

SMELT WORKING GROUP  
Monday, May 11, 2009

**Preliminary Recommendation for the week of May 18, 2009:**

Since the VAMP export curtailments will end on May 18, starting the week of May 18<sup>th</sup>, the 14-day average OMR shall be maintained at no more negative than -2500 cfs. The 14-day average OMR shall be increased to no more negative than -1,500 cfs if delta smelt are detected at the south Delta export facilities on two consecutive days. This includes any combination of (1) detection in either salvage or larva sampling, and (2) detection at either facility.

The recommendation is based on a review of active risk factors:

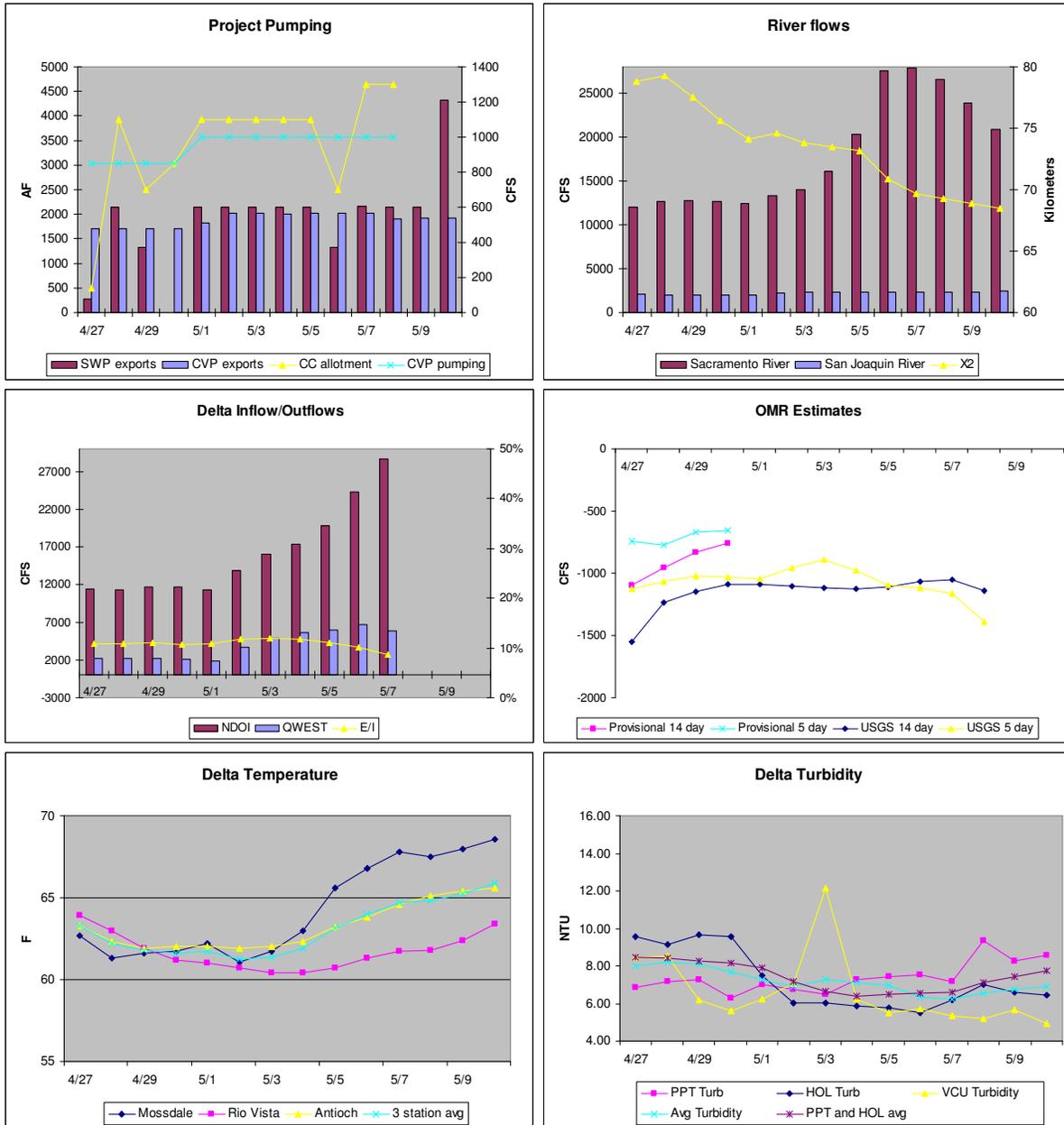
1. **Size of the population.** Delta smelt densities are similar or less than what they were during a similar juncture last year, which produced the lowest index ever recorded. The low abundance of delta smelt warrants conservative measures be taken to protect the population.
2. **Distribution.** Delta smelt are broadly distributed in the delta with detections at several south and central Delta stations in recent 20mm Surveys. Larvae and young juvenile delta smelt distributed in the south and central Delta have an increased risk of exposure to the export facilities.
3. **Salvage.** Delta smelt have been consistently detected in salvage and larva sampling recently despite low export levels. These observations are consistent with the distribution of fish in the south and central Delta and suggest that a relatively high percentage of the population is at risk of exposure to the export facilities.
4. **Life stage risk.** Delta smelt observed to date have been relatively small. This suggests that they are just starting to attain sizes that enable them to be detected in sampling programs, and that poor-swimming larvae and young juveniles are still in the water column. These young fish, especially those distributed in the central and south Delta, are at high risk of exposure to the export facilities.

**Environmental, Survey, Modeling, and Facilities Data Considered:**

- 1) Current environmental data.

Temperature for the 3 station average is 18.8 C. The provisional OMR estimate by the projects as of May 10 is -934 cfs for 14 day average, -1352 cfs for 5 day average. USGS OMR as of May 8 is -1143 cfs 14 day average and -1392 cfs for 5 day average. Sacramento River inflow into the Delta increased to a maximum of 27894 cfs as of May 7. As of May 10, Sacramento River inflow had dropped to 20867 cfs. QWEST as of May 10 is at 4098 cfs. X2 is at 68.5 km as of May 10.

Project pumping as of May 11 is at approximately 2300 cfs combined. The data are depicted in the graphs below.



## 2) Delta fish monitoring:

20mm Survey 5 ran from May 4 through 8. Data are available, with 18 of the 41 stations with at all three tows processed. Delta smelt larvae were collected at stations 703, 705, 812, 815, and 901. Sizes ranged from 6 to 22 mm, with 12 mm as the average. Spring Kodiak Trawl #5 is in the field this week. Results from previous larval surveys, 20mm surveys and the SKT are available online at: <http://www.delta.dfg.ca.gov/data/projects/?ProjectID=SLS>  
<http://www.delta.dfg.ca.gov/data/projects/?ProjectID=20mm>

<http://www.delta.dfg.ca.gov/data/projects/?ProjectID=SKT>.

### 3) Particle Tracking Modeling

The group requested 4 PTM scenarios for May 11. Scenario A was a negative 1500 cfs OMR flow. Scenario B was negative 2500 cfs OMR flow. Scenario C was negative 3500 cfs OMR flow. Scenario D was negative 4000 cfs OMR flow. Results suggest that at negative 1500 cfs OMR flows, the 31-day entrainment risk for smelt larvae would be 1.5% at station 812 and 3.8% for station 815, but the ultimate fates of more than 50% of the particles would still be unaccounted for after 31 days. For Scenario B, the 31-day entrainment risk for smelt larvae would be 4.6% for station 812 and 11.8% for station 815. For Scenario C, the 31-day entrainment risk for smelt larvae would be 6.1% for station 812 and 14.3% for station 815. For Scenario D, the 31-day entrainment risk for smelt larvae would be 12.9% for station 812 and 21.1% for station 815. Particles were injected on May 8.

### 4) Salvage

Adult delta smelt have not salvaged at either facility since March 11. Delta smelt larvae or post-larvae were first observed at the CVP on April 10 and April 20 at the SWP. Salvage of delta smelt (< 20 mm FL) occurred on May 4 at the SWP and May 5, 7, 8, and 10 at the CVP. For the month of May, delta smelt larvae or post-larvae were detected at the CVP on May 5, 6, 7 and 8 at the SWP on May 4 and 6.

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

### Advice for week of May 11:

The Smelt Working Group provides no new advice.

### Basis for advice:

Our concern level for **longfin smelt** is based on:

- (1) longfin smelt juvenile and adult abundance remained low last fall;
- (2) no longfin smelt larvae or juveniles were collected in the central or south Delta during the May 4-8 20mm Survey and hatching is assumed to be over for the year;
- (3) no longfin smelt larvae or juveniles have been salvaged by either facility since May 4, and prior to that salvage was sporadic and low;
- (4) Delta water temperatures are approaching or surpassed 18°C, which is believed to be approaching the threshold to stimulate emigration;
- (5) longfin smelt juveniles remaining in the Delta are located in the Cache Slough and lower Sacramento River areas and not vulnerable to into the central Delta until OMR levels surpass - 3500 cfs.

The Smelt Working Group longfin smelt advice is based on the following information:

1. Water temperatures. Water temperatures are currently above the range believed suitable for longfin smelt spawning and incubation at about 16°C. Emigration is believed to trigger when Delta water temperatures increase above 18°C, which is happening in the central and south Delta, and soon to happen in the Cache Slough area.
2. Recent salvage. Neither salvage facility has collected longfin smelt of any life stage since May 4, and prior salvage was sporadic and low.
3. Adult distribution. No new adult information
4. Larva and juvenile distribution. The May 4-8 20mm Survey did not detect longfin smelt larvae or juveniles in the central or south Delta. Only a few longfin smelt were detected in the Cache Slough area; Barker Slough and Miner Slough stations were not sampled. Most larvae were located in the lower Sacramento River near Sherman Island and locations farther west.
5. Particle tracking results. New PTM runs were made and investigated the scenarios that included (a) remaining at -1500 OMR (no increase in exports beginning on May 18; total exports remain at 2000 cfs), (b) exports ramp to -3000 on May 18 and -3500 on May 28, (c) exports ramp up to -4000 on May 18 and (d) exports ramp up to -5000 on May 18. PTM runs could not distinguish differences in effects of changing OMR on particles from the Sacramento River injection locations 707, 705 and 703. Flux points at south Delta channel entrances were not included in this run to evaluate far-field entrainment potential.