

**Delta Operations for Salmonids and Sturgeon (DOSS) Group**  
**Conference call: 1/17/2017 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, Jason Julienne, Jerry Morinaka

**DWR:** Kevin Reece, Farida Islam, Norman Lee

**EPA:** Erin Foresman

**NMFS:** Barb Byrne, Kristin McCleery

**Reclamation:** Tom Patton, Towns Burgess, Mike Hendrick, Josh Israel

**SWRCB:** Chris Kwan, 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. Smelt Working Group update
4. Current Operations
5. Hatchery Releases
6. Fish Monitoring: Salvage
7. Fish Monitoring: RSTs/trawls/seines  
*SacPAS (<http://www.cbr.washington.edu/sacramento/>) has some summaries of juvenile sampling)*
8. DOSS Estimates of Fish Distribution and Assessments of Entrainment Risk
9. DOSS advice
10. Next DOSS meeting

**Agenda Item 2.**

**RPA Implementation Review**

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

**Action IV.1.2<sup>1</sup> (DCC gate operations):**

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

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<sup>1</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)

**Action IV.2.3<sup>2</sup> (OMR Management)**

- Implementation of this action in WY 2017 began 1/1/17, and requires that Old and Middle River (OMR) flow be no more negative than -5,000 cfs.
- Since the action went into effect on 1/1/17, no salvage-based triggers that would require more positive OMR levels have been exceeded.

**Agenda Item 3.**

**Smelt Working Group update**

Because of the federal holiday on Monday, 1/16/17, the Smelt Working Group rescheduled their usual Monday meeting to Tuesday, 1/17/17, after the DOSS meeting.

**Agenda Item 4.**

**Current Operations**

SWP		CVP	
<b>Exports (cfs)</b>			
Clifton Court Forebay	9,700	Jones Pumping Plant	4,200
<b>Reservoir Releases (cfs)</b>			
Feather - Oroville	30,000	American - Nimbus	30,000
		Sacramento - Keswick	36,000
		Stanislaus - Goodwin	200
		Trinity - Lewiston	300
<b>Reservoir Storage (in TAF)</b>			
San Luis (SWP)	900	San Luis (CVP)	564
Oroville	2,819	Shasta	3,677
New Melones	873	Folsom	523
<b>Delta Operations</b>			
DCC	Closed	Sacramento River at Freeport (cfs)	~79,264
Outflow Index (cfs)	~225,301	San Joaquin River at Vernalis (cfs)	~16,888
E:I	5.6% (3-day) 7.9% (14-day avg.)	X2	<56 km

OMR index as of 1/17/16:

- Daily: ~ -4,947 cfs

OMR Index compared to tidally filtered USGS gauge data as of 1/14/17:

	USGS gauges (cfs)	Index (cfs)
Daily	-4380	-5028

<sup>2</sup> For details, see pages 74-79 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)

Factors controlling Delta exports:

- 1/10/17-1/12/17: -5,000 cfs OMR limit per both Action IV.2.3 of the NMFS BiOp & the 1/6/17 FWS determination; CVP operating at maximum capacity.
- 1/13/17-1/16/17: -5,000 cfs OMR limit per Action IV.2.3 of the NMFS BiOp (OMR limit per 1/6/17 FWS determination suspended due to high Sacramento River and San Joaquin River flows); CVP operating at maximum capacity.

The weather forecast predicts several cold fronts bringing snow to the mountains this week, and dry later next week.

**Agenda Item 5.**

**Hatchery Releases**

On January 17-20, 72,000 brood year 2016 steelhead will be released into the Feather River at Live Oak<sup>3</sup> from Feather River Hatchery. This release will include 100% marked with adipose fin clip (no CWT).

**Agenda Item 6.**

**Fish Monitoring: Salvage<sup>4</sup>**

For the period of 1/9/17 to 1/15/17, the salvage of juvenile Chinook salmon increased with mostly fall-run sized salmon being observed. Most of these were salvaged at the CVP.

No steelhead were salvaged last week.

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<sup>3</sup> The original release location reported at DOSS was Boyd's Pump (south of Yuba City); Feather River Hatchery sent a revised announcement soon after the DOSS meeting reporting the change in location to Live Oak (north of Yuba City) due to elevated water conditions and debris at the Boyd's Pump release site.

<sup>4</sup> Salvage data reported in this section represent the total estimated and expanded salvage based on the number of fish observed at the fish collection facility. For example, if one steelhead is observed in the typical ½-hour sampling period within a 2-hour operation period, the single steelhead is expanded to a salvage of four.

### DOSS Weekly Salvage Update

Reporting Period: January 9-January 15, 2017

Prepared by Bob Fujimura on January 16, 2017 19:50

Preliminary Results -Subject to Revision

Criteria	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	Trend	
<b>Loss Densities</b>									
Wild older juvenile CS	0.93	0	0	0	0	0	0	↔	0.23
Wild steelhead	0	0	0	0	0	0	0		0
<b>Exports</b>									
SWP daily export	11,609	11,530	11,944	14,037	17,940	17,950	17,950	↗	12,280
CVP daily export	8,035	8,034	8,121	8,127	8,083	8,062	8,012	↗	8,079
SWP reduced counts	0%	0%	0%	0%	0%	17%	17%	↗	5%
CVP reduced counts	8%	0%	0%	0%	0%	0%	0%	↗	1%

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 outage occurred

Tan dates indicate that preliminary data was used

### 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	→	12	23
Spring Run	0	0	→	0	0
Late Fall Run	4	18	↗	10	30
Fall Run	1,035	641	↗	1,119	691
Unclassified	4	NC	→	78	NC
<b>Total</b>	<b>1,043</b>	<b>659</b>		<b>1,219</b>	<b>744</b>
<b>Hatchery</b>					
Winter Run	120	379	↗	253	668
Spring Run	0	0	→	0	0
Late Fall Run	74	193	↗	585	1,184
Fall Run	22	37	↗	116	192
Unclassified	0	0	→	6	NC
<b>Total</b>	<b>216</b>	<b>609</b>		<b>960</b>	<b>2,044</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 = 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	↘	12	23
Hatchery	0	0	→	0	0
<b>Total</b>	<b>0</b>	<b>0</b>		<b>12</b>	<b>23</b>

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

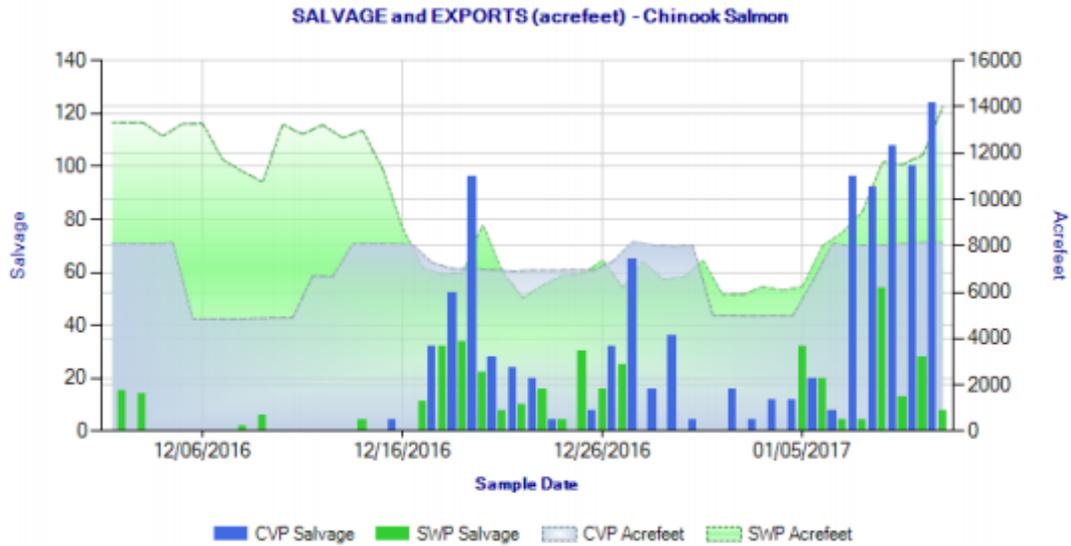


Figure 1. Daily salvage of Chinook Salmon (all races) and water exports from the state and federal fish salvage facilities during Dec 2, 2016 through Jan 12, 2017. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

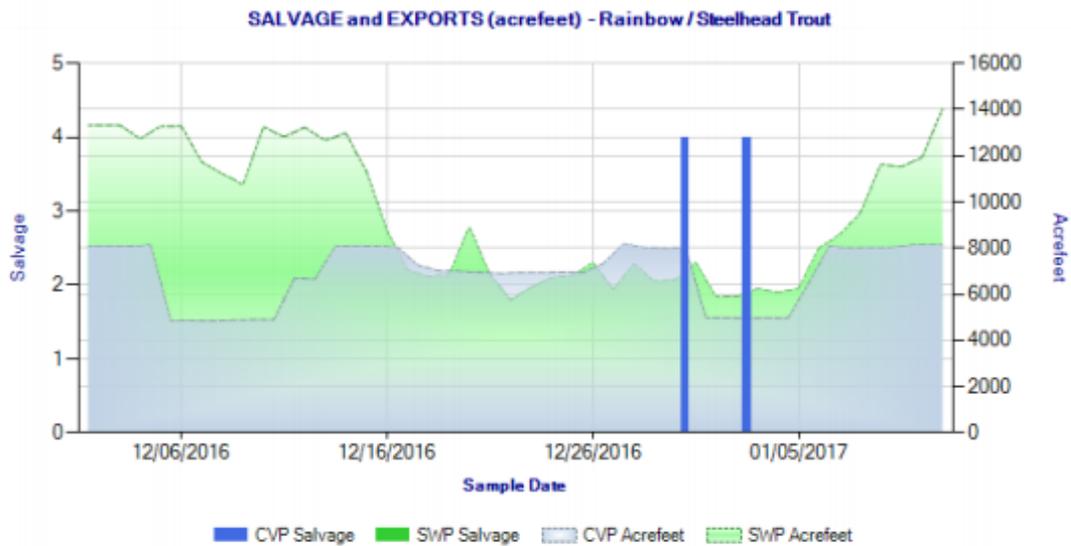


Figure 2. Daily salvage of Steelhead and water exports from the state and federal fish salvage facilities during Dec 2, 2016 through Jan 12, 2017. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

**CONFIRMED HATCHERY (ADIPOSE-FIN CLIPPED) CHINOOK SALMON LOSS AT THE SWP & CVP DELTA FISH FACILITIES as of 1/12/17**

Release Date	CWT Race	Hatchery	Release Site	Release Type	Confirmed Loss	Number Released <sub>1</sub>	Total Entering Delta	% Loss of Number Released <sup>2</sup>	% Loss of Total Entering Delta <sup>3</sup>	First Concern Level	Second Concern Level	Date of First Loss <sup>4</sup>	Date of Last Loss <sup>4</sup>
12/9/2016	LF	Coleman NFH	Battle Creek	Production	1089.53	861,966	n/a	0.126	n/a	n/a	n/a	12/18/2016	1/12/2017
12/12/2016	LF	Coleman NFH	Battle Creek	Spring Surrogate	102.30	75,000	n/a	0.136	n/a	0.50%	1.00%	12/22/2016	1/10/2017
12/21/2016	LF	Coleman NFH	Battle Creek	Spring Surrogate	183.39	81,279	n/a	0.226	n/a	0.50%	1.00%	1/5/2017	1/12/2017
1/9/2017	LF	Coleman NFH	Battle Creek	Spring Surrogate	0.00	75,000	n/a	0	n/a	0.50%	1.00%	*	*

**Agenda Item 7.**

**Fish Monitoring:** The following table presents fish monitoring data summarized over the identified sampling dates. Unless otherwise noted, any reported sizes are fork length. Chinook run assignments are based on length-at-date criteria.

Location	Chippis Is. Midwater Trawl <sup>A, E</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	1/9, 1/11	1/9, 1/13	1/9, 1/10, 1/13	1/9-1/16	1/8-1/13		1/10, 1/12, 1/13
FR Chinook		39	67	1,457	189		35
SR Chinook		1	5	21	6		
WR Chinook			1	13	3		
LFR Chinook							
Ad-Clipped Chinook	2	1		9	1		
Steelhead (ad-clip)					6		
Steelhead (wild)							
Green Sturgeon							
Flows (avg. cfs)				27,675	45,614		
W. Temp. (avg. °F)				46.5	44.1		
Turbidity (avg. NTU)				262.1	295.5		

<sup>A</sup> Preliminary data reported for 1/9 to 1/13 on [www.baydeltalive.com](http://www.baydeltalive.com)

<sup>B</sup>Knights Landing RST sampling period was from 1/9 at 2:30 pm to 1/16 at 10:15 am.

<sup>C</sup>Tisdale RST sampling period was from 1/8 at 10:00 am to 1/13 at 10:00 am. On 1/10 at 9:00 am cones were raised/not fishing due to high winds and safety concern for personnel.

<sup>D</sup>The GCID RST cone was pulled on 1/3 at 9:00 pm due to predicted high flows and heavy debris.

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

EDSM data posted on DJFMP website:

[https://www.fws.gov/lodi/juvenile\\_fish\\_monitoring\\_program/jfmp\\_index.htm](https://www.fws.gov/lodi/juvenile_fish_monitoring_program/jfmp_index.htm)

During the fourth week of sampling, a total of 7 fall-run-sized Chinook and 3 adipose fin clipped Chinook were caught across all sampling sites.

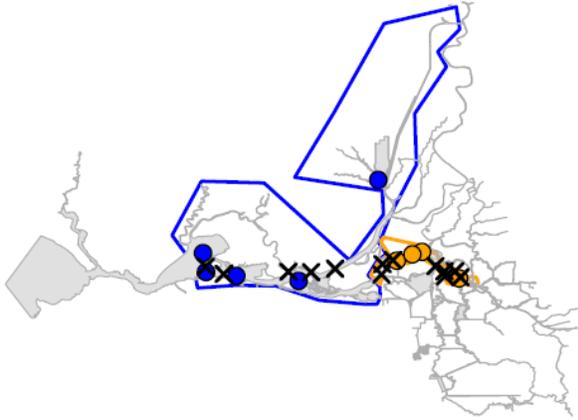
*Note:* The EDSM sampling regions in the following table and map are named according to relative entrainment risk for and population density of Delta Smelt.

Week	Dates	Number of Sites	Species	Low Risk, High Density	Low Risk, Low Density (LR.LD)	High Risk, High Density (HR.HD)	High Risk, Low Density (HR.LD)	Total Catch
1	Dec 15 - Dec 22	24	FR Chinook	2	<i>Not sampled in Week 1</i>	0	<i>Not sampled in Week 1</i>	2
			SR Chinook	1		1		2
			WR Chinook	0		0		0
			Tagged Chinook	3		4		7
2	Dec 27 - Dec 29	17	FR Chinook	0	<i>Not sampled in Week 2</i>	0	<i>Not sampled in Week 2</i>	0
			SR Chinook	0		0		0
			WR Chinook	0		0		0
			Tagged Chinook	1		0		1
3	Dec 30 - Jan 5	28	FR Chinook	0	<i>Not sampled in Week 3</i>	0	<i>Not sampled in Week 3</i>	0
			SR Chinook	0		0		0
			WR Chinook	0		0		0
			Tagged Chinook	1		0		1
4	Jan 6 - Jan 17	28	FR Chinook	0	<i>Not sampled in Week 4</i>	7	0	7
			SR Chinook	0		0	0	
			WR Chinook	0		0	0	
			Tagged Chinook	0		3	0	3

Note the table above is summarized by the dates on the figures below.

### Chinook Salmon

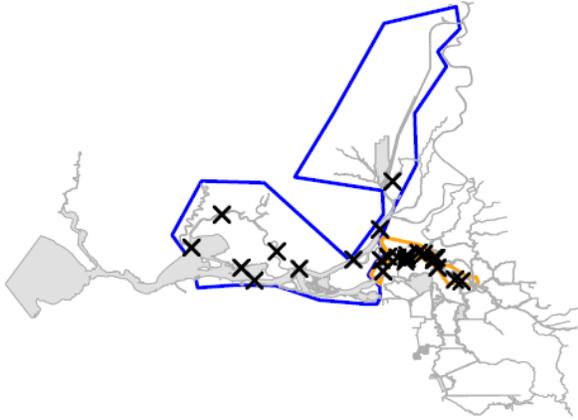
**Week 1 (12/15/16 – 12/22/16)**  
23 sites; 9 total catch



**Week 2 (12/27/16 – 12/29/16)**  
16 sites; 0 total catch



**Week 3 (12/30/16 – 1/5/17)**  
24 sites; 0 total catch

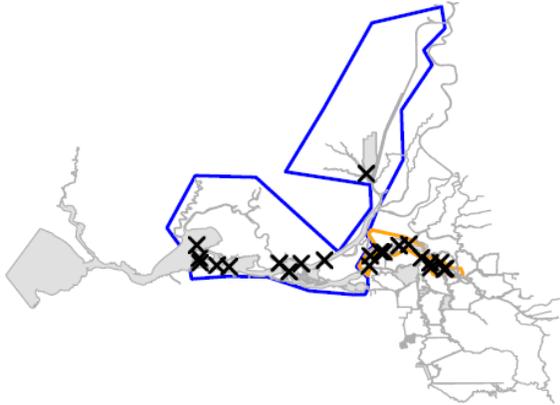


× Zero catch  
○ Non-zero catch

■ High Risk, High Density  
■ High Risk, Low Density  
■ Low Risk, High Density  
■ Low Risk, Low Density

### Steelhead Trout

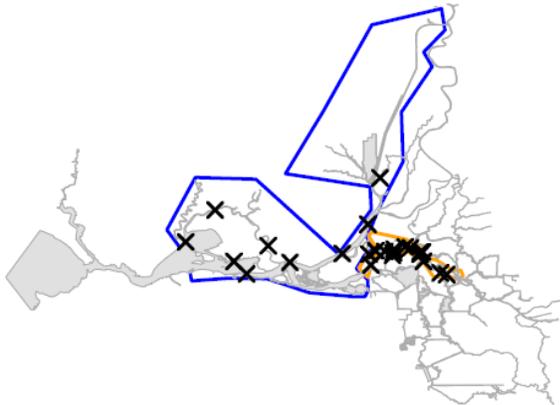
Week 1 (12/15/16 – 12/22/16)  
23 sites; 0 total catch



Week 2 (12/27/16 – 12/29/16)  
16 sites; 0 total catch



Week 3 (12/30/16 – 1/5/17)  
24 sites; 0 total catch

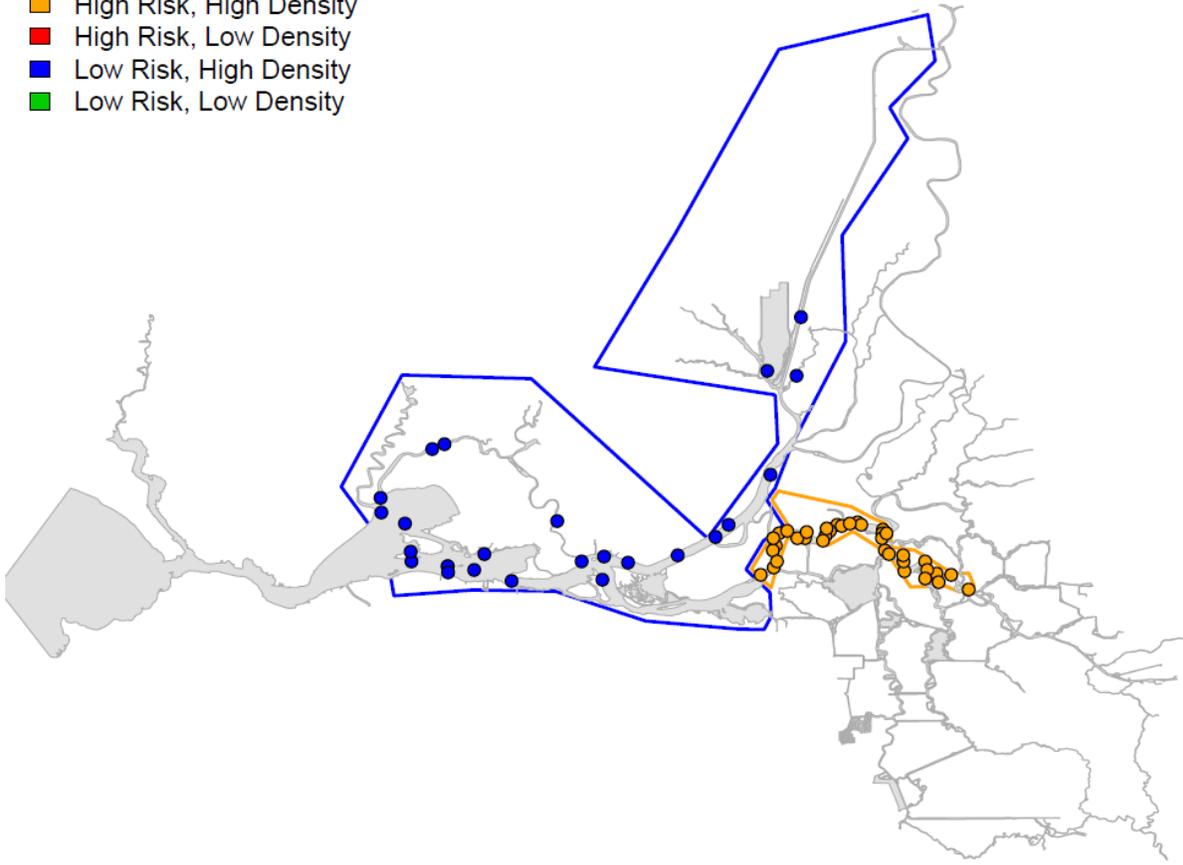


X Zero catch  
O Non-zero catch

High Risk, High Density  
High Risk, Low Density  
Low Risk, High Density  
Low Risk, Low Density

### All Sampling Locations to Date (12/15/16 - 1/5/17)

- High Risk, High Density
- High Risk, Low Density
- Low Risk, High Density
- Low Risk, Low Density



### Spring Kodiak Trawl

2017 Spring Kodiak Trawl preliminary salmonid catch from January 9-12. Data are preliminary and subject to change; Chinook run assignments are based on length-at-date criteria.

Station	# of Fish	Fall Run Chinook		Spring Run Chinook		Winter Run Chinook		Late Fall Run Chinook		Steelhead	
		Clipped	Not Clipped	Clipped	Not Clipped	Clipped	Not Clipped	Clipped	Not Clipped	Clipped	Not Clipped
340	ND										
405	0										
411	0										
418	1		1								
501	0										
504	0										
519	1		1								
602	0										
606	0										
609	4		4								
610	3		3								
508	1		1								
513	3		3								
520	0										
801	0										
804	0										
704	7		6		1						
706	5		5								
707	4		4								
711	3		3								
712	3		3								
713	5		5								
715	3		3								
716	0										
719	1		1								
724	NS										
809	0										
812	0										
815	0										
902	0										
906	0										
910	0										
912	0										
914	0										
915	0										
919	0										
920	1		1								
921	0										
922	NS										
923	NS										

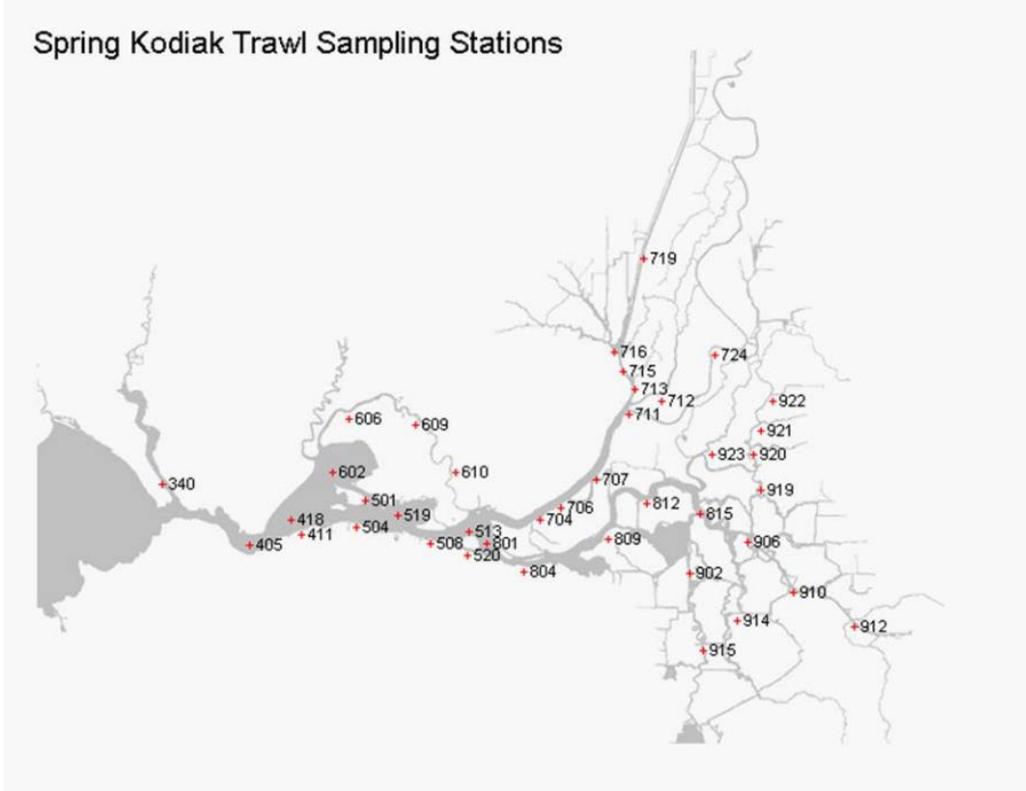
Suisun Bay & West

Confluence

Sac River System

South & Central Delta

NS= No Sample  
 ND= No data available yet



**Agenda Item 8.**

**DOSS Estimates of Fish Distribution and Assessment of Entrainment Risk**

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>	5% - 10% (Last week: 5% - 15%)	80% - 90% (Last week: same)	5 - 10% (Last week: 0-5%)
<i>Wild young-of-year (YOY) spring-run Chinook salmon</i>	25% - 50% (Last week: 35% - 50%)	50% - 70% (Last week: 50% - 60%)	5 - 10% (Last week: 0-5%)

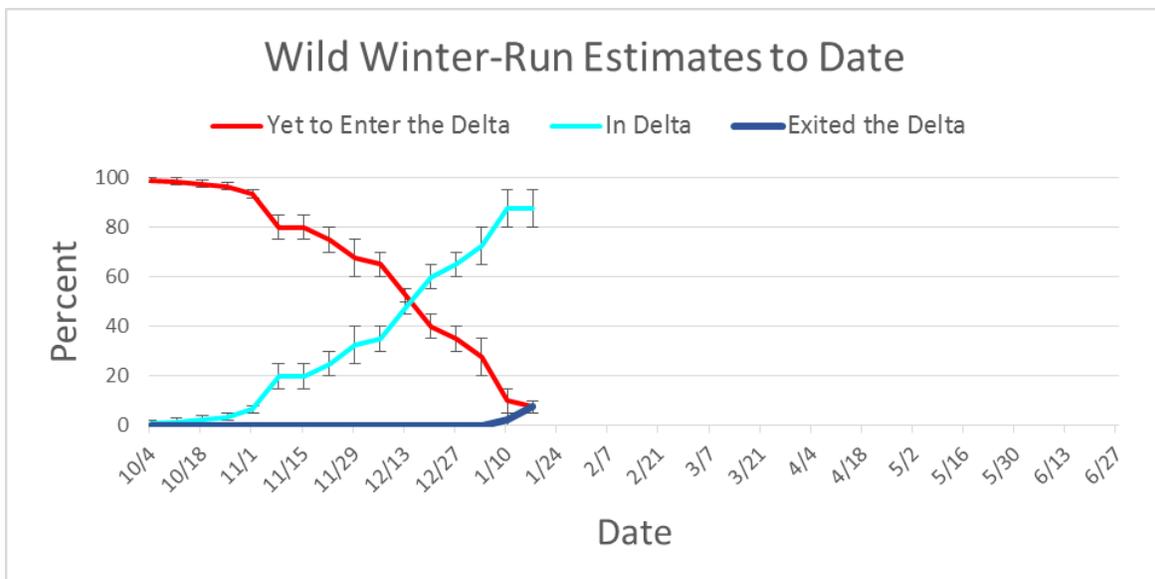
**Length-at-date criteria:** With the large observed spike in young-of-year fall-run Chinook, DOSS considered whether or not some of the winter-run-sized and spring-run-sized Chinook might be large genetic fall-run Chinook that fell into the spring-run or winter-run size range. Julianne (CDFW) reported that the winter-run-sized fish at Knights Landing were in the middle of the winter-run size range, so less likely to be spillover from fall-run or spring-run young-of-year (compared to a situation in which the winter-run-sized fish were at the small end of the winter-run size range). Spring-run-sized Chinook were at the low end of the size range and some of the fall-run-sized Chinook were at the high end of the size range, so run misclassifications

might arise from both large genetic fall-run falling into the spring-run size class and small genetic spring-run falling into the fall-run size class.

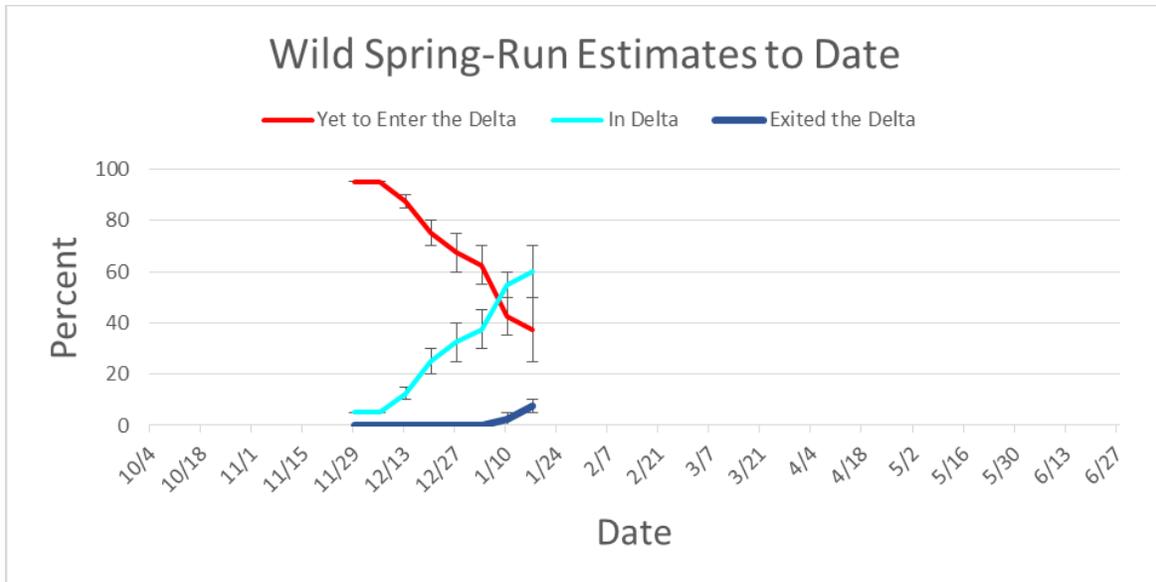
**Rationale for changes in distribution**

Wild winter-run Chinook: While relatively few juvenile winter-run Chinook salmon were observed at monitoring locations upstream of the Delta, DOSS considered that the trap efficiency was likely lower at the recent high flows (because the traps are sampling a smaller fraction of the water passing each trapping location). Also, DOSS noted that with all weirs spilling, some winter-run Chinook will enter the flood bypasses and will not pass by some trapping locations. Because of these high flows and due to seasonal timing, DOSS estimated that some winter-run Chinook moved into the Delta, and a similar fraction exited the Delta, resulting in the same in-Delta fraction estimate as last week. No winter-run Chinook salmon have been observed at Chipps Island trawl, however some winter-run are expected to have exited the Delta during the past week of high Delta outflows.

Wild spring-run Chinook: Over the past week, 6 juvenile spring-run were observed at Tisdale, 21 at Knights Landing and 6 in the beach seines and Sac trawl. When estimating the wild spring-run Chinook distribution, DOSS considered that trap efficiency was likely lower at the recent high flows (because the traps are sampling a smaller fraction of the water passing each trapping location) and that with all weirs spilling, some spring-run Chinook will enter the flood bypasses and will not pass by some trapping locations. DOSS estimated that some spring-run Chinook exited the Delta given the recent high flows, and that up to 10% may have moved into the Delta from upstream. Some members of the group expect Butte Creek fish to remain upstream until later in the year. Based on GrandTab numbers, Butte Creek fish represent ~20-35% of Sacramento basin spring-run escapement, so there was some interest in the group to keep at least 50% of the wild spring-run population in the “Yet to Enter Delta” bin. No spring-run have been observed at Chipps Island trawl, however some spring-run are expected to have exited the Delta at the recent high Delta outflows.



WY 2017 wild winter-run distribution estimates to date.



WY 2017 wild spring-run distribution estimates to date.

### DOSS Feedback on Entrainment Risk

DOSS provides weekly entrainment risk outlooks by considering (a) two different categories of entrainment risk based on listed fish distribution and (b) factors that influence their potential for entrainment. The two entrainment risk categories considered include:

- **Interior Delta Entrainment Risk**- fish in the Sacramento River that have the potential to be entrained into the Interior Delta through the Delta Cross Channel (when open) and/or Georgiana Slough; and
- **CVP/SWP Facilities Entrainment Risk**- fish in the Interior Delta that have the potential to be entrained into the CVP/SWP facilities.

Influencing factors considered include:

- **Exposure Risk** (both categories)- estimated scale (low, medium, high) of fish anticipated to be in vicinity of an entrainment risk,
- **Routing Risk** (Interior Delta Entrainment Risk)- estimated scale (low, medium, high) that flow split conditions could result in fish migrating into the interior delta instead of remaining in main channel, and
- **OMR/Export Risk** (CVP/SWP Facilities Entrainment Risk)- for fish in the Interior Delta, estimated scale (low, medium, high) that OMR and/or Export levels could result in entrainment into the CVP/SWP facilities.

To provide an overall assessment of entrainment risk, the estimated current status of these influencing factors are described below for each of the entrainment risk categories.

### Interior Delta Entrainment Risk for listed salmonids in the Sacramento River over the next week:

- **Exposure Risk: HIGH**

- Flow and turbidities from recent rains, which are cues for salmonid movement, have been high since the weekend and are expected to remain high through the coming weekend.
- Some fish are going into bypasses. Fish entering the Yolo Bypass will exit the bypass downstream of the Georgiana Slough junction, reducing entrainment risk into the interior Delta.
- Overall, despite bypass overflow, the group assessed the exposure risk as high.
- **Routing Risk: LOW**
  - Continued high river flows are expected to mute the tidal effects at Georgiana Slough (reducing the risk of routing into Georgiana Slough).
  - Delta Cross Channel is closed.
  - However, we are seeing Sacramento-basin-origin fish in salvage
- **Overall Entrainment Risk: MEDIUM**

**CVP/SWP Facilities Entrainment Risk for listed salmonids in the Interior Delta over the next week:**

- **Exposure Risk: MEDIUM-HIGH**
  - Have seen consistent salvage of CNFH hatchery Chinook released into Battle Creek (which enter the Sacramento River upstream of the Red Bluff Diversion Dam) which shows that Sacramento basin fish are present in the south Delta and being entrained into the export facilities; also have seen salvage of unclipped Chinook, likely from the Sacramento basin.
  - For the first time in WY 2017, have seen salmonid catch (fall-run-sized Chinook, no steelhead to date) at Mossdale.
- **OMR/Export Risk:**
  - OMR -2,500 cfs: LOW
  - OMR -3,500 cfs: MEDIUM
  - OMR -5,000 cfs: HIGH
  - OMR -6,250 cfs<sup>5</sup>: incrementally HIGHER (given projected hydrology and high Vernalis flow)

Some members expect the relative risk of entrainment of an OMR limit of -6,250 compared to -5,000 cfs to further increase when Vernalis flows decrease,

- **Overall Entrainment Risk:**
  - OMR -2,500 cfs: LOW
  - OMR -3,500 cfs: LOW-MEDIUM (given projected hydrology and high Vernalis flow)

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<sup>5</sup>By request of management, DOSS also assessed risks at an OMR flow more negative than -5,000 cfs.

- OMR -5,000 cfs: MEDIUM-HIGH (given projected hydrology and high Vernalis flow)
- OMR -6,250 cfs<sup>6</sup>: incrementally higher within MEDIUM-HIGH (given projected hydrology and high Vernalis flow)

Under the extremely high Sacramento River and Vernalis flows forecasted through the weekend, and with the expectation that most ESA-listed salmonids will be entering the Delta from the Sacramento basin ,most members agreed that overall entrainment risk into the export facilities is lower at most OMR levels than it would be under lower flow conditions.

The overall entrainment risk was driven in large part by the MEDIUM-HIGH exposure risk and less so (given projected hydrology) by the OMR/Export Risk.

Considering projected hydrologic conditions, the difference between OMR levels of -5,000 and -6,250 represents an incrementally elevated overall entrainment risk to Sacramento Basin salmonid populations. This assessment is likely to change should export levels continue at the current levels and Vernalis flows decrease, at which point risk to Sacramento Basin salmonids will increase.

**Agenda Item 9.**

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

**Agenda Item 10.**

**Next Meeting:** The next DOSS conference call will be on **1/24/17 at 9am.**