

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 6/5/12 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 coordinate the work of other technical teams. DOSS notes and advice can be found at: <http://www.swr.noaa.gov/ocap/doss.htm>

DWR: Mike Ford, Andy Chu, Angela Llaban, Kevin Reece, Edmund Yu, Tracy Pettit

FWS: Craig Anderson, Roger Guinee, Leigh Bartoo

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

Reclamation: Sheri Looper, Russ Yaworsky

DFG: Robert Vincik, Bob Fujimura

EPA, SWRCB, USGS: not present

Agenda

1. Fish monitoring
2. Current operations
3. Steelhead tag results
4. Agency reps for calendar-based OMR in 2013
5. Response to science panel (action item)
6. Summer break

Action Item [1/3/12]: Review the DOSS section of the annual review report and provide responses regarding implementation of recommendations. Carry. See discussion below.

Response to Science Panel (6/5/12): The Delta Science Program (DSP) subgroup (Israel, Oppenheim, and Llaban) had only one meeting. There had been some discussion among Reclamation, USFWS, and NMFS about whether there would be a follow-up joint response to the DSP from the federal agencies involved, or whether each federal agency would respond separately. The agencies decided to go ahead with a joint federal response to DSP. The letter has been drafted, with clearance from NMFS management. Once Reclamation and FWS clear the draft, it will be circulated for signature (which may happen as early as today). The current draft does not go into specifics regarding how each of the recommendations is implemented; however, DSP does not want to see “good intentioned” annual reviews and recommendations not considered. Therefore, for this year’s annual review, DOSS will need to report out on how it addressed each of the independent review panel’s recommendations.

Everyone should think about when the last DOSS meeting should be for this monitoring year, and we will discuss options at the next DOSS meeting on 6/12/12. Keep in mind that there is a NMFS training workshop on 6/19 and 6/20 that all NMFS staff are required to attend. We will also know by next week what the water temperatures in the Delta will be and what OMR flows will be through 6/15.

Action Item: Oppenheim will set a meeting date for the DSP subgroup to discuss how to address each of the independent review panel’s recommendations to DOSS.

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

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

Location	Chippis Is. Midwater Trawl	Sacramento Trawls	Mossdale Kodiak Trawl	Beach Seines	Knights Landing RST	Tisdale Weir RST
Sample Date	5/29, 6/1	5/29, 31	5/21–6/2	5/29, 31 & 6/1	5/21, 23, 25, 29, & 6/1	5/21, 23, 25, 28, 30, 31 & 6/1, 4
Total Catch	138	13	501	210	10	31
FR	109 (+ 1 “adult”)	13	497		10	31
WR						
SR						
LFR						
Ad-Clipped Chinook	20		4			
DS	5					
Splittail	2			210		
Longfin	1					
SH (ad-clip)						
SH (wild)			2 (250 & 238 mm)			
W. Temp. (avg. °F)	66.2	66.7		70.9	69.0	65.0
Flows (avg. cfs)					6240	7434
Turbidity (avg. NTU)	49.8	11.2		31.6	14.5	8.8
WR/LFR Avg. CPUE						
FR/SR Avg. CPUE					0.014	0.067

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

Fish Monitoring: The catch on the Sacramento and San Joaquin rivers is decreasing (12 fish/day at Tisdale and 2–3 fish/day at Knights Landing), which is normal for this time of year; water temperatures have increased slightly in the Sacramento River (72°F at Knights Landing on Monday); and flows have increased slightly. Monitoring will continue year round at Tisdale. At Knights Landing, monitoring will cease by the end of June (perhaps earlier if temperatures exceed 72°F for several days), and begin again in October.

Fish Salvage Data (5/21–6/4): Reports are also posted at <ftp://ftp.delta.dfg.ca.gov/salvage>: located 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.”

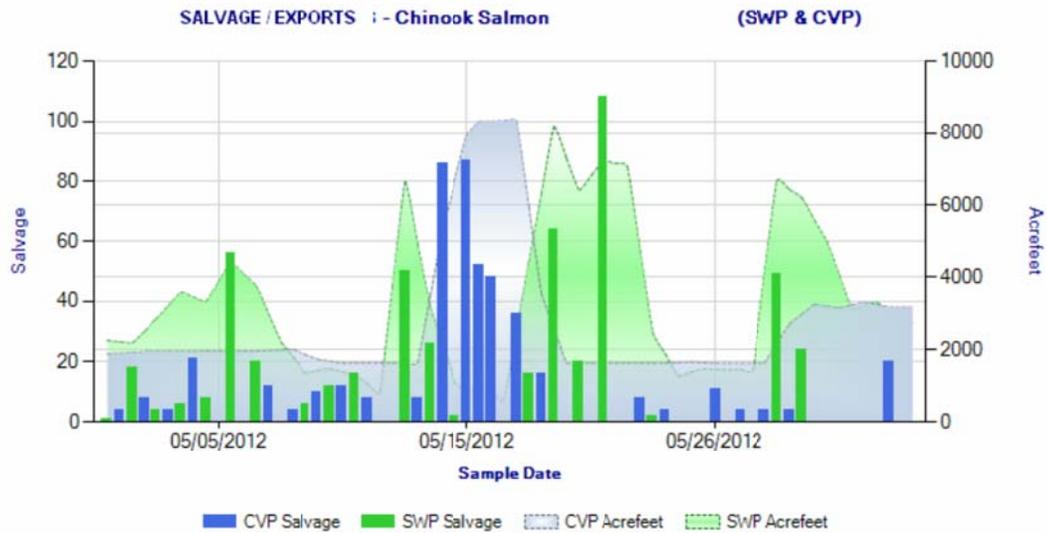


Figure 1. Daily salvage of Chinook salmon (all races) and water exports from the state and federal fish salvage facilities during May 1 through June 3, 2012. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

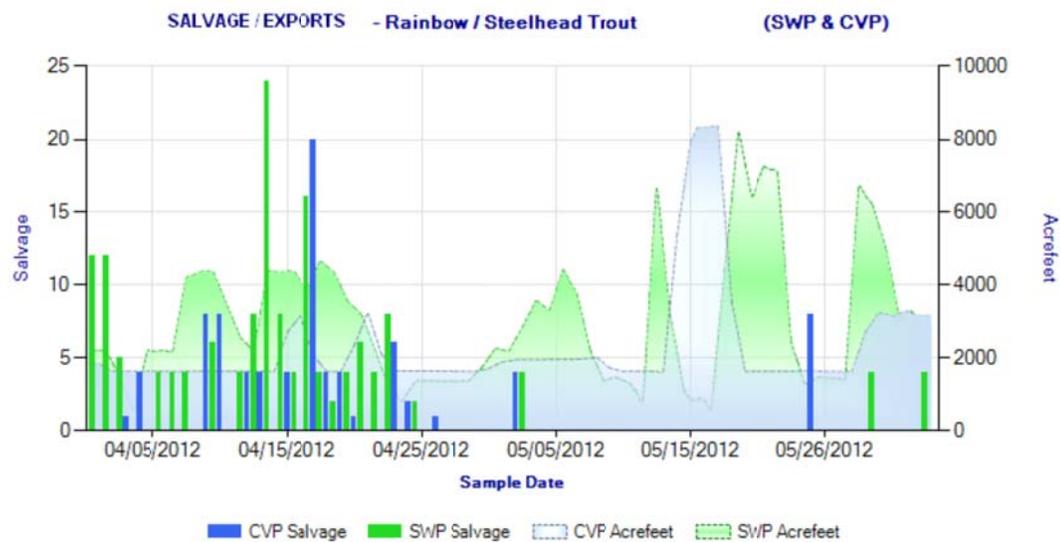


Figure 2. Daily salvage of steelhead and water exports from the state and federal fish salvage facilities during April 1 through June 3, 2012. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>

DOSS Weekly Salvage Update
 Reporting Period: May 28-June 3, 2012
 Prepared by Bob Fujimura on June 4, 2012
 Preliminary Results -Subject to Revision

Criteria	28-May	29-May	30-May	31-May	1-Jun	2-Jun	3-Jun	Trend
Loss Densities								
Wild winter-run CS	0.0	2.2	0.0	0.0	0.0	0.0	0.0	→
Wild steelhead	0.0	0.0	0.0	0.0	0.0	0.0	2.9	→
Loss								
Wild spring-run CS	0	0	0	0	0	0	0	→
SWP daily export	1,456	6,664	6,203	5,002	3,115	3,300	2,751	→
CVP daily export	1,613	2,696	3,237	3,146	3,300	3,168	3,173	↗

Loss Density = fish lost/TAF; water export = AF; Trend = compared to previous week; wild = adipose fin present

Chinook Salmon 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					
Winter Run	4	21	→	841	2,079 exceeds "warning level"
Spring Run	0	0	→	1,059	2,392
Late Fall Run	0	0	→	20	14
Fall Run	97	344	↘	708	599
Total				2,628	5,084
Hatchery					
Winter Run	0	0	→	460	1,210
Spring Run	0	0	↘	142	289
Late Fall Run	0	0	→	25	20
Fall Run	0	0	↘	60	117
Total				687	1,636

Race determined by size at date of capture; hatchery = adipose fin missing;

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	4	17	↘	332	1,113
Hatchery	4	17	↗	593	1,118
Total	8	34		925	2,231

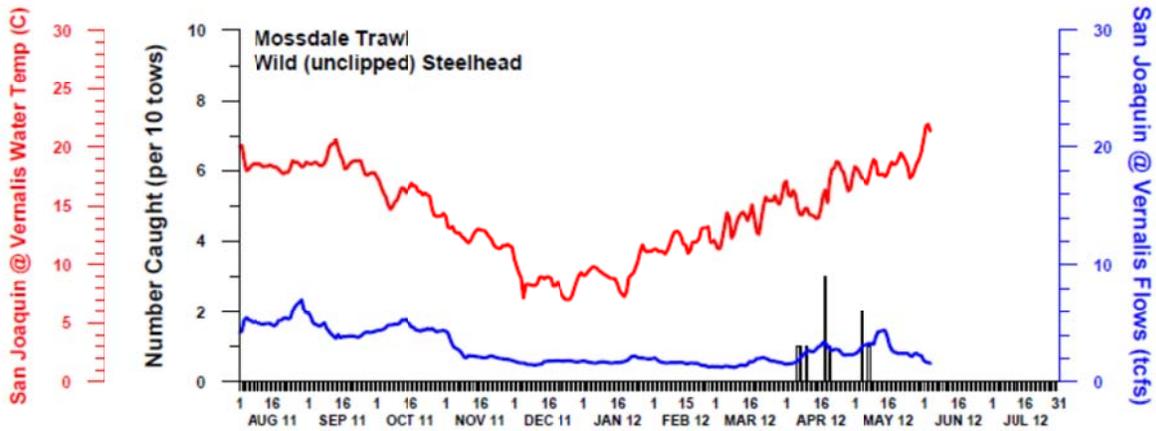
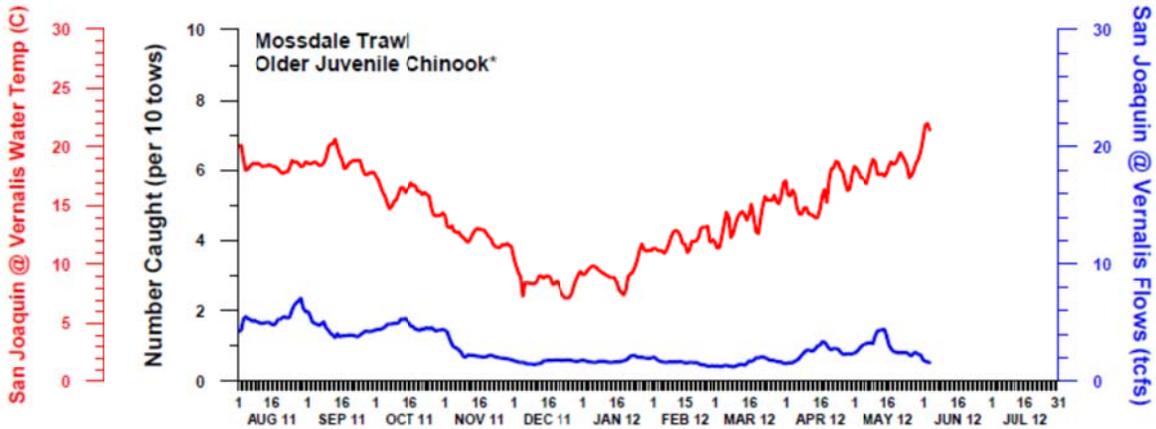
State Water Project loss = salvage x 4.33; Central Valley Project loss = salvage x 0.68

Daily salvage of juvenile Chinook is decreasing at the fish facilities. No green or white sturgeon were observed at either fish facility. No wild winter-run Chinook or steelhead were salvaged at either facility on Monday, 6/4/12.

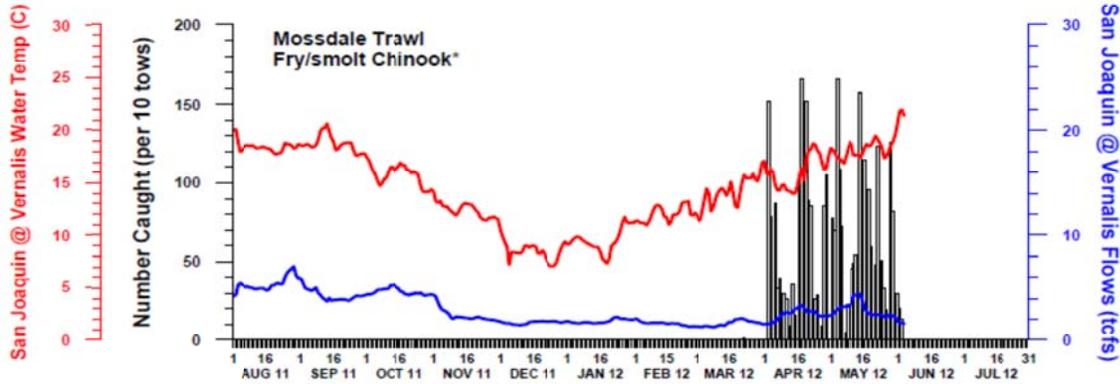
How do juvenile Chinook in the winter-run size category correlate with Mossdale size? Llaban's report of observed salvage (below) shows that a fair number of Chinook were identified by their coded wire tags (CWTs) as fall run from the Merced River Hatchery. The average size of juvenile Chinook at Mossdale is about 88 to 94 mm. Winter-run sized Chinook are larger—in

the 198 and 227 mm range at the fish facilities. Llaban also provided graphs for the Mossdale trawl Chinook fry/smolt and unclipped steelhead data, as follows:

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



NUMBER OF FRY/SMOLT CHINOOK MEASURED IN THE SAN JOAQUIN RIVER



Coded Wire Tagged (CWT) Salvage and Loss as of 6/4/12 (see table below):

Hatchery Late-Fall Run, Winter-Run, and Spring-Run Chinook Loss at the Delta Fish Facilities, 2011/2012

Release Date	CWT Race	Hatchery	Release Site	Release Type	Confirmed Loss	Number Released	Total Entering Delta	% Loss ¹	First Concern Level	Second Concern Level	Date of First Loss	Date of Last Loss
12/16/11	LF	Coleman NFH	Battle Creek	Production	134.66	394,700	n/a	0.034	n/a	n/a	1/11/12	3/31/12
12/23/11	LF	Coleman NFH	Battle Creek	Spring Surrogate	2.92	62,400	n/a	0.005	0.5%	1.0%	1/18/12	1/31/12
1/3/12	LF	Coleman NFH	Battle Creek	Production	653.06	448,600	n/a	0.146	n/a	n/a	1/19/12	5/7/12
1/13/12	LF	Coleman NFH	Battle Creek	Spring Surrogate	52.17	80,800	n/a	0.065	0.5%	1.0%	1/31/12	2/18/12
1/20/12	LF	Coleman NFH	Battle Creek	Spring Surrogate ²	101.04	20,000	n/a	0.505	n/a	n/a	1/30/12	3/29/12
2/9/12	W	Livingston Stone NFH	Feather River	Redding Production	16.96	185,281	96,525	0.018	0.5%	1.0%	3/31/12	3/31/12
4/3/12-4/25/12	S	River Hatchery	Feather River	Production	0.00	1,110,709	n/a	0.000	n/a	n/a	-	-

For Chinook lost 10/1/2011 through 6/3/2012

SWP coded-wire tags read 10/1/2011 through 6/3/2012

CVP coded-wire tags read 10/1/2011 through 6/3/2012

¹LF % Loss = (Confirmed Loss/Number Released)*100; W % Loss = (Confirmed Loss/Total Entering Delta)*100

²Because of the equipment malfunction that stranded a large proportion of the release in the gravel, this 3rd surrogate release is tracked for monitoring and information only and not for compliance with Action IV.2.3.

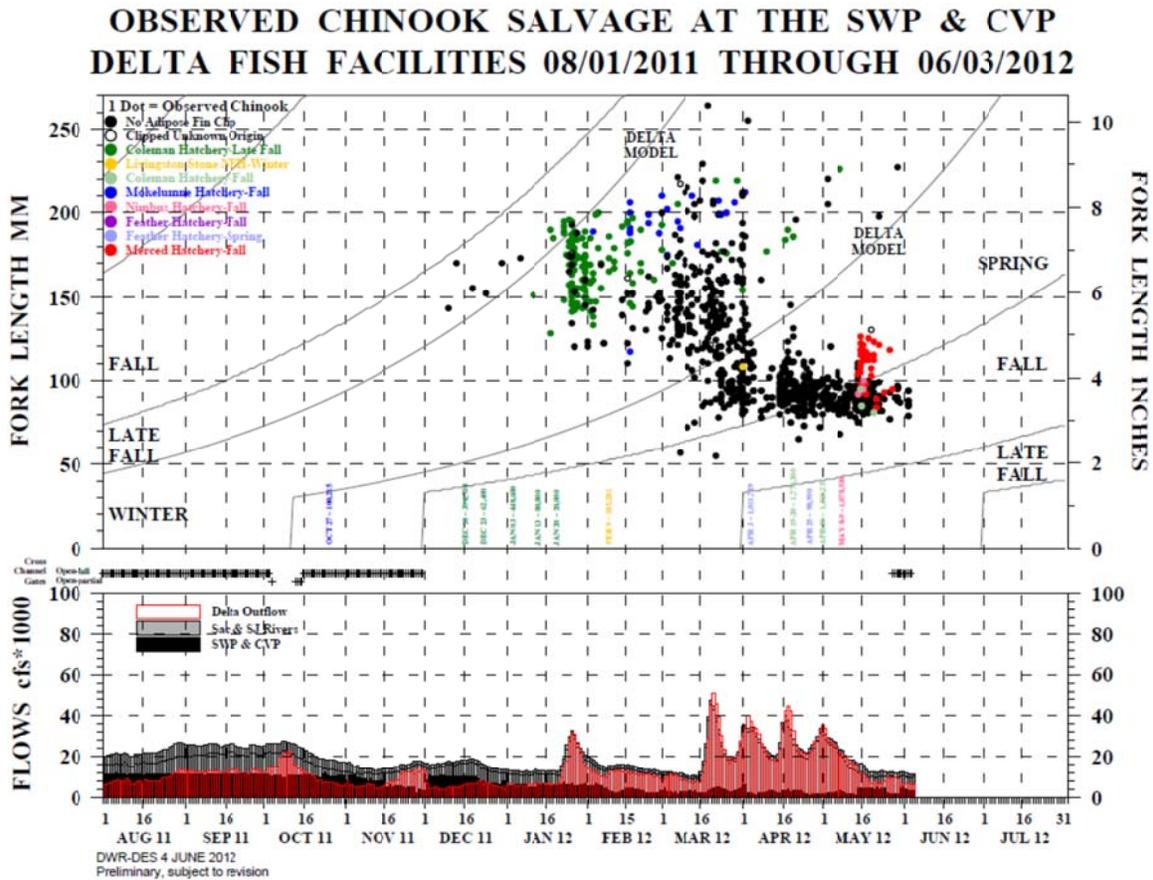
DWR-DES Revised 6/4/2012

Preliminary, subject to revision

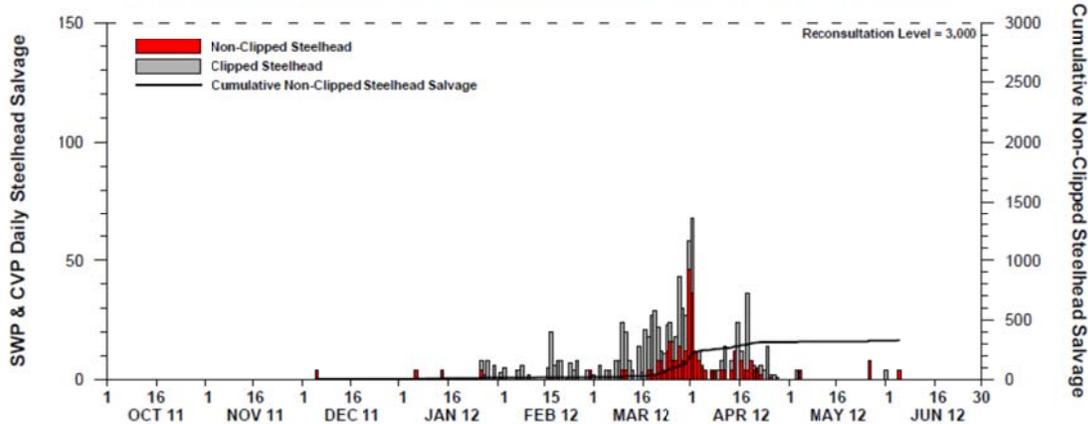
CWT data: From 5/20/12 through 6/3/12, one fall-run Chinook from the Coleman Hatchery production release was salvaged at the SWP (5/20); Merced River Hatchery fall run were the main hatchery Chinook salvaged at both facilities. No hatchery fish have been salvaged since

5/27. No Feather River Hatchery spring run have been salvaged, which is surprising given the large size of the release, and no spring-run surrogates releases have been salvaged for several weeks.

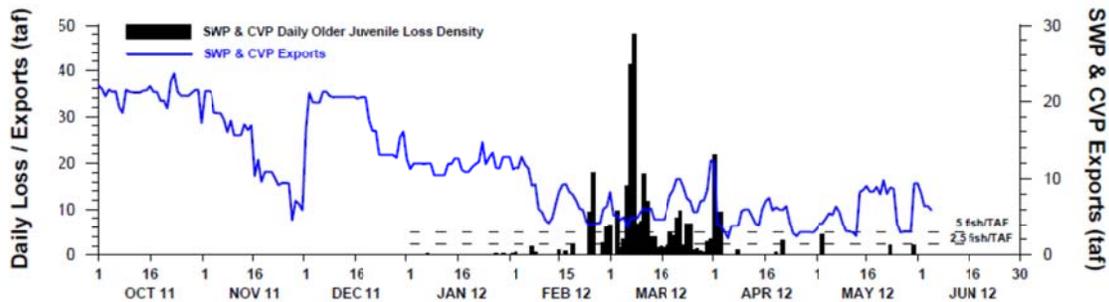
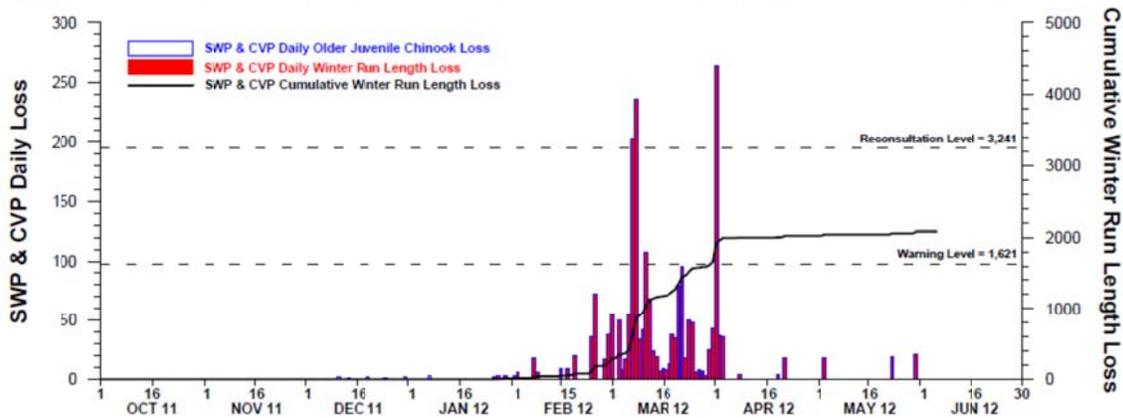
Below are the salvage and loss graphs for Chinook and steelhead from Llaban (DWR) as of 6/3/12. For additional salvage and loss graphs, please visit the DWR website at: <http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>.



STEELHEAD SALVAGE AT THE DELTA FISH FACILITIES 01 OCT 2011 THROUGH 03 JUNE 2012



NON-CLIPPED WINTER RUN & OLDER JUVENILE CHINOOK LOSS AT THE DELTA FISH FACILITIES 01 OCT 2011 THROUGH 03 JUNE 2012



DWR-DES 04 JUNE 2012
Preliminary, subject to revision
* Older juveniles defined as all Chinook above the minimum winter run length line (Delta model)

Operations (6/5/12)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	1,600	Jones Pumping Plant	1,600 (will be 2,400 cfs on

			Thursday)
Reservoir Releases (cfs)			
Feather - Oroville	2,500	Nimbus	2,000 (up to 3,000 cfs on Thursday a.m. to support ops)
		Sacramento - Keswick	10,500
		Stanislaus - Goodwin	600 (will remain or possibly increase)
Reservoir Storage (in TAF, % of capacity)			
San Luis (SWP)	752 (<71)	San Luis (CVP)	502 (52)
Oroville	3,490	Shasta	4,257
New Melones		Folsom	926
Delta Operations			
DCC	Closed on Monday, 6/4/12 (Being repaired over next few weeks)	Sacramento River at Freeport (cfs)	9,648
Outflow Index (cfs)	6,300	San Joaquin River (cfs) at Vernalis	1,474
Total Delta Inflow (cfs)	12,587	OMR (daily) (cfs)	-3,300 (daily OMR is dropping)
Water Temperature (°F)		OMR 5 day (cfs)	-4,559
X2 (km)	>81 (upstream of Collinsville)	OMR 14 day (cfs)	-3,727
E/I (%)	23.0		

OMR: OMR (at -5,000 cfs) is currently controlling exports. SWRCB's D-1641 would have been controlling in June, if not for the NMFS RPA IV.2.3 requirement.

Overview of the NMFS Biological Opinion RPA Actions IV.2.2 and IV.2.3:

IV.2.2 (6-Year Study):

The research shall be composed of studies utilizing acoustically tagged salmonids, and will be implemented to assess the behavior and movement of the outmigrating fish in the lower San Joaquin River. The studies will include three releases of acoustic tagged fish, timed to coincide with different periods and operations: March 1 through March 31, April 1 through May 31, and June 1 through June 15. NMFS anticipates that studies will utilize clipped hatchery steelhead and hatchery fall run as test fish.

From March 1 through March 30, the exports will be operated in accordance with the requirements dictated by RPA Action IV.2.3. During the 60-day period between April 1 and May 30, exports will be dictated by the requirements of Action IV.2.1. Reclamation shall operate to a minimum 1:1 inflow-to-export ratio between June 1 and June 15, allowing exports to vary in relation to inflows from the San Joaquin to test varying flow-to-export ratios during this period. If daily water temperatures at Mossdale exceed 72°F for 7 consecutive days between June 1 and June 15, the inflow-to-export ratio may be relaxed. NMFS anticipates that warm water conditions in the lower San Joaquin River will not be suitable for steelhead under these conditions.

IV.2.3 (OMR Management): From January 1 through June 15, reduce exports, as necessary, to limit negative flows to -2,500 to -5,000 cfs in Old and Middle Rivers, depending on the presence of salmonids. The reverse flow will be managed within this range to reduce flows toward the pumps during periods of increased salmonid presence.

DOSS was advised of the operational requirement in Action IV.2.2 (6-Year Acoustic-Tag Study) that limits the inflow-to-export ratio to a minimum of 1:1 from June 1 through June 15. DWR expressed concern that it was not aware of this and that it would certainly not have intentionally ignored the OMR management aspect of Action IV.12.2. DOSS agreed to advise NMFS and WOMT that the projects should be operating to the 1:1 I:E ratio through June 15 per NMFS BiOp RPA Action IV.2.2, unless the temperature off ramp is met. The off ramp to implementing the export limit (1:1 Vernalis flow-to-export ratio) within Action IV.2.2 is if water temperatures at Mossdale reach 72°F for 7 consecutive days. Water temperatures reached 72°F on 6/2 and then dropped to 69°F on 6/4. Given that it could take 3 to 4 days to get back up to 72°F, several participants voiced the opinion that the temperature off ramp conditions will not likely be met.

The last release of study fish from the 6-year acoustic study was 480 steelhead on 5/22. No releases of either steelhead or Chinook have been made for the study or the stipulation since that time. Because previous studies have shown that tagged fish move through the Delta in less than 2 weeks, it is assumed that the study fish would no longer be present; however, this cannot be confirmed until the receivers from the 6-year study are downloaded. The schedule is to download all San Joaquin River sites by June 30 and all in-Delta sites by July 30. DOSS also discussed that the rationale for the 1:1 Vernalis flow requirement was to study the effect of varied exports on steelhead, which the previous releases for the 6-Year Study and Stipulation had done; therefore, it was not necessary to reduce exports until June 15. Biologically, it is unlikely that very many wild steelhead would be entering the Delta during this period.

DOSS also discussed the specific language of the RPA Action, which states that “Reclamation shall operate to a minimum 1:1 inflow to export ratio...”. NMFS noted that the intent was to provide 1:1 I:E conditions, which would require both DWR and Reclamation to operate to that limit, and that the “Reclamation shall...” was an error. The group agreed to discuss and clarify this language. NMFS will look for previous discussion in DOSS notes regarding DWR’s role in implementing RPA Action IV 2.2 and will provide that information to DOSS.

Sentinel Steelhead Monitoring: The final download from 5/31 showed that 42 tags from the last release of the sentinel steelhead have gone by the Railroad Cut receivers. There were some issues with the receivers in Middle River during the third experimental period that may have affected tag detection probability.

Below is a summary of the Stipulation Study releases and tags detected throughout each of the experimental periods:

Release Period	# released	Trigger level	# tags detected
1	166	9	49
2	167	24	51
3	167	31	42

Once a period ended, it is possible that some tags from previous releases might have been detected at the Railroad Cut receivers, but the reporting focused only on tags from the most recent release. The plan is to download all the receivers, but this has not yet been completed. Reece (DWR) will check on when the stipulation receivers will be downloaded. It will be interesting to find out whether any of the stipulation fish have been salvaged at the fish facilities after passing by the receivers at the trash racks and CCF radial arm gates, but we will not know this until the full dataset has been analyzed.

Calendar-Based OMR for 2013: Last week, the agencies were asked to designate someone to be part of a subgroup to discuss the calendar-based onset of OMR flow management for 2013 as part of RPA Action IV.2.3. Those asked or who had volunteered are Israel, Barnett-Johnson, Hannon, and Grimaldo from Reclamation; Ford, Llaban, and Reece from DWR; Dibble or Roberts from DFG; Oppenheim and Byrne from NMFS. Someone (to be determined) from EPA will be asked to be part of this subgroup (Oppenheim will contact), which could begin to meet as soon as next week, but more likely during the DOSS break over the summer. Guinee (FWS) will speak with Pat Brandes (FWS) about participating in the subgroup.

Ford (DWR) had not yet checked yet with DCT members on whether any of them wanted to be involved, but agreed to check on whether they want to participate. With the addition of DCT members, this would be a “non-DOSS” subgroup; however, it would be prudent to provide the participants in the stipulation an opportunity to provide input as well. Ford will follow up with them.

Special recognition: Pettit (DWR) was recognized and thanked for her work in providing tables of the water cost of operations under the joint stipulation compared to implementation of Action IV.2.1 over this past 2 months. It was suggested that OMR data for the past 2 months would be a useful addition to the information she provided. OMR data are posted on Reclamation’s CVO website.

Smelt Working Group (SWG): No report provided.

DOSS advice to WOMT and NMFS: DOSS advises NMFS and WOMT that the projects should be operating to the NMFS BiOp RPA Action IV.2.3 (OMR flow management) or IV.2.2 (6-Year Acoustic-Tag Study), whichever is more conservative, through June 15. RPA IV.2.2 requires a minimum of 1:1 Vernalis inflow-to-export ratio (or 1,500 cfs combined pumping, whichever is greater) from June 1 through June 15, unless water temperatures exceed 72°F at Mossdale for 7 consecutive days.

Next Meeting: The next DOSS conference call will be on June 12, 2012, at 9:00 a.m.