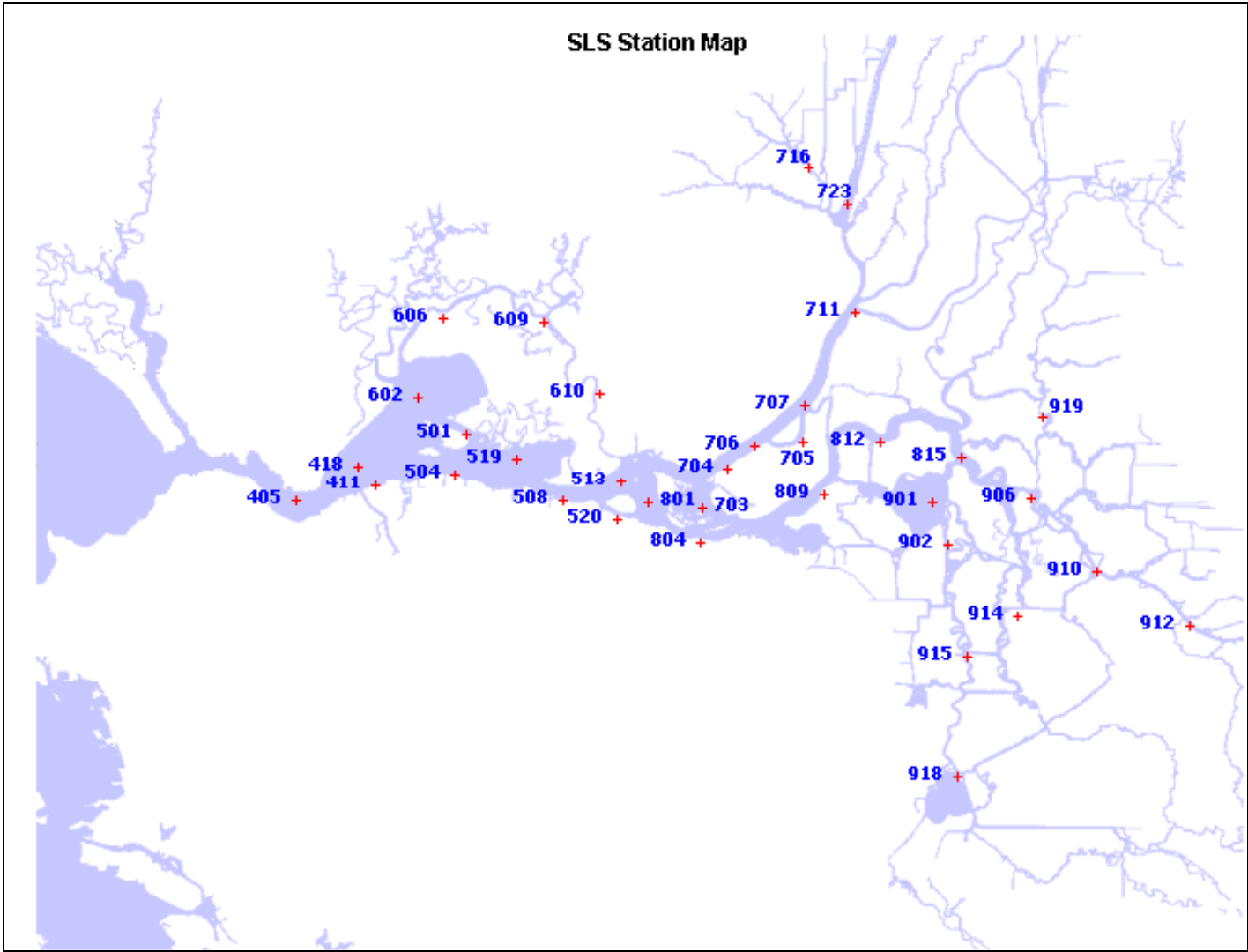


Figure 1. DFG's Smelt Larva Survey station locations.