

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 04/05/11 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://swr.nmfs.noaa.gov/ocap/htm>

DWR: Andy Chu, Mike Ford, Angela Llaban, Cynthia LeDoux-Bloom

FWS: Nick Hindman

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

DFG: Dan Kratville, Robert Vincik

Reclamation: Thuy Washburn, John Hannon

SWRCB, EPA: not present

Action Items: *Carried from 3/29/11*

- 1) **DWR (Chu)**—coordination of real-time monitoring with Reclamation staff. DWR will have conference call with Skinner Fish Facility employees after the DOSS meeting—an internal DWR call—and will report back to DOSS. The issue is the turnaround time to process data. Any work with DFG involves a contract. DWR needs to discuss the logistics and wants to have something improved or enhanced by next season (October 1).

DWR (LeDoux-Bloom): We are trying to determine the issues and put a plan together; also trying to obtain access to the real-time FTP site. DWR discussed whether one person at Reclamation would be able to add tag reading into their regular schedule. DWR hopes to have a pilot program in place in partnership with Josh Israel, Reclamation, to roll out by October. No one objected to the October deadline. **Action will carry to next meeting.**

New

- 2) **DWR (Chu)** will write up language for the Vernalis flow ratio (NMFS RPA action 4.2.1) and send to Barbara Byrne. Chu responded to Byrne email on 3/29/2011 with some questions. See text below regarding Vernalis I:E ratio. **Action will carry to next meeting.**
- 3) **NMFS (Oppenheim)** reported out on Tracy Technical Advisory Team meeting, 3/29/11. The meeting was hosted by Ron Silva from Reclamation. First, DFG reported that the annual salvage report has shifted from a calendar- to water-year basis beginning in October. Reclamation presented a new preliminary design for a cleaning mechanism at the Tracy Fish Facility, which uses a traveling screen. The design was a requirement in the NMFS BiOp. Reclamation will present a more formal report later. There were two alternatives presented for improving survival of fish in the holding tanks: a) use fish friendly pumps, 97% survival for all species except 87% for delta smelt; b) build a large outdoor holding tank as a temporary holding space when large numbers of fish are being salvaged. DOSS requested that Reclamation to consider a CVP biologist to read the coded wire tags. They are considering it and will report back soon.

Agenda

- 1) Fish monitoring data
- 2) Water project operations & OMR flows
- 3) Status of Article 21 and 215 water
- 4) VAMP and non-physical barrier at Head of Old River
- 5) 6-year acoustical study update

Fish Monitoring: The following table presents the fish monitoring data from 3/27-4/4/11.

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 = weekly average catch per unit of effort.

Location	Chippis Is. Midwater Trawl	Sacramento Kodiak Trawl	Mossdale Kodiak Trawl	Beach Seines	Knights Landing RST	Tisdale Weir RST	Moulton Weir RST	Deer & Mill Cr RST
Sample Date	3/28, 30; 4/1	3/28, 30; 4/1	3/28, 30; 4/1	3/29, 31	3/28-4/4	3/27-4/1	No data	No data
Total Catch	23	17	0	213	607	212		
FR	1	16	1	150	544	196		
LFR	0	0	0	0	2	0		
WR	5	0	0	0	6	0		
SR	2	1	3	49	53	14		
(Ad-clips)	1	0	0	0	0	0		
DS	9	0	0	2	0	0		
LFS	0	0	0	0	0	0		
SPTL	3	0	0	12	0	0		
SH (ad-clip)	2	0	1	0	2	2		
SH (wild)	0	0	0	0	0	0		
W. Temp. (°F)	53.2	52.0	56.7	53.8	53.0	50.0		
Flows (cfs)					27,373	44,267		
Turbidity(NTU)					68.0	39.0		
FR/SR CPUE					36.6	37.7		
WR/LFR CPUE					0.42	0		

Tisdale: Mostly fall-run Chinook and a few spring-run; turbidity is decreasing. Traps are back in operation. Some traps were destroyed by the recent high flows and debris. Not sure why there was no data over the weekend and yesterday. **Action item:** Oppenheim will check with DFG about Tisdale data from the past weekend (4/2-4/3) and Monday (4/4).

Knights Landing: It is odd for winter run to still be emigrating this late. There are larger numbers of fall run being observed but these are dropping as water levels drop.

Mossdale: 1 hatchery steelhead with an acoustic tag was probably part of the 6-year study.

Chippis Is: 9 delta smelt caught ranged from 58–78 mm; no expression of eggs and not ready to spawn; not “ripe”.

Sacramento River Trawl: Switched from Kodiak to Midwater trawl as of 4/1.

Beach Seines: 2 delta smelt were caught at Garcia Bend; 71 mm. There seems to be a delay in delta smelt spawning, but it could be that those fish have already spawned. Water temperatures have gone up 11–15 degrees.

Salvage data (3/28–4/3): For additional info:

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

Chinook salmon

CVP: There were no fall-run or late-fall-run Chinook salvaged; there were some spring run. Salvage on 3/30 was 62, for a loss of 46; no winter run were salvaged or lost this past week, which might mean that the size range of juvenile Chinook is now more in the spring run range.

SWP: 12 fall run were salvaged for a loss of 50; no late-fall run were salvaged. There was a significant increase in spring run salvaged (215) for a loss of 902; a few winter run came through; 55 were salvaged for a loss of 239; 4 ad-clipped Chinook in the winter run size were salvaged for a loss of 17.

Cumulative YTD totals: Since October 1st, 2010 the combined winter run loss = 4,321

Steelhead salvage

CVP: 1 clipped; 8 natural, SWP: 20 clipped; 25 natural

Cumulative YTD totals: Since October 1st, 2010 the combined non-clipped salvaged = 313

No green or white sturgeon were salvaged. Some delta smelt salvaged at CVP; 3/30 = 4; 4/1 = 2; loss of 6 for the week (see SWG update).

**SWP & CVP OLDER JUVENILE* CHINOOK LOSS & LOSS DENSITY
03/28/2011 through 04/03/2011**

Date	OLDER JUVENILE LOSS** (# fish)			Combined Loss Density (fish/TAF)
	SWP	CVP	Combined	
03/28/2011	71.46	0.00	71.46	8.81
03/29/2011	123.39	0.00	123.39	9.80
03/30/2011	--	0.00	0.00	0.00
03/31/2011	26.87	0.00	26.87	2.34
04/01/2011	0.00	0.00	0.00	0.00
04/02/2011	0.00	0.00	0.00	0.00
04/03/2011	17.71	0.00	17.71	1.71
04/04/2011				0

DWR-DES 4/5/2011

Preliminary, subject to revision

*Older juveniles defined as all Chinook > minimum winter run length (Delta Model)

**Loss data obtained from DFG, Stockton

SWP exports were zero on 3/30, therefore no fish were salvaged.

Steelhead Loss: For the loss density, DWR used the same calculation as that used for Chinook loss, based on similar predation rates in Clifton Court in order to report steelhead loss density per the BiOp (Pg 649). Assuming loss rates are similar, steelhead loss density met the first-stage trigger for the first time on 4/4/11 at 8.85 fish/TAF. Total steelhead loss at the SWP was 88.6 fish; at CVP it was 0 using the Chinook expansion rate. The trigger in the NMFS BiOp for Action 4.2.3 (OMR flows) is a density of 8.0 fish for 1st stage and 12.0 fish for second stage. Previous to 4/4, the loss densities were < 3 fish/TAF. A loss density of 12 = OMR of -2,500 cfs.

Since the Chinook loss density has been low, DOSS could recommend relaxing the OMR to - 5,000 cfs; however, it looks as though steelhead loss has surpassed the loss density trigger. There were 5 non-clipped steelhead observed yesterday (4/4) at SWP that were expanded for a loss rate of 88.6. Although the steelhead loss density (8.85) is greater than the 0.1 fish/TAF (degree of accuracy) from the trigger, the steelhead loss density is a new calculation and exports are low (which makes the loss density estimates more sensitive to changes in loss. DWR requested that DFG verify the data before DOSS provides advice on OMR flows. If it's close to the trigger then WOMT should discuss it. Waiting for DFG to verify the numbers would take another day and DFG will only verify steelhead salvage not the loss expansion. DOSS discussed the need to document the decisions made this year to control OMR flows.

DWR (Chu) will keep track through WOMT summaries; NMFS should establish a baseline that is protective for salmon and steelhead at the same time. The same is true for delta smelt. A baseline helps to put things into perspective. The fish agencies should establish that baseline. According to the annual review, DOSS did a good job with compliance but did not explain the benefits as far as protecting fish. Brief discussion of having a spreadsheet and tracking the controlling factors, but no action was initiated.

Trends in salvage and losses: It appears that the older juvenile Chinook loss density (which includes winter-run size fish) is dropping, which is normal for this time of year. Steelhead emigration seems to be delayed this year. Non-clipped (wild) steelhead are just beginning to show up at the fish salvage facilities. According to a graph that DWR (Llaban) created of non-clipped steelhead, there were some in February, then a low trend in March, but building up again in April.

Coded wire tag (CWT) update: As of Monday (4/4) there were 17 unread tags from the fish facilities. CWTs have been read through 2/28 at the SWP and through 3/19 at the CVP. No hatchery winter run have been confirmed since they were released on 2/3/11. The percent loss rate for the 2 spring-run surrogate releases on 12/21/10 and 1/14/11 is still under 0.5% loss (0.15 and 0.04 respectively).

Vernalis Inflow/Export (I/E) Ratio: General discussion of how to implement this new action this year if flows continue to drop on the San Joaquin River. Vernalis is currently at 48,000 cfs but predicted to drop to 25,000 cfs by 4/9. Exports are not restricted until Vernalis drops below

21,750 cfs. Considered using a 7 day average of Vernalis, or the 14 day average described in Phase 2 of the NMFS BiOp to implement I/E ratio. The 14-day average allows for more flexibility if the Vernalis flows are changing due to flood control releases. The project exports have to stay within 7% of the 4:1 ratio with Vernalis flows. In most years, Vernalis flows won't change that much, but before the end of May, Vernalis could fluctuate within the 4:1 range, but most likely not over 14 days. Discussed whether to use the flood warning stage as a trigger (24.5 feet), or when flow reaches 21,750 cfs as a trigger (not always the same, depends on rating curve). **Action item:** Byrne will look at the Vernalis historical data to clarify the stage/flow relationship and send the information out to the DOSS group.

Smelt working group (SWG) update: for notes see: <http://www.fws.gov/sfbaydelta/ocap/> OMR flows are positive. Flows are decreasing on Sacramento and San Joaquin Rivers. Turbidity is decreasing in the lower San Joaquin R and inner Delta. The 20 mm survey #2 is in field last week – no delta smelt or longfin detected. Survey #4 is in the field this week. Survey #5 was in the field 3/23; no data. Delta smelt were salvaged over weekend. The incidental take for juvenile delta smelt that are 20 mm or greater is 13 in April, 567 in May; 1,436 in June; and 1,630 in July. No recommendations from the SWG. Most delta smelt are in the Sacramento Ship Channel or the western Delta. There were a few picked up in San Pablo Bay – conditions are good at this time.

Project Operations (4/05/11)

SWP		CVP	
Flows/Exports (cfs)			
Clifton Court Forebay	3,000	Jones Pumping Plant	2,704
Outflow	148,000	American- Nimbus	10,000
Total Delta Inflow		Sacramento-Keswick	27,000
		Stanislaus - Goodwin	1,300
Feather - Oroville	10,000		
Sacramento River at Freeport	70,000		
San Joaquin at Vernalis	28,000		
OMR (daily)	10,500		
OMR 5 day	10,098		
OMR 14 day	4,200		
Reservoir Storage (TAF)			
San Luis	1,168	San Luis	1,061
Shasta	3,914		
Folsom	661		
New Melones	1,972		
Oroville	2,910		
Delta Operations			
DCC	closed	E/I ratio	3%
Outflow Index (cfs)		X2 (km)	56
Water Temperature (°F)	14.9		

Federal:

Sacramento River: ramping to 14,500 cfs by 4/8, Shasta – targeting inflow and ramping down

American River: Nimbus releases at 10,000 cfs
Goodwin Dam: 1,300 cfs, and going up to 2,000 cfs today

State:

Banks pumping 2,230 cfs = direct demand. San Luis is still full on both sides

Weather forecast: A light system is coming on Thursday or Friday. It's a colder system that will preserve some of the snow; runoff will slow down. Another system will come in another week but it will be warmer. The snow level is at 2,000 feet this week; it will be at 4,000 feet next week.

VAMP and non-physical barrier at Head of Old River: Fish releases delayed to May instead of April (not large enough for tagging yet). The non-physical barrier at Head of Old River will not be constructed due to high Vernalis flows. VAMP period 5/1–5/31. There will be another VAMP meeting on 4/21.

Georgiana Slough non-physical barrier: Because of high Sacramento flows, DWR reported they cannot meet the requirement for the experimental period. The experiment was stopped on 3/26. Equipment removal should have happened by May 15. NMFS is considering a requested extension of the timeframe through May or June. See NMFS BiOp on barrier.

Article 21 update: A request was made to DWR to provide any information on when Article 21 water was made available this year. **Action item:** DWR will report back.

DOSS advice to WOMT and NMFS: Since San Joaquin River exceeding the flood monitor stage at Vernalis (28,000 cfs), daily OMR is tracking close to positive 10,000 cfs. Action 4.2.3 in the NMFS BiOp is still in effect, but is currently not constraining exports and is unlikely to constrain exports while flows at Vernalis remain high.

The Chinook loss density for the last 5 days (since 3/30/11) has been below the first trigger (3.32 fish/TAF) in the NMFS BiOp. The loss density on Monday, 4/4/11, was estimated to be 0.0; therefore, DOSS would have advised relaxing the OMR criteria to no more negative than -5,000 cfs (default in NMFS BiOp until June 15). However, the steelhead loss density trigger (trigger # 4 in Action 4.2.3 of 8 steelhead/TAF) was reached for the first time. Steelhead loss on 4/1/11 at the SWP was estimated at 86.6 fish and at the CVP 0.0. The steelhead loss density was 8.86 fish/TAF on 4/1/11 using the Chinook loss expansion. Since the steelhead loss rate is so close to the NMFS trigger (within 0.1), DOSS advises waiting until the loss rates are confirmed from DFG later today. If the loss rate is confirmed, then an OMR criteria of no more negative than -3,500 cfs based on steelhead loss should be implemented for the next 5 days.

DOSS is also considering using a 14-day averaging period for the NMFS action 4.2.1 (4:1 I:E ratio), which began on April 1st, when Vernalis flows drop below the flood monitor stage.

Next Meeting: Conference call, 4/12/11, 9:00 a.m.