

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 12/12/2017 at 9:00 am.

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: Bob Fujimura, Jason Julienne, Ken Kundargi, Duane Linander

DWR: Kevin Reece, Bryant Giorgi

NMFS: Jeff Stuart, Kristin McCleery

Reclamation: Towns Burgess, Elissa Buttermore, Mike Hendrick

SWRCB: Chris Kwan

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/djfmfp)
3. Current Operations
4. Smelt working group update
5. Fish Monitoring: Salvage
6. Fish Monitoring: RSTs/trawls/seines
7. Rapid Genetic Testing Protocol (Reclamation)
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 December:

Action IV.1.1 [Alerts that indicate the Delta Cross Channel (DCC) gate operations may be triggered soon] ¹:

- The First Alert is triggered if either the first component (river flows >95 cfs or the second component (>50% change in mean daily river flow) is met. The first alert was triggered every day this past week based on Mill Creek and Deer Creek flows. See table below for details.

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.

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
12/5/2017	180	-7%	191	-9%
12/6/2017	173	-4%	181	-5%
12/7/2017	167	-3%	174	-4%
12/8/2017	163	-2%	169	-3%
12/9/2017	160	-2%	166	-2%
12/10/2017	156	-3%	163	-2%
12/11/2017	153	-2%	160	-2%

- Second Alert is triggered only if both Knights Landing temperatures are less than 56.3°F and Wilkins Slough flows are greater than 7,500 cfs.
 - The second alert was not triggered this week. See table below for details.

Date	Wilkins Slough (WLK)	Knights Landing (KL)
	Mean Daily Flow (cfs)	Daily water temperature °F
12/5/2017	5755	48
12/6/2017	5647	48
12/7/2017	5425	48
12/8/2017	5227	48
12/9/2017	5165	47
12/10/2017	4980	47
12/11/2017	4963	48

Action IV.1.2² (DCC gate operations):

- Gates will remain closed per operations described in RPA IV.1.2 starting 12/1/17.

Action IV.3³ (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.
- Since the action went into effect on 11/1/17, no salvage of listed salmonids has occurred and thus no salvage-based triggers that would require export reduction have been exceeded.

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

³ 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

Agenda Item 3.

Current Operations (12/12/17)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	4,200*	Jones Pumping Plant	~ 4,200-4,300
Reservoir Releases (cfs)			
Feather - Oroville	2,400	American - Nimbus	3,500
		Sacramento - Keswick	5,000
		Stanislaus - Goodwin	600
		Trinity - Lewiston	300
Reservoir Storage (in TAF)**			
San Luis (SWP)	760	San Luis (CVP)	836
Oroville	1,268	Shasta	3,224
New Melones	1,982	Folsom	604
Delta Operations			
DCC	Closed	Sacramento River at Freeport (cfs)	14,281
Outflow Index (cfs)	~5,700	San Joaquin River at Vernalis (cfs)	2,892**
E:I	51% (14-day avg.)	X2	>81 km***

* SWP exports are decreasing this week to 3,000 cfs, depending on Delta inflows.

** Gauge at Vernalis recalibrated recently, causing a higher reading of up to 400 cfs.

*** Limit of X2 calculation.

Approximate OMR as of 12/9/17:

	USGS gauges (cfs)	Index (cfs)
Daily	-8,100	-8,300
14-day	-9,100	-9,300

Factors controlling Delta exports:

- 12/5-12/7: Available export capacity
- 12/8-12/12: Fall X2

The weather forecast for the next week indicates dry and mild weather with cool nights for the Sacramento area.

Agenda Item 4.

Smelt Working Group Update

The Smelt Working Group met on Monday, 12/11/17 at 10 am. E. Chen (USFWS) provided the following Smelt Working Group meeting summary:

The Group reviewed current Delta conditions, survey data, expected exports, and forecasted weather. As current and forecasted conditions are dry, a “first flush” event is

highly unlikely to occur this week and the Group concurred that the risk for delta smelt and longfin smelt entrainment is low.

The Group does not believe that a recommendation under Action 1 (adult pre-spawning Delta Smelt) is necessary to protect Delta Smelt at this time. The Group will continue to monitor Delta Smelt survey and salvage data and Delta conditions. The Group will meet again on Monday, 12/18/17 at 10 am.

Agenda Item 5.

Fish Monitoring: Salvage

B. 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.

During the week of 12/4-12/11, several operational variances occurred, including:

- An unplanned power outage at the Skinner Fish Facility caused non-operation for approximately 2 hours 45 minutes (12/11).
- High debris and fish loads at the Skinner Fish Facility due to high winds on 12/4-12/5 caused shortened routine count times (as low as 2.5 minutes per 2-hour sampling period).
- On 12/5, secondary screen maintenance occurred at the CVP for approximately 15 minutes.
- Also on 12/5, a Tracy fish transport tank truck broke down on the way to the release site. The truck driver was able to repair the truck and release the fish later that morning.

DOSS Weekly Salvage Update

Reporting Period: December 4-December 10, 2017

Prepared by Bob Fujimura on December 11, 2017 19:46

Preliminary Results -Subject to Revision

Criteria	4-Dec	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-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	12,626	12,040	12,670	13,496	10,733	10,895	10,807	↘	11,895
CVP daily export	8,413	8,397	8,389	8,466	8,579	8,576	8,579	→	8,486
SWP reduced counts	38%	21%	0%	0%	0%	0%	0%	↗	8%
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
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	→	1	NC
Total	0	0		1	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

Generated by Bob Fujimura on December 11, 2017

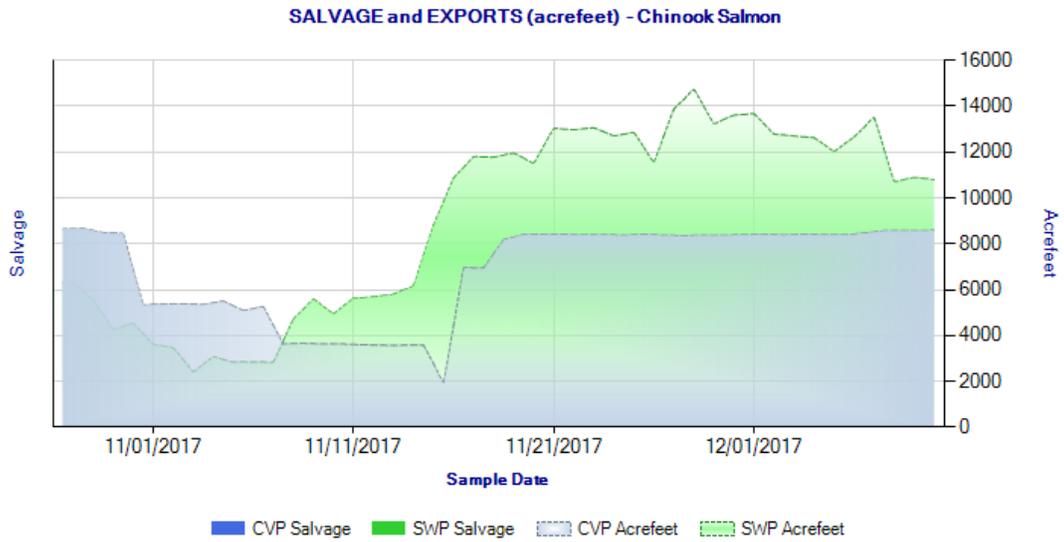


Figure 1. Daily salvage of Chinook Salmon (all races) and water exports from the state and federal fish salvage facilities during October 28 through December 10, 2017. Graph obtained from the DFG salvage monitoring web page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

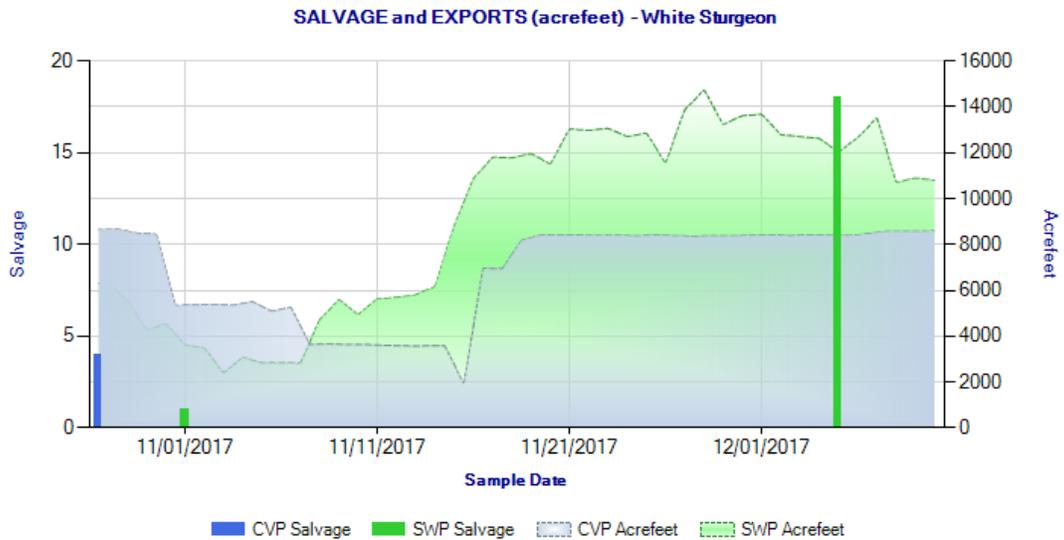


Figure 2. Daily salvage of White Sturgeon and water exports from the state and federal fish salvage facilities during October 28 through December 10, 2017. Graph obtained from the DFG salvage monitoring web page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

Agenda Item 6.

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 ^A	Sacramento Trawl ^A	Beach Seines ^A	Knights Landing RST ^B	Tisdale RST ^C	GCID RST	Mossdale Kodiak Trawl ^A
Sample Date	12/4-12/6	12/4-12/9	12/4-12/6, 12/8*	12/3-12/11	12/1-12/11	12/5-12/11	12/6-12/8
Chinook							
FR Chinook							
SR Chinook			1*			6 juveniles	
WR Chinook			6*	1		139 juveniles	
LFR Chinook					1	4 juveniles 8 smolts	
Ad-Clipped Chinook							
Steelhead (ad-clip)							
Steelhead (wild)							
Green Sturgeon							
Flows (avg. cfs)				5401	5711	828	
W. Temp. (avg. °F)				48	50	50.1	
Turbidity (avg. NTU)				9.63	13.5	5.41	

^A Data reported in the 12/3 to 12/9 DJFMP sampling summary. * Beach seine data was not available until after the DOSS call.

^B Knights Landing RST sampling period was from 12/3 at 11:30 am to 12/11 at 10:00 am.

^C Tisdale RST sampling period was from 12/1 at 9:30 am to 12/11 at 10:30 am.

Agenda Item 7.

Rapid Genetic Testing Protocol (Reclamation)

E. Buttermore (Reclamation) informed DOSS that Reclamation will be implementing Rapid Genetic Testing this water year and asked the group if staff should be on-call on weekends only, or if they should be available 7 days a week. Since no listed fish species have been observed in salvage, having staff available on weekends should be sufficient to ensure results of tissue samples can be turned over within a day if a trigger is exceeded on a weekend. J. Stuart (NMFS) stated staff should also be available on holidays as well as on the weekends through the end of December given that both Christmas and New Year fall on Mondays this year. New “on call” schedules will be decided on starting in January 2018.

Agenda Item 8.

DOSS Estimates of Fish Distribution

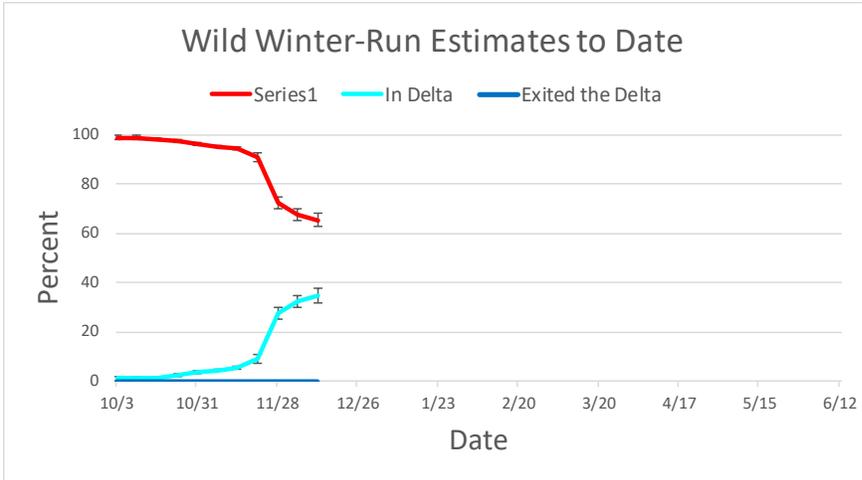
DOSS estimates of the current distribution of listed Chinook and steelhead, as a percentage of the population, are based on recent monitoring data and historical migration timing patterns.

Location	Yet to Enter Delta (Upstream of Knights Landing)	In the Delta	Exited the Delta (Past Chipps Island)
<i>Wild young-of-year winter-run Chinook salmon</i>	62-68% (Last week: 65-70%)	32-38% (Last week: 30-35%)	0% (Last week: 0%)
<i>Wild young-of-year spring-run Chinook salmon</i>	86-91% (Last week: 88-93%)	9-14% (Last week: 7-12%)	0% (Last week: 0%)

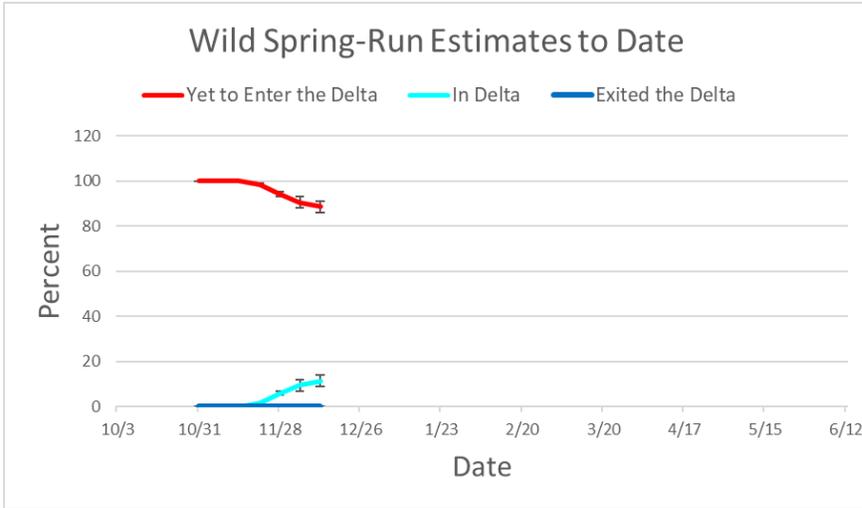
Rationale for changes in distribution

Wild winter-run Chinook: 1 juvenile winter-run-sized fish was observed in the Knights Landing RSTs, 139 winter-run at GCID, and at no other monitoring locations this past week. Since few fish were observed at monitoring locations in the lower Sacramento River, the flows in regional rivers are decreasing, water clarity in regional rivers has increased, and no fish have been observed at the salvage facilities or in the Sacramento Trawl, DOSS estimated that only an additional 2-3% of the winter-run population has moved into the Delta during the past week, and the remaining proportion of the winter-run population are still holding upriver.

Wild spring-run Chinook: During the past week, 6 spring-run-sized fish were observed at GCID, and no fish at any of the other monitoring locations. Since few spring-run were observed, rivers flows have decreased, water clarity has increased, and no fish have been observed at salvage facilities or other Delta monitoring locations, DOSS estimated that only an additional 2% of the spring-run population has moved into the Delta. The majority of spring-run are still considered to be rearing upriver. There is also the potential that some of the fish classified as spring-run by the length-at-date criteria may actually be late emerging and slow growing winter-run Chinook salmon. Cooler river water temperatures this year may have delayed spawning and slowed the emergence and growth of winter-run fry in the upper Sacramento River, and thus these fish would fall into the size criteria for spring-run at this time of year.



WY 2018 wild winter-run distribution estimates to date.



WY 2018 wild spring-run distribution estimates to date.

Agenda Item 9.

DOSS Advice to WOMT and NMFS:

For the week of 12/12 to 12/18/2017, NMFS and WOMT should continue to monitor the Delta water quality conditions during DCC gate closures. DCC gates may be opened if water quality conditions become degraded per D-1641 criteria and it is determined that opening gates will improve water quality conditions and such operations comply with the conditions described in RPA Action IV.1.2.

Agenda Item 10.

Next Meeting: The next DOSS conference call will be on **12/19/17 at 9 am.**