

SMELT WORKING GROUP Monday, May 21, 2012

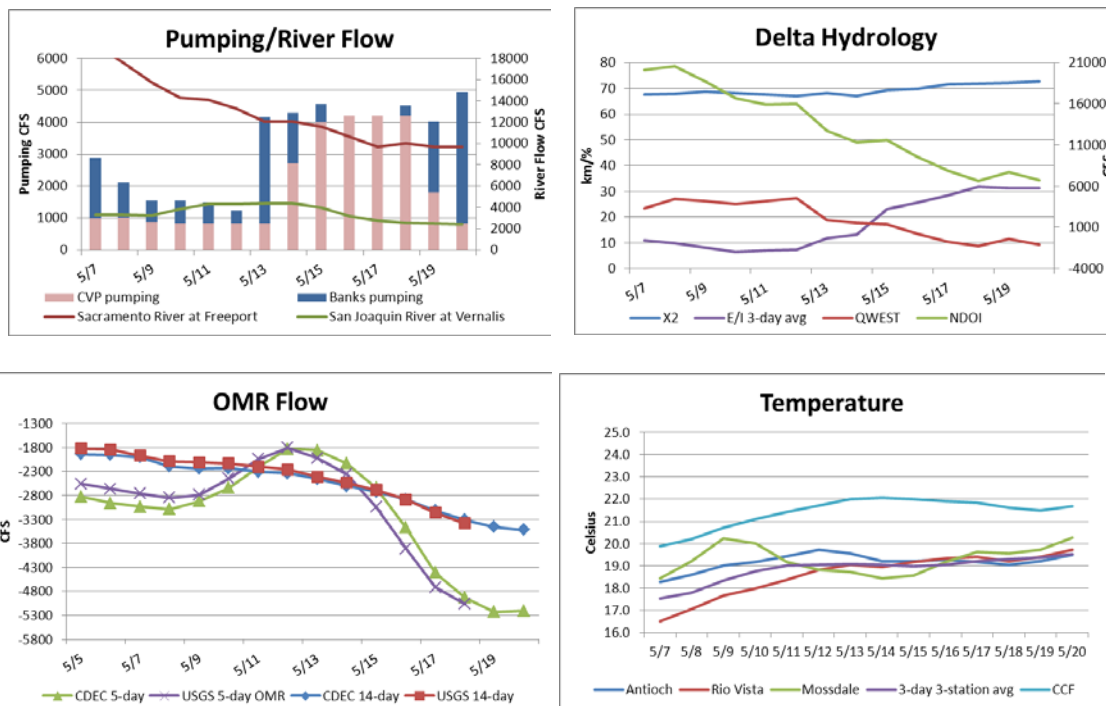
Meeting Summary:

The Working Group recommended no change in projected operations based on a review of delta smelt distribution and salvage data, current Delta conditions and projected operations. The Working Group also agreed that given their present distribution, existing constraining conditions was sufficient to protect longfin smelt. The Working Group will continue to monitor smelt salvage, larval smelt survey data, and delta hydrological conditions and will reconvene May 29, 2012, at 10 am.

Reported Data:

1) Current environmental data:

- **Water temperature** for the 3 station average is 19.5°C.
- **OMR:** USGS tidally-averaged OMR 5-day and 14-day averages as of May 18 are -5,066 cfs and -3,384 cfs, respectively. CDEC 5-day average and 14-day averages as of May 20 are -5,204 cfs and -3,521 cfs, respectively.
- **Flow:** Sacramento River inflow is 9,675 cfs and San Joaquin River is 2,410 cfs. X_2 calculation from CDEC is 72.66km. 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:

20mm Survey #5 was in the field the week of May 7. Processing is ongoing. A total of 122 delta smelt larvae have been counted so far, 14 of which were from the central and southern Delta. Size ranges from 6 to 25mm. A total of 794 longfin larvae have been counted so far, with sizes ranging from 8 to 40mm. 20mm Survey #6 is in the field this week. See “WEEKLY ADVICE FOR THE DEPARTMENT OF FISH AND GAME FOR LONGFIN SMELT” for additional details. The annual FMWT Delta Smelt Index for 2011 is 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:

The cumulative total for adult delta smelt for WY 2012 is 203. The table below details daily estimated juvenile delta smelt and longfin smelt salvage for the season:

Table 1: Estimated daily juvenile delta smelt and longfin smelt salvage (≥ 20 mm) for WY2012 (5/11 – 5/13 salvage numbers reflect updated data, and differ from originally reported preliminary data).

Delta Smelt (YOY ≥ 20 mm))				Longfin Smelt (YOY ≥ 20 mm)			
Date	CVP	SWP	Total	Date	CVP	SWP	Total
January total	36	0	36	February total	8	0	8
February total	50	52	102	March total	257	1484	1741
March total	21	40	61	April total	605	1052	1657
4/17	4	0	4	5/2	8	0	8
4/27	6	0	6	5/3	4	16	20
4/28	4	0	4	5/4	0	6	6
4/29	8	0	8	5/5	0	16	16
5/1	4	0	4	5/6	0	24	24
5/3	4	2	6	5/7	12	16	28
5/4	16	2	18	5/8	0	4	4
5/5	16	10	18	5/9	0	8	8
5/6	16	0	16	5/10	4	24	28
5/7	0	12	12	5/11	0	0	0
5/8	4	60	64	5/12	0	0	0
5/9	0	102	102	5/13	3	0	3
5/10	12	104	116	5/14	0	6	6
5/11	40	52	92	5/19	20	0	20
5/12	0	48	48				
5/13	0	220	220				
5/14	4	100	104				
5/15	4	104	108				

5/16	4	0	4				
5/17	20	0	20				
5/20	4	0	4				

Larval or prejuvenile (< 20 mm) longfin smelt and delta smelt were observed in daily larval fish samples. Current delta and longfin 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 CVP/SWP exports are approximately 4,300 cfs as of May 21. Combined exports are presently curtailed to comply with the NMFS Stipulation Agreement of -5,000 cfs OMR for the second half of May. Should the sentinel steelhead trigger at Railroad Cut be exceeded during this period, operations are anticipated to drop to 1,500 cfs combined for a five day period.

5) Particle Tracking Modeling:

No PTM runs were requested for this week.

6) Assessment of Risk:

Background:

The collection of a spent female in the SKT Survey #2 on February 15 indicates that delta smelt spawning has begun. The temperature criterion of 12°C was confirmed on February 28. The Working Group discussed the risk of entrainment for larval delta smelt and any discussion of a recommendation was intended to protect larval delta smelt (B.O., p 282). The Working Group will follow the guidance for Action 3 of the B.O. (pp. 357-368).

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.

Table 2: Incidental Take Levels for the larval/juvenile life stage (cumulative)

	Concern Level	Take Limit
April	101	151
May	4,471	6,705
June	11,327	16,991
July	12,851	19,276

Discussion: The Working Group reviewed and discussed all relevant data from fish surveys, Delta monitoring, salvage, and planned Project operations. The first larval delta smelt were

salvaged at the CVP on April 26 and the SWP on April 24. Since the increased salvage of larval delta smelt ($\geq 20\text{mm}$) at the SWP from May 8 through 15, salvage has been zero; the seasonal cumulative total of salvaged juvenile delta smelt is 996. Qwest is now slightly negative at -1,126 cfs, X2 is at 72.7km, and the 5-day OMR flow is at -5,204 cfs. The data from the 20mm survey # 5 indicate low levels of detection in the south and central Delta.

Following the adaptive process parameters in the RPA for Action 3, the SWG agreed that numbers of salvaged juvenile delta smelt do not reach the level of concern requiring a change in operations, for the following reasons: total cumulative salvage has not reached the total concern level of 12851, as outlined in the OCAP BiOp, the center of delta smelt distribution appears to be out of the south and central Delta. Combined exports are curtailed to comply with the NMFS Stipulation Agreement of -5,000 cfs OMR which is within the OMR range under Action 3 of the RPA.

7) Longfin Smelt:

Longfin smelt larval distribution (Smelt Larva Survey 1, January 9-10) 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 -1,250 and -5,000 cfs as the range to select from in determining a level adequately protective of longfin larvae. With one detection in the central and south Delta for 20-mm Survey #5 and only one day of salvage since May 14, the risk is currently low.

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

Advice for week of May 21, 2012:

The Smelt Working Group believes that planned exports for this week resulting in -5000 cfs or less negative OMR will be protective for larvae and juveniles remaining in the lower San Joaquin River because the current risk of entrainment into the south Delta is extremely low.

Summary of risk: Risk of additional entrainment into the south Delta is currently extremely low. Larva/juvenile catches were zero in the central and south Delta in 20-mm Survey #5 except for a single larvae at the most westerly station in the central Delta, 809. At the fish facilities detection of larvae has been infrequent and salvage of juveniles has been fluctuating but relatively low. Water exports will target -5000 OMR until at least May 23 and may be dropped for 5 days sometime thereafter due to tagged steelhead movement into the south Delta.

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 ($\geq 80\text{ mm}$) 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 20-mm 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.
5. For Barker Slough exports only: After January 15 through March 31 of critically dry or dry water years (Sacramento River), based on abundance and distribution and detection at Station 716.

Discussion of Criteria and Conditions

Review of past information: Longfin smelt larvae were collected in the Smelt Larva Survey #1 (January 9-10, 2012), so adult salvage and distribution are now informational and can be viewed as suggestive possible future larvae distribution. As of March 5, 2012, no ≥ 80 mm longfin smelt have been salvaged for the water year, but larva sampling began at both facilities on February 16, and longfin smelt larvae were detected by the State on February 19 and at both facilities on 20 February. The Fall Midwater Trawl longfin smelt annual abundance index for 2011 is 477. The total adult salvage level threshold for advice is 2,385 (see criterion in #1).

December Fall Midwater Trawl and Bay Study surveys collected adult longfin smelt in the San Joaquin River just downstream and just upstream of the Antioch Bridge. In early January, Bay Study collected adult longfin smelt as far upstream as San Andreas Shoals on the San Joaquin River. The first Smelt Larva Survey of 2012 caught longfin smelt larvae at 9 of 12 criteria stations in the central and south Delta (criterion #3, Figure 1) triggering the need for advice. Larva catches (densities) were very low during survey 1 and hydraulic conditions at the time posed little risk to longfin smelt larvae. Larvae numbers increased in Smelt Larva Survey 2, and then declined slightly in survey 3 and again in survey 4 followed by a substantial drop in survey 5.

Review of new and current information: The fifth 20-mm Survey (May 7-9) detected only a single longfin smelt larvae in the central and south Delta (Table 1) at station 809, the farthest west; thus, risk of further entrainment is extremely low. Longfin smelt juveniles were salvaged more sporadically in the past week, with only 2 salvage events of 6 and 20 juveniles during the week.

Combined State and federal exports will be coordinated through at least May 23 to achieve -5000 cfs OMR, currently at -3521 cfs (14-day). On or after May 23, exports could decrease to -1250 cfs OMR or 1500 cfs combined exports for a 5 day period, if sufficient tagged steelhead are detected in the south Delta. Thereafter exports would ramp up and return to target -5000 cfs OMR or what ever other target was deemed protective by the SWG for the smelts.

The longfin smelt incidental take permit restrictions for Barker Slough exports concluded for 2012 on March 31. Although longfin smelt larvae remain in the vicinity, exports remain sporadic and low, and should not entrain larvae.

Table 1. Longfin smelt catch per station from 20mm Survey #5, 2012.

Year	Survey	Station	Date	# Tows Processed	Species	Total Catch	Min. Length	Max. Length	Avg. Length
2012	5	323		0	Not Yet Processed	0			
2012	5	340		0	Not Yet Processed	0			
2012	5	342		0	Not Yet Processed	0			
2012	5	343		0	Not Yet Processed	0			
2012	5	344		0	Not Yet Processed	0			
2012	5	345		0	Not Yet Processed	0			
2012	5	346		0	Not Yet Processed	0			
2012	5	405		0	Not Yet Processed	0			
2012	5	411		0	Not Yet Processed	0			
2012	5	418		0	Not Yet Processed	0			
2012	5	501	08-May-12	1	Longfin Smelt	9	9	28	15.7778
2012	5	504	08-May-12	1	Longfin Smelt	11	11	23	16.4545
2012	4	519	08-May-12	1	Longfin Smelt	4	15	19	16.75
2012	4	602		0	Not Yet Processed	0			
2012	4	606	08-May-12	1	Longfin Smelt	20	9	23	16.3
2012	4	609		0	Not Yet Processed	0			
2012	4	610	08-May-12	1	No Longfin Catch	0			
2012	4	508	09-May-12	1	Longfin Smelt	31	13	31	20.4516
2012	4	513	09-May-12	1	Longfin Smelt	56	12	28	16.56
2012	4	520	09-May-12	1	Longfin Smelt	1	14	14	14
2012	4	801	09-May-12	1	Longfin Smelt	1	15	15	15
2012	4	804	09-May-12	1	No Longfin Catch	0			
2012	4	703	09-May-12	1	No Longfin Catch	0			
2012	4	704	09-May-12	1	Longfin Smelt	2	15	16	15.5
2012	5	705	08-May-12	1	No Longfin Catch	0			
2012	5	706	08-May-12	1	No Longfin Catch	0			
2012	5	707	08-May-12	1	No Longfin Catch	0			
2012	5	711	07-May-12	1	No Longfin Catch	0			
2012	5	716	07-May-12	2	Longfin Smelt	1	33	33	33
2012	5	718	07-May-12	1	Longfin Smelt	10	18	33	24.2
2012	5	719	07-May-12	1	Longfin Smelt	1	19	19	19
2012	5	720	07-May-12	3	Longfin Smelt	1	34	34	34
2012	5	723	07-May-12	2	No Longfin Catch	0			
2012	5	724	07-May-12	2	No Longfin Catch	0			
2012	5	726	07-May-12	1	No Longfin Catch	0			
2012	5	809	07-May-12	3	Longfin Smelt	1	19	19	19
2012	4	812	08-May-12	2	No Longfin Catch	0			
2012	5	815	08-May-12	1	No Longfin Catch	0			
2012	5	901	07-May-12	3	No Longfin Catch	0			
2012	5	902	07-May-12	3	No Longfin Catch	0			
2012	5	906	08-May-12	1	No Longfin Catch	0			
2012	5	910	07-May-12	3	No Longfin Catch	0			
2012	5	912	07-May-12	3	No Longfin Catch	0			
2012	5	914	07-May-12	3	No Longfin Catch	0			
2012	5	915	07-May-12	3	No Longfin Catch	0			
2012	5	918	07-May-12	3	No Longfin Catch	0			
2012	5	919	08-May-12	1	No Longfin Catch	0			

Suisun Bay & West

Confluence

Sac. River System

Central & South Delta

Processing complete through 5/11/12

*5 minute tows