

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 12/29/15 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.

DWR: Kevin Reece, Aaron Miller, Mike Ford
Reclamation: Josh Israel
NMFS: Barb Byrne, Jeff Stuart, Meiling Roddam
CDFW: Duane Linander, Bob Fujimura, Ken Kundargi
USFWS: Craig Anderson, Leigh Bartoo
SWRCB: Chris Carr

Agenda Items

1. Agenda review and introductions
2. RPA Implementation review
3. Current Operations
4. Smelt Working Group
5. Fish Monitoring
6. DOSS Advice
7. Next DOSS meeting

Agenda Item 2.

RPA Implementation Review

Delta RPA Actions that may affect operations during December and January:

Action IV.1.2¹ (DCC gate operations):

- DCC gates were closed at 9:00 am on 12/15/15 in accordance with the termination of the DCC flexibility request² by Reclamation. Gates will remain closed in accordance with the RPA actions. No additional requests from DWR or Reclamation for gate operational flexibility are anticipated at this time.

¹ 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

² Reclamation's flexibility request can be found at: http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/bureau_of_reclamation_s_request_for_dcc_gate_opening_-_december_2_2015.pdf. NMFS' concurrence can be found at: http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/nmfs_response_to BOR_request_for_dcc_gate_opening_-_december_4_2015.pdf

Action IV.3³ (Reduce likelihood of entrainment or salvage at the export facilities, including alert that indicates that export operations may be need be altered)

- Third alert has not been triggered.
- Since the action went into effect on 11/1/15, no salvage-based triggers that would require export reduction have been exceeded.
- This RPA action ends on 12/31/15.

Action IV.2.3⁴ (OMR Management)

- This RPA action begins Friday, 1/1/16.

Agenda Item 3.

Current Operations (12/29/2015)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	3,900	Jones Pumping Plant	2,800
Reservoir Releases (cfs)			
Feather - Oroville	950	American - Nimbus	500
		Sacramento - Keswick	3,250 ¹
		Stanislaus - Goodwin	200
		Trinity - Lewiston	300
Reservoir Storage (in TAF)			
San Luis (SWP)	326 ²	San Luis (CVP)	76
Oroville	1,008	Shasta	1,426
New Melones	307	Folsom	230
Delta Operations			
DCC	Closed	Sacramento River at Freeport (cfs)	10,846
Outflow Index (cfs)	~ 5,300	San Joaquin River at Vernalis (cfs)	997
E:I	~44% (14-day avg.)	X2	>81 km

¹ Decreased last week from 4,250 cfs.

² Miller (DWR) reported that on Thursday, 12/31/15, the CVP will “re-pay” 20 acre-feet (AF) of the 40 AF that is owed to the SWP.

Currently controlling exports: Seasonal salinity management and concerns about chloride concentrations in municipal water intakes. Miller (DWR) reported that the controlling factor is expected to transition to net Delta outflow per D-1641 for the month of January and/ or OMR management later in the week, dependent on hydrology.

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

⁴ 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

OMR as of 12/26/15:

	USGS gauges	Index
5-day	-3,866	-4,479
14-day	-1,910	-2,271

CDEC Daily (12/28/15): -6,189 cfs.

Agenda Item 4.

Smelt Working Group

The SWG met on Monday, 12/28/15. Bartoo (USFWS) reported the following:

The Working Group did not recommend a change in exports for the protection of Delta Smelt on the December 28 meeting. However, the Working Group agreed that hydrology and survey conditions warrant an additional call on December 30. Additional data will be available at that time and the Working Group will reassess entrainment risk. The Working Group is looking to RPA Component 1, Action 1, Part B.

Previous SWG meeting notes are available at: http://www.fws.gov/sfbaydelta/cvp-swp/smelt_working_group.cfm.

Agenda Item 5.

Fish Monitoring: The following table presents fish monitoring data. Unless otherwise noted, reported sizes are fork length. See also:

<http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>.

Location	Chippis Is. Midwater Trawl	Jersey Pt./ Prisoners Pt. Trawls	Sacramento Trawl	Beach Seines	Knights Landing RST ^A	Tisdale RST ^B	GCID RST ^C	Mossdale Kodiak Trawl
Sample Date	12/20-12/26	12/20-12/26	12/20-12/26	12/20-12/26	12/21-12/28	12/21-12/28	12/22-12/28	12/20-12/26
Total Catch	20	5	21	35	264	190	256	0
FR Chinook			1	26	191	177	117	
WR Chinook			4	5	14	8	32	
SR Chinook				1	53	3		
LFR Chinook	5		1	1			7	
Ad-Clipped Chinook	14		15	2	6	2	100	
Steelhead (wild)								
Steelhead (ad-clip)								

Green Sturgeon								
Delta Smelt		5						
Splittail								
Longfin Smelt	1							
Flows (avg. cfs)					13,478	12,364	1,032	
W. Temp. (avg. °F)					47	47	48	
Turbidity (avg. NTU)					61.6	58	30.8	

^A Sampling period was from 12/21 at 9:00 am to 12/28 at 9:00 am, excluding 12/25. Both RSTs were modified to 50% catch for entire sampling period.

^B Sampling period was from 12/21 at 9:00 am to 12/28 at 8:15 am. Both RSTs were modified to 50% catch from 12/21 at 9:00 am to 12/22 at 8:30 am, and from 12/22 at 3:30 pm to 12/26 at 8:30 am.

^C RST cone was raised and did not sample from 12/21 at 3:00 pm to 12/24 at 4:00 pm. Catch totals are from 12/24 at 4:00 pm through 12/28.

Linander (CDFW) noted that 12/24 was a large catch day for the Knight's Landing RSTs, especially considering that the traps were modified to 50% efficiency, and that they only fished for 4 hours.

Fish Salvage⁵:

Fujimura (CDFW) reported the following:

Period of December 21-27, 2015

First juvenile Chinook salmon of the WY were salvaged at the CVP on 12/22/15 and have been consistently salvaged at the SWP since 12/23/15. Mostly non-clipped late fall-run sized salmon with a few clipped late fall-run sized salmon. Season total of non-clipped Chinook salmon salvage is 30 late fall-run sized, 4 fall run sized, and 10 ad-clipped fish in the late fall-run size. Daily loss densities for wild older juvenile Chinook salmon ranged from 0.59 to 5.55 fish per TAF.

On 12/22/15 the TFCF had two outages: (1) WAPA power outage of about 35 minutes where both the JPP and TFCF were affected and (2) scheduled shutdown of the TFCF only for secondary channel maintenance of one hour.

Preliminary salvage for Monday, 12/28/15: No salmon salvaged at the CVP; 18 Chinook salmon salvaged at the SWP including 2 winter-run sized clipped salmon and 4 winter-run sized non-clipped salmon.

⁵Salvage 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.

No other listed fish species was observed in salvage counts last week or this WY.

Fujimura (CDFW) provided the following summaries of salvage and loss at the SWP and CVP fish collection facilities. The two salvage figures were generated on the CDFW salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

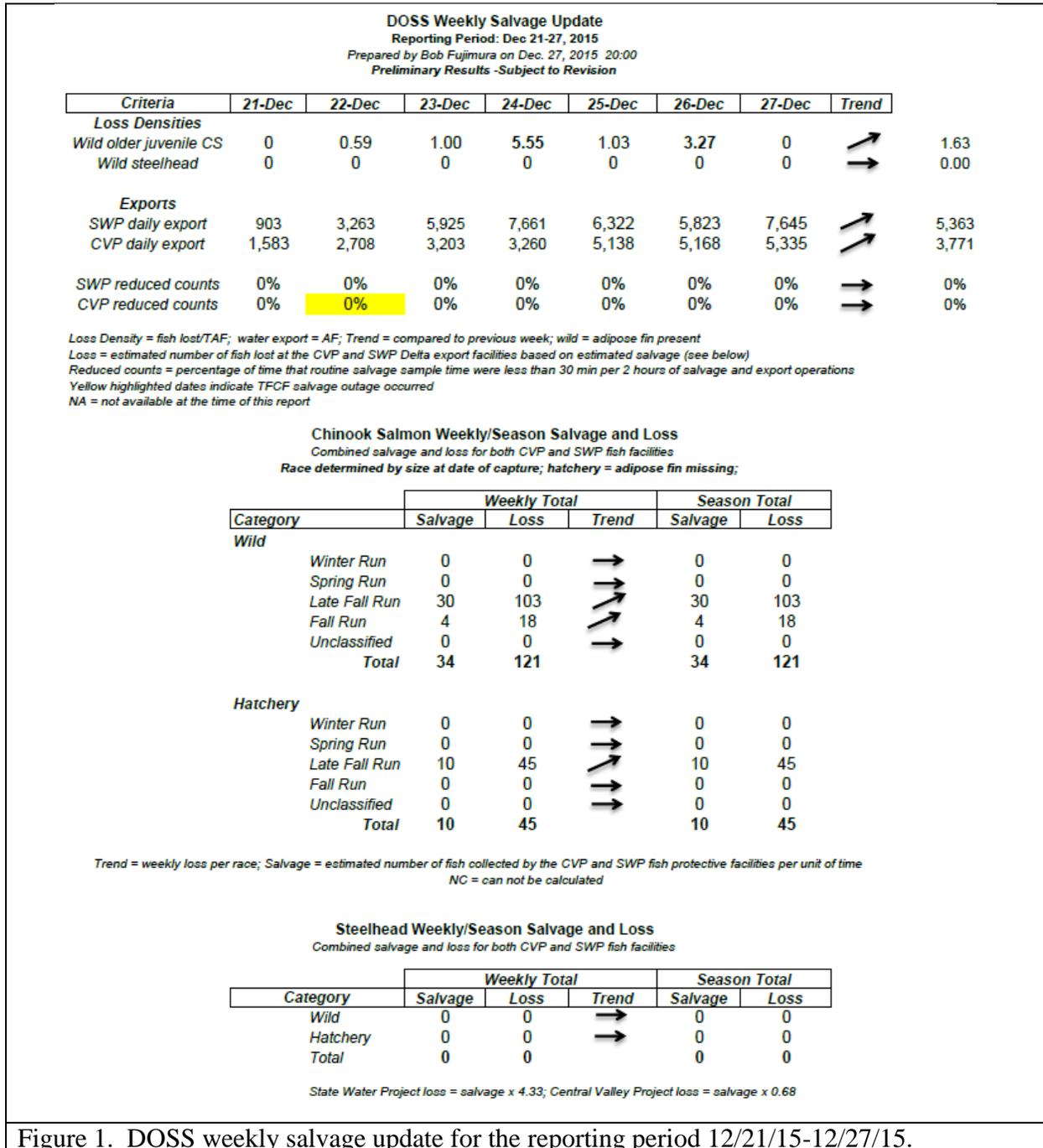


Figure 1. DOSS weekly salvage update for the reporting period 12/21/15-12/27/15.

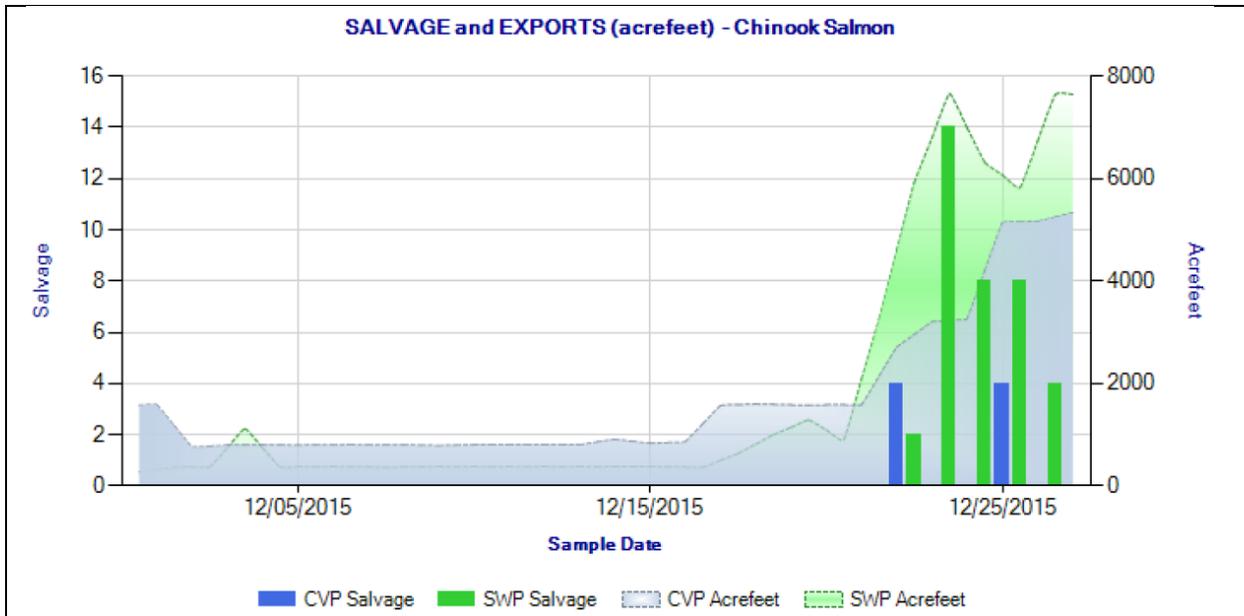


Figure 2. Daily salvage of Chinook salmon (all races) and water exports from the state and federal fish salvage facilities during December 1 through December 27, 2015.

Reece (DWR) reported that DWR initiated a request for genetic testing today. The test (of up to 96 tissue samples) will include (a) tissue samples from all the unclipped juvenile Chinook salmon caught in salvage to date and (b) tissue samples from the stranded Chinook adults moved recently from the Colusa Basin to the Sacramento River.

DOSS Estimates of Fish Distribution

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. As monitoring information is received, listed species distribution will be updated and included in the following table.

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>	80% - 85% (Last week: <90%)	15% - 20% (Last week: >10%)	0% (Last week: same)
<i>Young-of-year (YOY) spring-run Chinook salmon</i>	95% - 99% (Last week: ~ 99%)	1% - 5% (Last week: ~ 1%)	0% (Last week: same)

Agenda Item 6.

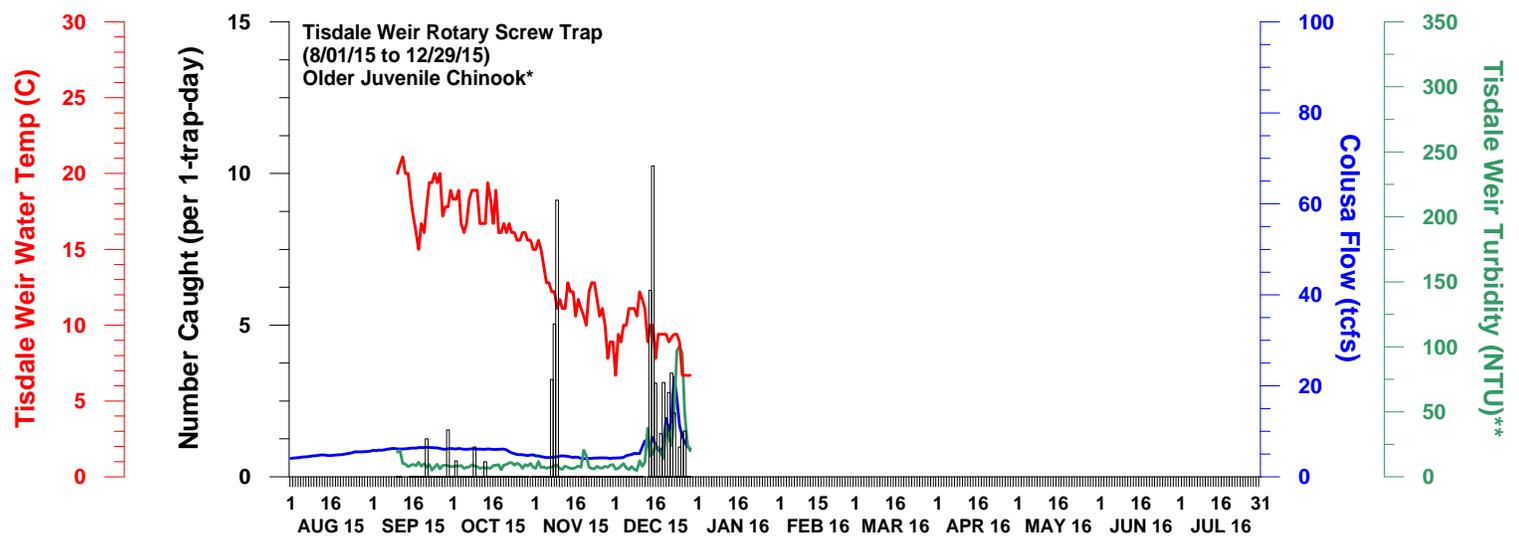
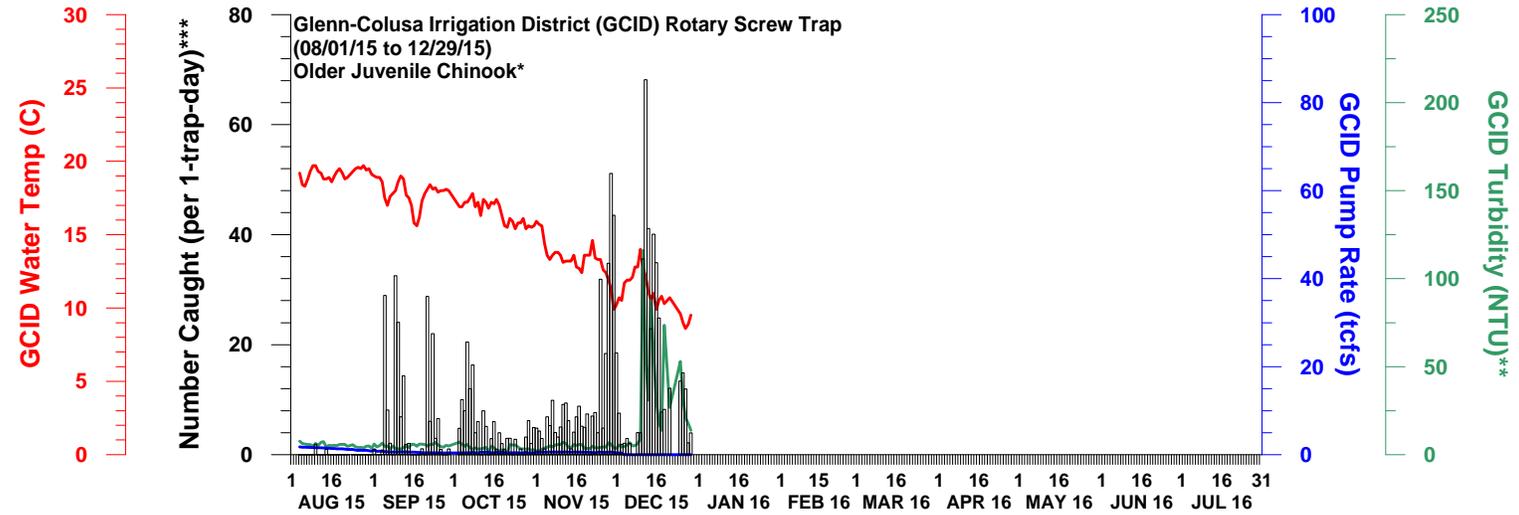
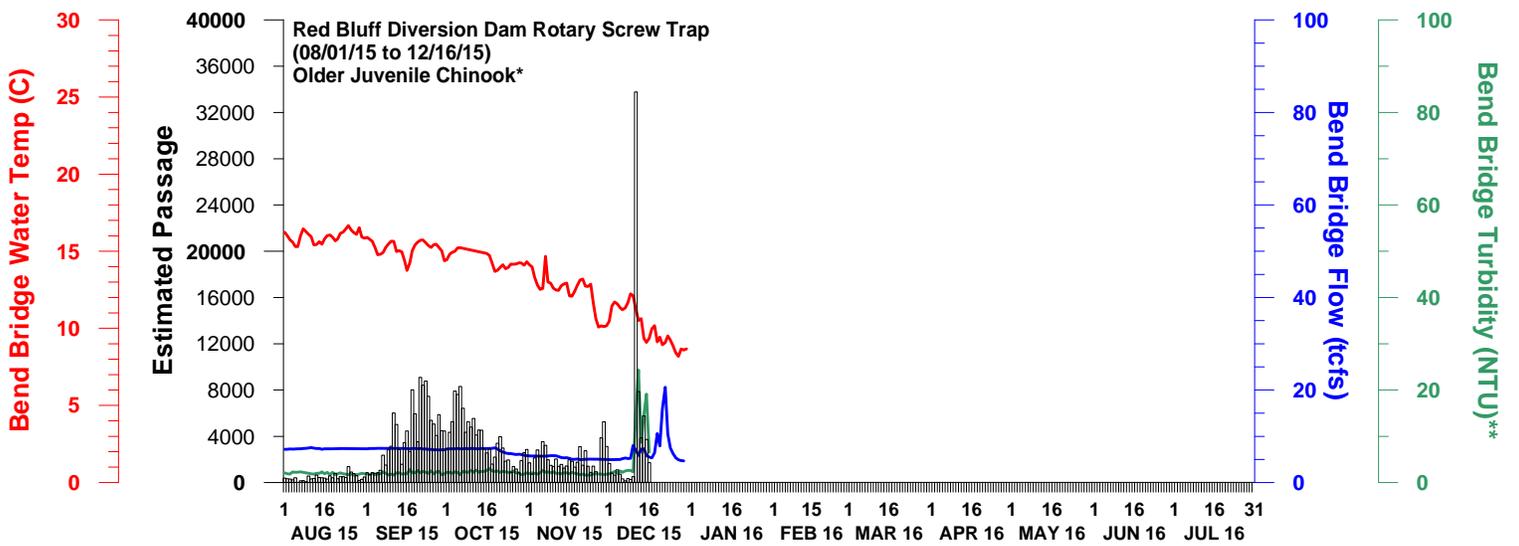
DOSS Advice to WOMT and NMFS: None

Agenda Item 7.

Next Meeting: The next DOSS conference call will be on 1/5/15 at 9am.

The following graphs were provided by DWR for Chinook salmon and steelhead observed at monitoring locations in the Sacramento and San Joaquin rivers and Delta. Also available at: <http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>

NUMBER OF UNMARKED OLDER JUVENILE CHINOOK MEASURED IN THE SACRAMENTO RIVER

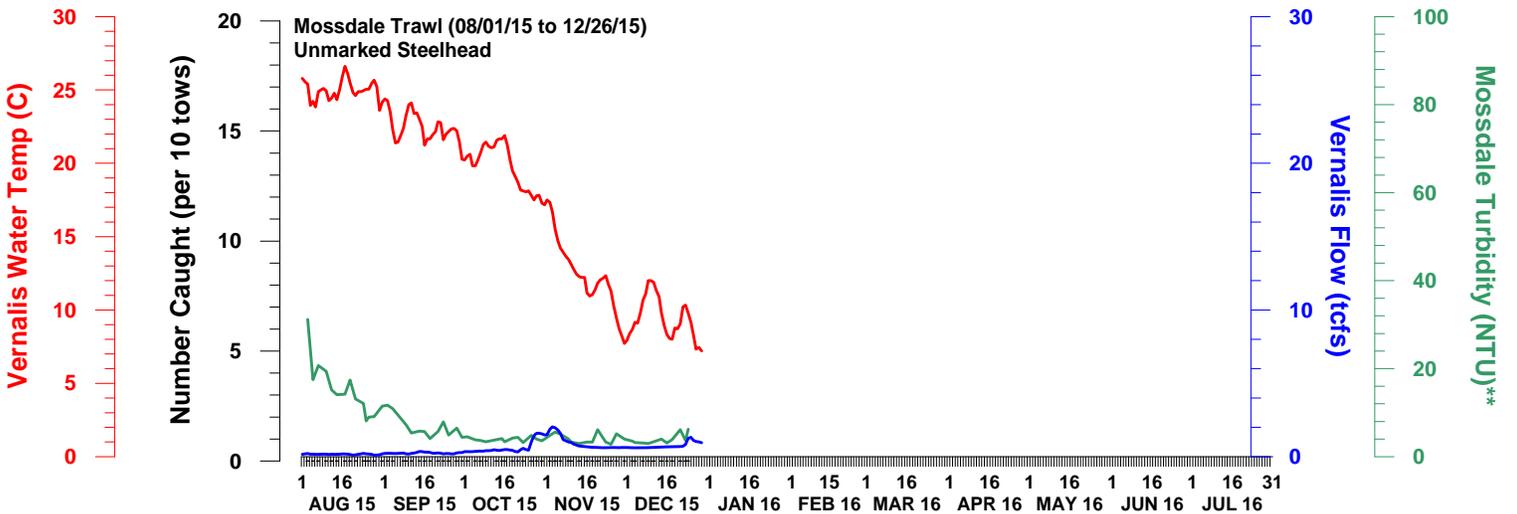
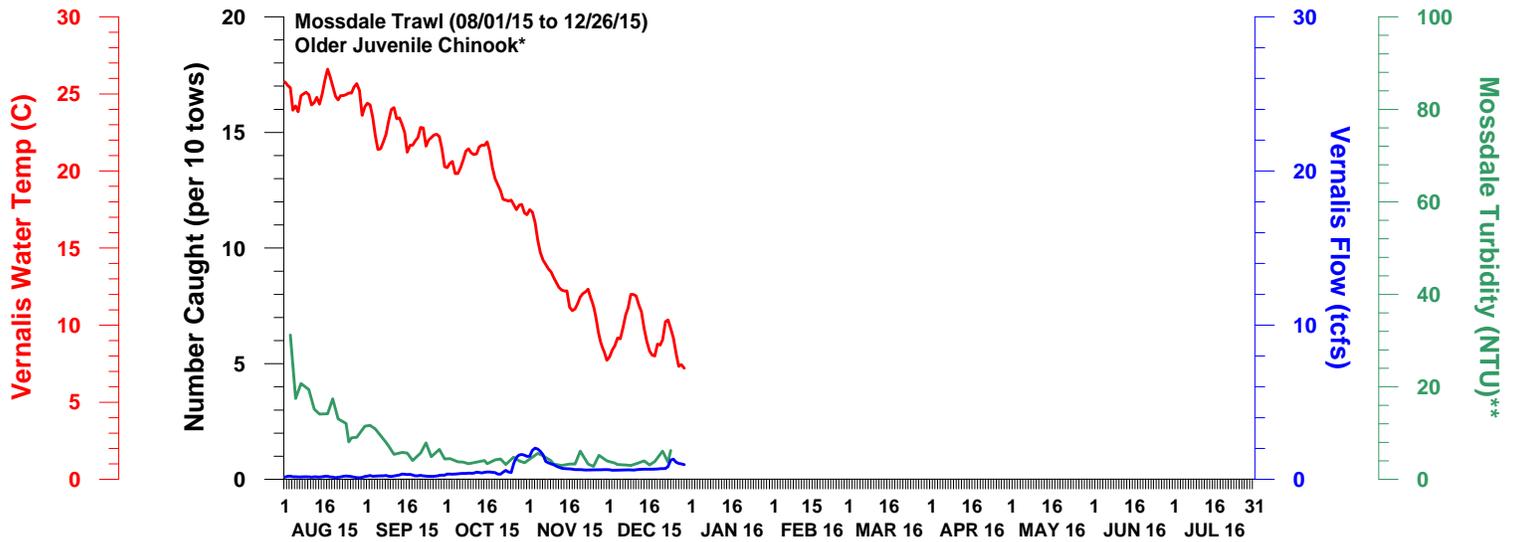


DWR-DES 30 December 2015
 Preliminary data from DFW, FWS, GCID, and CDEC; subject to revision.

*Older juvenile Chinook defined as all Chinook greater than or equal to the minimum winter run length-at-date criteria and less than the maximum size included in the length-at-date criteria (Frank Fisher model) for which a race is assigned on a given sampling date.

-Tisdale: 12/12/2015-12/13/2015 there was a river right revolution malfunction.

NUMBER OF UNMARKED OLDER JUVENILE CHINOOK AND STEELHEAD MEASURED IN THE SAN JOAQUIN RIVER

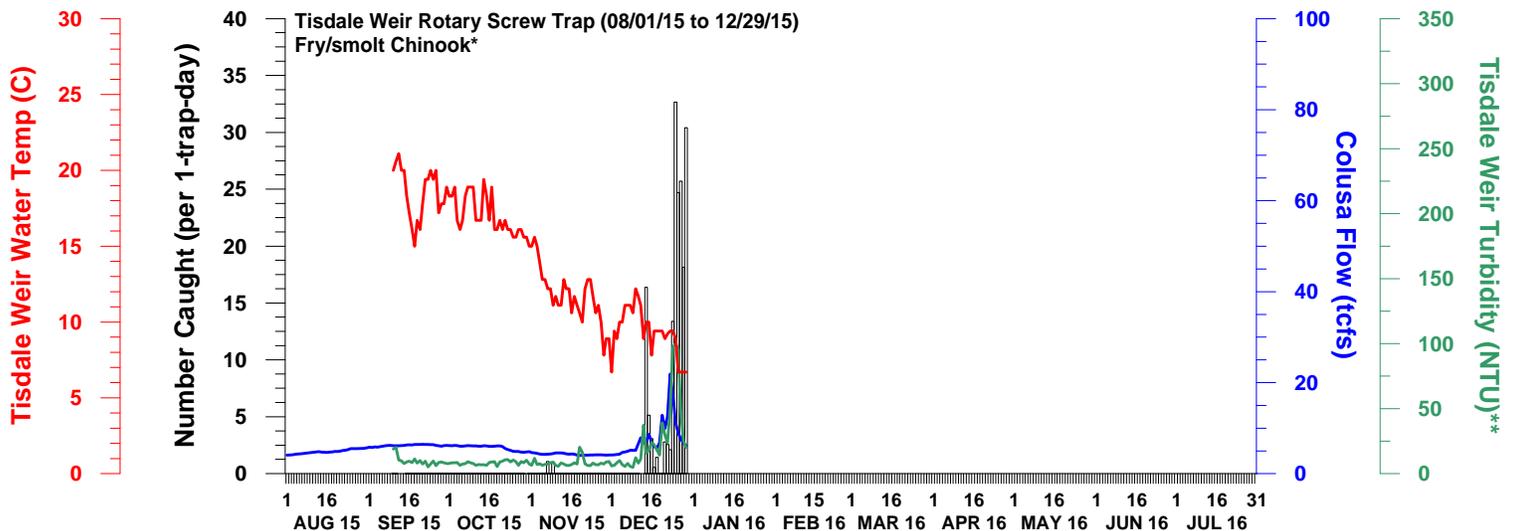
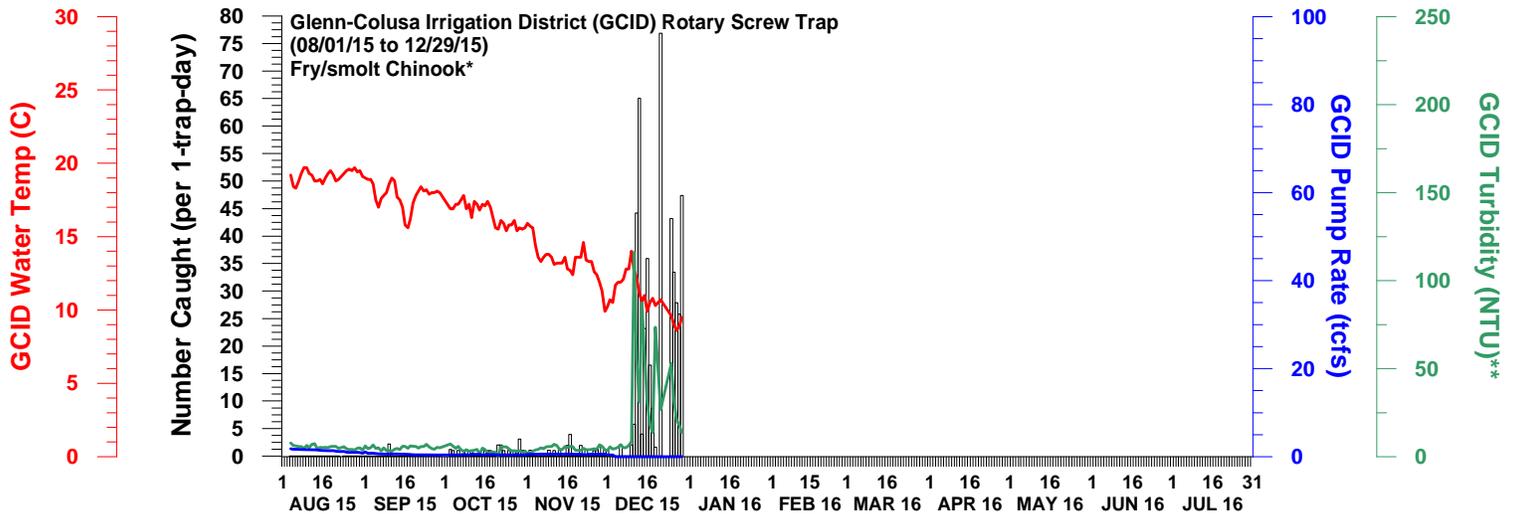
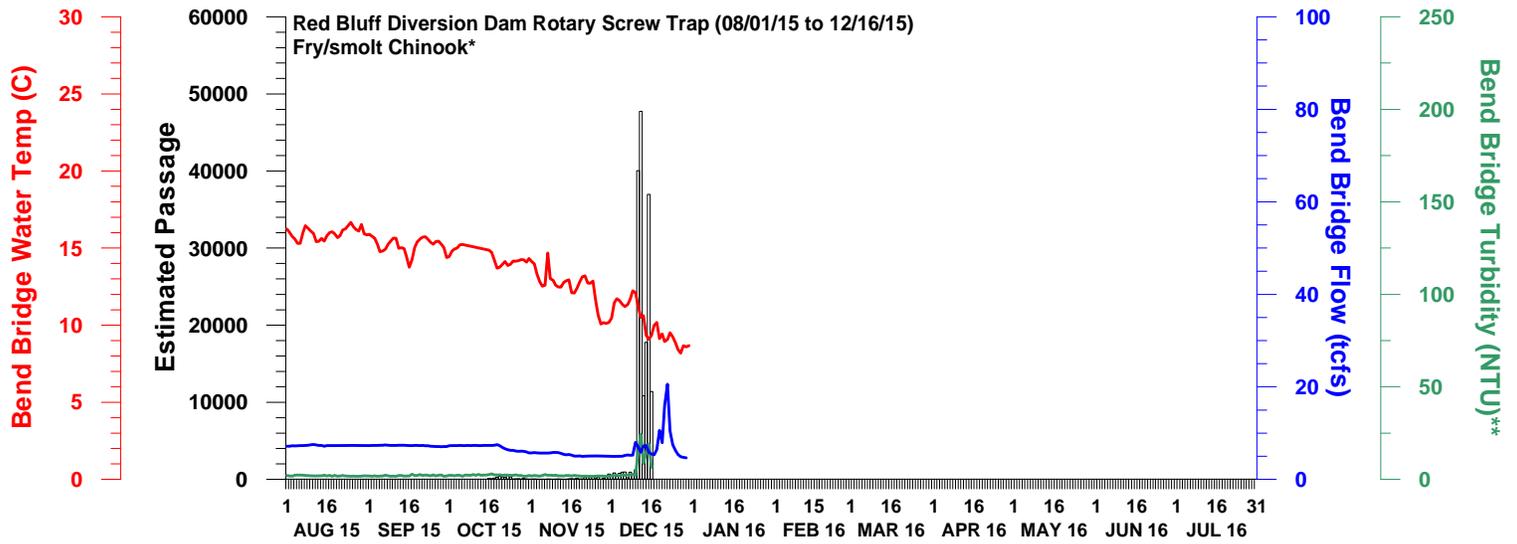


DWR-DES 30 December 2015
Preliminary data from FWS and CDEC; subject to revision.

*Older juvenile Chinook defined as all Chinook greater than or equal to the minimum winter run length-at-date criteria and less than the maximum size included in the length-at-date criteria (Frank Fisher model) for which a race is assigned on a given sampling date.

**Turbidity is a discrete measurement and is not measured continuously. Therefore, data are interpolated on days when turbidity was not measured unless data are missing for more than five days.

NUMBER OF UNMARKED FRY/SMOLT CHINOOK MEASURED IN THE SACRAMENTO RIVER

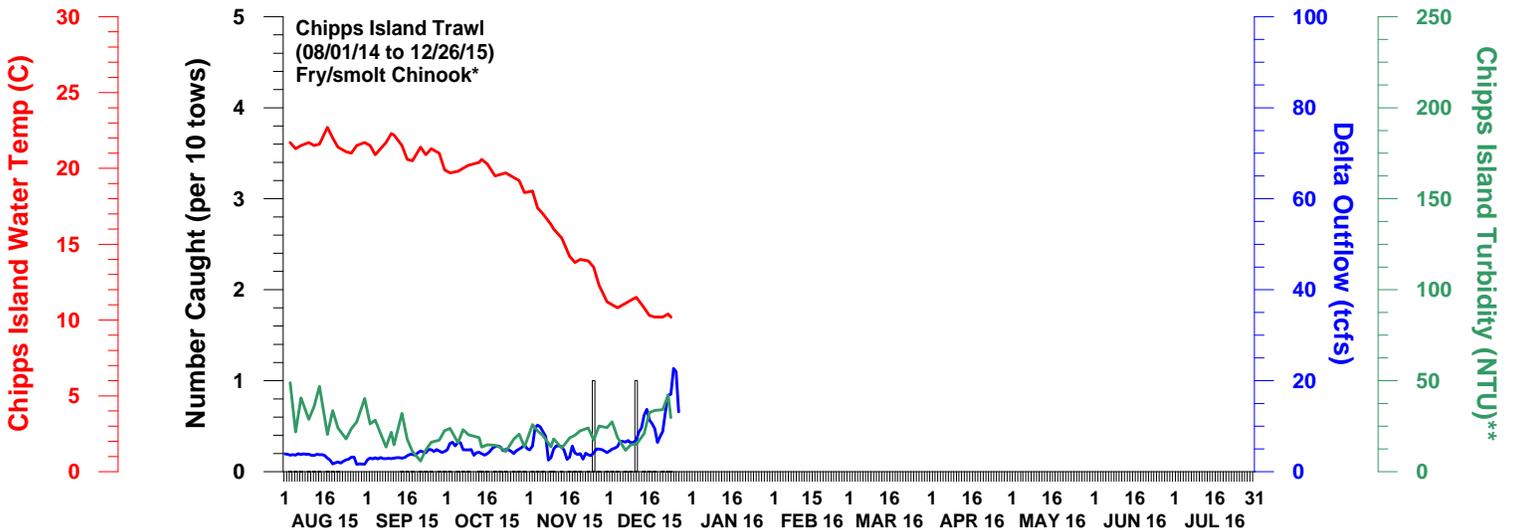
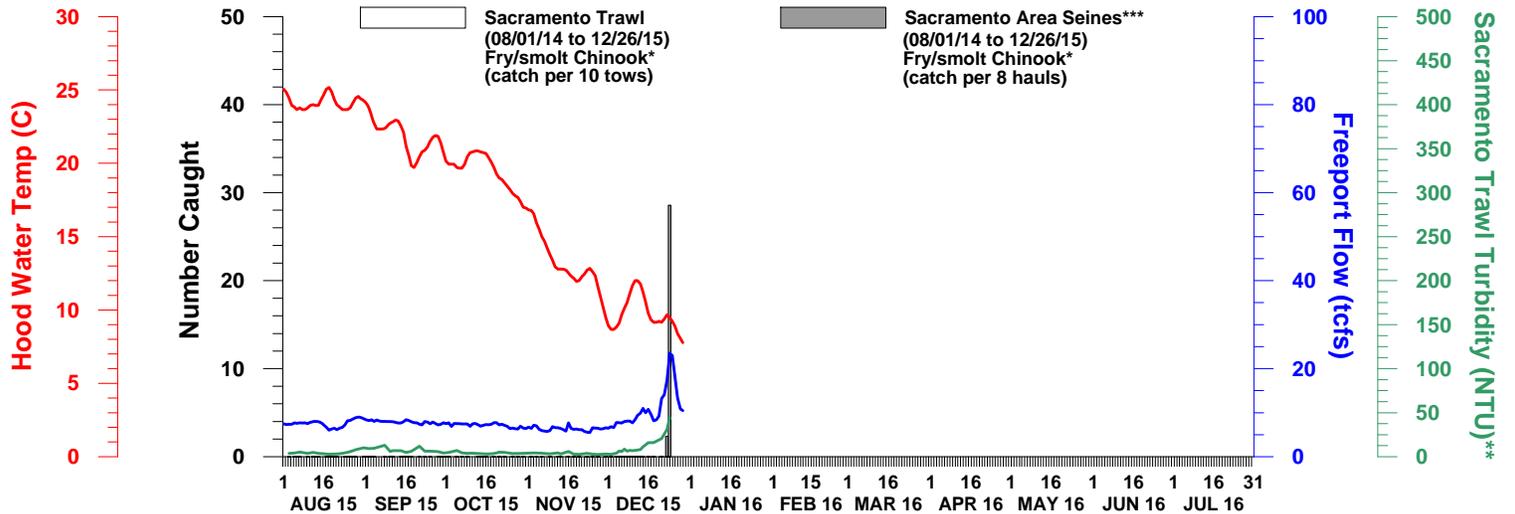
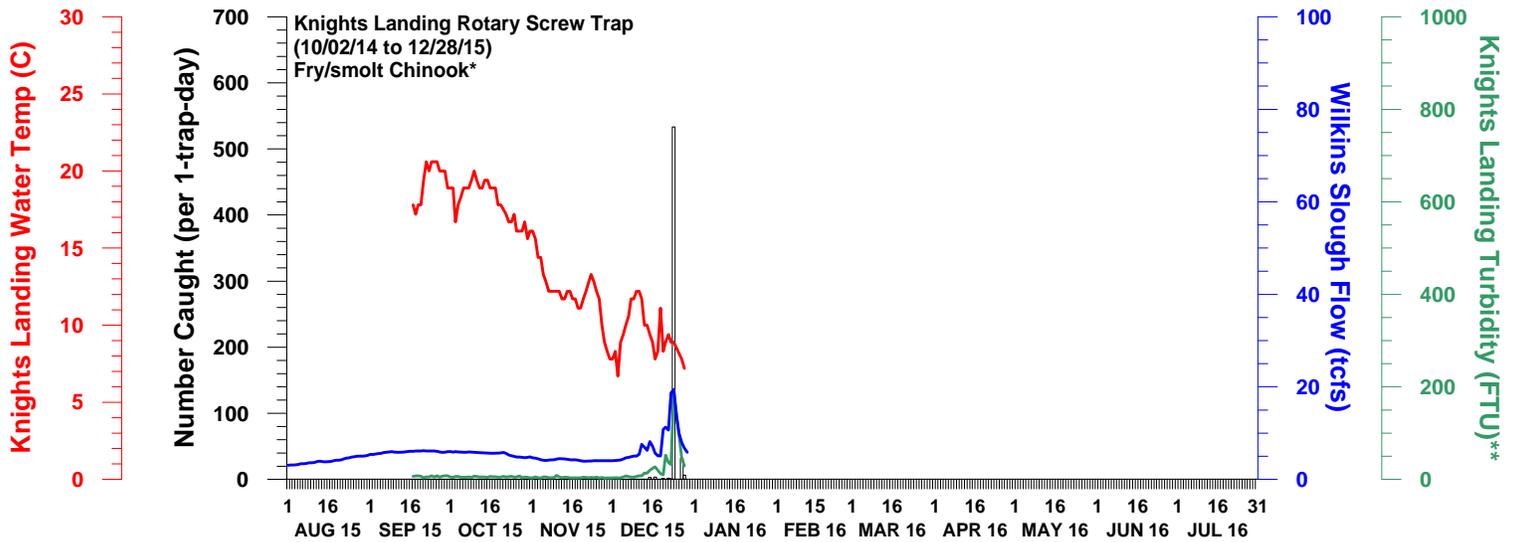


DWR-DES 30 December 2015
Preliminary data from DFW, FWS, GCID, and CDEC; subject to revision.

*Fry/smolt Chinook defined as all Chinook less than the minimum winter run length-at-date criteria (Frank Fisher model).

**Turbidity is a discrete measurement and is not measured continuously. Therefore, data are interpolated on days when turbidity was not measured unless data are missing for more than five days.

NUMBER OF UNMARKED FRY/SMOLT CHINOOK MEASURED IN THE LOWER SACRAMENTO RIVER AND CHIPPS ISLAND



DWR-DES 30 December 2015

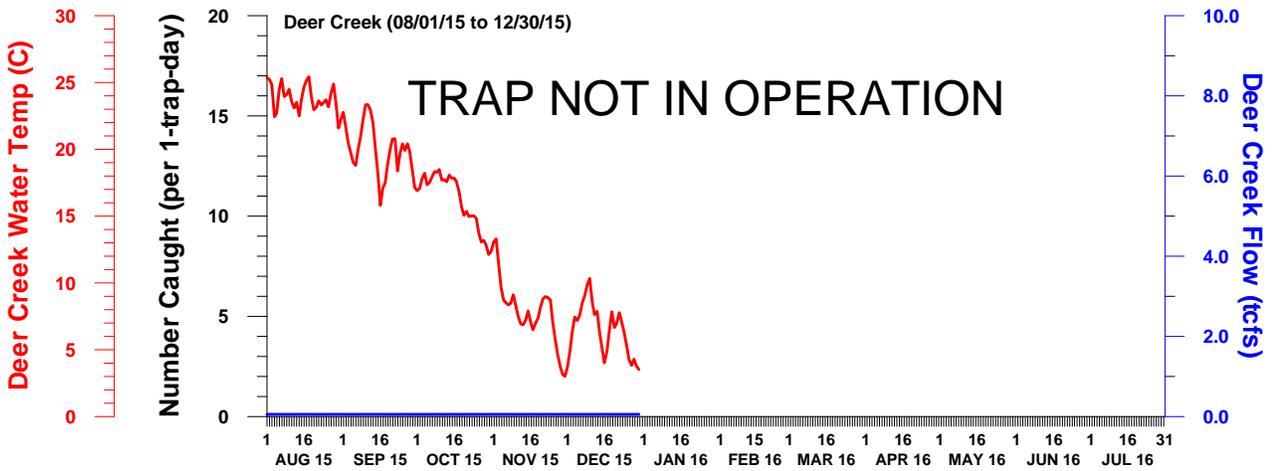
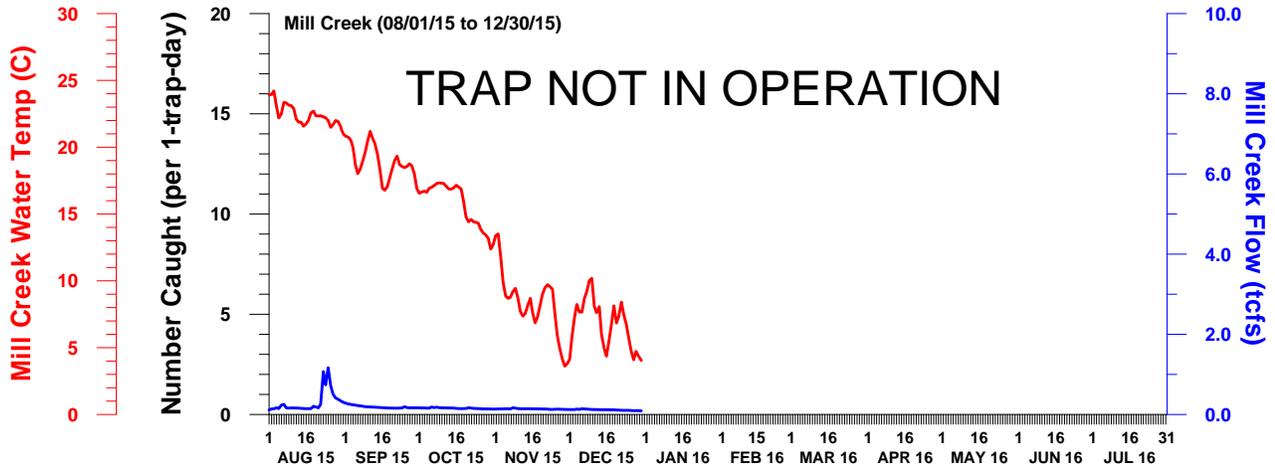
Preliminary data from DFW, FWS, and CDEC; subject to revision.

*Fry/smolt Chinook defined as all Chinook less than the minimum winter run length-at-date criteria (Frank Fisher model).

**Turbidity is a discrete measurement and is not measured continuously. Therefore, data are interpolated on days when turbidity was not measured unless data are missing for more than five days. Knights Landing turbidity measured in FTU, which should be roughly equivalent to NTU.

***Sacramento area seine route consists of the following seine sites: Verona, Elkhorn, Sand Cove, Discovery Park, American River, Miller Park, Sherwood Harbor, and Garcia Bend. Bars are stacked if Chinook caught from the trawl and seines are from the same day.

WATER TEMPERATURE AND FLOW MEASURED AT MILL AND DEER CREEK



Data Acquisition:

All data are preliminary and subject to revision.

The estimated passage data for the Red Bluff Diversion Dam were obtained directly from the US Fish and Wildlife Service (FWS), Red Bluff Fish and Wildlife Office (http://www.fws.gov/redbluff/rbdd_biweekly_final.html).

The catch data for Glenn-Colusa Irrigation District (GCID) were obtained directly from GCID.

The catch data for Tisdale Weir and Knights Landing were obtained directly from the California Department of Fish and Wildlife (DFW)¹, North Central Region.

Sacramento River Trawl, Sacramento Area Beach Seine, and Chipps Island Trawl data were obtained directly from FWS, Stockton Fish and Wildlife Office (<http://www.fws.gov/stockton/ifmp/>).

Mossdale Trawl data were either obtained directly from FWS, Stockton Fish and Wildlife Office or from DFW (Region 4).

The hydrology data were either downloaded from the California Data Exchange Center (CDEC) (<http://cdec.water.ca.gov>) or obtained directly from the California Department of Water Resources, Operations Control Office.

¹ Formerly known as the California Department of Fish and Game (DFG).