

**Delta Operations for Salmonids and Sturgeon (DOSS) Group**  
**Conference call: 11/27/2018 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](http://www.westcoast.fisheries.noaa.gov/central_valley/water_operations/doss.html).

**CDFW:** Bob Fujimura, Kyle Griffiths, Ken Kundargi, Duane Linander, Jason Julienne

**DWR:** Kevin Reece, Bryant Giorgi

**NMFS:** Kristin McCleery

**Reclamation:** Tom Patton, Elissa Buttermore

**SWRCB:** Chris Carr

**USFWS:** Craig Anderson, Felipe Carrillo

**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. Smelt Working Group
5. Fish Monitoring: Salvage
6. Fish Monitoring: RSTs/trawls/seines
7. Late-fall Hatchery releases-yearling spring-run surrogates
8. DOSS Estimates of Fish Distribution
9. DOSS advice
10. Next DOSS meeting

**Agenda Item 2.**

**RPA Implementation Review**

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

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

- 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 10/1, the First Alert is triggered if either the first component (>95 cfs flow threshold) or second component (>50% change in mean daily

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<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.

flow) has been exceeded at either the Deer Creek gage at Vina (DCV), or the Mill Creek gage at Los Molinos (MLM). Over the past week (11/20/18-11/26/18), the First Alert was triggered every day based on Mill Creek and Deer Creek flows greater than 95 cfs. 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
11/20/2018	104	0%	96	-2%
11/21/2018	109	5%	94	-3%
11/22/2018	125	15%	118	26%
11/23/2018	151	21%	139	18%
11/24/2018	196	30%	193	39%
11/25/2018	135	-31%	134	-31%
11/26/2018	121	-10%	105	-21%

- 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: 4,449 – 6,231 cfs (range of mean daily flow for the period 11/20/18 through 11/26/18)
  - Knights Landing water temperature: 50.0°F – 54.3°F (temperatures reported at the rotary screw traps for the period 11/20/18 through 11/26/18)
  - The second alert has not yet been triggered in WY 2019.

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

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

**Agenda Item 3.**

**Current Operations (11/27/18)**

SWP		CVP	
<b>Exports (cfs)</b>			
Clifton Court Forebay	500	Jones Pumping Plant	1,800*
<b>Reservoir Releases (cfs)</b>			
Feather - Oroville	1,750	American - Nimbus	1,800
		Sacramento - Keswick	4,100**
		Stanislaus - Goodwin	200
		Trinity - Lewiston	300
<b>Reservoir Storage (in TAF)</b>			
San Luis (SWP)	747	San Luis (CVP)	424

<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)

Oroville	1,031	Shasta	2,154
New Melones	1,757	Folsom	332
<b>Delta Operations</b>			
DCC	Open***	Sacramento River at Freeport (cfs)	12,588
Outflow Index (cfs)	18,000	San Joaquin River at Vernalis (cfs)	1,270
E:I	25% (3-day avg.)	X2	>81 km

\* CVP exports are scheduled to increase to 3,500 cfs on Thursday (11/29).

\*\* Keswick releases are scheduled to decrease to 4,000 cfs tomorrow (11/28).

\*\*\* The DCC gates will be closed on Friday (11/29) for the December 1 gate closure and will likely remain closed until late May 2019.

Factors controlling Delta exports:

- 11/20-11/26: salinity management

Approximate OMR as of 11/24/18:

	USGS gauges (cfs)	Index (cfs)
Daily	-2,700	-3,300
5-day	-2,600	-3,100
14-day	-2,600	-2,700

Approximate OMR as of 11/26/18:

	Index (cfs)
Daily	-2,400
5-day	-3,100
14-day	-2,700

Weather Forecast

The Sacramento region will be wet and breezy this week. Snow levels are around 6,500 to 7,500 feet in the Sierras. A winter front on Wednesday night will lower snow levels, bringing the coldest storm of the season. 1-2 feet of snow possible at higher elevations. Next Tuesday, temperatures are expected to warm up closer to normal with dry conditions.

**Agenda Item 4.**

**Smelt Working Group**

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

**Agenda Item 5.**

**Fish Monitoring: Salvage**

Fujimura (CDFW) provided a salvage summary. No salmonids or green sturgeon have been salvaged at the SWP and CVP fish facilities since the beginning of WY19 (10/1/18), and no salmonids or green sturgeon have been salvaged since last June.

## DOSS Weekly Salvage Update

Reporting Period: November 19-November 25, 2018  
 Prepared by Bob Fujimura on November 26, 2018 15:24  
 Preliminary Results -Subject to Revision

Criteria	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-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	1,968	3,681	3,305	4,927	3,672	4,127	4,110	↗	3,684
CVP daily export	3,575	3,582	3,599	3,589	3,598	3,598	3,592	↘	3,590
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 TFCF salvage 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
<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	→	0	0
<b>Total</b>	<b>0</b>	<b>0</b>		<b>0</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

**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 <sup>A</sup>	Tisdale RST <sup>B</sup>	Knights Landing RST <sup>C</sup>	Beach Seines <sup>D</sup>	Sacramento Trawl <sup>D</sup>	Chippis Is. Midwater Trawl <sup>D</sup>	Mossdale Kodiak Trawl <sup>D</sup>
Sample Date	11/20-11/26	11/19-11/26	11/19-11/26	11/20-11/21, 11/23	11/20, 11/23	11/19, 11/20-11/21	11/19, 11/21, 11/23
FR Chinook	1 smolt						
SR Chinook	1 juvenile						
WR Chinook	228 juveniles						
LFR Chinook	7 juveniles 40 smolts						
Chinook (ad-clip)							
Steelhead (wild)	1						
Steelhead (ad-clip)							
Green Sturgeon	1						
Flows (avg. cfs)	859	5,309	5,249				
W. Temp. (avg. °F)	55.7	48.1	51.6				
Turbidity (avg. NTU)	11.7	9.4	7.77				

<sup>A</sup> The GCID RST was raised on October 6, 2018, due to an unanticipated spike in turbidity and debris following sporadic rain events concurrent with a high level of mortality of winter-run juveniles in the live box. The GCID RST was lowered on 11/20 at 3:30 pm. Traps will continue until further notice.

<sup>B</sup> Tisdale RST sampling period was from 11/19 at 10:00 am to 11/26 at 10:00 am.

<sup>C</sup> Knights Landing RST sampling period was from 11/19 at 11:15 am to 11/26 at 10:45 am.

<sup>D</sup> Data reported in the 11/18 to 11/24 DJFMP sampling summary.

**Enhanced Delta Smelt Monitoring (EDSM):**

No salmonids were caught in any region of the EDSM sampling.

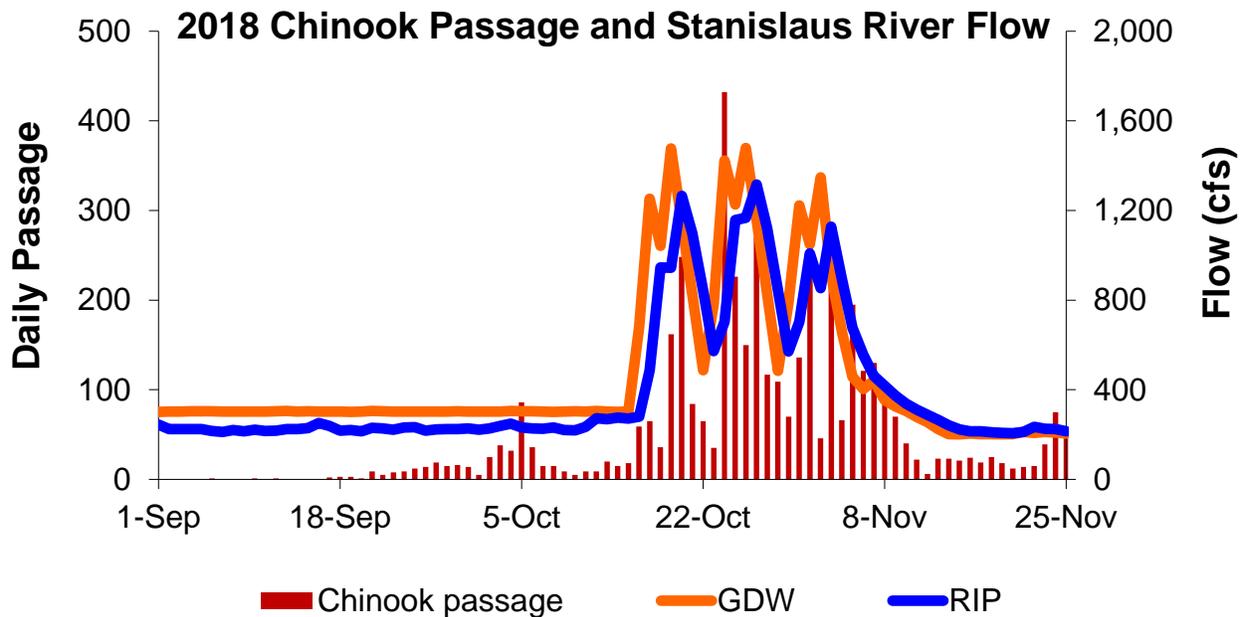
**CDFW carcass surveys**

- **San Joaquin River tributaries:** Chinook salmon carcass surveys, with incidental redd counts, began the week of 10/1/18 on the Merced River, Tuolumne River, and Stanislaus River. CDFW has completed the seventh week of surveys. No updates were available this week.

- American River:** Chinook salmon carcass surveys began on Monday, 10/15/18. The survey area includes Nimbus Dam to Watt Avenue. The Nimbus Basin is now closed to all fishing, and Chinook salmon spawning is monitored in this area. The weir was only checked once last week due to poor air quality (normally checked at the beginning and end of each week). From 11/20 to 11/21, 593 total fish were observed between Nimbus Dam and the Fair Oaks Bridge 224 at Nimbus Basin and 310 at the weir). 76 of 226 female carcasses observed were unspawned, 46 were partially spawned, 150 were spawned, and 13 were unknown due to deteriorated condition. Water temperatures in the survey reaches were a mean of 55.9°F at the farthest point upstream at the Hazel Avenue Bridge. New seasonal operations of Nimbus Dam began on 11/1 that typically reduce water temperatures in the downstream reaches below the Hazel Avenue Bridge. The Nimbus Fish Hatchery started spawning fish on 11/2.

**Stanislaus River weir**

Monitoring at the weir near Riverbank (for upstream passage of adult salmonids) began on 9/5/18. Last week (11/19/18 – 11/25/18); 219 adult fall-run Chinook salmon and 1 *Oncorhynchus mykiss* were observed passing upstream of the weir. The cumulative net upstream passage through 11/19/18 is 4,378 Chinook salmon (25% were ad-clipped, indicating a verifiable hatchery origin; hatcheries ad-clip 25% of their production fall-run Chinook salmon), and 19 *O. mykiss* (data provided by FISHBIO in their 11/26/18 Stanislaus Weir Update). Eleven of the *O. mykiss* passing the weir were greater than 16 inches. Of these 11 fish, 6 were ad-clipped, indicating a hatchery origin and 5 were unclipped, indicating a natural origin. Of the 19 total fish observed, 13 were unclipped, indicating that the individual was of natural origin.



**Acoustic-tagged green sturgeon**

CDFW has acoustic-tagged 29 juvenile sturgeon (28 green sturgeon and 1 white sturgeon) captured between 7/24/18 and 10/31/18 near Sherman Lake on the Sacramento River (western

Delta). Fork lengths of these fish range between 42 cm and 94 cm. No updated data were available this week.

**Other Surveys**

The following fish hatchery spawning data are provided to inform DOSS members of potential hatchery influence on catch numbers at monitoring locations. Data from additional hatchery spawning programs and other carcass surveys may be provided in the future as they become available to DOSS.

- **Feather River Fish Hatchery Spawning**  
No updates were provided for this week’s DOSS call.
  
- **Mokelumne River Fish Hatchery**  
No updated were provided for this week’s DOSS call.

**Agenda Item 7.**

**Late-fall Hatchery releases-yearling spring-run surrogates**

The U.S. Fish and Wildlife Service provided the following hatchery release notifications:

On 11/26/18, a notification for the planned release of approximately 700,000 brood year 2018 late-fall-run Chinook salmon from Coleman National Fish Hatchery (CNFH) on 11/29/18 into Battle Creek. This group is 100% marked (with an adipose-fin clip and coded-wire tagged) and has an estimated average fork length of 145 mm.

**Agenda Item 8.**

**DOSS Estimates of Fish Distribution**

DOSS estimates of the current distribution of listed Chinook salmon 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>Young-of-year (YOY) winter-run Chinook salmon</i>	93-98% (last week: 94-98%)	2-7% (last week: 2-6%)	0% (last week: same)

**Rationale for distribution**

**Wild winter-run Chinook:**

228 wild winter-run Chinook salmon were observed at the GCID RST this past week and at no other monitoring locations. DOSS estimates that an additional 1 percent of wild winter-run Chinook salmon population has migrated into the Delta over the past week.

**Agenda Item 9.**

**DOSS Advice to WOMT and NMFS:**

Notice to NMFS and WOMT that fish migration is likely due to expected storm runoff causing increased river flows and elevated turbidity later this week. Increases in fish presence in the lower river may necessitate DCC gate closure sooner than Friday. CDFW Knight’s Landing RST

field staff will immediately notify the DOSS group if RPA Action IV.1.2 triggers are met and the DOSS group will take appropriate action.

**Agenda Item 10.**

**Next Meeting:** The next DOSS conference call will be on **12/4/18 at 9am.**