Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 5/10/11 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, Tracy Pettit
FWS: Pat Brandes, Nick Hindman, Roger Guinee
NMFS: Barbara Rocco, Bruce Oppenheim, Jeff Stuart, Garwin Yip, Barb Byrne
DFG: Joe Johnson
EPA: Bruce Herbold
Reclamation: Thuy Washburn, Josh Israel
SWRCB: not present

Action Items

1) **NMFS (Oppenheim)** Drafting real-time-monitoring data needs for DOSS review.
2) **4/7/11 Amendment to NMFS' RPA:** Discussion of new amendments. Carry until 5/17/11 meeting.

Agenda

1) Fish monitoring data
2) Project operations
3) San Joaquin inflow-to-export ratio (action 4.2.1)
4) Smelt Working Group update

Fish Monitoring: The following table presents the fish monitoring data from 4/30 to 5/6/11. For additional info: http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm

Location	Chipps Is. Midwater Trawl	Sacramento Kodiak Trawl	Mossdale Kodiak Trawl	Beach Seines	Knights Landing RST	Tisdale Weir RST	Moulton Weir RST	Deer/Mill Creeks RST
Sample Date	5/2, 5/4, 5/6	5/3, 5/5	5/2–5/3	5/2–5/6	4/30–5/6	4/30–5/4	N/A	N/A
Total Catch	**997**	**178**	**34**	**211**	**373**	**1,014**		
FR	545	136		140	289	855		
LFR					1			
WR								
SR	73	4	33		3	3		
(Ad-clips)	378	38		22	80	156		
DS	1			4				
LFS								

SPTL			1	45				
SH (ad-clip)								
SH (natural)								
Water Temp. (avg. °F)	59.8	59.3	60.5	62.2	63.2	58.3		
Flows (avg. cfs)					9,108.8	9,872		
Turbidity (avg. NTU)					16.2	15.0		
FR/SR Avg. CPUE					20.4	86.2		
WR/LFR Avg. CPUE					0.099	0		

Key: FR = Fall run; LFR = Late-fall run; SR = Spring run; WR = Winter run; SH = Steelhead; DS = Delta smelt; LFS = Longfin smelt; SPTL = Splittail.

Tisdale: Total numbers of salmon have dropped from 100-200/day; to only 16 on 5/9 and 12 of those were ad-clipped, most likely they were fall-run Chinook that were released from the hatcheries.

Mossdale: Most of the observed spring-run size Chinook had the purple stain on the caudal tail as part of the efficiency study from releases upstream. Mossdale had recently caught salmon in the 100- to 110-mm range, which is in the spring-run length-at date-category (using Delta revised methods). This same trend is being seen at the salvage facilities.

Beach Seines: 4 delta smelt were 72–86 mm caught at Sandy Beach.

Knights Landing: The catch has declined since last Monday from 68 to 18 fish, all were Chinook salmon. Flows dropped from about 9,000 cfs on 5/2 to about 8,400 cfs; turbidity has decreased from 21 to 7.9 NTUs.

We don't know yet whether these are the American River fish or earlier releases. Another 1 million (100% tagged) fall-run Chinook from Nimbus hatchery will be released into SF Bay the first week of June.

Salvage data (5/2–5/8/11): Salmon are being measured in the 95 - 100-mm range. Because this is such a wet year, the natural fish seem to be growing faster (*i.e.*, the in-river produced fish, not hatchery fish) and are larger than those being released from the hatcheries. Some of the biologists are speculating at this point that they are coming from the San Joaquin River side. With the high flows, we have a positive OMR of 5,000-6,000 cfs so they are most likely coming from the San Joaquin R.

Reclamation (Israel): Could be that what we're seeing is the normal growth pattern for San Joaquin fall run but we don't know for sure because the original measurements (length-at-date methodology) did not incorporate water-year types.

NMFS (Oppenheim): There's a good jump up in size of young-of-year coming out in the spring-run category in March and April, which is typically what we see looking at the "dot plots" in past years. The Tracy fish facility is collecting otoliths and tissue samples to help gather more data on growth and analyze the trends.

Chinook loss (based on length-at-date): For 5/2-5/8/2011, there were no older juvenile Chinook salmon salvaged at either Tracy or Banks, therefore, the combined loss density was 0.

Chinook run	Loss	
	CVP	SWP
Winter-run	0	0
Spring-run	2,278	7,692
Fall-run	81	363
Late fall-run	0	0

Cumulative YTD totals: 4,360 non-clipped winter run loss since Oct 1, 2010

Steelhead salvage: No hatchery steelhead. 4 non-clipped at CVP and 20 at SWP. The highest day was 14 on 5/7 at the SWP.

Cumulative YTD salvage: 474 non-clipped steelhead salvaged since Oct. 1, 2010

Steelhead Loss Density: The loss density has been below 6.77/TAF peaked on 5/7 at SWP; this peak was the highest for the week. Overall, loss density has been below 2/TAF. This is below the 8.0 fish/TAF trigger in the NMFS BiOp.

Coded wire tags: The missing coded wire tags have still not been located. DWR (Llaban) is still trying to track them down. Two new tags were reported: One in the spring run and one in the fall run size category. Very few hatchery fish are being seen at the facilities right now.

Smelt Working Group (SWG): No update since they did not meet this week. There were no delta or longfin smelt at the facilities. The SWG will not meet again until the end of VAMP experiment. Trawl #5: a few from the Mokelumne system were seen; the majority of delta smelt are still in the Sacramento Deep Water Ship Channel (15 found). There appears to be a paucity of fish at the trawls; they are showing up more in the west.

Operations (May 10, 2011)

SWP		CVP	
Flows/Exports (cfs)			
Clifton Court Forebay	1,500	Jones Pumping Plant	1,900
Delta Outflow		American- Nimbus	7,000
Total Delta Inflow	53,696	Sacramento-Keswick	7,500
		Stanislaus - Goodwin	2,000
Feather - Oroville	12,000	Merced	
Sacramento River at Freeport	34,451	Mokelumne	
San Joaquin at Vernalis	15,000	Tuolumne	
OMR (daily)	+6,163		

OMR 5 day	+3,792		
OMR 14 day	+4,727		
Reservoir Storage (TAF)			
San Luis	1,023	San Luis	964
		Shasta	4,332
Folsom	802		
New Melones	2,025		
Oroville	3,342		
Delta Operations			
DCC	Closed	X2 (km)	56 (west of Martinez)
Outflow Index (cfs)	48,100		
Inflow diverted (%)	5.5 (14-day avg)		
Water Temperature (°F)	63.5		

SWP: DWR (Chu): Have not heard that any upstream operations (San Joaquin R tribs) intend to increase releases. We have been taking water from San Luis R. since 4/30/11.

CVP: Jones Pumping Plant, USBR projects that, beginning Wednesday, 5/11, they will be drawing down from San Luis R. San Luis Federal storage is still full.

San Joaquin River inflow/export ratio: Subgroup (Byrne): The final comments are expected later this morning. Byrne will send complete edits out to the DOSS group today; we want the final document from the subgroup out to DOSS tomorrow or Thursday. If the subgroup can present its final suggestions to DOSS, DOSS can discuss this and provide advice. The documentation is similar to what we are already doing, such as using the 14-day running average of Vernalis flows.

Reporting out of the 4:1 ratio. DWR (Chu) will send out a spreadsheet but has indicated that, as of 4/30, the ratio is 4:1. This Friday, we will hit the first 14-day average that will be measured. Today is 11 days; the average today is 4:1; it varies from 3.8 to 4.5. Reclamation (Washburn): As of yesterday, we are at 3.96; therefore, by the 14th day, we will be at 4.0. We have had to cut exports. We schedule 3 days out and adjust from that. DWR (Chu): The first change was on 4/30. On 5/3, we had another change; on Friday, combined exports will be down to 4,000 cfs. As Vernalis decreases, adjustments are made to the exports to comply with the 4:1 ratio. Both state and Federal facilities have been making adjustments.

Clifton Court Forebay (CC) and Jones Pumping Plant have made quite a few adjustments over the past week, including a 3-day maintenance adjustment drop. The Federal exports increased as the state decreased to compensate. If we pull up the data from CC and Jones, we see that it waivers around the 4:1 ratio. Exceeding the ratio is fine but falling below would be a problem.

At the request of Reclamation (Israel), we try not to deviate away from the 4:1 ratio goal; the progressive daily is at about 4.1 and we don't want to go much above that. This is important for implementation of the acoustic tag study; it's more important to stabilize operations for the

studies than to do it for the RPA; these are separate issues. Operators are aware of the studies in addition to the RPA.

Action Item: The DOSS group needs to look at the I:E subgroup document and provide feedback by Thursday or Friday. Comments coming in this morning have not yet been seen by the subgroup. DOSS discussed adopting the current year implementation strategy for the 4:1 ratio. The group agreed to document the process used this year, but noted that the process is being adaptively managed in this first year of operations.

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The following was received from DWR (Chu) after the conference call:

Since the NMFS RPA's requirement is for 14-day running average with compliance to the decimal point, the projects are required to demonstrate compliance up to one decimal digit. It is also noted that the compliance column in the table is currently *italicized* to show the trend based on the progressive daily mean approach since the true 14-day compliance won't begin until May 13th. For monitoring tracking purpose, the I:E ratio in the same period has been in the range of 4.5 to 3.8 for the last ten days and is projected to be within the same range for today's monitoring using previous day's Vernalis flow for compliance purpose. This is similar to how we track and report D-1641 compliance (*i.e.* South Delta EC compliance is reported up to one decimal (tenths) significant digit but for tracking or monitoring for last thirty days EC is up to two decimal points (hundreds place).)

The two projects along with the subgroup (NMFS) will be coordinating on a long-term reporting mechanism since most of these data are already in various venues except the 14-day I:E compliance. The final outcome of that coordination will be reported back to the DOSS at a later date. As for now, updates will be provided during the weekly DOSS call similar to the table below.

Export Management based on I:E Restrictions
(note:

	Vernalis Flow (cfs)	CCF-BBID (cfs)	Jones (cfs)	Combined Export	14-day I:E* Monitoring
30-Apr	20,696	2,839	1,759	4598	*5 : 1*
1-May	20,158	2,993	1,757	4750	*4 : 1*
2-May	19,279	2,789	1,761	4549	*4 : 1*
3-May	18,338	1,405	2,949	4354	*4 : 1*
4-May	17,438	1,484	3,664	5148	*4 : 1*
5-May	16,629	1,492	3,672	5164	*4 : 1*
6-May	16,025	1,996	2,493	4489	*4 : 1*
7-May	15,613	1,995	2,007	4002	*4 : 1*
8-May	15,558	1,120	2,009	3129	*4 : 1*
9-May	15,488	1,500	1,927	3427	*4 : 1*
10-May	15,342	1,500	1,900	3400	*4 : 1*

Note: * RPA Action IV.2.1 requires 14-day running average of Vernalis flow to combined export ratio. Days reported leading up to the 14th day are reported as the progressive daily mean for monitoring purposes only, and not for compliance.

VAMP: Actual SJR trib. releases are less than predicted. The upstream reservoirs are holding back releases for spring-runoff. The 5-day forecast is showing Vernalis < 15,000 cfs. Water temperatures at Mossdale are fluctuating between 65ºF and 62ºF.

DOSS advice to WOMT and NMFS

DOSS advises to continue to implement the NMFS action IV.2.1 (4:1 ratio) to protect juvenile steelhead emigrating from the San Joaquin River basin. At a minimum, combined exports should be no more than 25% of Vernalis flows. In addition, where compatible, provide opportunities for experimental fish releases at lower export rates as part of the VAMP design.

DOSS also advises continuing to target Old and Middle River flows of no more negative than -5,000 cfs (Action IV.2.3).

Next Meeting: Conference call on Monday, 5/17/11, 11:00 a.m.