

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

Conference call: 2/5/13 at 9:00 a.m.

**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 on salmonids and green sturgeon.

DOSS will work with other technical teams. DOSS notes and advice can be found at:

<http://www.swr.noaa.gov/ocap/doss.htm>.

**DWR:** Kevin Reece, Mike Ford, Andy Chu, James Gleim, Edmund Yu

**FWS:** Craig Anderson, Leigh Bartoo, Roger Guinee

**NMFS:** Bruce Oppenheim, Barbara Rocco, Jeff Stuart, Barb Byrne, Garwin Yip

**Reclamation:** Russ Yaworsky, Josh Israel

**DFW:** Bob Fujimura, Krystal Acierto, Jason Roberts

**SWRCB:** Scott Ligare

**EPA:** Erin Foresman

**IEP, USGS:** not present

### Agenda

1. Fish monitoring
2. Current operations

**Fish Monitoring:** The following table presents fish monitoring data. Unless otherwise noted, reported sizes are fork length. See also:

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

Location	Chippis Is. Midwater Trawl	Sacramento Trawls	Mossdale Kodiak Trawl	Beach Seines
Sample Date	1/28, 1/30, 2/1	1/28, 1/30, 2/1	1/28, 1/30, 2/1	1/28–1/31
Total Catch	28	448	0	1,285
FR		444		1,236
WR				8
SR		1		32
LFR				1
Ad-Clipped Chinook	3 (179, 180, 195 mm)	1 (153 mm)		5
DS	12 (63–76 mm, no expression)			
Splittail	2			1
Longfin	1 (122 mm, no expression)			
SH (ad-clip)	10 (208–248 mm, 1 ACT)	2 (221 & 227 mm)		2
SH (wild)				
W. Temp. (avg. °F)	47.3	48.9	51.8	49.8

<b>Flows (avg. cfs)</b>				
<b>Turbidity (avg. NTU)</b>	33.2	35.4	12.6	20.6
<b>WR/LFR Avg. CPUE</b>				
<b>FR/SR Avg. CPUE</b>				

**Key:** FR = Fall run; LFR = Late-fall run; SR = Spring run; WR = Winter run; SH = Steelhead; DS = Delta smelt; LFS = Longfin smelt; CPUE = catch per unit of effort; ACT = acoustic tag; N/A = not available

**Monitoring:** One acoustically tagged steelhead was caught on 2/1/13 at Chipps Island; it was most likely part of the U.S. Army Corps of Engineers (Corps) release at the end of January. The Corps is tagging and releasing both steelhead and Chinook salmon. Israel (Reclamation) will confirm with Brian Mulvey, NMFS Santa Rosa, on the release locations and tagged fish. FWS should release its winter-run hatchery fish this week.

**Tisdale Monitoring:** There was some discussion about the monitoring required per the RPA and whether it can continue now rather than waiting until October to get the traps back into the water. Monitoring was discontinued for the remainder of water year 2013 because the take limit for winter-run Chinook was exceeded. It was suggested that a subgroup be created to discuss this further; however, because this is an Endangered Species Act and regulatory issue, NMFS will discuss the issue and report back to DOSS at the next meeting.

DFW requested that Joe Johnson (DFW) be included in any of these discussions. Monitoring at Tisdale may not be feasible before October 1 because of lack of staff at this point. All seasonal staff who were monitoring the Tisdale and Knights Landing rotary screw traps (RSTs) were laid off when monitoring was discontinued. The preference is to get the traps into the water as soon as it can be permitted and get them staffed because spring-run Chinook are beginning to emigrate from the tributaries. In reality, it could take more than a month to hire the staff necessary to monitor the RSTs.

**Action item:** Oppenheim will discuss with NMFS management and report to DOSS next week.

**Fish Salvage:** The fish salvage report covering 1/28/13–2/3/13 was provided by Geir Aasen (DFW) and emailed to DOSS participants. This report is posted at <ftp://ftp.delta.dfg.ca.gov/salvage> and you can locate the table under folder “DOSS salvage tables” (also try <http://www.dfg.ca.gov/delta/apps/salvage/Default.aspx> and click on “salvage FTP site”).

*Report from Bob Fujimura (DFW) for January 28–February 3, 2013.*

No non-ad-clipped (wild) juvenile Chinook salmon were salvaged during the reporting period. Twenty hatchery (ad-clipped) Chinook in the winter- and late-fall-run size category were salvaged. The number of ad-clipped Chinook salvaged last week (20) was lower than that of the previous week (31). Steelhead salvage increased last week. A combined total of 16 wild steelhead were salvaged (1/28, 2/2, and 2/3). The estimated daily loss densities ranged from 0.5 to 4.5 fish/TAF. Thirty-nine hatchery steelhead were salvaged during the same period. No sturgeon were observed last week. A preliminary number of four hatchery steelhead were salvaged at each facility on Monday, 2/4/13.

The following daily summary graphs and table were prepared by Bob Fujimura (DFW) as of 2/5/13.

Compiled by Bob Fujimura on February 5, 2013

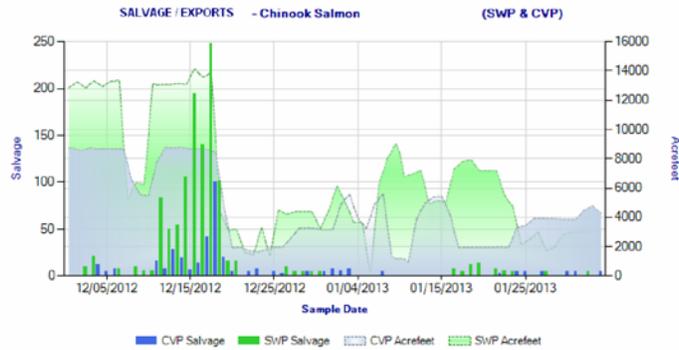


Figure 1. Daily salvage of Chinook salmon (all races) and water exports from the state and federal fish salvage facilities during December 1, 2012 through February 3, 2013. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

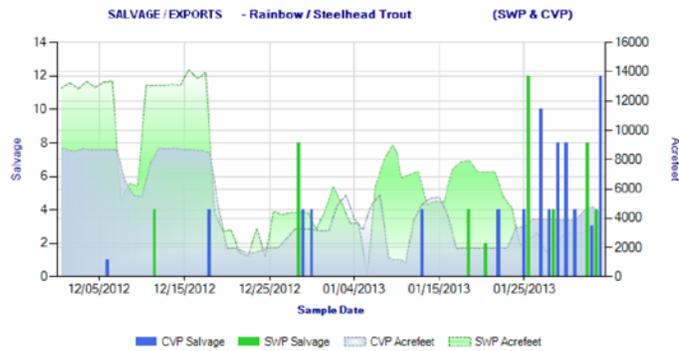


Figure 2. Daily salvage of steelhead and water exports from the state and federal fish salvage facilities during December 1, 2012 through February 3, 2013. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>

**DOSS Weekly Salvage Update**  
 Reporting Period: January 28-February 3, 2013  
 Prepared by Bob Fujimura on February 5, 2013  
 Preliminary Results - Subject to Revision

Criteria	28-Jan	29-Jan	30-Jan	31-Jan	1-Feb	2-Feb	3-Feb	Trend	
<b>Loss Densities</b>									
Wild older juvenile CS	0	0	0	0	0	0	0	↘	0.0
Wild steelhead	0.5	0	0	0	0	4.5	2.4	↘	1.1
<b>Exports</b>									
SWP daily export	1,733	1,984	2,838	2,973	2,983	2,992	2,974	↘	2,640
CVP daily export	3,899	3,880	3,862	3,860	4,489	4,762	4,279	↘	4,147

Loss Density = fish lost/TAF; water export = AF; Trend = compared to previous week; wild = adipose fin present  
 Loss = estimated number of fish lost at the CVP and SWP Delta export facilities based on estimated salvage (see below)

**Chinook Salmon Weekly/Season Salvage and Loss**  
 Combined salvage and loss for both CVP and SWP fish facilities  
 Race determined by size at date of capture; hatchery = adipose fin missing;

Category	Weekly Total			Season Total	
	Salvage	Loss	Trend	Salvage	Loss
<b>Wild</b>					
Winter Run	0	0	↘	88	305
Spring Run	0	0	→	0	0
Late Fall Run	0	0	→	85	277
Fall Run	0	0	→	19	52
Unclassified	0	0	→	8	5
<b>Total</b>	<b>0</b>	<b>0</b>		<b>200</b>	<b>639</b>
<b>Hatchery</b>					
Winter Run	16	42	↗	134	446
Spring Run	0	0	→	0	0
Late Fall Run	4	3	↘	781	2,898
Fall Run	0	0	→	415	1,522
Unclassified	0	0	→	0	0
<b>Total</b>	<b>20</b>	<b>45</b>		<b>1,330</b>	<b>4,866</b>

Trend = weekly loss per race; Salvage = estimated number of fish collected by the CVP and SWP fish protective facilities per unit of time

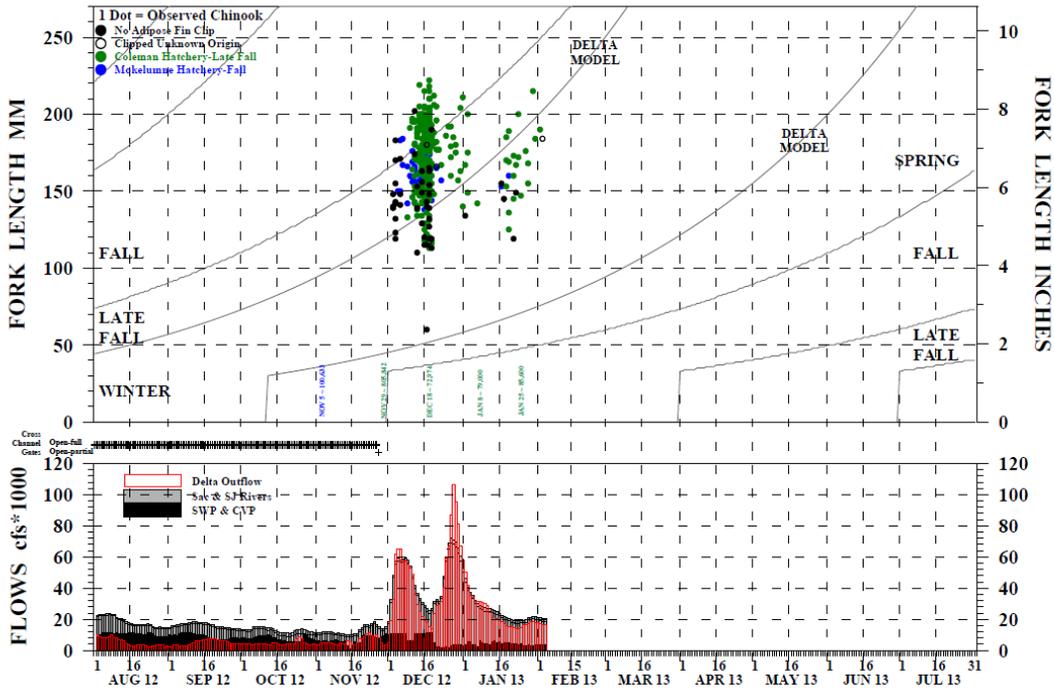
**Steelhead Weekly/Season Salvage and Loss**  
 Combined salvage and loss for both CVP and SWP fish facilities

Category	Weekly Total			Season Total	
	Salvage	Loss	Trend	Salvage	Loss
Wild	16	55	↘	63	167
Hatchery	39	41	↘	61	100
<b>Total</b>	<b>55</b>	<b>96</b>		<b>124</b>	<b>267</b>

State Water Project loss = salvage x 4.33; Central Valley Project loss = salvage x 0.68

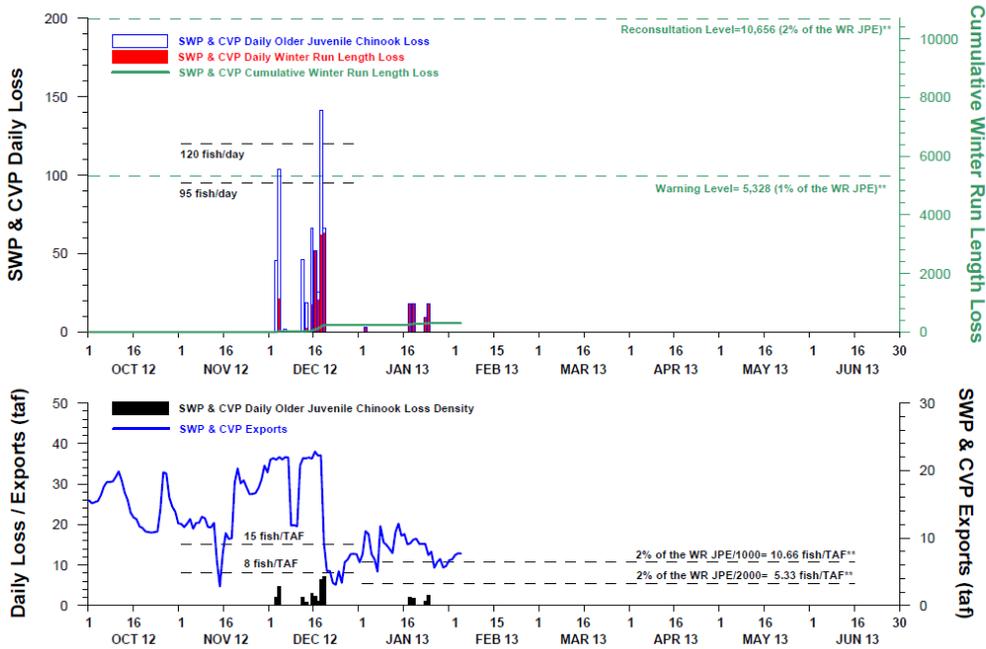
Below are graphs provided by DWR through 2/4/13 for Chinook salmon salvaged at the Delta fish facilities and for older juvenile Chinook salmon and steelhead observed in the Sacramento and San Joaquin rivers. For additional graphs, please visit the DWR website at: <http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>.

## OBSERVED CHINOOK SALVAGE AT THE SWP & CVP DELTA FISH FACILITIES 08/01/2012 THROUGH 02/03/2013



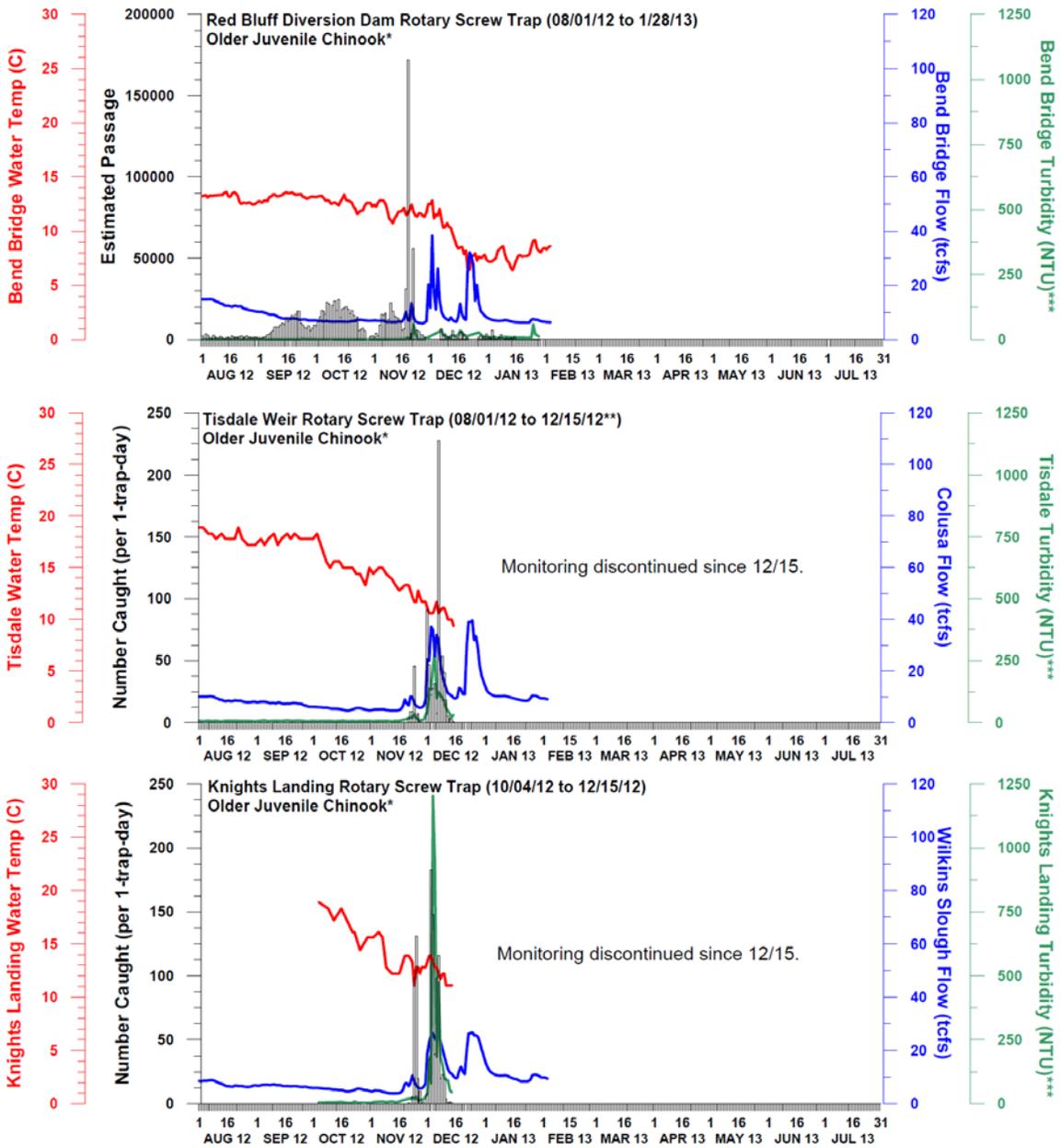
DWR-DES 04 FEB 2013  
 Preliminary data from DFW, DWR, FWS, Reclamation, and CDEC; subject to revision.  
 \*Chinook outside of the length-at-date criteria (Delta model) are not reported.

## NON-CLIPPED WINTER RUN & OLDER JUVENILE CHINOOK LOSS AT THE DELTA FISH FACILITIES 01 OCT 2012 THROUGH 03 FEB 2013



DWR-DES 04 FEB 2013  
 Preliminary data from DFW; subject to revision.  
 \*Older juvenile Chinook defined as all Chinook above the minimum winter run length-at-date criteria and below the maximum size included in the length-at-date criteria (Delta model).  
 \*\*Based on the final juvenile production estimate (JPE), which comes out to be about 532,809 non-clipped winter run (WR) Chinook entering the Delta during water year 2013.

# NUMBER OF OLDER JUVENILE CHINOOK MEASURED IN THE SACRAMENTO RIVER



DWR-DES 04 FEB 2013

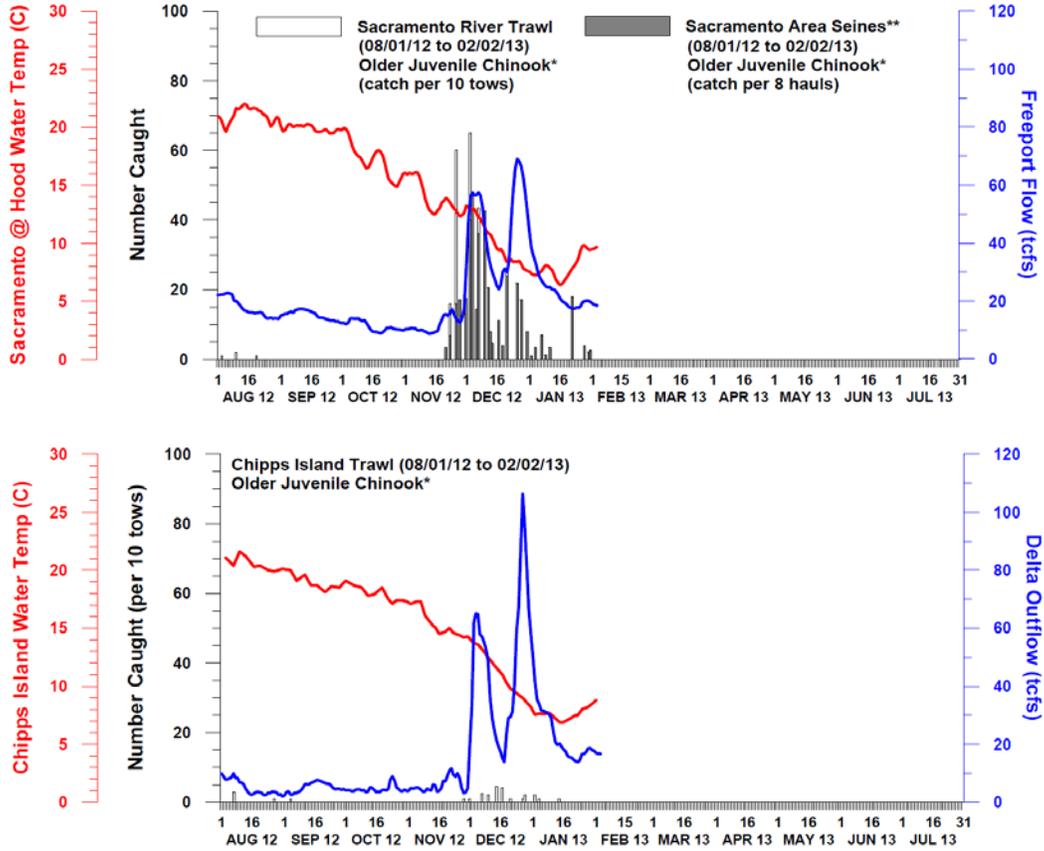
Preliminary data from DFW, FWS, and CDEC; subject to revision.

\*Older juvenile Chinook defined as all Chinook above the minimum winter run length-at-date criteria and below the maximum size included in the length-at-date criteria (Frank Fisher model).

\*\* Tisdale Weir: One older juvenile caught on 9/14 and 43 older juveniles caught on 11/25. However, CPUE was not calculated due to problems with the cone clickers. As a result, data are not presented on the graph.

\*\*\*Turbidity is a discrete measurement and is not measured continuously. Therefore, data are interpolated on days when turbidity was not measured.

## NUMBER OF OLDER JUVENILE CHINOOK MEASURED IN THE LOWER SACRAMENTO RIVER & CHIPPS ISLAND



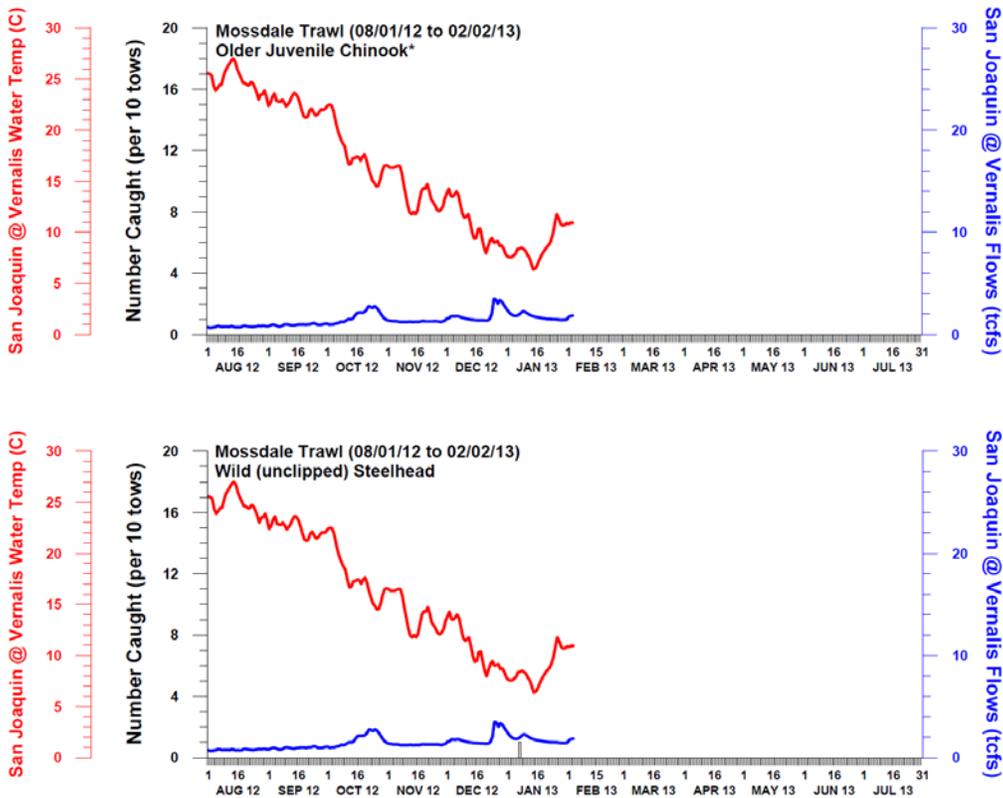
DWR-DES 04 FEB 2013

Preliminary data from FWS and CDEC; subject to revision.

\*Older juvenile Chinook defined as all Chinook above the minimum winter run length-at-date criteria and below the maximum size included in the length-at-date criteria (Frank Fisher model).

\*\*Sacramento area seine route consists of the following seine sites: Verona, Elkhorn, Sand Cove, Discovery Park, American River, Miller Park, Sherwood Harbor, and Garcia Bend. Bars are stacked if Chinook caught from the trawl and seines are from the same day.

## NUMBER OF OLDER JUVENILE CHINOOK AND STEELHEAD MEASURED IN THE SAN JOAQUIN RIVER



DWR-DES 04 FEB 2013  
 Preliminary data from FWS and CDEC; subject to revision.  
 \*Older juvenile Chinook defined as all Chinook above the minimum winter run length-at-date criteria and below the maximum size included in the length-at-date criteria (Frank Fisher model).

**Coded Wire Tag Results.** Based on the data that was available, no fish were salvaged this past week (1/28 to 2/3) from either the Mokelumne River fall-run release group or the Coleman National Fish Hatchery (Coleman) late-fall-run production group. The unknown hatchery loss of 73.1 previously reported was from the Coleman's late-fall-run production release on 11/29/12.

Spring-run surrogates from the first release group (12/18/12) and the second release group (1/8/13) continue to be salvaged during the past week, but none yet from the third surrogate release on 1/25/13. At the time of the DOSS call, there was still an unread CWT loss of 2.88.

HATCHERY (ADIPOSE FIN CLIPPED) CHINOOK SALMON LOSS AT THE SWP & CVP DELTA FISH FACILITIES, 2012/2013

Release Date	CWT Race	Hatchery	Release Site	Release Type	Confirmed Loss	Number Released <sup>1</sup>	Total Entering Delta	% Loss <sup>2</sup>	First Concern Level	Second Concern Level	Date of First Loss	Date of Last Loss
11/5/2012	F	Mokelumne River Hatchery	Mokelumne River	**	590.68	100,633	n/a	0.587	n/a	n/a	12/5/2012	1/20/2013
11/29/2012	LF	Coleman NFH	Battle Creek	Production	4080.76	805,842	n/a	0.506	n/a	n/a	12/9/2012	1/20/2013
12/18/2012	LF	Coleman NFH	Battle Creek	Spring Surrogate	58.20	72,974	n/a	0.080	0.5%	1.0%	12/31/2012	1/28/2013
1/8/2013	LF	Coleman NFH	Battle Creek	Spring Surrogate	119.91	79,000	n/a	0.152	0.5%	1.0%	1/20/2013	2/2/2013
1/25/2013	LF	Coleman NFH	Battle Creek	Spring Surrogate	0.00	85,600	n/a	0.000	0.5%	1.0%	n/a	n/a

Facility	Unknown CWT Loss <sup>3</sup>	Unread CWT Loss <sup>4</sup>	Unknown Hatchery Loss <sup>5</sup>
SWP	9.03	0.00	0.00
CVP	5.20	2.88	0.00
<b>TOTAL</b>	<b>14.23</b>	<b>2.88</b>	<b>0.00</b>

SWP CWTs processed from 10/1/2012 through 2/3/2013.

CVP CWTs processed from 10/1/2012 through 2/3/2013.

<sup>1</sup>Number released with the adipose fin clipped and a CWT.

<sup>2</sup>LF & F % Loss = (Confirmed Loss/Number Released)\*100; W % Loss = (Confirmed Loss/Total Entering Delta)\*100.

<sup>3</sup>Adipose fin clipped Chinook was observed during fish count, but tag code could not be determined (e.g., damaged tag, lost tag, or Chinook released).

<sup>4</sup>Adipose fin clipped Chinook was collected during fish count and has not been processed yet.

<sup>5</sup>CWT has been read, but hatchery release information not yet available.

\*\* Information not yet available.

DWR-DES Revised 2/4/2013

Preliminary data from DFW, DWR, FWS, and Reclamation; subject to revision.

## Operations (2/5/13)

SWP		CVP	
<b>Exports (cfs)</b>			
Clifton Court Forebay	1,500	Jones Pumping Plant	2,400
<b>Reservoir Releases (cfs)</b>			
Feather - Oroville	1,750	American - Nimbus	2,250
		Sacramento - Keswick	4,500 (begin reducing by 100 cfs/ on 2/7/13 down to 3,800 cfs)
		Stanislaus - Goodwin	900 (increase to 1,500 tomorrow to meet Vernalis flow requirement of 2,280 cfs for February)
<b>Reservoir Storage (in TAF, % of capacity)</b>			
San Luis (SWP)	484	San Luis (CVP)	740 (77)
Oroville	2,718	Shasta	3,497
New Melones		Folsom	573
<b>Delta Operations</b>			
DCC	Closed	Sacramento River at Freeport (cfs)	18,100 (receding)
Outflow Index (cfs)	15,800	San Joaquin River (cfs) at Vernalis	1,858 (until increase from Goodwin gets there tomorrow)
Total Delta Inflow (cfs)	20,890	OMR (daily) (cfs)	N/A
Water Temperature (°F)	34 at Mossdale	OMR 5 day (cfs)	-2,544 (provisional as of 1/30/13)
X2 (km)	70	OMR 14 day (cfs)	-1,268 (provisional as of 1/30/13)
E/I (%)	18.4 (14-d avg.)		

DWR reported that there were some missing OMR daily data from the USGS gages on 1/31 and 2/1. DWR is in contact with USGS to look into this. USGS will report back to DWR with more information when available. The most accurate daily report since then is from 2/4 at -3,000 cfs. DWR will use index values until USGS corrects the missing data. X2 is controlled right now by Chipps Island and outflow criteria in D-1641; water quality in the Delta is good.

**Weather:** There is a minor system coming through Wednesday night through Thursday. The 10-day forecast is for dry conditions after that. There is a desire for the Keswick Dam release to hold at 3,800 cfs until the February forecast is distributed and reviewed. The February operations forecast will not be out until late next week at the earliest. It is looking drier than the previous forecast; however, if it continues to be dry, Reclamation might want to reduce Keswick releases as soon as possible.

NMFS reported that a change order was just received for the Keswick releases. Beginning on 2/7, there will be a 100-cfs decrease in releases per day to get down to 3,800 cfs on 2/13.

**Smelt Working Group (SWG):** SWG recommended that until the concern level is reached (75% of take limit), OMR should be set at no more negative than -2,500 cfs (-3,125 as a 5-day avg.) and be no more negative than -1,250 cfs once the concern level is reached. Even at this level, some continued salvage is anticipated. As of yesterday, the cumulative take of adult delta smelt is 225, which is 73.7 % of the take limit (305).

In addition, the level of concern was reached for longfin smelt according to the last smelt larval survey. The distributional criterion in the Delta was met. SWG recommended an OMR of -5,000 cfs but the current OMR flow of -2,500 cfs set to protect delta smelt is more conservative; therefore, longfin smelt are adequately protected.

**Final Winter-Run JPE:** The final winter-run JPE estimate was issued to Reclamation last Thursday. The trigger and incidental take levels in the winter-run Chinook loss graph have been updated based on this final estimate. The final JPE is approximately 532,809 wild winter-run Chinook that will be entering the Delta in water-year 2013, compared with the preliminary estimate of 535,325. As a result, the incidental take limit for wild winter-run Chinook at the CVP and SWP fish facilities is 10,656 (*i.e.*, 2% of the JPE), and the wild older juvenile Chinook loss-density triggers for NMFS RPA Action IV.2.3 are now 5.33 fish/TAF (*i.e.*, 2% of the JPE/2000) for the first-stage trigger and 10.66 fish/TAF (*i.e.*, 2% of the JPE/1000) for the second-stage trigger. DOSS will update WOMT and NMFS on this change.

**DOSS advice to WOMT and NMFS:** None.

**Next Meeting:** The next DOSS meeting will be Tuesday, 2/12/13, at 9:00 a.m.