

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 10/9/2018 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: Norman Lee, Kevin Reece, Farida Islam, Dan Yamanaka

NMFS: Jeff Stuart, Barb Byrne

Reclamation: Tom Patton, Elissa Buttermore, Towns Burgess, Mike Hendrick

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/djfmj)
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. 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 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

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.

Creek gage at Los Molinos (MLM). The First Alert was triggered based on Mill Creek flows greater than 95 cfs for every day since (and including) October 1, 2018, and Deer Creek flows greater than 95 cfs for October 4-6 of 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.

Date	Mill Creek (MLM)		Deer Creek (DCV)	
	mean daily flow (cfs)	change in mean daily flow	mean daily flow (cfs)	change in mean daily flow
10/1/2018	109	--	88	--
10/2/2018	112	3%	90	2%
10/3/2018	108	-4%	89	-1%
10/4/2018	112	4%	103	16%
10/5/2018	120	7%	111	8%
10/6/2018	109	-9%	99	-11%
10/7/2018	107	-2%	95	-4%

- 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: 6,341-6,877 cfs (range of mean daily flow for the period 10/2/18 through 10/7/18)
 - Knights Landing water temperature: 62.8°F (temperature reported at the rotary screw traps on 10/5/18)
 - The second alert has not yet been triggered in WY 2019.

Action IV.1.2² (DCC gate operations):

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

Agenda Item 3.

Current Operations (10/9/18)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	4,300	Jones Pumping Plant	4,200*
Reservoir Releases (cfs)			
Feather - Oroville	2,500	American - Nimbus	1,500
		Sacramento - Keswick	7,250
		Stanislaus - Goodwin	300**
		Trinity - Lewiston	450***

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

Reservoir Storage (in TAF)			
San Luis (SWP)	759	San Luis (CVP)	404
Oroville	1,306	Shasta	2,357
New Melones	1780	Folsom	454
Delta Operations			
DCC	Open	Sacramento River at Freeport (cfs)	12,073
Outflow Index (cfs)	3,800	San Joaquin River at Vernalis (cfs)	1272
E:I	58.3% (3-day avg.) 53.9% (14-day avg.)	X2	>81 km

*Unit 6 out for repair, but Jones Pumping Plant has the potential for full capacity pumping with the remaining pumps.

**Releases from Goodwin will increase next week for the fall pulse flow.

***Releases from Lewiston are expected to decrease to 300 cfs next week.

Factors controlling Delta exports:

- 10/3-10/9: Seasonal salinity management

Approximate OMRs as of 10/8/18:

	Index (cfs)
Daily	-8,530
5-day	-8,961
14-day	-8984

Weather Forecast

Calm and relatively dry weather is forecasted for the upcoming week.

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 continued to experience heavy debris loading (mostly *Egeria*) 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: October 1-October 7, 2018
 Prepared by Bob Fujimura on October 8, 2018 16:10
 Preliminary Results -Subject to Revision

Criteria	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	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	14,086	12,696	12,399	10,433	10,499	10,715	10,278	→	11,587
CVP daily export	6,922	6,577	8,466	8,475	8,419	8,317	8,400	↗	7,939
SWP reduced counts	100%	80%	75%	88%	67%	75%	83%	↗	81%
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 facility salvage outages occurred

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;

Category	Weekly Total			Season Total	
	Salvage	Loss	Trend	Salvage	Loss
Wild					
Winter Run	0	0	→	0	0
Spring Run	0	0	→	0	0
Late Fall Run	0	0	→	0	0
Fall Run	0	0	→	0	0
Unclassified	0	0	→	0	0
Total	0	0		0	0
Hatchery					
Winter Run	0	0	→	0	0
Spring Run	0	0	→	0	0
Late Fall Run	0	0	→	0	0
Fall Run	0	0	→	0	0
Unclassified	0	0	→	0	0
Total	0	0		0	0

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

Category	Weekly Total			Season Total	
	Salvage	Loss	Trend	Salvage	Loss
Wild	0	0	→	0	0
Hatchery	0	0	→	0	0
Total	0	0		0	0

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

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. Empty cells indicate zero catches at those locations with sample dates shown.

Location	GCID RST	Tisdale RST ^A	Knights Landing RST ^B	Beach Seines ^C	Sacramento Trawl ^C	Chippis Is. Midwater Trawl ^C	Mossdale Kodiak Trawl ^C
Sample Date	10/2-10/6	10/2-10/5	10/2-10/5	10/1-10/5	10/1, 10/3, 10/5	10/1, 10/3, 10/5	10/1, 10/2, 10/3
FR Chinook	6 smolts					1	
SR Chinook							
WR Chinook	172 juveniles						
LFR Chinook	7 smolts						
Chinook (ad-clip)							
Steelhead (wild)							
Steelhead (ad-clip)							
Green Sturgeon							
Flows (avg. cfs)	550	6800	6534				
W. Temp. (avg. °F)	60.1	59.3	63.6				
Turbidity (avg. NTU)	14.8	8.4	3.4				

^A Tisdale RST sampling period was from 10/2 at 8:00 am to 10/5 at 8:30 am.

^B Knights Landing RST sampling period was from 10/2 at 10:00 am to 10/5 at 10:15 am.

^C Due to the federal holiday on Monday, the 9/30 to 10/06 DJFMP sampling summary was not received until after the DOSS call. Data are included in this week's notes for convenience.

Red Bluff Diversion Dam rotary screw trap (RST) data was not available at the time of the DOSS call on 10/9/18, nor by the time meeting notes were circulated for review.

No salmonids were caught in any region of the Enhanced Delta Smelt Monitoring (EDSM) sampling.

Stuart (NMFS) shared with group the CDFW San Joaquin River tributaries carcass survey data (survey began the week of 10/1/18) from the Merced River, Tuolumne River, and Stanislaus River. No carcasses reported yet on any of the three tributaries. Two redds were reported on the Merced River; no redds were reported on the Stanislaus River or Tuolumne River.

DOSS discussed other data available and there was general interest in continuing to or beginning to share data from the following monitoring locations (lead agency or consultant) when available:

- San Joaquin River tributaries carcass surveys (CDFW)
- American River carcass surveys (CDFW; surveys begin the week of October 15, 2018)
- Stanislaus River weir near Riverbank (FISHBIO)
 - In addition to adult fall-run Chinook salmon, upstream passage of an unclipped, >16" *Oncorhynchus mykiss* (size indicative of potentially anadromous life history, i.e. a steelhead) was observed at the Stanislaus River weir in early October (10/3/18).

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. Because Monday, 10/8/18 was a federal holiday data available to DOSS were somewhat limited this week. Since sampling began on 8/27/18, and through 10/5/18, three WR-sized Chinook have been collected at the Knights Landing RST. Since sampling began on 8/8/18, through 10/5/18, 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 Chippis Island)
<i>Young-of-year (YOY) winter-run Chinook salmon</i>	99-100% (last week: same)	~0% (last week: same)	0% (last week: same)

Rationale for distribution

Wild winter-run Chinook:

Three winter-run have been observed at Knights Landing RST since sampling began in late August, and none over the past week. No winter-run have been observed in the Sacramento area beach seines or in the Delta or Chipps Island trawls.

Although DOSS estimated no change in distribution based on current data, DOSS anticipates that the spike in turbidity and the concurrent increase in juvenile winter-run Chinook salmon that was observed at the GCID rotary screw trap will also occur at the Tisdale and Knights Landing RSTs in the upcoming week when the turbidity pulse reaches those locations. Some of those fish may continue downstream into the Delta. However as of today's call, no winter-run have been observed downstream of the Knights Landing location in any of the monitoring activities.

Agenda Item 8.

DOSS Advice to WOMT and NMFS:

No formal advice. Heads up that, in the next few days, there might be upticks in the fish counts at the Knights Landing RST, Sacramento Beach seines, or Sacramento Trawl that could trigger Delta Cross Channel gate closure per Action IV.1.2.

Agenda Item 9.

Next Meeting: The next DOSS conference call will be on **10/16/18 at 9am.**