

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 12/13/2016 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: Ken Kundargi, Bob Fujimura, Duane Linander, Jason Julienne

DWR: Bryant Giorgi, Dan Yamanaka, Farida Islam, Tracy Pettit

NMFS: Barb Byrne, Kristin McCleery

Reclamation: Tom Patton, Towns Burgess, Mike Hendrick

SWRCB: Chris Kwan, Chris Carr, Brittany Kammerer

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. Fish Monitoring: Salvage
5. Fish Monitoring: RSTs/trawls/seines
6. Experimental release of juvenile late-fall run Chinook salmon from Coleman National Fish Hatchery
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 November:

Action IV.1.2¹ (DCC gate operations):

- From December 1 to January 31, the gates will remain closed, with limited exceptions.

Action IV.3² (Reduce likelihood of entrainment or salvage at the export facilities, including alert that indicates that export operations may need to be altered)

¹ 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

² For details, see pages 79-80 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

- The third alert (November 1-February 23: Knights Landing Catch Index (KLCI) or Sacramento Catch Index (SCI) >10) was not triggered over the past week (see table below).

Date	KLCI	Seine SCI	Trawl SCI
12/6/2016	0	no sampling	no sampling
12/7/2016	0	0.0	0
12/8/2016	0	no sampling	no sampling
12/9/2016	0	2.3	0
12/10/2016	0	no sampling	no sampling
12/11/2016	0	no sampling	no sampling
12/12/2016	0	10.0	2

- Since the action went into effect on 11/1/16, no salvage-based triggers that would require export reduction have been exceeded.

Agenda Item 3.

Current Operations (12/13/16)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	6,680	Jones Pumping Plant	3,300*
Reservoir Releases (cfs)			
Feather - Oroville	1,750	American - Nimbus	6,000**
		Sacramento - Keswick	5,000
		Stanislaus - Goodwin	200
		Trinity - Lewiston	300
Reservoir Storage (in TAF)			
San Luis (SWP)	719	San Luis (CVP)	326
Oroville	1,592	Shasta	2,996
New Melones	556	Folsom	617
Delta Operations			
DCC	Closed	Sacramento River at Freeport (cfs)	~41,000
Outflow Index (cfs)	~33,400	San Joaquin River at Vernalis (cfs)	~900
E:I	49% (14-day avg.)	X2	>81 km

*Exports will increase tonight (12/13) at midnight to 4,200 cfs.

**Releases will increase tomorrow (12/14) to 10,000 cfs and on 12/15 to 15,000 cfs for reservoir management according to the flood control curve at Folsom Reservoir.

Factors controlling Delta exports:

12/6/16 – 12/12/16: seasonal salinity management.

Agenda Item 4.

Fish Monitoring: Salvage

No listed juvenile Chinook salmon were salvaged over the past week. 3 large (likely 2-year old) salmon were observed over the past week for a total salvage of 8. These fish were not assigned to race and do not contribute to any loss density trigger.

DOSS Weekly Salvage Update
 Reporting Period: December 5-December 11, 2016
 Prepared by Bob Fujimura on December 12, 2016 18:30
 Preliminary Results -Subject to Revision

Criteria	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	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	13,272	13,272	11,748	11,214	10,795	13,216	12,842	↘	12,337
CVP daily export	8,106	4,865	4,858	4,844	4,868	4,886	4,894	↘	5,332
SWP reduced counts	0%	0%	0%	0%	0%	0%	0%	↘	0%
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 salvage facility outage 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	8	NC	↘	53	NC
Total	8	0		53	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	→	6	NC
Total	0	0		6	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 = can not be calculated

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	→	4	17
Hatchery	0	0	→	0	0
Total	0	0		4	17

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

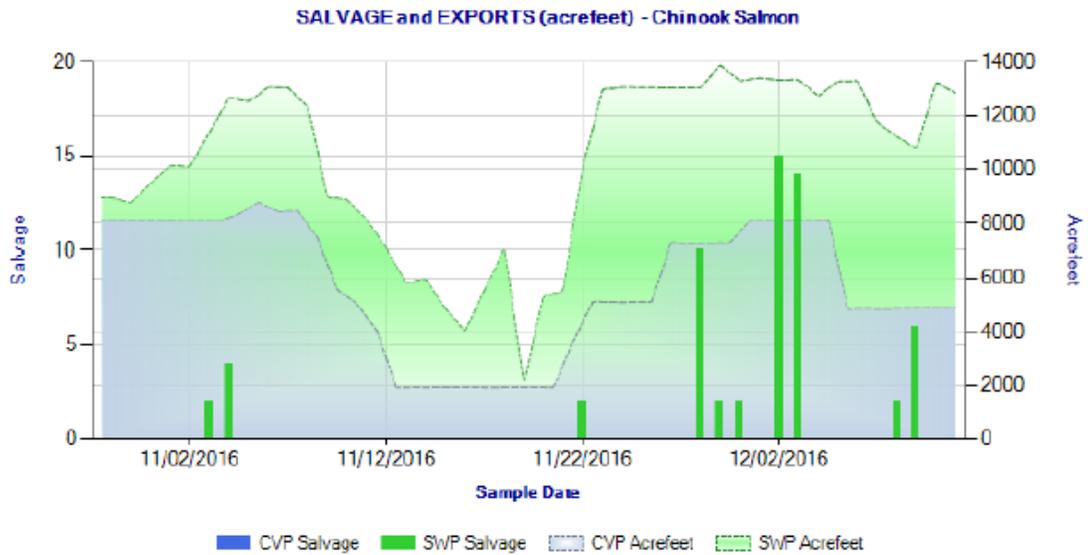


Figure 1. Daily salvage of Chinook Salmon (all races) and water exports from the state and federal fish salvage facilities during Oct 29 through Dec 11, 2016. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

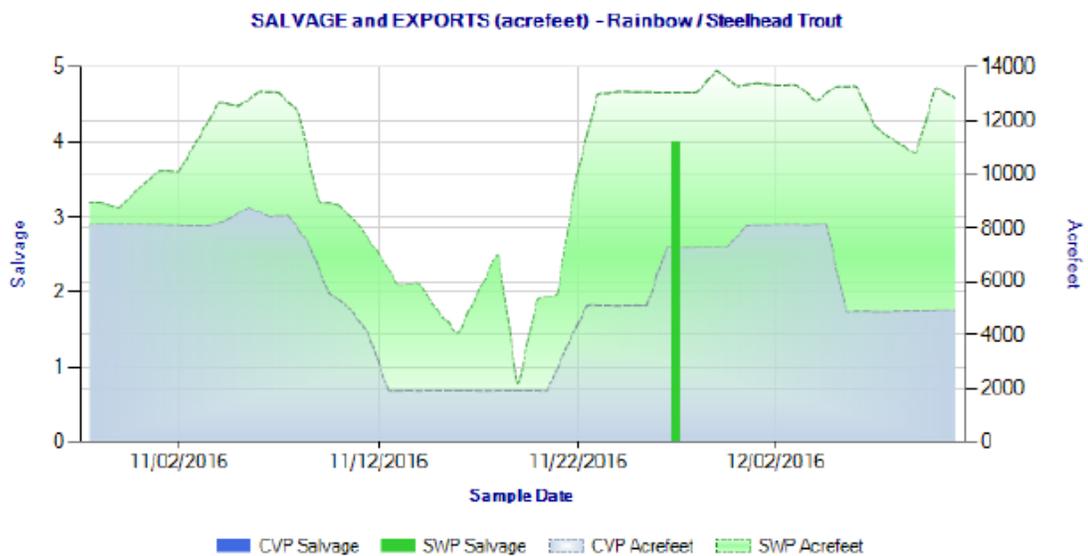


Figure 2. Daily salvage of Steelhead and water exports from the state and federal fish salvage facilities during Oct 29 through Dec 11, 2016. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

Agenda Item 5.

Fish Monitoring: The following table presents fish monitoring data summarized over the identified sampling dates. Unless otherwise noted, any reported sizes are fork length.

Location	Chippis Is. Midwater Trawl ^A	Sacramento Trawl ^A	Beach Seines ^A	Knights Landing RST ^B	Tisdale RST ^C	GCID RST ^D	Mossdale Kodiak Trawl ^A
Sample Date	12/5, 12/7, 12/9	12/5, 12/7, 12/9	12/5-12/9	12/2-12/12	12/2-12/9	12/5-12/10	12/5, 12/7, 12/9
FR Chinook			5	13		2 juveniles	
SR Chinook			3	19		1 juvenile	
WR Chinook			3	14	2	2 juveniles	
LFR Chinook				4		1 smolt	
Ad-Clipped Chinook				11 LFR			
Delta Smelt							
Longfin Smelt	10						
Steelhead (ad-clip)							
Steelhead (wild)							
Green Sturgeon							
Flows (avg. cfs)				11,202	7,057	1,132	
W. Temp. (avg. °F)				50.9	51.1	50.6	
Turbidity (avg. NTU)				42.3	12.7	8.9	

^AData reported in the 12/4 to 12/10 DJFMP sampling summary.

^BKnights Landing RST Sampling period was from 12/2 at 9:45 am to 12/12 at 3:15 pm. Traps were raised on 12/11 at 3:45 pm in anticipation of heavy debris and increased flow. Trapping resumed on 12/12 at 11:30 am.

^CTisdale RST sampling period was from 12/2 at 9:45 am to 12/9 at 9:45 am.

^DGCID sampling period occurred on 12/5 at 8:00 am to 12/10 at 8:00 am. On 12/10 the trap was pulled due to high flow, debris, and potential fish mortality.

Agenda Item 6.

Experimental release of juvenile late-fall Chinook salmon from Coleman National Fish Hatchery

Coleman National Fish Hatchery released approximately 75,000 hatchery late-fall-run Chinook salmon into Battle Creek on December 12, 2016. The purpose of this experimental late-fall-run release is to provide insight into the migratory behavior and fate of yearling spring-run Chinook salmon emigrating from the upper Sacramento River and its tributaries.

Table 1.—Planned release summary for the first Coleman National Fish Hatchery brood year 2016 late-fall Chinook salmon experimental group.

Release		CWT		Count	
		Code or Mark	Fork Length (mm) <i>estimated average</i>	With CWT and Mark ¹	Total
Date	Location				
December 12, 2016	Battle Creek at Coleman NFH	05 58 61	145 (75-225)	75,000	75,000

¹ Total number of fish with a coded-wire tag (CWT) and an adipose fin clip (Mark) for groups receiving a CWT or total number of fish with a Mark for groups only receiving an adipose fin clip. For this planned release notice, retention was assumed to be 100% for any applied CWT or Mark.]

(Table 1 provided by USFWS)

Agenda Item 7.

DOSS Estimates of Fish Distribution

DOSS estimates of the current distribution of listed Chinook, as a percentage of the population, are based on recent monitoring data and historical migration timing patterns.

Location	Yet to Enter Delta (Upstream of Knights Landing)	In the Delta	Exited the Delta (Past Chipps Island)
<i>Wild young-of-year (YOY) winter-run Chinook salmon</i>	50% - 55% (Last week: 60% - 70%)	45% - 50% (Last week: 30% - 40%)	0% (Last week: same)
<i>Wild young-of-year (YOY) spring-run Chinook salmon</i>	85%-90% (Last week: 95%)	10%-15% (Last week: 5%)	0% (Last week: same)

Rationale for changes in distribution

Wild winter-run Chinook: Over the past week, 18 juvenile winter-run were observed at upstream monitoring sites, and 3 were observed in the Beach Seines. Because of this observed catch and recent conditions (higher flows and turbidities in the Sacramento River), DOSS shifted the distribution ranges into the Delta. Young-of-year winter-run-sized fish have not yet been observed exiting the Delta at Chipps Island, so DOSS estimates that 0% have exited the Delta. Flow forecasts on the Sacramento River project another peak in flow later this week, which DOSS expects to cue more movement into the Delta.

Wild spring-run Chinook: Over the past week, 19 juvenile spring-run were observed at Knights Landing, 1 at GCID, and 3 at Beach Seine monitoring locations. The catch of spring-run-sized fish at Knights Landing indicates movement into the Delta. No spring-run have been observed at Chipps Island and are not expected to have exited the Delta this early in the season.

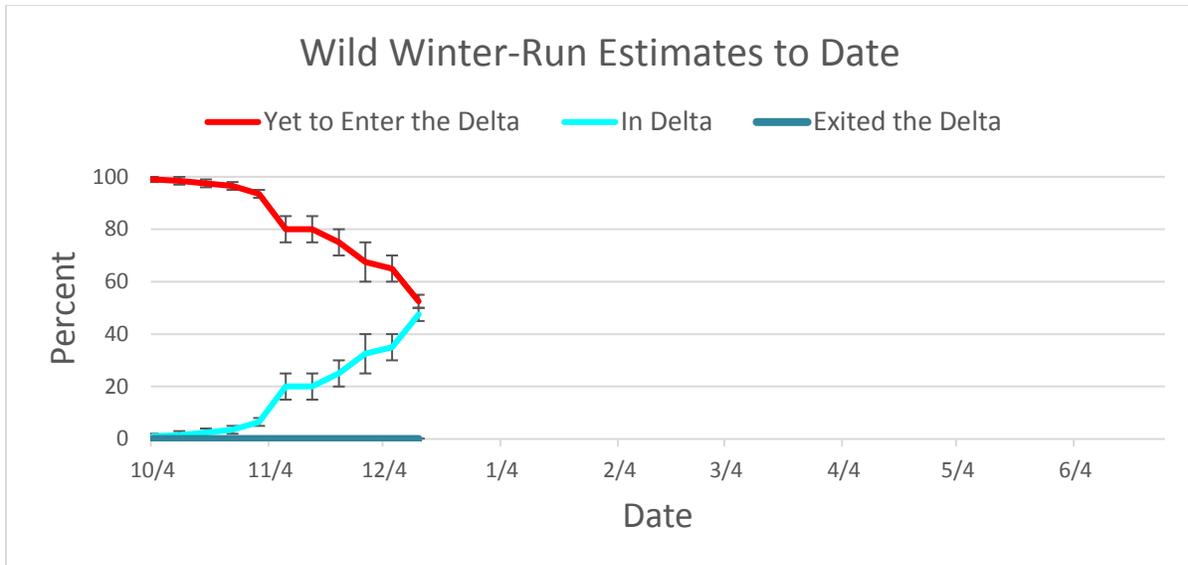


Figure 3. WY 2017 wild winter-run distribution estimates to date.

Agenda Item 8.

DOSS Advice to WOMT and NMFS: None

Agenda Item 9.

Next Meeting: The next DOSS conference call will be on **12/20/16 at 9am.**