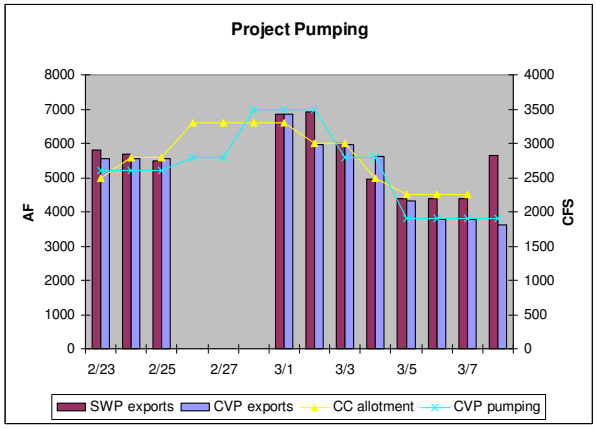
SMELT WORKING GROUP
Monday, March 9, 2009

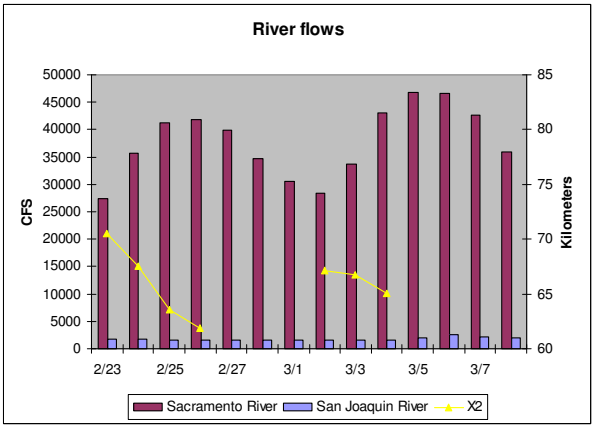
Recommendation for the week of March 9, 2009:

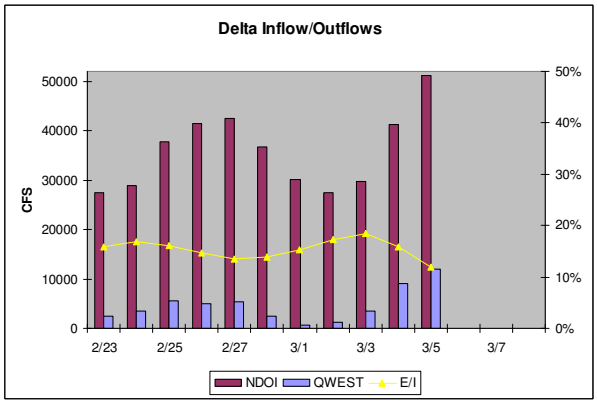
Currently in Action 3. The group recommends to the Service that OMR be set at -5000 cfs on a 14-day average for the next week. The group is monitoring delta smelt salvage and will reconvene and potentially make further recommendations should a one-day, combined expanded salvage reach 20 or greater. The group also recommends that OMR be set at -4000 cfs if salvage of delta smelt occurs on any two consecutive days.

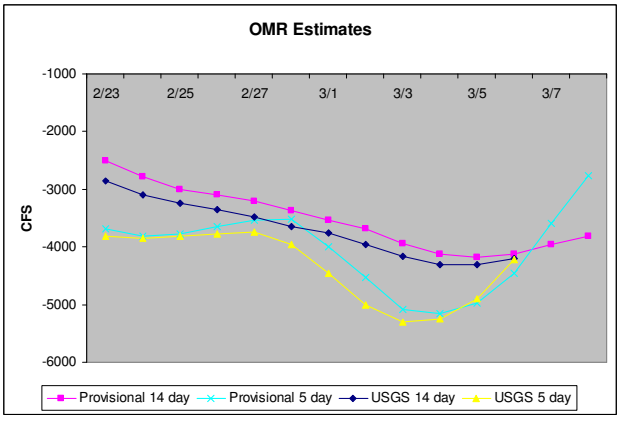
1) Current environmental data.

Temperature for the 3 station average is 12.7 C. The provisional OMR estimate by the projects as of March 8 is -3813 cfs for 14 day average, -2768 cfs for 5 day average. USGS OMR as of March 6 is -4197 cfs 14 day average and -4219 cfs for 5 day average. Sacramento River inflows into the Delta have been high (greater than 20,000 cfs) since February 18. QWEST remained positive for the entire month of February and continues as positive into March, surpassing 10,000 cfs March 5. X2 is at 65km as of March 4. The data are depicted in the graphs below.









2) Delta fish monitoring:

No new data for this week is available. The Smelt Larval Survey #5 was completed last week. Results are anticipated to be released March 10. 20mm Survey #1 is in the field this week. Spring Kodiak Trawl #3 will be in the field the week of March 16. Results from previous larval surveys and the SKT are available online at: http://www.delta.dfg.ca.gov/data/projects/?ProjectID=SKT.

3) Particle Tracking Modeling

The group requested PTM runs for negative 3000, negative 4000, and negative 5000 cfs OMR flows. Results suggest that at negative 5000 cfs OMR flows, the 30-day entrainment risk for smelt larvae would be 20% at station 812 and 38% for station 815, but the ultimate fates of more than 50% of the particles would still be unaccounted for after 31 days. For negative 4000 and 3000 cfs OMR flows, respectively, the 30-day entrainment risk for smelt larvae would be 12% (6%) for station 812 and 27% (17%) for station 815. The group believes that negative 5000 cfs OMR flows is adequately protective of longfin smelt larvae already in the system. The group thinks that few if any delta smelt larvae have hatched yet, so negative 5000 OMR should not be detrimental.

Additional discussion focused on the large fraction of particles remaining in the Delta after the 31-day run duration, and whether the entrainment horizon was too long for SWG weekly advice purposes (i.e., many of the in-Delta particles were destined for entrainment at a longer time step). The group acknowledged the problem, and consensus was that the modeling provided valuable information for longer-term planning and should continue.

The group requested PTM modeling for negative 3000, negative 4000, and negative 5000 cfs OMR flows for the March 16 group meeting.

4) Salvage

Delta smelt have been salvaged at the CVP on 2-11, 2-15, and 3-1, and at the SWP on 3-1 and 3-3, and 3-8 for a total expanded salvage of 22. No adult longfin smelt have been salvaged at the SWP or CVP since February 27. Larval longfin smelt were salvaged at the CVP on February 25 and 26 and March 3 and 8.

5) Discussion for Recommendation

Given the continued high Sacramento River inflows into the Delta, positive Qwest, and X2 currently west of Chipps Island, the group felt OMR could be more negative than negative 4000 cfs and still appropriately protect adult delta smelt and larval longfin smelt. However, the group is concerned that with dropping Delta inflows, adult delta smelt could be drawn into the central delta and salvage could increase. The group recommends to the Service that OMR be set at negative 5000 cfs on a 14-day average for the next week. This recommendation includes an offramp for increased salvage. Should delta smelt combined expanded salvage occur for two consecutive days, the Projects should set OMR to negative 4000 cfs. Should a one day combined expanded salvage count reach 20 or more delta smelt, the group will reconvene to determine if additional pumping restrictions are appropriate to protect the species.

Longfin Smelt Advice

No advice is offered regarding actions for longfin smelt. Currently available longfin smelt larva information is not recent or sufficient to argue for a more restrictive OMR level than recommended for delta smelt. Longfin smelt advice may be revised if Smelt Larva Survey data or salvage data indicate high numbers in the central or south Delta and a need for concern.

Longfin smelt larvae are the life-stage of concern. Increased Delta inflows, recent strongly positive Qwest flows, and relatively high outflows have been beneficial for downstream transport of longfin smelt larvae since mid-February (see above). We assume that longfin smelt larvae were transported by these net westward flows away from the central Delta and the risk of entrainment.