

## **Delta Operations for Salmonids and Sturgeon (DOSS) Group**

03/02/10 Tues conf. call 9:00 am

**Objective:** Provide advice to the Water Operations Management Team (WOMT) and National Marine Fisheries Service (NMFS) on measures to reduce adverse effects from Delta operations of the Central Valley Project and the State Water Project to salmonids and green sturgeon. DOSS will coordinate the work of other technical teams. DOSS notes and advice can be found at: <http://swr.nmfs.noaa.gov/ocap/actions.htm>

**Attendees:** Mike Ford & Carol Stroble (DWR), Nick Hindman & Leigh Bartoo (FWS), Jeff Stuart & Bruce Oppenheim (NMFS), Thuy Washburn and John Hannon (USBR), Greg Wilson (SWRCB), Matt Nobriga (DFG)

**Agenda:** review fish monitoring and Delta conditions

### **Fish Monitoring:**

*FWS data (2/21 through 2/27):*

*Mossdale Trawl;* 0 for 3 days of sampling

*Sacramento Trawl;* 5 fall-run Chinook, 8 tagged Chinook, 3 winter-run, 1 wild steelhead, 3 hatchery steelhead

*Chippis Island Trawl;* 5 winter-run Chinook, 3 tagged Chinook, 15 hatchery steelhead, 4 splittail, 43 longfin, 6 delta smelt

*Beach Seines;* 702 fall-run Chinook, 66 spring-run Chinook, 1 winter-run Chinook (Sandy Beach), 2 hatchery steelhead, and 2 delta smelt (Sandy Beach).

The data indicate that large numbers of fall-run Chinook salmon are now entering the Delta, mainly from the American River. Chinook salmon are spread out all over the Central Delta (96 at Sherman Island and Sandy Beach) as well as Isleton (69), Georgiana Slough (18), Koket (15), and Clarksburg (56).

*CVP and SWP Fish Salvage Facilities (2/22 through 2/28):*

Winter-run: DFG reported 143 non-clipped winter-run Chinook lost (91) CVP and (52) at the SWP, compared to 95 from the week before. The cumulative loss to date is 578. The incidental take limit is 23,593 juveniles based on NMFS' juvenile production estimate letter to Reclamation sent last week.

Steelhead: 52 non-clipped steelhead were salvaged (34) at CVP and (18) at SWP compared to 51 last week. The cumulative salvage to date is 550 non-clipped steelhead (incidental take limit is 3,000). The cumulative salvage of clipped (hatchery) steelhead is 2,946 to date. There is no incidental take limit for hatchery steelhead.

Sturgeon and Smelt: No green sturgeon have been observed since October 1st. At the CVP, 4 delta smelt were salvaged on 2/26, and 4 were salvaged on 2/27. Cumulative loss for delta smelt to date is 48. No longfin smelt were observed at either facility.

Daily loss and loss density for Chinook salmon remain low. Last week older juvenile loss (*i.e.*, winter-run, spring-run and late-fall Chinook) peaked on 2/22 and on 2/28 at 2.58 fish/taf with a daily loss of 37 and 34, respectively (see table 1).

Table 1.

<b>SWP &amp; CVP Daily Older Juvenile Chinook Loss &amp; Loss Density</b>		
<b>2/22/2010 through 2/28/2010</b>		
<b>Date</b>	<b>Older Juvenile Loss</b>	<b>Older Juvenile Loss Density fish/taf</b>
2/22/2010	37.35	2.58
2/23/2010	11.91	0.90
2/24/2010	17.28	1.31
2/25/2010	12.96	0.97
2/26/2010	17.28	1.30
2/27/2010	11.52	0.86
2/28/2010	34.17	2.58

DWR-DES 3/1/2010  
Preliminary, subject to revision

Spring-run Surrogates: No new tag data has been reported for this week. There are 56 unread tags that are expected to be read later this week. Loss of spring-run Chinook surrogates remains at 0.5 percent for the 1/14 release group. The estimated loss based on the proportion of tags read to date increased slightly to 0.59 percent. No tags have been reported from the winter-run Chinook hatchery release on 2/10, however, based on size-at-date, 7 of the unread tags are likely to be from the winter-run release group (see DWR winter-run loss graph from this week). The loss rate from 7 clipped winter-run is estimated to be 20 fish, well below the NMFS criteria for protective actions in the biological opinion. The incidental take limit for hatchery winter-run Chinook is set at 1.0 percent of the release group, or 1,087 hatchery fish (NMFS letter to USBR dated 2/22/10).

**Coleman Hatchery Late-Fall and Winter-run Chinook Loss at the Delta Fish Facilities, 2009/2010, BASED ON DWR EDITS TO FWS CWT DATA revised 3/2/2010**

<b>Release Date</b>	<b>CWT race</b>	<b>Release Site</b>	<b>Loss</b>	<b>Release Number</b>	<b>% Loss</b>	<b>First Concern Level</b>	<b>Second Concern Level</b>	<b>Date of First Loss</b>	<b>Date of Last Loss</b>
12/16/2009	LF	Battle Creek	1056.78	904699	0.12	n/a	n/a	12/26/2009	2/11/2010
12/28/2009	LF	Battle Creek	56.73	75676	0.07	0.5%	1.0%	1/22/2010	2/2/2010
1/14/2010	LF	Battle Creek	867.33	174386	0.50	0.5%	1.0%	1/24/2010	2/11/2010
2/10/2010	W	Redding* Lost tag/No tag	0.00	198582	0.00	0.5%	1.0%	*	*
		Non-Read Tags	84.06						
		Unknown	276.86						
			<b>360.92</b>						

**Number of Non-Read Tags = 56**

For Chinook lost 10/1/2009 through 2/28/2010  
 SWP Tags read 10/1/2009 through 2/11/2010  
 CVP Tags read 10/1/2009 through 2/11/2010  
 \*Livingston Stone winter-run Chinook release

**DWR ESTIMATE OF NON-CONFIRMED TAGGED LOSS THRU 2/28/2010**

Release Date	Confirm Tag Loss	Proportion Confirmed Tag Loss	Pro.Non-Confirmed Tag Loss	New Loss Total	Release #	% Loss
12/16/2009	1056.78	0.53	192.55	1249.33	904699	0.14
12/28/2009	56.73	0.03	10.34	67.07	75676	0.09
1/14/2010	867.33	0.44	158.03	1025.36	174386	<b>0.59</b>

LF = late-fall Chinook, W = winter-run Chinook

DOSS concluded the fish monitoring data indicate low numbers of salmonids are being salvaged at the fish facilities, however, we are entering the period of time in which historically large numbers of winter-run typically show up at the Delta pumps. The first hatchery winter-run Chinook may have been salvaged (waiting for tags to be verified), but loss of these fish is below the criteria in the NMFS opinion (0.5 percent of release group).

For fish data at other monitoring sites see:

<http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>

*Smelt Working Group (SWG) Leigh Bartoo reported:* SWG recommended to FWS an OMR flow of – 5,000 cfs through this week. FWS accepted the recommendation. Delta smelt are in the early part of spawning (Action 3) with some eggs in the substrate. Larval entrainment risk is low. No larval delta smelt observed at the salvage facilities (larval sampling began last week). Some adult delta smelt were salvaged this morning increasing the cumulative total to 64 adults. The concern level is 92, and the incidental take level is 123 adults. The numbers of adults salvaged at the facilities is expected to drop off in March as spawning commences.

DFG reported that for longfin smelt the recommendation was the same (i.e., OMR at - 5,000 cfs). Most of the longfin smelt distribution has shifted to the west of the delta.

*Green Sturgeon update:* No information on adult movement in the Sacramento River..

**1) Other Compliance Standards:** Old and Middle River (OMR) flow update from USGS CDEC data reported 3/1 from DWR delta operations.

	Current	NMFS Limit	FWS/DFG limit
14-Day Running Average	= -4569 cfs	-5000 cfs	-5000 cfs
5-Day Running Average	= -4199 cfs	-5000 cfs + or - 25%	

Currently the 11 day running average (from last change in OMR value) is – 4,600 cfs and the 5 day running average is – 3,700 cfs. The daily OMR flows have been less negative than biological opinion restrictions due to an increase in San Joaquin River flow (Vernalis increased to 3,688 cfs yesterday) caused by recent storms and tidal influence. Yesterday, OMR flow was – 3,300 cfs, and the day before -2,200 cfs.

Shasta, Oroville, and Folsom Reservoirs are at minimum releases. Delta conditions reported by DWR for today (3/2) are:

Total Delta Inflow	~	38,776 cfs
Sacramento River	=	32,501 cfs
San Joaquin River	=	4,440 cfs
Outflow Index	~	31,300 cfs
% Inflow Diverted	=	20.0% (3-day avg)
X2 Position	=	65.7 km

**2) Water operations:** Export pumping increased to take advantage of the higher inflows from recent storms. CVP increased to 4,200 cfs (maximum) and SWP is at 4,000 cfs. The projects expect to be holding at 8,000 cfs combined this week as long as the storms last.

Weather outlook: More rain today and tomorrow, with another storm coming this weekend.

**3) Other items:**

Stanislaus River flows dropping to 500 cfs release at Goodwin Dam, since no longer required to meet D-1641 criterion at Vernalis on the San Joaquin River.

**DOSS advice for NMFS and WOMT (3/2-3/8).** The DOSS technical team advice to NMFS is the same as last week; maintain an OMR flow of no more negative than - 5,000 cfs. Salvage of listed salmonids is low this week (no criteria has been reached in the NMFS opinion), but could change quickly with the storms and increased inflows into the Delta. Currently, the increase in natural San Joaquin River flows due to the recent storms is keeping the OMR in the -2,200 cfs to -3,300 cfs range.

Next Mtg: Tuesday 3/9 at 9:00 am