

**Delta Operations for Salmonids and Sturgeon (DOSS) Group**  
**Conference call: 4/17/12 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, Edmund Yu, Angela Llaban, Tracy Pettit, James Gleim

**FWS:** Leigh Bartoo, Roger Guinee

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

**Reclamation:** Russ Yaworsky, Josh Israel

**DFG:** Bob Fujimura, Jason Roberts, Chad Dibble, Carl Wilcox

**EPA:** Erin Foresman

**SWRCB, USGS:** not present

**Agenda**

1. Fish monitoring
2. Current operations
3. Implementation of OMR per stipulation
  - a. supplemental steelhead are IN THE RIVER! Tag detection update
  - b. review of OMR treatment ordering
4. Wrap-up; confirmation of DOSS advice to NMFS and WOMT

**Action Item [1/3/12]:** Review the DOSS section of the annual review report and provide responses regarding implementation of recommendations. **Carry.** 4/17/12: No update.

**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. **Complete. Delete.**

**4/17/12:** A meeting of the agencies was held at the West Sacramento DWR offices on 4/13/12.

**Fish Monitoring:** The following table presents fish monitoring data. Unless otherwise noted, reported sizes are fork length. No data were received before the conference call from Speegle (FWS). 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			4/9–4/14		4/9–4/16	
Total Catch			118		509	
FR			117		348	
WR					1	
SR					157	
LFR					1	
Ad-Clipped Chinook						
DS						
Splittail						
Longfin						
SH (ad-clip)					2	
SH (wild)			1 (330 mm)			
W. Temp. (avg. °F)					57.0	
Flows (avg. cfs)					11771	
Turbidity (avg. NTU)					56.0	
WR/LFR Avg. CPUE					0.006	
FR/SR Avg. CPUE					1.234	

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 Salvage Data (4/9–4/16):** 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”.

The following table reported by DFG shows weekly and water-year totals for salvage and loss densities of Chinook and steelhead.

**DOSS Weekly Salvage Update**  
 Reporting Period: April 9-15, 2012  
 Prepared by Bob Fujimura on April 16, 2012  
 Preliminary Results -Subject to Revision

Criteria	9-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	Trend
<b>Loss Densities</b>								
Wild winter-run CS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	↘
Wild steelhead	0.4	0.4	0.0	4.2	9.8	0.0	4.9	↘ exceeds 1st stage trigger
SWP daily export	4,368	4,368	3,458	2,557	2,184	4,368	4,368	↗
CVP daily export	1,618	1,625	1,620	1,617	1,622	1,618	2,719	→

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
<b>Wild</b>					
Winter Run	0	0	↘	821	1,999 exceeds "warning level"
Spring Run	211	285	↗	541	1,008
Late Fall Run	0	0	→	20	14
Fall Run	0	0	→	8	33
Total	211	285		1,390	3,054
<b>Hatchery</b>					
Winter Run	4	4	↗	444	1,152
Spring Run	0	0	→	4	17
Late Fall Run	0	0	→	25	20
Fall Run	0	0	→	0	0
Total	4	4		473	1,189

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	32	95	→	289	961
Hatchery	46	141	↗	524	947
Total	78	236		813	1,928

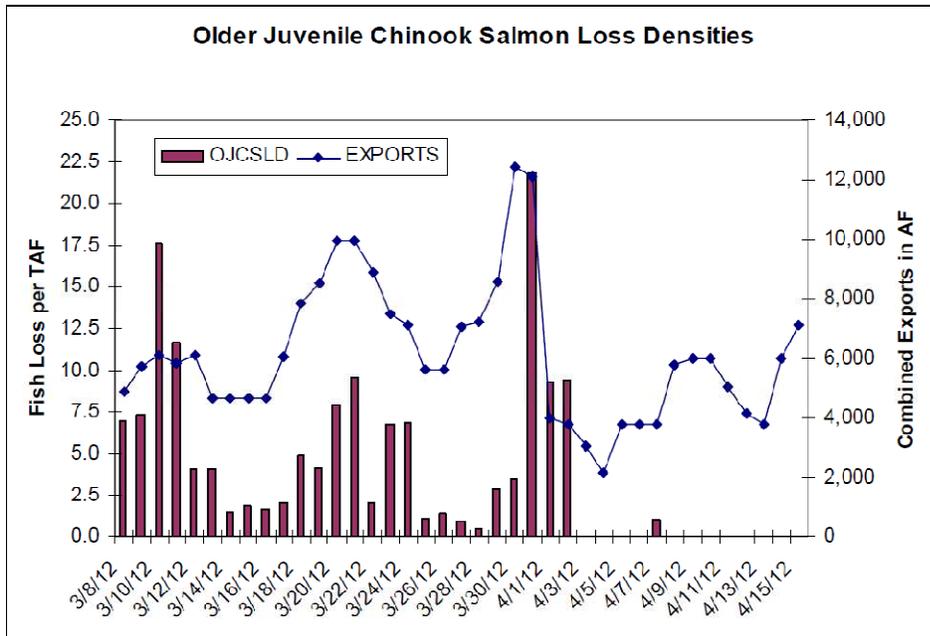


Figure 1. Older juvenile Chinook salmon loss densities and exports for the combined CVP and SWP facilities from March 8 through April 15, 2012. Information from DFG daily salmon and smelts summary tables (G. Aasen; 4/16/12). Prepared by Bob Fujimura on April 16, 2012.

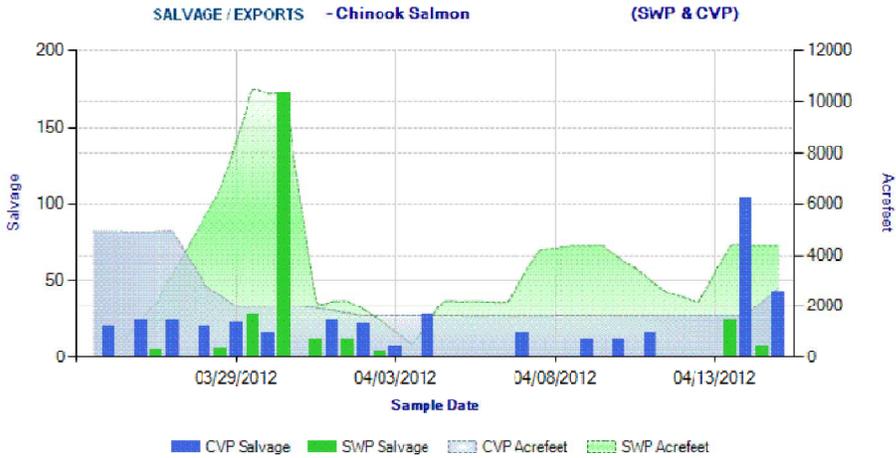


Figure 2. Daily salvage of Chinook salmon (all races) and water exports from the state and federal fish salvage facilities during March 25 through April 15, 2012. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

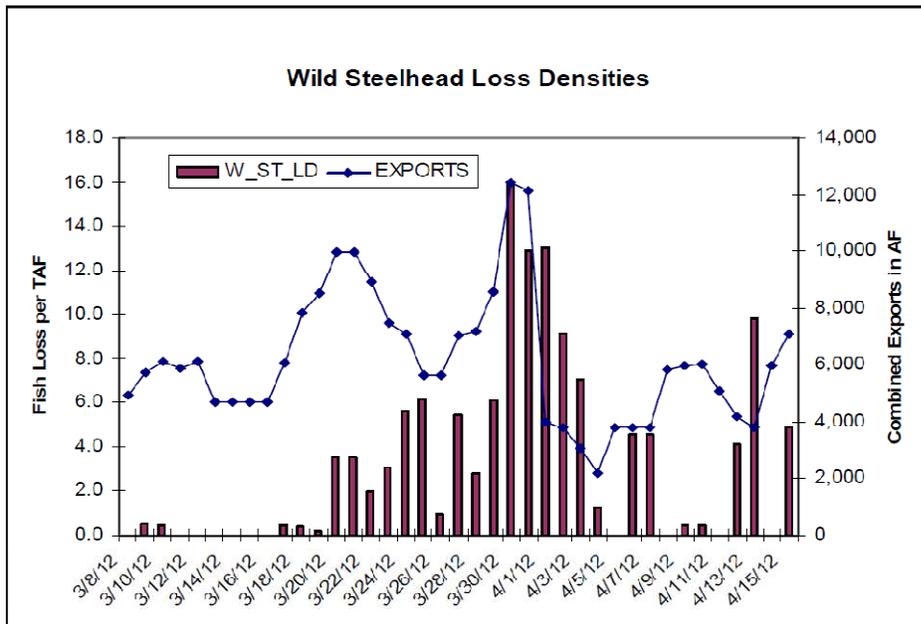


Figure 3. Wild steelhead loss densities and exports for the combined CVP and SWP facilities from March 8 through April 15, 2012. Information from DFG daily steelhead and smelts summary tables (G. Aasen; 4/16/12). Prepared by Bob Fujimura on April 16, 2012.

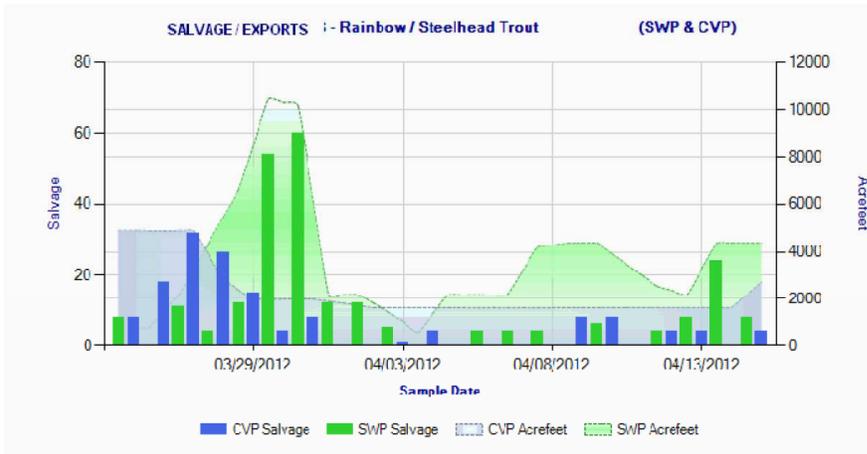
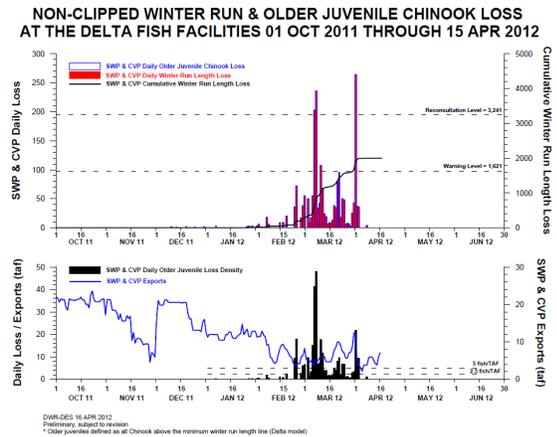
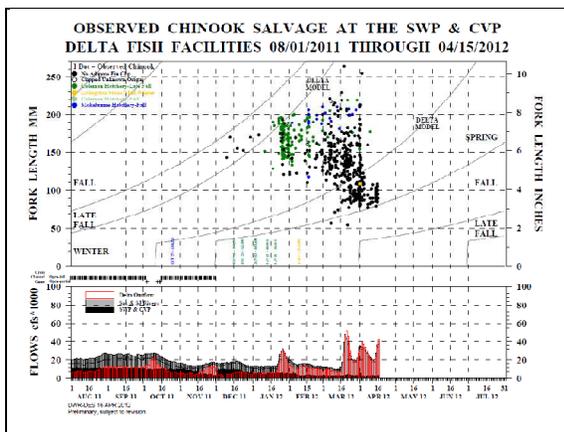
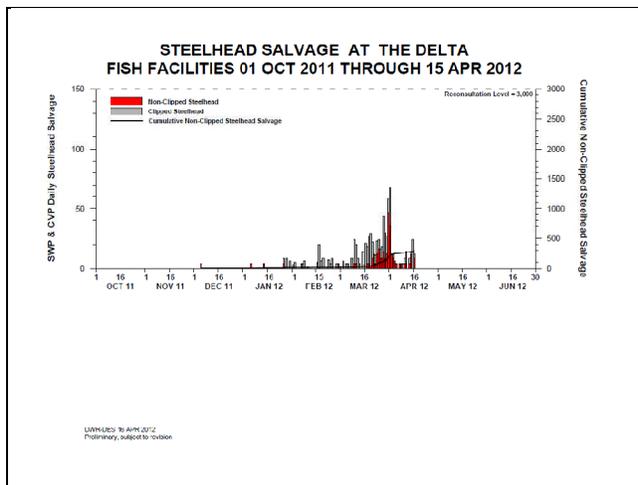


Figure 4. Daily salvage of steelhead and water exports from the state and federal fish salvage facilities during March 25 through April 15, 2012. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>

Below are the salvage and loss graphs for Chinook and steelhead from Llaban (DWR) as of 4/9/12. For additional salvage and loss graphs, please visit the DWR website at: <http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>.





**Coded Wire Tagged (CWT) Salvage and Loss as of 4/15/12 (see table below):**

**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 <sup>1</sup>	First Concern Level	Second Concern Level	Date of First Loss	Date of Last Loss
12/16/2011	LF	Battle Creek	Production	134.66	394,700	n/a	0.034	n/a	n/a	1/11/2012	3/31/2012
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	602.42	448,600	n/a	0.134	n/a	n/a	1/19/2012	4/9/2012
1/13/2012	LF	Battle Creek	Spring Surrogate	52.17	80,800	n/a	0.065	0.5%	1.0%	1/31/2012	2/18/2012
1/20/2012	LF	Battle Creek	Spring Surrogate <sup>2</sup>	101.04	20,000	n/a	0.505	n/a	n/a	1/30/2012	3/29/2012
2/9/2012	W	Redding	Production	16.96	194,000	96,525	0.018	0.5%	1.0%	3/31/2012	3/31/2012

For Chinook lost 10/1/2011 through 4/15/2012

SWP & CVP coded-wire tags read 10/1/2011 through 4/15/2012

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

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

DWR-DES Revised 4/16/2012

Preliminary, subject to revision

**Operations (4/17/12)**

SWP		CVP	
<b>Exports (cfs)</b>			
Clifton Court Forebay	2,000	Jones Pumping Plant	1,000
<b>Reservoir Releases (cfs)</b>			
Feather - Oroville	1,750	American - Nimbus	1,300
		Sacramento - Keswick	4,200
		Stanislaus - Goodwin	1,500
<b>Reservoir Storage (in TAF, % of capacity)</b>			
San Luis (SWP)	975 (92)	San Luis (CVP)	763 (79)

Oroville	3,137 (89)	Shasta	4,265 (94)
New Melones	1,955 (81)	Folsom	819 (85)
<b>Delta Operations</b>			
DCC	Closed as of 12/1/11	Sacramento River at Freeport (cfs)	34,568
Outflow Index (cfs)	42,300	San Joaquin River (cfs) at Vernalis	3,373
Total Delta Inflow (cfs)	39,665	OMR (daily) (cfs)	
Water Temperature (°F)	60.3	OMR 5 day (cfs)	-2,073
X2 (km)	60	OMR 14 day (cfs)	-2,133
E/I (%)	8.4		

**Delta Conditions Team (DCT) report:**

It was reported that the DCT discussed the ordering of OMR experimental levels, and a possible request to the SWRCB for a variance to the 1:1 ratio. Both Tom Boardman (San Luis Delta Mendota Water Authority) and Doug Obegi (Natural Resources Defense Council) sent information to NMFS for DOSS to consider on this issue (see attached).

A request was made from a DOSS member who is also a member of the DCT that the rest of the DCT be cc'ed on information sent to NMFS for consideration by DOSS.

**Review of Railroad Cut Trigger for 4/15-4/30:**

The calculation of the Railroad Cut trigger depends on three assumptions that will be reviewed by DOSS at the start of each 2-week treatment period. Kevin Clark (DWR) reported that 166 sentinel steelhead were released. Tracy Pettit (DWR) reported that the expected fraction of SWP exports from 4/15–4/30 is 0.56. No DOSS member suggested modifying the per-km survival rate of 97% assumed for the south Delta. Based on this information and review on the DOSS call, the values of those assumptions, used to calculate the Railroad Cut trigger for April 15–30, are as follows:

- 166 sentinel steelhead released (tech memo used 168);
- Projected SWP/CVP export split is 0.56 (tech memo used 0.5); and
- Steelhead survival between Railroad Cut and the export facilities is 97%/km (same as the tech memo).

The sentinel steelhead trigger is still nine fish passing the Railroad Cut receivers. Over the 2-week period, at least nine sentinel steelhead must pass Railroad Cut heading south to trigger a reduction to an OMR limit of -1,250 cfs (or minimum health and safety combined export level of 1,500 cfs, whichever level is greater) for the remainder of the experimental period. A tag detection is included in the trigger count only the first time the tag passes by.

It has been only 1 day since the sentinel steelhead were released. None have yet to pass the Railroad Cut receivers.

**Potential variance of D1641 1:1 requirement:** In addition to consideration of a D-1641 variance for the 5/1–5/14 experimental period (if the order of the experimental OMR flow is switched in May), DWR and Reclamation proposed requesting a variance of the D-1641 requirement restricting exports to 100% of Vernalis flow for the remainder of April to be able to

target the experimental OMR flow of -3,500 cfs. Given the current forecast of 3,200 cfs at Vernalis from 4/15 to 5/15, the experimental OMR flow of -3,500 cfs would not be attainable without such a variance. Combined exports, currently limited by the D-1641 requirement, would need to increase by approximately 500 cfs to target an OMR of -3,500 cfs.

A variance to the 1:1 requirement must be supported by the three fishery agencies (DFG, FWS, NMFS). Unless opposed by SWRCB, it can take effect immediately. DWR and Reclamation support the variance from a project operations standpoint and believe it is consistent with efforts to get the results out of this fish experiment. The project agencies have drafted a letter that will be discussed in detail at WOMT but will be sent only if all five agencies agree to ask for a variance for the purposes of achieving the experimental OMR levels.

DOSS discussed the goals of the OMR experiment, expectations about attaining specific OMR levels, and advantages and disadvantages of achieving those specific levels by asking SWRCB for a variance to the 1:1 requirement. The points made in those discussions are summarized below:

#### Goals of the experiment/Expectations about attaining specific OMR levels:

- Part of the idea of using sentinel fish and this experiment is to try to understand fish movement under different OMR conditions.
- One purpose of this experiment is to have OMR blocks about every 2 weeks that were different enough in magnitude that we'd be able to tease out information to answer the question of whether OMR is the appropriate tool to use to manage operations and protect salmonids. A variance would increase the likelihood of achieving that greater difference in OMR.
- The stipulation study with sentinel steelhead was also intended to provide an in-season trigger for OMR based on actual steelhead movement rather than hydrodynamics modeling and PTM; this intention is met regardless of the particular experimental OMR levels attained.
- It has been acknowledged that, given the dry hydrology, neither the most positive nor negative OMR treatment level might be realized. Those levels were part of an experimental design to obtain information about fish movement over the full OMR adaptive range.
- At the time the memo was drafted, it was expected that operations could meet the 1:1 and still achieve the -3500 OMR target.
- Maximizing the differences between treatment levels gives the experiment more power. Asking for a variance increases the likelihood of attaining the -5,000 cfs OMR treatment level.
- It was noted that that operations to achieve the -1,250 cfs OMR (with Vernalis flows at about 3,200 cfs) might be similar to the 2:1 inflow:export ratio of some VAMP studies and offer the potential to compare across years; Israel noted that the stipulation study wasn't designed to mimic any VAMP conditions, and cautioned about comparing results between years.

#### Advantages of asking SWRCB for a variance to the 1:1 requirement:

- By achieving OMR target levels as they are specified in the tech memo, we may get more meaningful results out of the experiment that can actually be used to answer outstanding questions.
- SWRCB included allowance for a waiver in consideration of the potential need for adaptive management of operations in connection with experimental design needs; fish triggers are still in place as protection.

Disadvantages of asking the SWRCB for a variance to the 1:1 requirement:

- Asking for a variance to the D-1641 1:1 requirement has the potential to compromise fish protection.
- While sentinel fish provide a trigger for steelhead through DOSS, Action IV.2.3 provides action triggers for older juvenile Chinook salmon, and the Smelt Working Group can advise on operations necessary to protect delta and longfin smelt, the D-1641 export restriction is the only protection in place for fall-run Chinook salmon.
- The stipulation study was put together on short notice with limited resources and limited hatchery fish (500–600), so our power is already limited by sample size. Given concerns about fish protection, is an experiment with just 168 fish per release group really the one for which we want to ask for a D-1641 variance?
- If the May OMR treatment levels are switched, in conjunction with a variance, this may shift risk from one species to another.

Other issues:

- Some discussion about whether risks to delta and longfin smelt would be higher in the first half or second half of May; the group expressed mixed opinions on this issue. Absent smelt entrainment concerns in the second half of May, -5,000 cfs OMR level can probably be implemented. If there are smelt entrainment concerns in the second half of May, the -5,000 OMR level probably CANNOT be implemented.
- On longfin smelt risk: Moderate numbers of juvenile longfin are being salvaged. Some percentage of the population is still in the central and south Delta. Increasing exports earlier rather than later might create a greater risk to fish already in the system. As temperatures rise, they will leave the system but are in a holding pattern now.
- On delta smelt risk: If assumptions are made based on history, delta smelt salvage occurs more often in the second half than first half of May.
- On delta smelt risk: May want to keep more negative OMR treatment level in second half of May to allow larvae or juveniles to move farther west during the first half of May. If the -5,000 cfs OMR level is shifted to the first half of May, might see more delta smelt larvae in the second half of May, even under reduced pumping.
- On delta smelt risk: FWS cannot and will not speculate on the risk to delta smelt on any given day in May. They do not agree with the assumption that there will be increased risk of entrainment of delta smelt during the last 2 weeks in May.
- It was noted that SWRCB has operational criteria for the Federal and state fish collection facilities that change on May 15 from criteria more favorable to salvaging salmon to criteria more favorable (*e.g.*, lower approach velocities to the louvers) for salvaging smaller fish, such as juvenile striped bass and delta smelt. This might be a factor if the OMR experimental flows are switched from the first to second half of May.

- It was noted that getting the waiver did not guarantee that the specified OMR targets could be met (because other regulatory requirements might restrict exports); it was also noted that NOT getting the waiver did guarantee that the specified OMR targets could NOT be met.
- Given issues with achieving the OMR extremes, one option is to instead target three replicate OMR levels

In wrap-up, the group identified three key options:

- (1) considering a waiver of the D-1641 1:1 requirement from 4/15 to 4/30;
- (2) considering a waiver of the D-1641 1:1 requirement from 5/1 to 5/14; and
- (3) If the D-1641 1:1 requirement is waived from 5/1 to 5/14, swapping the OMR treatment levels in May so that the -5,000 cfs treatment would be implemented from May 1 through May 15. (Swapping without the waiver would not meet the experimental OMR flow, as OMR likely would not come close to -5,000 cfs with D-1641 export restriction in place).

Although DOSS is not providing specific advice on these options, it will relay to WOMT the pros and cons of various considerations, as follows.

In summary, the **advantage** of pursuing the three options is that it increases the likelihood of achieving the target OMR levels. The **disadvantage** of pursuing the waiver to the D-1641 1:1 requirement (Options 1 & 2) was in the potential for increased risk to fish protection, particularly to fall-run Chinook, which have no Delta regulatory protection other than provided in D-1641.

It was noted that the contractors have expressed concern about the -1,250 cfs OMR level; there was some concern about pushing for just one end of the experimental range.

### **General observations and planning for next year:**

The group discussed the sampling challenges for steelhead and the associated challenges to management, particularly in-season management. The RST and trawls in place simply do not catch (many) steelhead. It is not MORE monitoring that we need, but something different. We need to figure this out by having people get together to come up with a solution that is different from what is currently being used for fish protection and operations. It was also noted that we are still on the building edge of this knowledge base. It is unrealistic to think that we are going to “crack the code” in 1 year of the stipulation study experiment. It will take several years to figure out how fish behave in the system so that we can come up with more information for better protection. Another point to consider is the potential differences in study needs for in-season operations vs. those for answering questions relevant to long-term management. It can be difficult to balance those considerations. People need to get together in the DOSS off season to plan ahead for next year.

### **Data Reporting Frequency**

NMFS will receive daily reports summarizing tag detection of sentinel steelhead passing by the Railroad Cut receivers. DOSS agreed that the reports will be forwarded to DOSS only when a new tag (from a sentinel steelhead) passes by Railroad Cut.

DOSS agreed that if the Railroad Cut trigger is met, NMFS will notify WOMT by e-mail (similar to notifications pursuant to implementation of Action IV.2.3) that an action response is warranted. Members of WOMT can call a special/emergency meeting to discuss.

**DOSS advice to WOMT and NMFS:**

Continue operating to at an OMR limit of -3,500 cfs until the Railroad Cut trigger of nine sentinel steelhead is met, at which time the projects must reduce pumping to meet an OMR limit of -1,250 cfs (or minimum health and safety combined exports of 1,500 cfs, whichever is greater).

In addition to the DOSS advice above, DOSS will report out to WOMT the discussion and consideration of the pros and cons of

- Waiver of D-1641 1:1 requirement from 4/15-4/30;
- Waiver of D-1641 1:1 requirement from 5/1-5/14; and
- Changing the order of the experimental OMR flow in May to -5,000 cfs from 5/1 through 5/14 and -1,250 cfs from 5/15 through 5/31.

In general, the pro to the waiver is that the projects are more likely to achieve the different experimental OMR flow levels, and the con is potential increased risk to fall run, steelhead, longfin smelt, and possibly delta smelt.

**Next meeting:** Conference call on April 24, 2012, 9:00 a.m.



Garwin Yip &lt;garwin.yip@noaa.gov&gt;

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**From Tom Boardman**

1 message

**Barbara Byrne** <barbara.byrne@noaa.gov>

Tue, Apr 17, 2012 at 9:12 AM

To: Garwin.Yip@noaa.gov, Alice Low <ALOW@dfg.ca.gov>, "Anderson, Craig" <Craig\_Anderson@fws.gov>, Andy Chu <andychu@water.ca.gov>, Angela Llaban <allaban@water.ca.gov>, Anne Snider <asnider@waterboards.ca.gov>, Aondrea Bartoo <aondrea\_bartoo@fws.gov>, Barbara Byrne <barbara.byrne@noaa.gov>, Barbara Rocco <barbara.rocco@noaa.gov>, Barbara Rocco <barocco@sbcglobal.net>, Bob Fujimura <bfujimura@dfg.ca.gov>, Bruce Herbold <Herbold.Bruce@epa.gov>, Brycen Swart <brycen.swart@noaa.gov>, Chad Dibble <CDIBBLE@dfg.ca.gov>, Cynthia LeDoux-Bloom <clédoux@water.ca.gov>, Dan Yamanaka <dany@water.ca.gov>, Edmund Yu <eyu@water.ca.gov>, "Ford, Mike" <jmford@water.ca.gov>, Jason Roberts <JDROBERTS@dfg.ca.gov>, Jeff Stuart <j.stuart@noaa.gov>, Jim Gleim <jamesg@water.ca.gov>, Joe Johnson <jrjohnson@dfg.ca.gov>, John Hannon <JHannon@usbr.gov>, Jon R Burau <jrburau@usgs.gov>, Joshua A Israel <JAIsrael@usbr.gov>, Kevin Reece <creece@water.ca.gov>, "Kiteck, Elizabeth" <EKiteck@usbr.gov>, "Kyler, Kari" <KKyler@waterboards.ca.gov>, "Oppenheim, Bruce" <Bruce.Oppenheim@noaa.gov>, Pat Brandes <Pat\_Brandes@fws.gov>, Paul Fujitani <PFujitani@usbr.gov>, "Pettit, Tracy" <pettit@water.ca.gov>, Rachel Johnson <rbarnettjohnson@usbr.gov>, Robert Vincik <rvincik@dfg.ca.gov>, Roger Guinee <roger\_guinee@fws.gov>, Russell Yaworsky <rpyaworsky@usbr.gov>, Scott Cantrell <SCANTREL@dfg.ca.gov>, Thomas Morstein-Marx <TMorsteinMarx@usbr.gov>, "Washburn, Thuy" <TWashburn@usbr.gov>

----- Forwarded message -----

From: **Ford, John M (Mike)** <jmford@water.ca.gov>

Date: Tue, Apr 17, 2012 at 9:10 AM

Subject: FW: Recommendation to DOSS

To: Barbara Byrne &lt;barbara.byrne@noaa.gov&gt;, Garwin Yip &lt;Garwin.Yip@noaa.gov&gt;

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**From:** Tom Boardman [mailto:tboardman@apex.net]**Sent:** Monday, April 16, 2012 2:57 PM**To:** Ford, John M (Mike)**Subject:** Recommendation to DOSS

Hi Mike,

To reiterate my recommendation on today's DCT call, I propose that two week period of an OMR of -1250 cfs be scheduled for the 2<sup>nd</sup> half of May only if the SWRCB grants a waiver to the Projects to pump more the 1:1 during the Apr-May pulse flow period. However, my recommendation should not interpreted to state that the contractors are ok with the experimental -1250 OMR period. I expect that we will make a proposal to the DOSS soon that will include a less restrictive OMR but one that provides fish protections.

Tom

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**Barb Byrne**  
Fish Biologist

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Garwin Yip <garwin.yip@noaa.gov>

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## Information from NRDC for DOSS

1 message

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**Barbara Byrne** <barbara.byrne@noaa.gov>

Tue, Apr 17, 2012 at 9:04 AM

To: Garwin.Yip@noaa.gov, Alice Low <ALOW@dfg.ca.gov>, "Anderson, Craig" <Craig\_Anderson@fws.gov>, Andy Chu <andychu@water.ca.gov>, Angela Llaban <allaban@water.ca.gov>, Anne Snider <asnider@waterboards.ca.gov>, Aondrea Bartoo <aondrea\_bartoo@fws.gov>, Barbara Byrne <barbara.byrne@noaa.gov>, Barbara Rocco <barbara.rocco@noaa.gov>, Barbara Rocco <barocco@sbcglobal.net>, Bob Fujimura <bfujimura@dfg.ca.gov>, Bruce Herbold <Herbold.Bruce@epa.gov>, Brycen Swart <brycen.swart@noaa.gov>, Chad Dibble <CDIBBLE@dfg.ca.gov>, Cynthia LeDoux-Bloom <clédoux@water.ca.gov>, Dan Yamanaka <dany@water.ca.gov>, Edmund Yu <eyu@water.ca.gov>, "Ford, Mike" <jmford@water.ca.gov>, Jason Roberts <JDROBERTS@dfg.ca.gov>, Jeff Stuart <j.stuart@noaa.gov>, Jim Gleim <jamesg@water.ca.gov>, Joe Johnson <jrjohnson@dfg.ca.gov>, John Hannon <JHannon@usbr.gov>, Jon R Burau <jrburau@usgs.gov>, Joshua A Israel <JAIsrael@usbr.gov>, Kevin Reece <creece@water.ca.gov>, "Kiteck, Elizabeth" <EKiteck@usbr.gov>, "Kyler, Kari" <KKyler@waterboards.ca.gov>, "Oppenheim, Bruce" <Bruce.Oppenheim@noaa.gov>, Pat Brandes <Pat\_Brandes@fws.gov>, Paul Fujitani <PFujitani@usbr.gov>, "Pettit, Tracy" <pettit@water.ca.gov>, Rachel Johnson <rbarnettjohnson@usbr.gov>, Robert Vincik <rvincik@dfg.ca.gov>, Roger Guinee <roger\_guinee@fws.gov>, Russell Yaworsky <rpyaworsky@usbr.gov>, Scott Cantrell <SCANTREL@dfg.ca.gov>, Thomas Morstein-Marx <TMorsteinMarx@usbr.gov>, "Washburn, Thuy" <TWashburn@usbr.gov>

FYI

----- Forwarded message -----

From: **Obegi, Doug** <dobegi@nrdc.org>

Date: Mon, Apr 16, 2012 at 6:15 PM

Subject: Potential D-1641 waiver and changes to May operations?

To: Barbara Byrne <barbara.byrne@noaa.gov>

Cc: Maria Rea <maria.rea@noaa.gov>

Hi Barb,

Thanks for talking with me today and I'm glad this was briefly discussed at the DCT meeting. We'd like to better understand what's being proposed regarding potential waivers of D-1641 requirements and switching operations for May under the stipulation; I still don't think I have a complete handle on the expected water supply benefits of this switch, as well as the potential for the export restrictions at the end of May to be fully implemented (as opposed to triggering minimum 1,500 cfs pumping for health and safety as pulse flows end).

Based on what we know today, we are concerned that switching these operations for the month of May could result in additional OMR restrictions to protect smelt under the FWS BiOp and may not adequately protect San Joaquin River salmon and steelhead. For instance, given the recent storms, isn't it likely that more fish will begin moving through the system in the next few weeks, and would be better protected by the lower OMR requirements for the beginning of May? And if the -1,250 OMR cannot be implemented for the last two weeks of May, doesn't that upset the experimental design and result in average protections for the month of May that are weaker than the I:E ratio? (the -5,000 cfs OMR is a lot less protective than the I:E ratio, based on DWR's PTM results and the technical memo).

In addition, based on what we know today we are very concerned about waiving (rather than shifting) D-1641 requirements. While D-1641 is apparently controlling operations today, that may not be the case by the end of the

month, and based on DWR's February modeling in the technical memo, it seems unlikely that operations under D-1641 will be very different from those under the stipulation. Even with D-1641 in place it seems like most if not all of the experimental design can be implemented (e.g., -5,000 cfs at the end of May instead of the beginning).

Can you give me a call later this week to discuss after the DOSS/WOMT meetings? Maybe we could chat at the IEP meeting later this week (are you going to the Salmon panels on Thursday?)?

Thanks,

Doug

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Doug Obegi

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Fish Biologist

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