

**Delta Operations for Salmonids and Sturgeon (DOSS) Group**  
**Conference call: 11/7/2017 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](http://www.westcoast.fisheries.noaa.gov/central_valley/water_operations/doss.html).

**CDFW:** Bob Fujimura, Duane Linander  
**DWR:** Kevin Reece, Bryant Giorgi, Dan Yamanaka, Mike Ford  
**NMFS:** Jeff Stuart, Kristin McCleery  
**Reclamation:** Tom Patton, Elissa Buttermore  
**SWRCB:** Chris Carr, Chris Kwan, Farida Islam  
**USFWS:** 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](http://www.baydeltalive.com/djfmj))
3. Current Operations
4. Fish Monitoring: Salvage
5. Fish Monitoring: RSTs/trawls/seines
6. DOSS Estimates of Fish Distribution
7. DOSS advice
8. Next DOSS meeting

**Agenda Item 2.**

**RPA Implementation Review**

**Delta RPA Actions affecting operations during October/November:**

**Action IV.1.1 (Alerts that indicate the Delta Cross Channel (DCC) gate operations may be triggered soon)<sup>1</sup>:**

- The First Alert [triggered if either the first component (>95 cfs flow threshold) or second component (>50% change in mean daily flow)] was triggered based on Mill Creek and Deer Creek flows. Summer baseline flows have been greater than the first component trigger of 95 cfs all summer long, thus making this trigger less relevant this water year. However, the recent precipitation over the weekend created conditions in which the mean daily flows in both Deer and Mill creeks nearly doubled within a 24-hour period (11/4/17), thus meeting the second trigger component. This sharp increase in flows may

---

<sup>1</sup> 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](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.

have stimulated yearling spring-run Chinook salmon outmigration. See table below for details.

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
10/31/2017	128	0%	-	
11/1/2017	125	-2%	-	
11/2/2017	118	-6%	120	
11/3/2017	120	2%	124	3%
11/4/2017	222	85%	245	97%
11/5/2017	162	-27%	227	-8%
11/6/2017	137	-15%	154	-32%

- Second Alert: recent conditions for:
  - Wilkins Slough flow: 5,652-6,604 cfs (range of mean daily flow 10/31-11/6)
  - Knights Landing water temperature: 55-57°F (range of temperatures reported at the rotary screw traps during trap checks during the 10/31-11/6 period). Daily average water temperature for 11/6 was 55°F.
  - The second alert is triggered only if both components are met (Knights Landing temperatures less than 56.3°F and Wilkins Slough flows >7,500 cfs). The second alert has not been triggered this past week, although the water temperature component of the trigger has been met.

**Action IV.1.2<sup>2</sup> (DCC gate operations):**

- Since 10/1/17, none of the criteria requiring DCC gate closure have been met.
- DCC gates are currently closed weekdays (from 10 am on Mondays through 10 am on Fridays) at the request of CDFW to minimize straying of Sacramento River fall-run Chinook salmon, and gates are opened on weekends for recreational boating (opening Friday and closing on Monday).
- These DCC Gate operations are expected to continue through November 17, unless water quality issues occur, or CDFW withdraws its request for gate closures. The DCC gates are expected to be open from November 18 through November 30. Beginning on December 1, gates will remain closed.

**Action IV.3<sup>3</sup> (Reduce likelihood of entrainment or salvage at the export facilities, including alert that indicates that export operations may need to be altered)**

- The third alert [November 1-February 28 Knights Landing Catch Index (KLCI) or Sacramento Catch Index (SCI) >10] was not triggered this past week.

<sup>2</sup> 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](http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/Operations,%20Criteria%20and%20Plan/040711_ocap_opinion_2011_amendments.pdf)

<sup>3</sup> 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](http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/Operations,%20Criteria%20and%20Plan/040711_ocap_opinion_2011_amendments.pdf)

- Since the action went into effect on 11/1/17, no salvage-based triggers that would require export reduction have been exceeded.

**Agenda Item 3.**

**Current Operations (11/7/17)**

SWP		CVP	
<b>Exports (cfs)</b>			
Clifton Court Forebay	1,500*	Jones Pumping Plant	2,700**
<b>Reservoir Releases (cfs)</b>			
Feather - Oroville	1,750	American - Nimbus	2,000
		Sacramento - Keswick	6,000***
		Stanislaus - Goodwin	2,000****
		Trinity - Lewiston	300
<b>Reservoir Storage (in TAF)</b>			
San Luis (SWP)	717	San Luis (CVP)	745
Oroville	1,187	Shasta	3,147
New Melones	1,988	Folsom	539
<b>Delta Operations</b>			
DCC	Closed	Sacramento River at Freeport (cfs)	11,450
Outflow Index (cfs)	~8,800	San Joaquin River at Vernalis (cfs)	2,870
E:I	~29% (3-day avg.)	X2	>81 km

\* SWP exports will increase to 2,400 cfs tomorrow (11/8).

\*\* CVP exports will decrease to 1,800 cfs tomorrow (11/8).

\*\*\* Keswick releases decreased by 1,000 cfs on 11/5 and by 1,000 cfs on 11/6. Releases are holding at 6,000 cfs and will decrease to 5,000 cfs next month.

\*\*\*\* Goodwin releases will fluctuate over the next few days and will decrease to 600 cfs by Saturday (11/11).

**Factors controlling Delta exports:**

- 10/31 to 11/7: Fall X2

The weather forecast indicates a storm system moving through Northern California on Wednesday through Friday, then dry until next Sunday.

**Agenda Item 4.**

**Fish Monitoring: Salvage**

Fujimura (CDFW) provided a salvage summary. No listed fish species have been observed in salvage since the start of the current water year on 10/1/17. One juvenile white sturgeon was collected in a predator/debris flush at the SWP on 11/1/17 (250 mm long).

## DOSS Weekly Salvage Update

Reporting Period: October 30-November 5, 2017

Prepared by Bob Fujimura on November 6, 2017 15:51

Preliminary Results -Subject to Revision

Criteria	30-Oct	31-Oct	1-Nov	2-Nov	3-Nov	4-Nov	5-Nov	Trend	
<b>Loss Densities</b>									
Wild older juvenile CS	0	0	0	0	0	0	0	→	0
Wild steelhead	0	0	0	0	0	0	0	→	0
<b>Exports</b>									
SWP daily export	4,269	4,540	3,631	3,466	2,430	3,072	2,843	↗	3,464
CVP daily export	8,501	8,432	5,360	5,368	5,380	5,357	5,507	↘	6,272
SWP reduced counts	17%	0%	0%	0%	0%	0%	17%	↗	4.7%
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 TFCF salvage outage occurred; tan highlighted date indicates reduced count due to daylight saving time change

## 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
<b>Wild</b>					
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
<b>Total</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>
<b>Hatchery</b>					
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	→	1	NC
<b>Total</b>	<b>0</b>	<b>0</b>		<b>1</b>	<b>0</b>

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
<b>Total</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>

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

Generated by Bob Fujimura on November 5, 2017

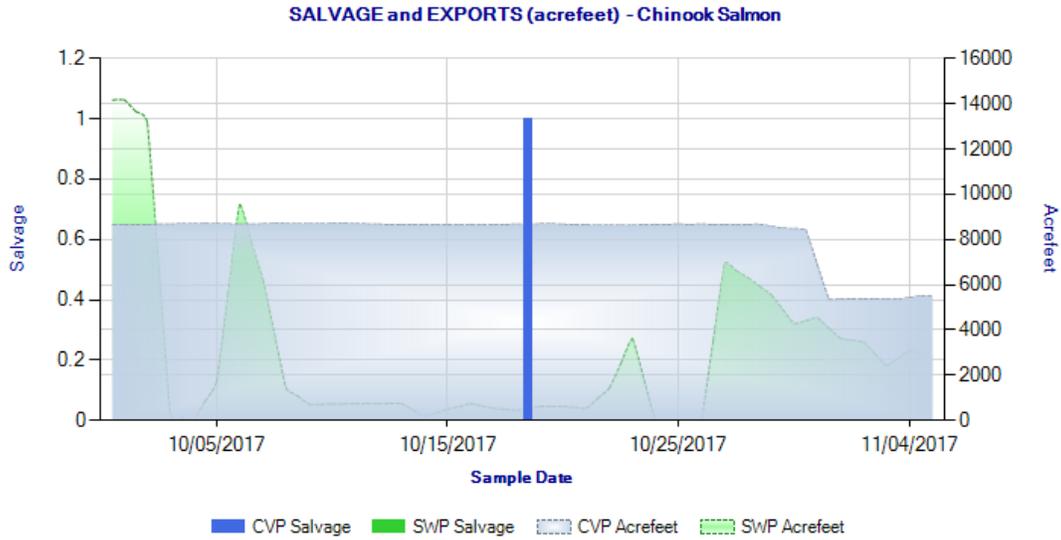


Figure 1. Daily salvage of Chinook Salmon (all races) and water exports from the state and federal fish salvage facilities during October 1 through November 5, 2017. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

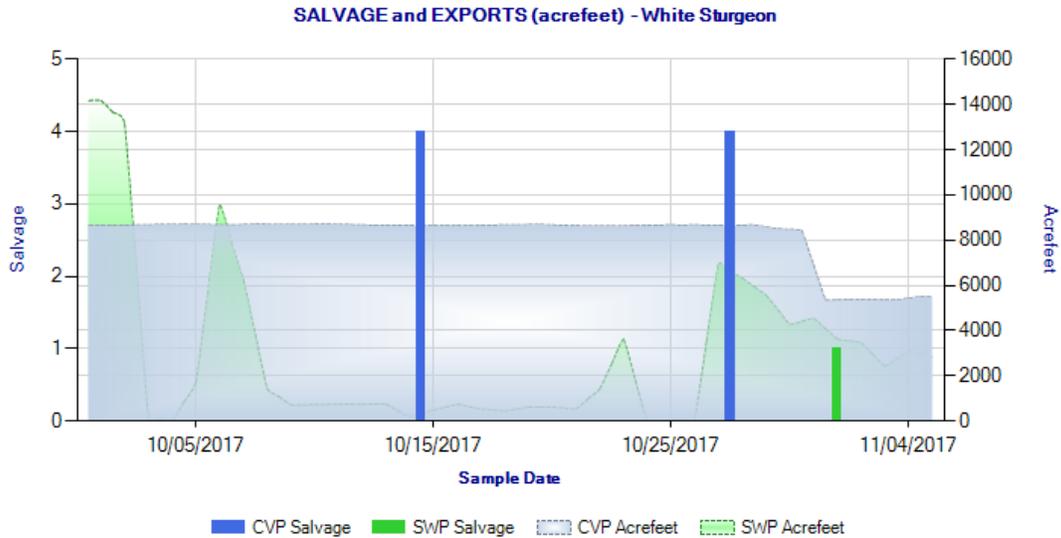


Figure 2. Daily salvage of White Sturgeon and water exports from the state and federal fish salvage facilities during October 1 through November 5, 2017. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

**Agenda Item 5.**

**Fish Monitoring:** The following table presents fish monitoring data summarized over the past week. Empty cells indicate zero catches at those locations with sample dates shown.

Location	Chippis Is. Midwater Trawl <sup>A</sup>	Sacramento Trawl <sup>A</sup>	Beach Seines <sup>A</sup>	Knights Landing RST <sup>B</sup>	Tisdale RST <sup>C</sup>	GCID RST <sup>D</sup>	Mossdale Kodiak Trawl <sup>A</sup>
Sample Date	10/31, 11/1, 11/3	10/30, 11/1, 11/3	10/30, 11/1-11/3	10/30-11/6	10/30-11/6	-	10/31, 11/2-11/3
Chinook							
FR Chinook							
SR Chinook				1			
WR Chinook					1		
LFR Chinook							
Ad-Clipped Chinook							
Steelhead (ad-clip)							
Steelhead (wild)							
Green Sturgeon							
Flows (avg. cfs)				5,899	6,801		
W. Temp. (avg. °F)	62.1	59.7		56.6	58		58.6
Turbidity (avg. NTU)	16.4	7.1		7.0	12.4		17.4

<sup>A</sup> Data reported in the 10/29 to 11/4 DJFMP sampling summary.

<sup>B</sup> Knights Landing RST sampling period was from 10/30 at 11:30 am to 11/6 at 10:30 am.

<sup>C</sup> Tisdale RST sampling period was from 10/30 at 8:15 am to 11/6 at 8:30 am.

<sup>D</sup> GCID stopped operations of 10/30; no monitoring until further notice.

**Red Bluff Diversion Dam (RBDD)<sup>D</sup>**

USFWS biweekly report (10/22-11/4/17) 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 (BY2017)	29,409*	313,083 (238,085-388,081)
Spring-run Chinook (BY2017)	67,946	90,698 (69,819-111,577)

\*Biweekly catch dropped approximately 45,000 fish from previous biweekly total of 67,946.

<sup>D</sup> RBDD data was not available at the time of the DOSS call; data was received in the afternoon following the end of the DOSS call and was not discussed on the DOSS call.

**Agenda Item 6.**

**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.

<b>Location</b>	<b>Yet to Enter Delta (Upstream of Knights Landing)</b>	<b>In the Delta</b>	<b>Exited the Delta (Past Chipps Island)</b>
<i>Wild young-of-year winter-run Chinook salmon</i>	95-96% (Last week: 96-97%)	4-5% (Last week: 3-4%)	0% (Last week: 0)
<i>Wild young-of-year spring-run Chinook salmon</i>	~100% (Last week: ~100%)	~0% (Last week: 0)	0% (Last week: 0)

**Rationale for changes in distribution**

Wild winter-run Chinook: 1 winter-run was observed at Tisdale and at no other monitoring locations this week. DOSS estimated that an additional 1% have moved into the Delta based on reduced temperatures, recent increased flows, and historical timing and outmigration.

Wild spring-run Chinook: Very few spring-run have been observed at monitoring locations in the lower Sacramento River to date for this brood year. Since the vast majority of spring-run are still considered to be rearing upriver, the percentage of the population still located in the upper river is essentially 100 percent; no spring-run are expected to have entered the Delta this early in the season.

**Agenda Item 7.**

**DOSS Advice to WOMT and NMFS:** None

**Agenda Item 8.**

**Next Meeting:** The next DOSS conference call will be on **11/14/17 at 9am.**