

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 2/14/12 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, Kevin Reece, Andy Chu, James Gleim, Angela Llaban, Edmund Yu

FWS: Roger Guinee, Leigh Bartoo, Craig Anderson

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

Reclamation: Josh Israel, Russ Yaworsky

DFG: Bob Fujimura, Robert Vincik, Jason Roberts, Joe Johnson

EPA, SWRCB: not present

Agenda

1. Fish monitoring
2. Current operations
3. Update on workshops
4. Review action items

Action Item [11/15/11]

Evaluate the data from Mill and Deer Creek RSTs, Tisdale, and Knights Landing RSTs and compare the timing of spring-run Chinook salmon migration captured by each data set. **Carry until we get Mill and Deer Creek data overview from DFG.**

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

Action Item [1/17/12]: DOSS requests that DFG reconcile the database for hatchery fish that fall within the winter-run size category for this year with the tags that are read from the fish facilities. This can be done with a simple feedback loop from DWR with the tag information. **Carry**

Action Item [1/17/12]: DWR, Reclamation, NMFS, and DFG will meet to discuss how best to include CWT information in available salvage databases, both going forward and perhaps retrospectively. Bob Fujimura, DFG, agreed to lead this effort and provide a list of what needs to be revised. **Carry**

Action Item [1/31/12]: Reclamation (Israel) will contact Stockton FWS (Kim Webb) to discuss centralization of CWT data.

Action Item [1/31/12]: DOSS will work with IEP to refocus the salmon monitoring program in light of management needs to make operational decisions in the Delta. Oppenheim will work the other fish agencies involved in the science panel review of the IEP salmon monitoring program this year. **Completed, see text below*. Remove.**

*Oppenheim met with the IEP coordinators on 2/2/12, who are planning to have an independent science review of the Delta salmon monitoring program this year. He volunteered to be part of the IEP group that will focus questions for the reviewers and hopes to change the current monitoring focus toward what DOSS members are want in terms of getting more of a monitoring program that can guide management decisions on water operations in the Delta.

Action Item [1/31/12]: DOSS agreed to think about how to classify the ad-clipped salmon that are missing tags and report back to Geir next week.

Action Item [1/31/12]: DWR (Llaban) will work on this but it might take some time to consolidate the two data sets that are collected by different groups.

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 Kodiak Trawl	Mossdale Kodiak Trawl	Beach Seines	Knights Landing RST	Tisdale Weir RST
Sample Date	2/5-2/11	2/6, 8, 10	2/6, 8, 10	2/7, 2/9	1/31-2/13	1/31/12-2/13/12
Total Catch	18	85	0	739	774	1,664
FR		68		733	762	1,648
WR					7	2
SR				1	1	
LFR						
Ad-Clipped Chinook	1			1	1	9
DS	11 (51 to 76 mm)					
Splittail	2			2		
Longfin						
SH (ad-clip)	4	13		2	3	5
SH (wild)		4				
W. Temp. (avg. °F)	50.9	51.3	563.6	51.3	52.0	49.0
Flows (avg. cfs)					7,272	6,957
Turbidity (avg. NTU)					33.4	21.9
WR/LFR Avg. CPUE					0.010	0.004
FR/SR Avg. CPUE					1.51	3.18

Key: FR = Fall run; LFR = Late-fall run; SR = Spring run; WR = Winter run; SH = Steelhead; DS = Delta smelt; LFS = Longfin smelt; SPTL = Splittail, CPUE = catch per unit of effort, ACT = acoustical tag

It appears that the winter-run Chinook have moved into the Delta based on the increase at Knights Landing and not seeing them in the beach seines. Salvage of winter-run at the pumps is expected to be low because of low juvenile production this year. Genetic testing is being conducted at both fish facilities, but there is no analysis yet; samples are being taken but held until a new contract is issued to do the actual analysis. DWR hopes to have a contract in place to begin the analysis within the next few weeks. The fastest turnaround time to get the results of the genetic analysis would be 1–2 weeks. If the results are provided in a timely manner, the information could be used as a predictive tool for the following week and positive identification to race could be compared to determine whether forecasting is correct.

Fish Salvage Data (2/6–2/12): Reports are also posted at <ftp://ftp.delta.dfg.ca.gov/salvage>: and you can locate the table under folder “DOSS salvage tables” (you can also try <http://www.dfg.ca.gov/delta/apps/salvage/Default.aspx>) and click on “salvage FTP site.

Chinook salmon¹: Winter-run-size ad-clipped Chinook were salvaged at the CVP (weekly expanded salvage = 13) and SWP (weekly salvage = 12) this period. Non-clipped winter –run-size Chinook were salvaged at the CVP (weekly expanded salvage = 8) and SWP (weekly salvage = 4). The water-year (10/1/2011 to present) salvage totals of all races of Chinook at the CVP are 178 ad-clipped (loss = 133) and 53 non-clipped (loss = 38). The water-year salvage totals of all races of Chinook at the SWP are 114 ad-clipped (loss = 513) and 4 non-clipped (loss = 18).

The first trigger under RPA action IV.2.3 was close to being reached last week (2.5 fish/TAF), but was not exceeded ; this will be carefully watched now that there are more salmonids coming through the facilities. The peak at Knights Landing and the Sacramento trawls came with the storm event, with a lot of fish moving into the Delta, but those numbers quickly tapered off after the storm event.

Steelhead: Ad-clipped steelhead were salvaged at the CVP (weekly expanded salvage = 8) and SWP (weekly expanded salvage = 4). Non-clipped steelhead were observed at the SWP. The water-year expanded salvage totals of steelhead at the CVP are 27 ad-clipped and 1 non-clipped. The water-year salvage totals of steelhead at the SWP are 16 ad-clipped and 8 non-clipped.

Delta smelt: Delta smelt were salvaged at the CVP (weekly expanded salvage = 4), but not at the SWP. The water-year expanded salvage total of delta smelt at the CVP is 47. No delta smelt have been salvaged at the SWP this water year.

Longfin smelt: No longfin smelt have been salvaged at either facility this water year.

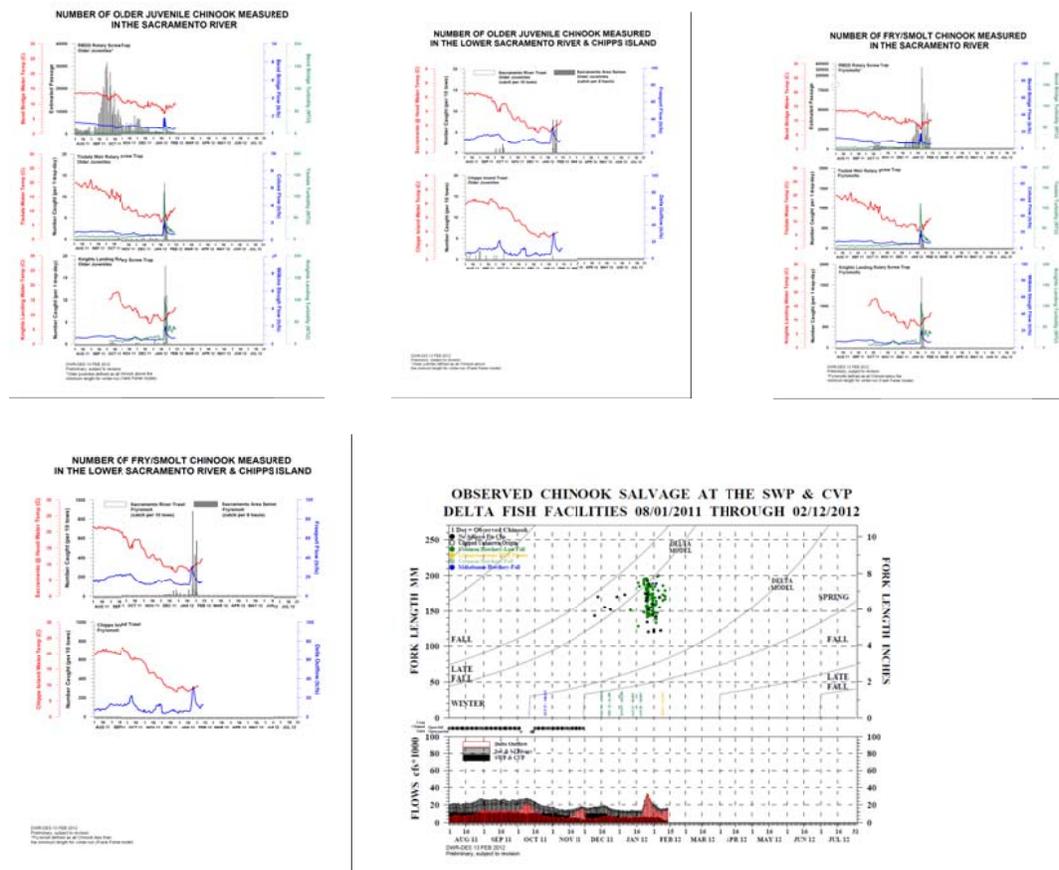
¹ Race of clipped salmon is determined solely by length of the fish at date criteria on date of salvage and should be treated as preliminary and may be subject to change when Reclamation and FWS reports the tag information on race.

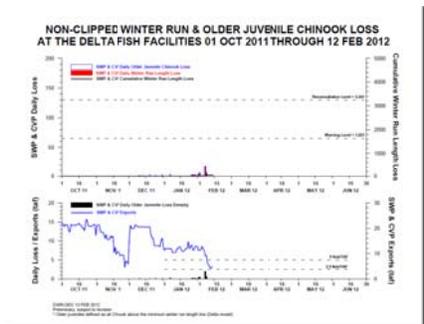
Splittail: Splittail were salvaged at the SWP (weekly expanded salvage = 16) and CVP (weekly expanded salvage = 1). The water-year expanded salvage total of splittail at the CVP is 194. The water-year expanded salvage total of splittail at the SWP is 3,772.

White sturgeon: No white sturgeon were salvaged at either facility. The water-year expanded salvage total of white sturgeon at the CVP is 64. No white sturgeon have been salvaged at the SWP this water year.

Green sturgeon: No green sturgeon have been salvaged at either facility this water year.

Below are the weekly graphs prepared by DWR (Llaban) for the capture of older juvenile salmon in the Sacramento River and Chipps Island trawls. Also included are graphs of the number of fry/smolts measured at all locations and older juvenile losses from October 2011 through February 13, 2012.





Coded Wire Tags (CWTs): Information is being received daily on the CWTs. The group was asked whether they wanted to have a weekly report in the DOSS notes or just a reference to the tables and graphs on the DWR website. It was agreed to continue to include the information in the notes. Llaban will continue to send the graphs and tables to the DOSS members each week.

The latest CWT recovery data from Llaban is presented below. Most of those salvaged are from the Coleman Hatchery and are late-fall run. There was one CWT from the Mokelumne River Hatchery October release. Interestingly, the third group of spring-run surrogates had the highest salvage rate and these were the ones that had a loss of approximately 2/3 because of an equipment failure at the release site. They were not expected to show up and we were not going to monitor them because we didn't know how many had survived. The survivors have apparently "ridden" the recent storm flows; they were recovered mainly at SWP.

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

Release Date	CWT Race	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
12/16/2011	LF	Battle Creek	Production	87.17	394,700	n/a	0.022	n/a	n/a	1/11/2012	2/2/2012
12/23/2011	LF	Battle Creek	Spring Surrogate	2.92	62,400	n/a	0.005	0.5%	1.0%	1/18/2012	1/31/2012
1/3/2012	LF	Battle Creek	Production	446.31	448,600	n/a	0.099	n/a	n/a	1/19/2012	2/11/2012
1/13/2012	LF	Battle Creek	Spring Surrogate	29.63	80,800	n/a	0.037	0.5%	1.0%	1/31/2012	2/6/2012
1/20/2012	LF	Battle Creek	Spring Surrogate	58.23	20,000	n/a	0.291	n/a	n/a	1/30/2012	2/11/2012
2/9/2012	W	Redding	Production	0.00	194,000	162,051	0.000	0.5%	1.0%	-	-

For Chinook lost 10/1/2011 through 2/12/2012

SWP coded-wire tags read 10/1/2011 through 2/12/2012

CVP coded-wire tags read 10/1/2011 through 2/12/2012

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

DWR-DES Revised 2/13/2012; Preliminary, subject to revision

Operations (2/14/12)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	2,500	Jones Pumping Plant	2,000 (will go to 2,400 on Thursday for a few days)
Reservoir Releases (cfs)			

Feather - Oroville	2,750	American - Nimbus	1,450 (will remain through the end of Feb.)
		Sacramento - Keswick	4,000
		Stanislaus - Goodwin	400
Reservoir Storage (in TAF, % of capacity)			
San Luis (SWP)	990 (93.2)	San Luis (CVP)	859 (88.5)
Oroville	2,549 (72)	Shasta	3,139 (69)
New Melones	1,968 (81)	Folsom	404 (41)
Delta Operations			
DCC	Closed as of 12/1/11	Sacramento River at Freeport (cfs)	14,120
Outflow Index (cfs)	~12,100	San Joaquin River (cfs) at Vernalis	1,685
Total Delta Inflow (cfs)	16,515	OMR (daily) (CDEC) (cfs)	
Water Temperature (°F)	12	OMR 5 day (CDEC) (cfs)	-1,513
X2 (km)	76	OMR 14 day (CDEC) (cfs)	-3,422
E/I (%)	20.7 (3-d avg.)		

Delta Conditions: Balanced. **Outflow is controlling exports.** Because it continues to be dry, exports will be minimized Chippis Island to meet the 22 days required for the SWRCB outflow. Because of the timing of the last storm (2/9–2/10/12), the runoff into the Delta began over the weekend and export pumping was scheduled to go down on Friday. Since then, exports have increased to take advantage of the extra water in the Delta. Exports are expected to remain low to meet the outflow requirements (11,400 cfs) over the next week or so.

Weather Forecast: Dry. A small storm system possible today and over the weekend (Sunday). About 0.4 inch of precipitation in the Feather River Basin is predicted.

The SWP forecast is still at 60% water supply allocation. The CVP forecasted allocation is unknown but a forecast is expected out on Thursday, 2/16/12.

Technical Workshops:

2/3/12: Acoustic tag: Israel (Reclamation) will discuss at next meeting.

2/7/12: The workshop was basically an all-day discussion about OMR flows. Most DOSS people attended. The goal was to discuss setting OMR flows within the adaptive range specified in the stipulation agreement for spring 2012 operations assuming that a rock barrier would be in place. The intent was to open the subject up for discussion and opinions about how steelhead respond to hydrodynamic cues that are affected by OMR. Results from both the HYDRO and Particle Tracking Model (PTM) modules of DSM2 were presented at the workshop. Some attendees expressed concern about the use of the PTM data since the PTM results are based on passive particles and may not be a predictor of what fish actually do. Fish may respond to cues differently, and at different speeds, than passive particles. There was also a concern raised about using the behavior of acoustically tagged hatchery fish to draw inference about wild fish. One suggestion offered to improve steelhead outmigration success was to manage for positive QWEST rather than more positive OMR; however, the stipulation agreement specified that OMR flows would be the management tool for spring 2012. DWR noted that QWEST is calculated

and cannot be measured as can OMR, and it incorporates Sacramento River flows that are transferred across the Delta. The workshop provided an opportunity for people to provide input on how they thought OMR should be managed, and why. It was helpful to consider the different components of the outmigration process and their sensitivity to OMR but there is still a lot of work to do.

The stipulation agreement states that NMFS, with input from DOSS, will draft a technical memo to describe how OMR will be managed in April and May 2012. The next step is to write the memo to specify what OMR decision will be made and how. The original planning committee members will be solicited for help with drafting the memo, and we invite any other DOSS members to participate as this will be an opportunity to be involved in creating the criteria we will use for the OMR flows and to advise WOMT and NMFS. We would like to have one person from each agency join the committee.

The group discussed the potential value of adding new monitoring within the south Delta to generate distribution information relevant for managing OMR. It was opined that if wild steelhead are sparse, absence in sampling might not mean their absence within the south Delta. Similar concerns were raised about using the Mossdale trawl data as a signal for steelhead entry into the Delta.

It was reported that recent logistical issues may require some changes to the design of the 6-year acoustic-tag study. Mike Ford will connect Josh Israel with the folks who are working with Chuck Hanson on tagging logistics.

In response to a question about why an OMR adaptive range was necessary, Byrne (NMFS) summarized as follows:

--CWT data suggest that more fish entering the Delta from upstream of Head of Old River make it to Chipps Island with a rock barrier at the Head of Old River than without a barrier in place, even though OMR is more negative with a barrier in place than without (holding all other conditions constant).

--Fish entering the Delta from the Calaveras or Mokelumne River benefit from increased mainstem flows with a barrier, but also experience potential impacts from more negative OMR flows. We do not have much information about the relative barrier effect on these fish. The OMR adaptive range provides a tool to manage hydrodynamic conditions for fish outmigrating from these basins.

--The OMR level might not change during April and May if some specific level is required to protect Calaveras and Mokelumne River fish, although it was noted that the need for a particular OMR level could be affected by factors such as inflow at Vernalis.

Further discussion of OMR management was deferred to the entire planning committee and not just the DOSS members of the committee. The group discussed the coordination of spring flows from the San Joaquin tributaries above Vernalis and concluded that flows would most likely be scheduled from mid-April to mid-May.

Byrne (NMFS) will send out a poll for a planning committee call for tomorrow. If any members are not receiving her emails, notify her. She will send out an outline of the technical memo to DOSS for feedback. The planning committee and DOSS members should provide the names of management that need to be included in occasional e-mails providing an update on the technical memo content and process.

DOSS identified that Jason Roberts (DFG) and Roger Guinee (FWS) would be added to the OMR technical memo drafting committee. Other DOSS members representing NMFS, DWR, and Reclamation are already planning committee members. Dr. Scott Hamilton of Cawelo Water District (representing Coalition for a Sustainable Delta) has also joined the drafting committee.

WOMT information to DOSS during spring 2012 regarding OMR management is likely to be related to water supply costs of any particular recommendation.

The Delta Conditions Team (DCT) is also to provide information to DOSS and NMFS during spring 2012. It was noted that Brad Cavallo and Chuck Hanson (consultants representing some of the DCT parties) are already on the planning committee as well; Byrne will ask them about what kind of information they expect the DCT to be providing to DOSS during April and May.

The technical memo will be issued in mid-March. NMFS management wants the memo to enter review on March 1. Some concern was raised about feasibility of such a short timeline.

Smelt Working Group (SWG) update: No recommendation from either FWS or DFG.

DOSS advice to WOMT and NMFS: None.

Next Meeting: Because of the holiday on Monday, 2/20/12, the next conference call is scheduled for Wednesday, February 22, 2012, at 10:00 a.m.