Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 10/2/2018 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 work with other technical teams. DOSS notes and advice can be found at: http://www.westcoast.fisheries.noaa.gov/central_valley/water_operations/doss.html.

CDFW: Duane Linander, Kyle Griffiths, Bob Fujimura, Jason Julienne
DWR: Bryant Giorgi, Norman Lee, Ming-Yen Tu, Keven Reece, Mike Ford
NMFS: Jeff Stuart, Kristin McCleery
Reclamation: Tom Patton, Elissa Buttermore
SWRCB: Chris Carr
USFWS: Felipe Carrillo, Craig Anderson

Agenda Items

1. Agenda review and introductions
2. RPA Implementation review (For the DOSS Dashboard, click on the "Triggers & Indices" tab at: www.baydeltalive.com/djfmp)
3. Current Operations
4. Smelt Working Group
5. Fish Monitoring: Salvage
6. Fish Monitoring: RSTs/trawls/seines
7. DOSS Estimates of Fish Distribution
8. DOSS advice
9. Check-in on DOSS Annual Report
10. Additional Discussion Topics
11. Next DOSS meeting

Agenda Item 2.
RPA Implementation Review

Delta RPA Actions affecting operations during October:

Action IV.1.1 (Alerts that indicate the Delta Cross Channel (DCC) gate operations may be triggered soon)[1]:

- Since October 2014, NMFS has used an environmental surrogate to indicate the tributary flow conditions that stimulate movement of yearling-sized spring-run Chinook salmon out of their natal tributaries. Tributary flow increases are used to signal conditions conducive to emigration. Starting on October 1, the First Alert is triggered if either the

[1] For details, see pages 60-61 in Enclosure 2 of the 2011 Amendments to the 2009 RPA document at: http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/Operations,%20Criteria%20and%20Plan/040711_ocap_opinion_2011_amendments.pdf. Note that in October 2014, NMFS approved a modification of the first component of the first alert to a 95 cfs mean daily flow threshold in either Mill Creek or Deer Creek in lieu of operating the Mill and Deer Creek rotary screw traps.

first component (>95 cfs flow threshold) or second component (>50% change in mean daily flow)] has been exceeded at either the Deer Creek gage at Vina (DCV), or the Mill Creek gage at Los Molinos (MLM). The First Alert was triggered based on Mill Creek flows greater than 95 cfs for October 1, 2018. Summer baseline flows at Mill Creek have been greater than the first component trigger of 95 cfs all summer long, thus making this trigger less relevant this water year.

	Mill Creek (MLM)		Deer Creek (DCV)	
Date	mean daily flow (cfs)	change in mean daily flow	mean daily flow (cfs)	change in mean daily flow
10/1/2018	109	0%	88	2%

- Second Alert (triggered only if both Knights Landing water temperatures are less than 56.3°F and Wilkins Slough flows are >7,500 cfs). Recent conditions for:
  - Wilkins Slough flow: 6,363 cfs (mean daily flow 10/1)
  - Knights Landing water temperature: 64°F (temperature reported at the rotary screw traps on 10/1/18)
  - The second alert was not triggered on 10/1.

Action IV.1.2[2] (DCC gate operations):

- Since 10/1/18, none of the criteria requiring DCC gate closure have been met.

Agenda Item 3.

Current Operations (10/2/18)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	6,680	Jones Pumping Plant	3,500*
Reservoir Releases (cfs)			
Feather - Oroville	5,250**	American - Nimbus	1,500
		Sacramento - Keswick	7,250
		Stanislaus - Goodwin	300
		Trinity - Lewiston	450
Reservoir Storage (in TAF)			
San Luis (SWP)	720	San Luis (CVP)	400
Oroville	1,355	Shasta	2,399
New Melones	1,782	Folsom	465
Delta Operations			
DCC	Open	Sacramento River at Freeport (cfs)	14,886

[2] For details, see pages 62-66 in Enclosure 2 of the 2011 Amendments to the 2009 RPA document at: http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/Operations,%20Criteria%20and%20Plan/040711_ocap_opinion_2011_amendments.pdf

Outflow Index (cfs)	4,700	San Joaquin River at Vernalis (cfs)	1,109
E:I	57.4% (3-day avg.) 57.4% (14-day avg.)	X2	>81 km

* CVP exports were targeting 4,200 cfs last week but only 4 units are running (2 units are out). When the units are fixed, they will ramp back up to 4,200 cfs.

** Oroville releases were at 5,500 cfs this morning and are decreasing to 5,000 cfs by end of day, for a daily average of 5,250 cfs.

Factors controlling Delta exports:

- 10/1-10/2: Seasonal salinity management

Approximate OMRs as of 10/1/18:

	Index (cfs)
Daily	-9,610
5-day	-9,059
14-day	-9,181

Weather Forecast

Unsettled weather is expected in the Sacramento Valley over the next few days until the system moves out. Expecting approximately 1/3 inch of precipitation in the Redding area over the next 6 days, where recent large fires have occurred. Precipitation amounts are likely not enough to cause significant turbidity levels in the rivers due to runoff from these burned areas. It is anticipated that the dry ground will absorb any precipitation that occurs.

Agenda Item 4.

Smelt Working Group

The Smelt Working Group (SWG) has not yet started meeting for WY 2019. It is anticipated that the SWG will start meeting in late November or early December.

Agenda Item 5.

Fish Monitoring: Salvage

Fujimura (CDFW) provided a salvage summary. No salmonids or sturgeon have been salvaged at the state and federal fish facilities so far this summer or fall.

DWR has been experiencing heavy debris loading at the Skinner Fish Facility. In response, the operators have occasionally been forced to shorten their routine count times to as low as 5-10 minutes due to the excessive debris in the sampling bucket during counts.

DOSS Weekly Salvage Update

Reporting Period: September 24-September 30, 2018

Prepared by Bob Fujimura on October 1, 2018

Preliminary Results -Subject to Revision

Criteria	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep	Trend	
Loss Densities									
Wild older juvenile CS	0	0	0	0	0	0	0	→	0
Wild steelhead	0	0	0	0	0	0	0	→	0
Exports									
SWP daily export	10,188	10,141	9,721	11,219	11,526	13,840	13,606	↘	11,463
CVP daily export	8,418	8,134	7,795	5,472	5,239	5,637	6,912	↘	6,801
SWP reduced counts	8%	0%	0%	29%	67%	62%*	79%		31%
CVP reduced counts	0%	0%	0%	0%	0%	0%	0%		0%

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

Loss = estimated number of fish lost at the CVP and SWP Delta export facilities based on estimated salvage (see below)

Reduced counts = percentage of time that routine salvage sample time were less than 30 min per 2 hours of salvage and export operations

Yellow highlighted dates indicate brief fish salvage facility interruptions occurred

* date indicate missed count: 8/29; SWP 1900

Chinook Salmon Weekly/Season Salvage and Loss

Combined salvage and loss for both CVP and SWP fish facilities

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

	Weekly Total			Season Total	
Category	Salvage	Loss	Trend	Salvage	Loss
Wild					
Winter Run	0	0	→	132	380
Spring Run	0	0	→	9,487	18,314
Late Fall Run	0	0	→	5	7
Fall Run	0	0	→	9,522	14,933
Unclassified	0	0	→	4	NC
Total	0	0		19,150	33,634
Hatchery					
Winter Run	0	0	→	48	183
Spring Run	0	0	→	1,010	1,745
Late Fall Run	0	0	→	71	236
Fall Run	0	0	→	0	0
Unclassified	0	0	→	1	NC
Total	0	0		1,130	2,165

Trend = weekly loss per race; Salvage = estimated number of fish collected by the CVP and SWP fish protective facilities per unit of time

NC = cannot be calculated; hatchery salmon salvage and loss estimates have been corrected using CWT readings when available

Steelhead Weekly/Season Salvage and Loss

Combined salvage and loss for both CVP and SWP fish facilities

	Weekly Total			Season Total	
Category	Salvage	Loss	Trend	Salvage	Loss
Wild	0	0	→	1,119	2,852
Hatchery	0	0	→	732	2,463
Total	0	0		1,851	5,315

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

Note: Season totals for fish salvage and loss refer to WY 2018. The start of WY 2019 begins on October 1, 2018, and season totals will reset to zero.

Agenda Item 6.

Fish Monitoring: The following table presents fish monitoring data summarized over the past week. Unless otherwise noted, reported sizes are fork length.

Location	GCID RST	Tisdale RST[A]	Knights Landing RST[B]	Butte Creek Fyke trap[C]	Butte Creek RST[D]	Beach Seines[E]	Sacramento Trawl[E]	Chipps Is. Midwater Trawl[E]	Mossdale Kodiak Trawl[E]
Sample Date	9/23-9/30	9/24-10/1	9/24-10/1	-	-	9/24-9/25, 9/27	9/24, 9/26, 9/28	9/24, 9/26, 9/28	9/24, 9/26, 9/28
FR Chinook	9 smolts								
SR Chinook									
WR Chinook	17 juveniles		2						
LFR Chinook									
Chinook (ad-clip)									
Steelhead (wild)									
Steelhead (ad-clip)									
Green Sturgeon									
Flows (avg. cfs)		6,601	6,384						
W. Temp. (avg. °F)		59.7	63.9						
Turbidity (avg. NTU)		7.6	4.35						

[A] Tisdale RST sampling period was from 9/24 at 10:00 am to 10/1 at 10:00 am.
[B] Knights Landing RST sampling period was from 9/24 at 11:45 am to 10/1 at 12:00 am.
[C] Butte Creek Fyke trap last sampling date was 6/11/18.
[D] Butte Creek RST last sampling date was 6/11/18.
[E] Data reported in the 9/23 to 9/29 DJFMP sampling summary.

Red Bluff Diversion Dam (RBDD)

USFWS biweekly report (9/10-23/18) for preliminary estimates of passage by brood-year and run for unmarked juvenile Chinook salmon captured by rotary screw traps at RBDD included:

Run and Species	Biweekly Total	Brood Year Total (90% CI)
Winter-run Chinook (BY2018)	94,501	136,857 (104,305-169,408)

Agenda Item 7.

DOSS Estimates of Fish Distribution

DOSS estimates of the current distribution of listed Chinook and steelhead, as a percentage of the population, are based on recent monitoring data and historical migration timing patterns. Sampling began on 8/27/18, and through 10/1/18, 3 WR-sized Chinook have been collected at the Knights Landing RST. Since sampling began on 8/8/18, through 10/1/18, no species of concern have been collected at the Tisdale RST.

Location	Yet to Enter Delta (Upstream of Knights Landing)	In the Delta	Exited the Delta (Past Chipps Island)
Young-of-year (YOY) winter-run Chinook salmon	99-100%	~0%	0%

Rationale for distribution

Wild winter-run Chinook:

Three winter-run have been observed at Knights Landing RST since sampling began in late August. No winter-run have been observed in the Sacramento area beach seines or in the Delta or Chipps Island trawls.

Agenda Item 8.

DOSS Advice to WOMT and NMFS:

None.

Agenda Item 9.

Check-in on DOSS Annual Report

Reminder to review latest draft of DOSS annual report. Deadline for edits is this Friday (10/5).

Agenda Item 10.

Additional Discussions Topics for DOSS

DOSS discussed the potential for modifications of the "rapid genetics testing protocol" to improve reporting of spring-run Chinook salmon from the Projects' fish salvage. DWR (Reece) indicated that they will target biweekly genetic data distributions of results once young-of-the-year winter-run (based on length-at-date [LAD] criteria) start showing up in salvage, although manpower and cost are factors in this reporting intent. In addition, DWR pointed out that spring-run from the San Joaquin River Restoration Program will complicate reporting of salvaged spring-run Chinook salmon due to the origin of these fish from the Feather River Fish Hatchery (FRFH) stock and their recovery at the Projects' fish salvage facilities. There currently is no methodology to discern whether naturally spawned fish are from the restoration project or from the Feather River stocks. Finally, under current operations, if a trigger has been exceeded based on LAD criteria, testing of older juveniles will identify yearling spring-run using the rapid genetic testing protocol. DOSS agreed that more discussions should occur on this subject.

Agenda Item 11.

Next Meeting: The next DOSS conference call will be on **10/9/18 at 9am**.