

**Delta Operations for Salmonids and Sturgeon (DOSS) Group**  
**Conference call: 10/23/2018 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:** Duane Linander, Ken Kundargi, Kyle Griffiths, Bob Fujimura, Jason Julienne

**DWR:** Loi Tran, Farida Islam, Kevin Reece, Mike Ford

**NMFS:** Jeff Stuart, Kristin McCleery

**Reclamation:** Tom Patton, Elissa Buttermore, Towns Burgess

**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. 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)<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 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 Creek gage at Los Molinos (MLM). Over the past week (10/15/18 to 10/22/18), the First

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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.

Alert was triggered every day based on Mill 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
10/16/2018	101	1%	90	1%
10/17/2018	101	0%	90	0%
10/18/2018	102	1%	91	1%
10/19/2018	101	-1%	91	0%
10/20/2018	101	0%	91	0%
10/21/2018	101	0%	91	0%
10/22/2018	101	0%	92	1%

- 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: 5,036-5,763 cfs (range of mean daily flow for the period 10/16/18 through 10/22/18)
  - Knights Landing water temperature: 58°F - 60°F (temperature reported at the rotary screw traps for the period 10/15/18 through 10/21/18)
  - 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 (10/23/18)**

SWP		CVP	
<b>Exports (cfs)</b>			
Clifton Court Forebay	3,400	Jones Pumping Plant	4,200*
<b>Reservoir Releases (cfs)</b>			
Feather - Oroville	2,450	American - Nimbus	1,500
		Sacramento - Keswick	6,200**
		Stanislaus - Goodwin	800***
		Trinity - Lewiston	300
<b>Reservoir Storage (in TAF)</b>			
San Luis (SWP)	769	San Luis (CVP)	427
Oroville	1,265	Shasta	2,244
New Melones	1,769	Folsom	421

<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)

Delta Operations			
DCC	Open	Sacramento River at Freeport (cfs)	~10,200
Outflow Index (cfs)	~4,200	San Joaquin River at Vernalis (cfs)	~3100
E:I	55.7% (3-day avg.)	X2	>81 km

\* CVP exports will be reduced by 1 unit to a pumping rate of approximately 3,300 cfs next week due to a scheduled maintenance outage on Monday (10/29).

\*\* Keswick releases are scheduled to be reduced to 6,000 cfs tonight (10/23).

\*\*\* Fall pulse flow at Goodwin began at midnight on 10/16/18 and will run through early November. Flows will ramp up and down between approximately 450 cfs and 1,500 cfs, with three peaks scheduled. Flow will ramp up to the second peak of 1,500 cfs tomorrow (10/24). See “Goodwin scheduled releases” at:

<http://cdec.water.ca.gov/dynamicapp/QueryRES?s=GDW&date=2018.11.06+00:00&span=1month>

Factors controlling Delta exports:

- 10/15-10/22: Seasonal salinity management

Approximate OMRs as of 10/22/18:

	Index (cfs)
Daily	-6,628
5-day	-6,387
14-day	-6,615

Weather Forecast

The weather forecast predicts dry and mild conditions this week in the Sacramento Valley. Cooler temperatures are predicted today and tomorrow, with above average temperatures later this week. No precipitation is predicted through the end of October, however early November is predicted to be wetter.

**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 since the beginning of WY19 (10/1/18), and no salmonids or sturgeon have been salvaged since last June. Last Tuesday (10/16), scheduled maintenance at Tracy Fish Collection Facility occurred, with an outage lasting 15.5 hours to service the collection tank pump.

### DOSS Weekly Salvage Update

Reporting Period: October 15-October 21, 2018  
 Prepared by Bob Fujimura on October 22, 2018 15:36  
 Preliminary Results -Subject to Revision

Criteria	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	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	5,717	5,029	4,745	3,690	5,156	5,883	6,936	↘	5,308
CVP daily export	8,421	8,428	8,439	8,444	8,426	8,418	8,420	→	8,428
SWP reduced counts	0%	0%	0%	0%	0%	25%	0%	↘	4%
CVP reduced counts	0%	58%	0%	0%	0%	0%	0%	↘	8%

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 interruptions occurred  
 Tan highlighted date indicate major (> 2 hrs) fish salvage interruption; 10/16: 15.5 hrs outage due to scheduled maintenance work to TFCF

### 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	No sampling	10/15-10/22	10/15-10/21	10/15-10/19	10/15, 10/17, 10/19	10/16-10/17, 10/19	10/15, 10/17, 10/19
FR Chinook							
SR Chinook							
WR Chinook							
LFR Chinook							
Chinook (ad-clip)							
Steelhead (wild)							
Steelhead (ad-clip)							
Green Sturgeon							
Flows (avg. cfs)		5,750	5,513				
W. Temp. (avg. °F)		55	58.7				
Turbidity (avg. NTU)		9.5	4.30				

<sup>A</sup> The GCID RST was raised on 10/6/18, 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 additional mortalities exceeded the annual incidental take levels permitted by the State for juvenile winter-run for the GCID monitoring program. Alternative methods are being explored to improve trapping capabilities when there are large amounts of debris. CDFW is working with GCID on options (for example, half-cone operations) to resume sampling while limiting take for the remainder of the calendar year.

<sup>B</sup> Tisdale RST sampling period was from 10/15 at 9:30 am to 10/22 at 10:30 am.

<sup>C</sup> Knights Landing RST sampling period was from 10/15 at 11:15 am to 10/21 at 2.30 pm.

<sup>D</sup> Data reported in the 10/14 to 10/20 DJFMP sampling summary.

**Red Bluff Diversion Dam (RBDD)**

USFWS biweekly report (10/8/18-10/21/18) 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)
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Winter-run Chinook (BY2018)	354,026	707,433 (557,155-857,710)
Spring-run Chinook (BY2018)	18,934	18,934 (14,336-23,532)

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

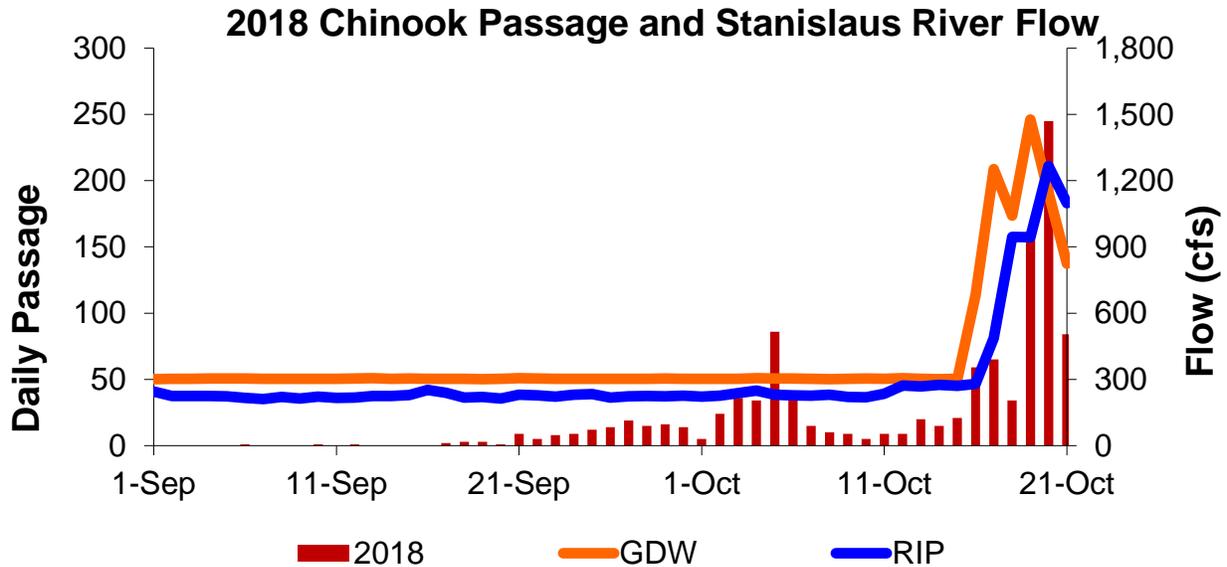
No salmonids were caught in any region of the EDSM sampling.

**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 third week of surveys. No carcasses reported yet on any of the three tributaries. For this week: 7 live Chinook salmon and zero redds were reported on the Merced River, 5 females were spawned at the Merced River Fish Hatchery; 3 live fish and 2 redds were reported on the Stanislaus River, and 4 live fish and 1 redd were reported on the Tuolumne River.
- **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. 24 carcasses were observed between Nimbus Dam and the Fair Oaks Bridge, 11 of 12 female carcasses observed were unspawned. Water temperatures in the survey reaches are fairly warm at this time (62.5°F at the farthest point upstream at the Hazel Avenue Bridge), but are expected to drop starting November 1, when new seasonal operations of Nimbus Dam will be implemented that typically reduce water temperatures in the downstream reaches below the Hazel Avenue Bridge.

**Stanislaus River weir**

Monitoring at the weir near Riverbank (for upstream passage of adult salmonids) began on 9/5/18. Last week (10/16 – 10/22/18); 644 adult fall-run Chinook salmon and 3 *Oncorhynchus mykiss* were observed passing upstream of the weir. The cumulative net upstream passage through 10/21/18 is 1,113 Chinook salmon (16% were ad-clipped, indicating a hatchery origin), and 4 *O. mykiss* (data provided by FISHBIO in their 10/22/18 Stanislaus Weir Update). Two of the *O. mykiss* were greater than 16 inches (both unclipped, indicating that the individuals were likely anadromous, i.e. a steelhead, rather than a resident adult rainbow trout). Additionally, 2 adipose fin clipped *O. mykiss* (indicating hatchery origin) were observed passing upstream of the weir (one on 10/19/18, the second on 10/20/18). The figure below was provided by FISHBIO in their 10/22/18 Stanislaus Weir Update.



**Acoustic-tagged green sturgeon**

CDFW has acoustic-tagged 26 juvenile sturgeon (25 green sturgeon and 1 white sturgeon) captured between 7/24/18 and 10/11/18 near Sherman Lake on the Sacramento River (western Delta). Fork lengths of these fish range between 42 cm and 94 cm. 11 individuals have been detected (near the Sherman Lake tagging location) between 10/9/18 and 10/18/18. No additional fish have been tagged in the past week, and several of the previously tagged sturgeon have moved away from the area surrounding Sherman Lake and were not detected in the past week at any of the other receivers in the CDFW array.

**Agenda Item 7.**

**DOSS Estimates of Fish Distribution**

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>	98-100% (last week: same)	0-2% (last week: same)	0% (last week: same)

**Rationale for distribution**

Wild winter-run Chinook:

No winter-run were observed at monitoring locations during the past week and there have been no increases in turbidity observed at Knights Landing or Tisdale over the past week. Therefore, DOSS believes winter-run are currently holding and are not moving downstream.

**Agenda Item 8.**

**DOSS Advice to WOMT and NMFS:**

None.

**Agenda Item 9.**

**Next Meeting:** The next DOSS conference call will be on **10/30/18 at 9am.**