

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 11/17/2015 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, Rhiannon Mulligan

Reclamation: Peggy Manza

NMFS: Barb Byrne, Jeff Stuart, Meiling Roddam

USFWS: Craig Anderson

CDFW: Bob Fujimura, Duane Linander, Ken Kundargi

SWRCB: Chris Carr, Matt Holland

Agenda Items

1. Agenda review and introductions
2. RPA Implementation review
3. Current Operations
4. Fish Monitoring
5. Check-in on early indications for low winter-run Chinook JPE
6. Smelt Working Group
7. DOSS Advice
8. Next DOSS meeting

Agenda Item 2.

RPA Implementation Review

Delta RPA Actions that may affect operations during November:

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

- Recent (11/10-11/16/15) conditions for:
 - Wilkins Slough flow: 4,217-4,492 cfs (range of mean daily flow)
 - Knights Landing temperature: 53-54°F (range of temperatures reported at the rotary screw traps during trap checks)
 - Mill Creek and Deer Creek flows [highlighted cells exceeded the first component (95 cfs flow threshold) or second component (>50% flow change) in first alert]:

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	% increase in mean daily flow	mean daily flow	% increase in mean daily flow
11/10/2015	97	-	96	-
11/11/2015	85	-12.4%	76	-20.8%
11/12/2015	82	-3.5%	73	-3.9%
11/13/2015	81	-1.2%	71	-2.7%
11/14/2015	82	1.2%	71	0.0%
11/15/2015	100	22.0%	85	19.7%
11/16/2015	101	1.0%	97	14.1%

- The first alert (triggered if either component is met) was triggered based on Mill Creek and Deer Creek flows >95 cfs (either or both creeks; see table above for details) on 11/10/15, 11/15/15, and 11/16/15.
- The first component of the second alert was met based on Knights Landing temperatures less than 56.3°F on 11/10-11/16, but the second component (Wilkins Slough flows >7,500 cfs) was not met; the second alert is not triggered unless both components are met.

Action IV.1.2² (DCC gate operations):

- Since 10/1/15, none of the criteria requiring DCC gate closure have been met.

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.
- No salvage-based triggers that would require export reduction have been exceeded over the past week.

Agenda Item 3.

Current Operations (11/17/2015)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	500*	Jones Pumping Plant	1,850-2,000
Reservoir Releases (cfs)			
Feather - Oroville	1,200	American - Nimbus	500
		Sacramento - Keswick	4,250
		Stanislaus - Goodwin	200
		Trinity - Lewiston	300
Reservoir Storage (in TAF)			
San Luis (SWP)	298	San Luis (CVP)	98
Oroville	956	Shasta	1,367

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

New Melones	265	Folsom	139
Delta Operations			
DCC	Open	Sacramento River at Freeport (cfs)	7,685
Outflow Index (cfs)	5,500	San Joaquin River at Vernalis (cfs)	676
E:I	~ 36.7% (3-day avg.)	X2	>81 km

*SWP exports for the rest of the week are likely to range between 500 and 1000 cfs

Seasonal salinity management is currently controlling exports.

OMR values:

	Daily (11/16)	5-day (11/16)	14-day (11/16)	Daily (11/13)	5-day (11/13)	14-day (11/13)
Index	-3,053	-3,024	-2,847	Not reported	Not reported	-2,558
Gauges	Not reported	Not reported	Not reported	-2,940	-2,520	-2,183

Barriers:

- The Emergency Drought Barrier at West False River is completely out.
- The Head of Old River Barrier will be out by 11/19/15.
- The Grant Line Canal Barrier will be out by 11/30/15.

Agenda Item 4.

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	Sacramento Trawl	Beach Seines	Knights Landing RST ^A	Tisdale RST ^B	GCID RST	Mossdale Kodiak Trawl
Sample Date	11/8-11/14	11/8-11/14	11/8-11/14	11/8-11/15	11/9-11/16	11/10-11/16	11/8-11/14
Total Catch	0	0	0	0	0	45	0
FR Chinook						4	
WR Chinook						14	
SR Chinook							
LFR Chinook						27	
Ad-Clipped Chinook							

Delta Smelt							
Splittail							
Longfin Smelt							
Steelhead (ad-clip)							
Steelhead (wild)							
Green Sturgeon							
Flows (avg. cfs)				4,357	4,440	833	
W. Temp. (avg. °F)				53	53	55.8	
Turbidity (avg. NTU)				4	7	5.45	

^A Sampling period was from 11/8 at 10:30 am to 11/15 at 11:15 am

^B Sampling period was from 11/9 at 8:00 am to 11/16 at 8:30 am.

Fish Salvage⁴: No species of management concern have been salvaged during WY 2016.

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. DOSS estimates the bulk of young-of-year winter-run Chinook are still upstream of the Delta. Young-of-year spring-run Chinook are assumed still scarce; many young-of-year spring-run Chinook juveniles have likely not emerged yet from redds.

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>	>95% (same last week)	<5% (same last week)	0% (same last week)

Agenda Item 5.

Check-in on early indications for low JPE

Winter-run Chinook passage past Red Bluff Diversion Dam (RBDD) to date (as of 11/4/15) is lower than last year; raising concerns that the Juvenile Production Estimate (JPE) for brood year 2015 winter-run Chinook salmon may be lower than last year’s JPE. If that is the case, and since the JPE-based triggers in Action IV.2.3 were less than the minimum trigger values in WY 2015, the minimum 2.5 fish/TAF and 5.0 fish/TAF minimum older juvenile Chinook salmon density triggers may again apply in WY 2016.

⁴Salvage 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.

Last year, in anticipation that the first- and second-stage JPE-based triggers in Action IV.2.3 would be less than the minimum trigger levels, DOSS advised that, until NMFS issued the final JPE for winter-run Chinook salmon, Action IV.2.3 be implemented using the minimum trigger values for the JPE-based triggers. Today, DOSS discussed the issue and agreed to advise the same approach again this year if NMFS does not issue its JPE letter to Reclamation and DWR prior to January 1, 2016. Byrne (NMFS) will draft DOSS advice and circulate to DOSS for discussion and approval next week.

Agenda Item 6.

Smelt Working Group Update

The SWG had their kick off meeting on 11/16/15. SWG will begin routine meetings starting on Monday, 11/30/15. SWG notes will be posted at: http://www.fws.gov/sfbaydelta/cvp-swp/smelt_working_group.cfm

Agenda Item 7.

DOSS Advice to WOMT and NMFS: None.

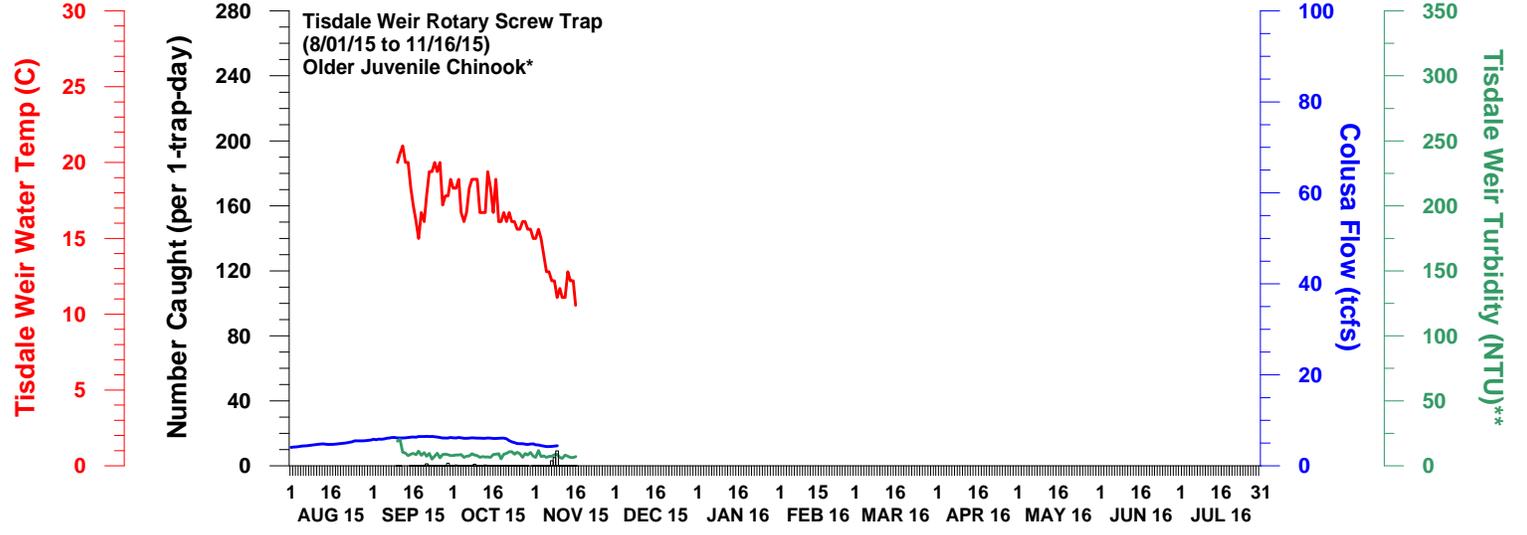
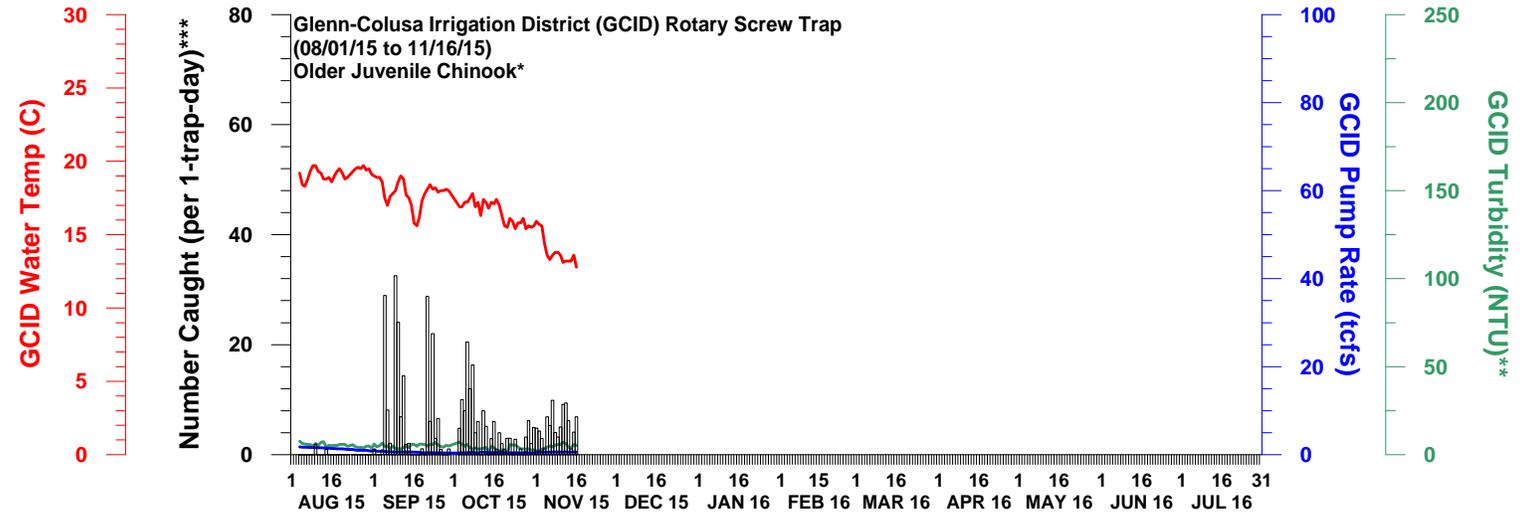
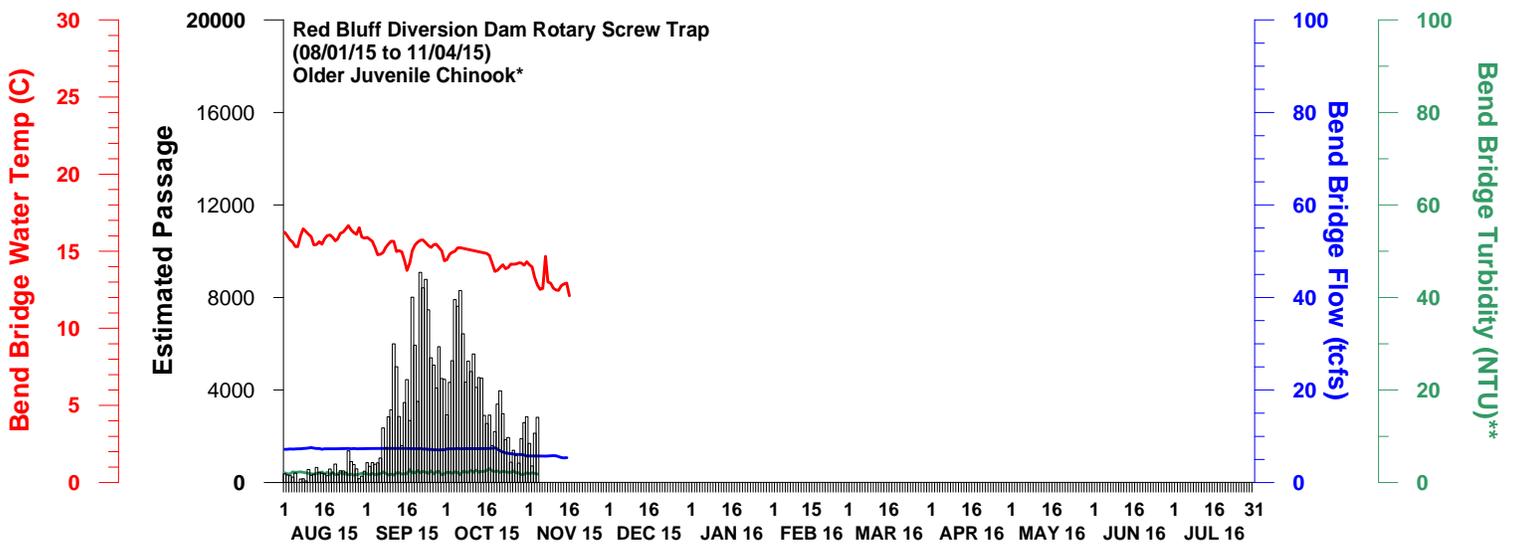
Agenda Item 8.

Next Meeting: The next DOSS conference call will be on 11/24/15 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. For additional graphs, please visit the DWR website at:

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

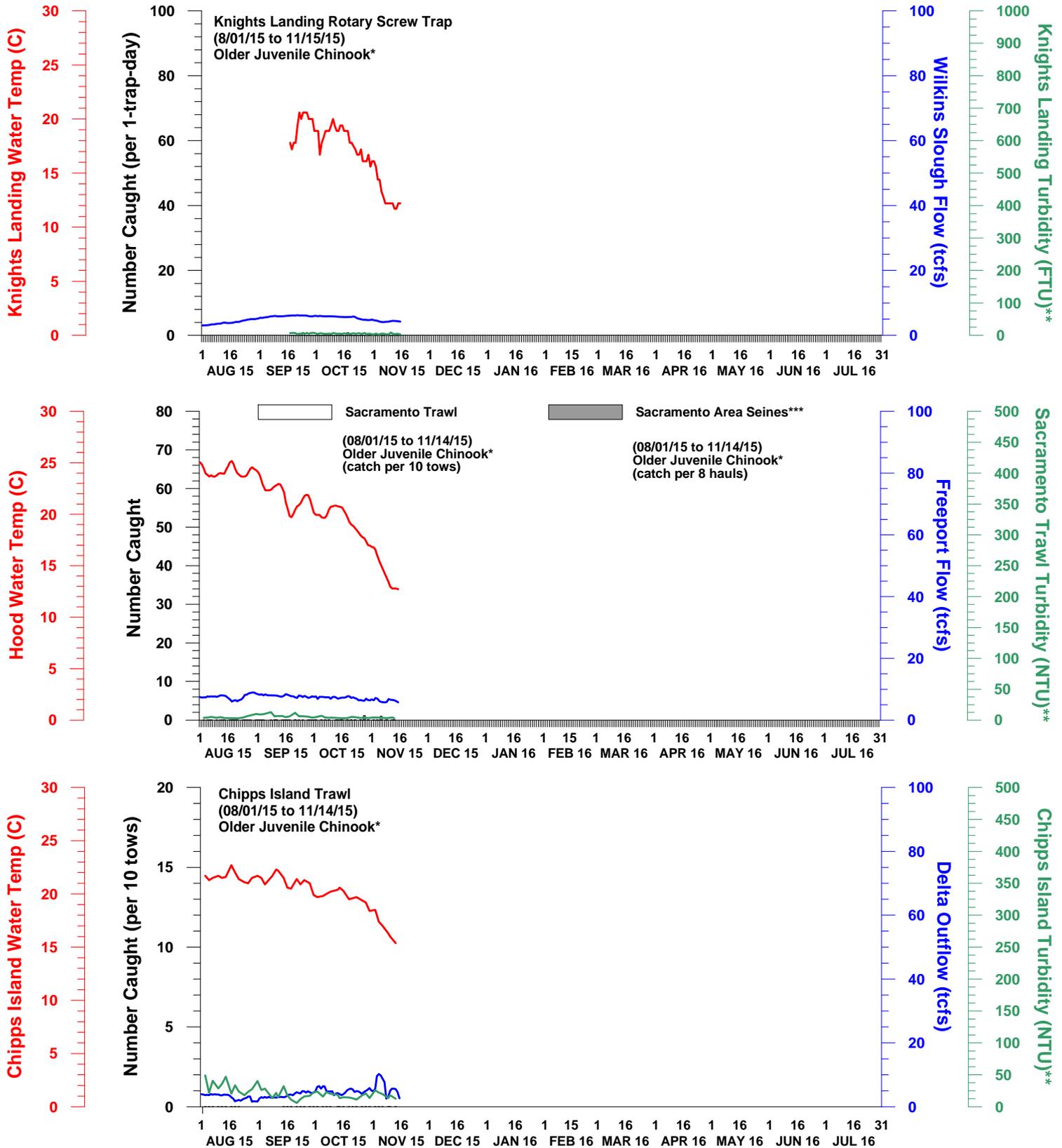
NUMBER OF UNMARKED OLDER JUVENILE CHINOOK MEASURED IN THE SACRAMENTO RIVER



DWR-DES 17 November 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.

NUMBER OF UNMARKED OLDER JUVENILE CHINOOK MEASURED IN THE LOWER SACRAMENTO RIVER AND CHIPPS ISLAND



DWR-DES 17 November 2015

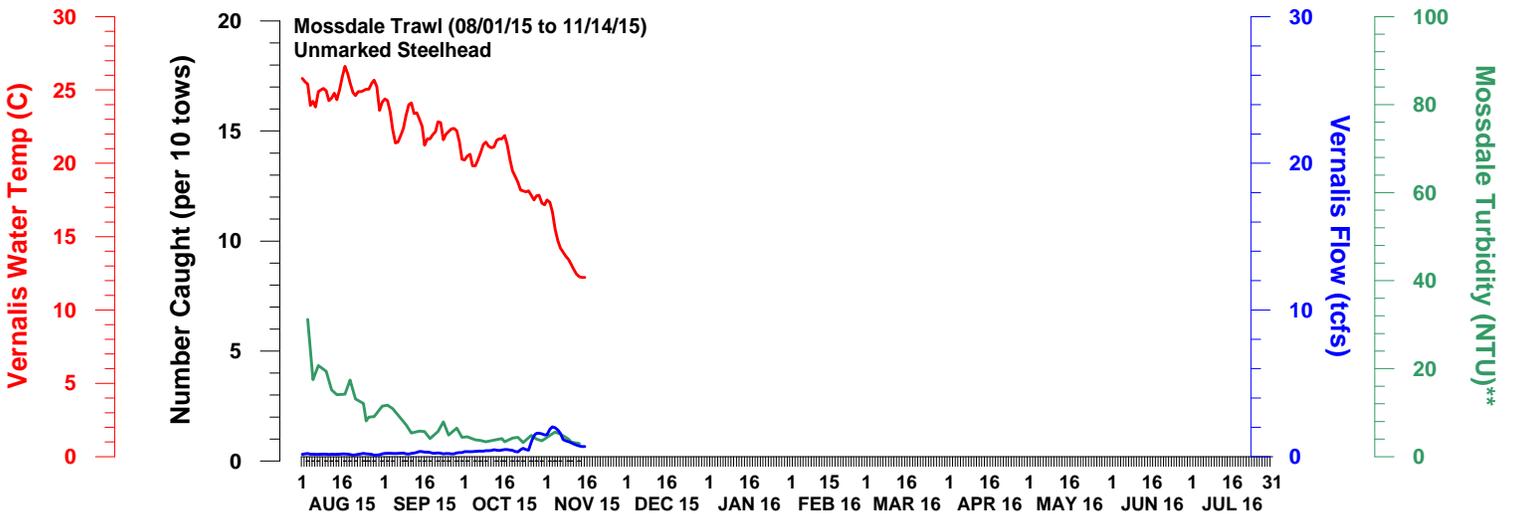
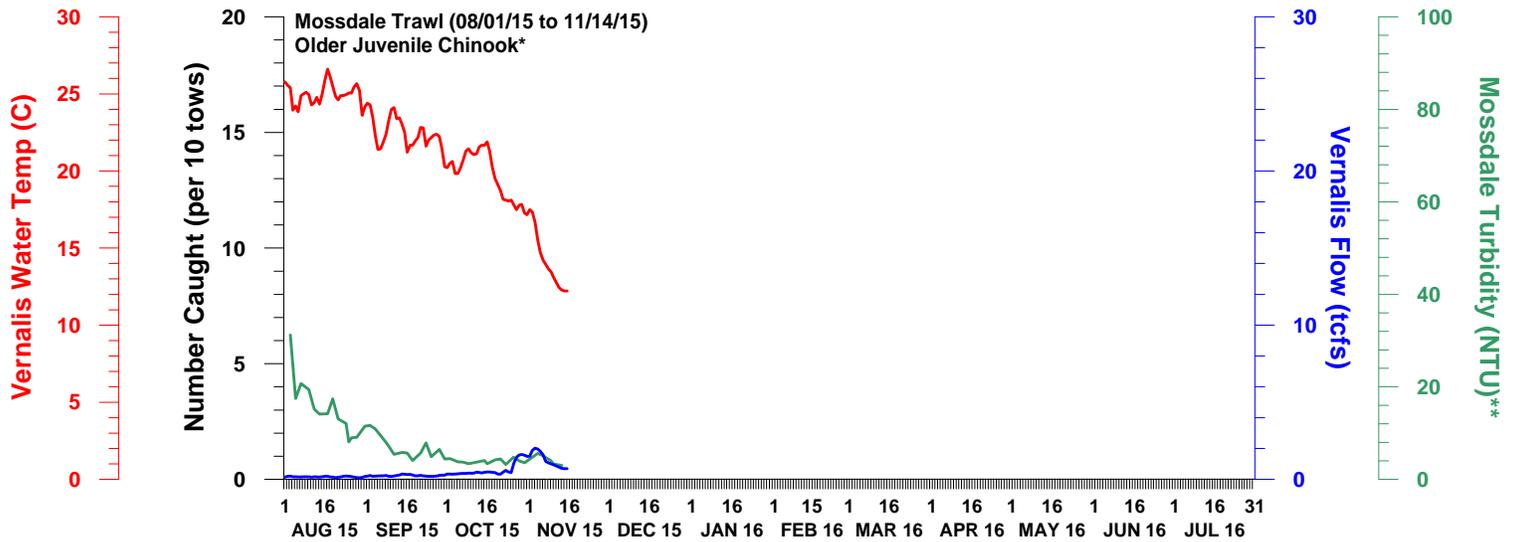
Preliminary data from DFW, FWS, and CDEC; subject to revision.

*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. 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.

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

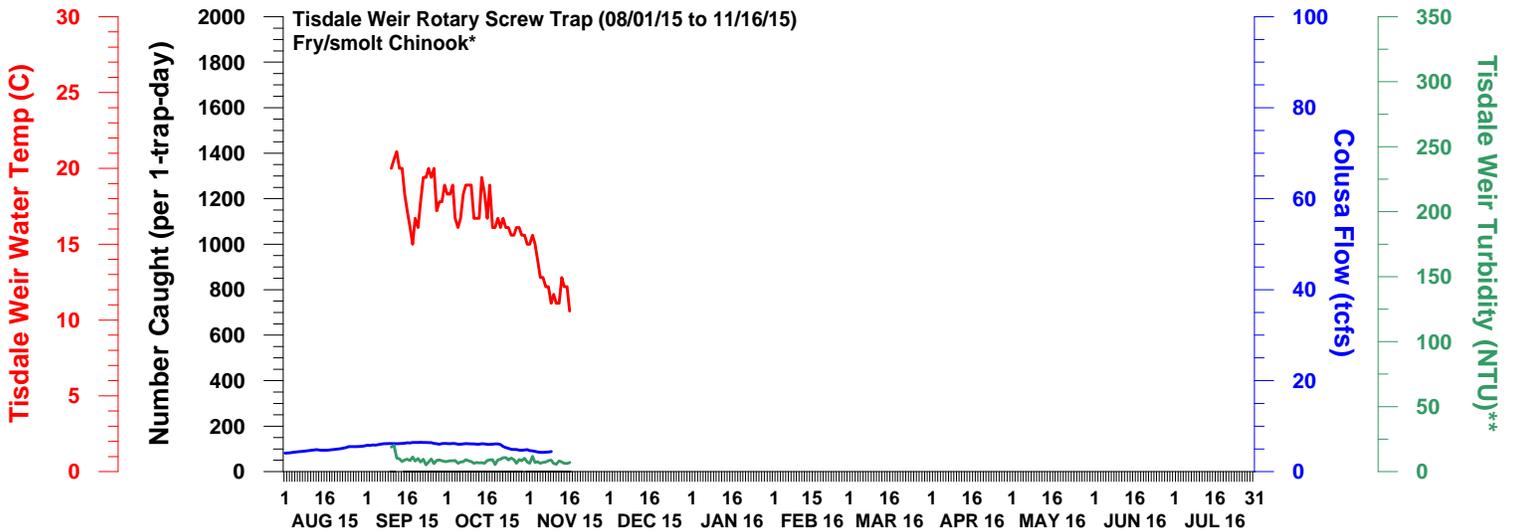
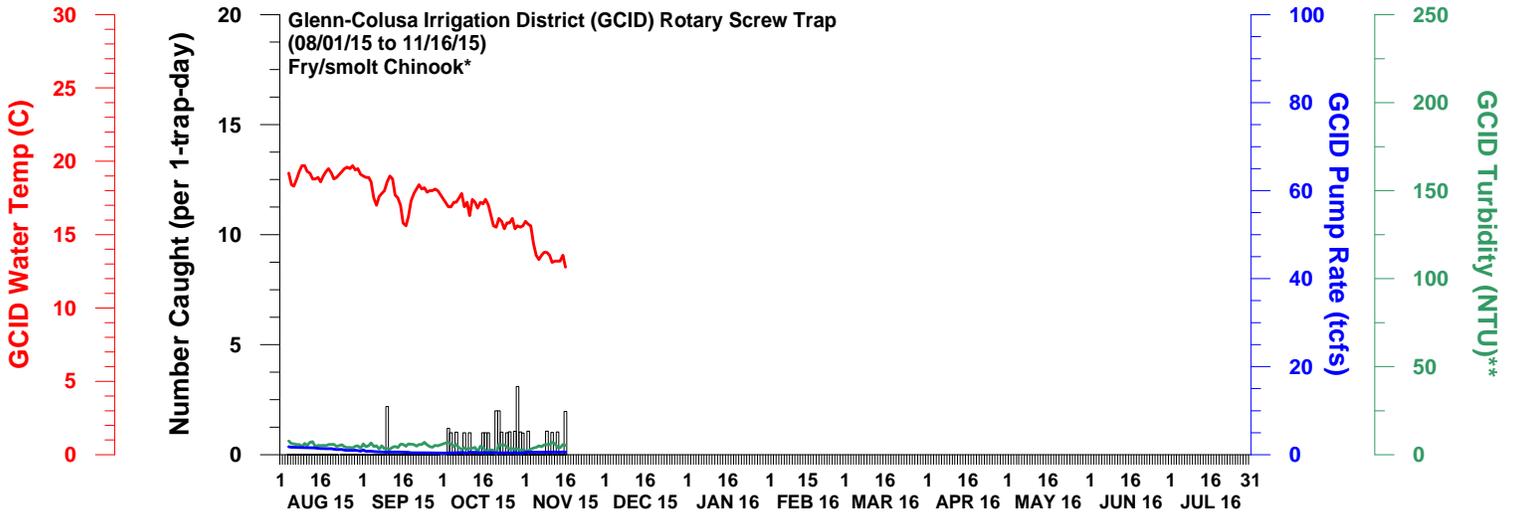
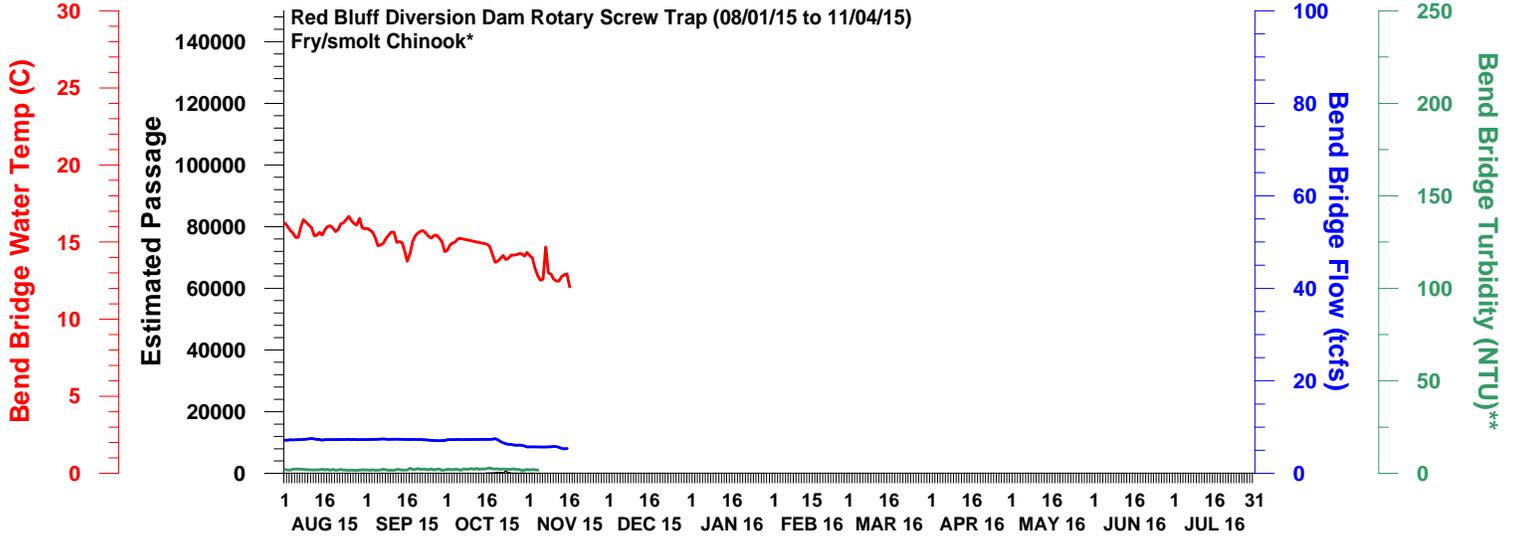


DWR-DES 17 November 2015
Preliminary data from FWS and CDEC; subject to revision.

*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 17 November 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.

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).