

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 12/01/2015 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: Josh Israel, Peggy Manza, Michele Palmer

NMFS: Barb Byrne, Jeff Stuart, Meiling Roddam

USFWS: Craig Anderson, Leigh Bartoo

CDFW: 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. DCC Flex request
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 and December:

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

- Recent (11/24-11/30/15) conditions for:
 - Wilkins Slough flow: 4,028-4,064 cfs (range of mean daily flow)
 - Knights Landing temperature: 47-55°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
11/24/2015	85	-	73	-
11/25/2015	91	7.1%	78	6.8%
11/26/2015	83	-8.8%	73	-6.4%
11/27/2015	81	-2.4%	70	-4.1%
11/28/2015	80	-1.2%	69	-1.4%
11/29/2015	79	-1.3%	68	-1.4%
11/30/2015	79	0.0%	68	0.0%

- The first alert (triggered if either component is met) was not triggered over the past week.
- The first component of the second alert was met based on Knights Landing temperatures less than 56.3°F on 11/24-11/30, 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):

- DCC gates are scheduled to close today, 12/1/15, at noon

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.

Agenda Item 3.

Current Operations (12/01/2015)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	150*	Jones Pumping Plant	800
Reservoir Releases (cfs)			
Feather - Oroville	1,400**	American - Nimbus	500
		Sacramento - Keswick	4,250
		Stanislaus - Goodwin	200
		Trinity - Lewiston	300
Reservoir Storage (in TAF)			
San Luis (SWP)	310	San Luis (CVP)	85
Oroville	929	Shasta	1,329

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	267	Folsom	137
Delta Operations			
DCC	Scheduled to close at noon today (12/1/15)	Sacramento River at Freeport (cfs)	6,546
Outflow Index (cfs)	~4,500	San Joaquin River at Vernalis (cfs)	629
E:I	14.3% (3-day avg.)	X2	>81 km

*Decreased from 300 cfs on 11/30 to 150 cfs on 12/1.

**Increased from 1,200 cfs due to water quality concerns in the Delta.

Manza (Reclamation) reported that the projects did not meet the 7-day Rio Vista flow objective (2,000 cfs in November, per the current TUCP⁴) from 11/27/15 through 11/30/15.

Seasonal salinity management and concerns about chloride standards are currently controlling exports.

OMR reported (in cfs):

Date: 11/28/15	Daily	5-day	14-day	Current (12/1/15)
USGS Gauges	-1,047	-1,055	-1,607	Not reported
Index	-1,066	-1,068	-1,856	~-1,000

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	11/22-11/28	11/22-11/28	11/22-11/28	11/23-11/30	11/23-11/29	11/24-11/30	11/22-11/28
Total Catch	2	0	0	0	0	163	0
FR Chinook	1 (158mm)					2	
WR Chinook						97	
SR Chinook						3	
LFR Chinook						60	

⁴ See p. 26 of 7/3/15 Order, available online at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/tucp/2015/tucp_order070315.pdf

Ad-Clipped Chinook							
Steelhead (wild)						1	
Steelhead (ad-clip)							
Green Sturgeon							
Delta Smelt							
Splittail	1						
Longfin Smelt							
Flows (avg. cfs)				4,031	4,125	780	
W. Temp. (avg. °F)				51.9	50	53.8	
Turbidity (avg. NTU)				3.7	8	4.8	

^A Sampling period was from 11/23 at 11:30 am to 11/30 at 9:00 am

^B Sampling period was from 11/23 at 9:45 am to 11/29 at 9:30 am.

Fish Salvage⁵: 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. There has been an uptick of catch of young-of-year winter-run Chinook and yearling late-fall-run Chinook at GCID, apparently associated with an abrupt drop in water temperatures (56°F on 11/25 to 50°F on 11/30). No increase in catch has yet been observed at monitoring stations downstream of GCID. Some DOSS members speculated that after a lag due to travel time, catch might increase at Knight's Landing and Tisdale; other DOSS members did not necessarily expect to see a pulse of fish at the more downstream monitoring locations without a pulse in flow, which is not expected in the next few weeks.

DOSS also discussed the yearling Chinook that have been observed in the monitoring and expressed interest in having genetic testing done to confirm (or correct) the run classification assigned based on the length-at-date tables. Reece (DWR) & Israel (Reclamation) mentioned that funding is available for genetic analysis of yearlings caught in the monitoring, but that tissue sampling might not be covered under current permits. Stuart & Byrne (NMFS) will look into whether or not tissue sampling is covered under the current permits for monitoring, and if not, the process and timeline for permitting tissue sampling.

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.

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.

DCC Flex Request

An informal request for DCC gate operations flexibility was made to NMFS last week. Reclamation is working on an official request for DCC gate operations flexibility during December 1-14.

Agenda Item 6.

Smelt Working Group Update

Bartoo (USFWS) reported the SWG update:

The SWG began routine meetings on Monday, 11/30/15. No recommendations were made during the 11/30/15 meeting. On Wednesday, 12/2/15 the Regional Director of USFWS will meet with the SWG to discuss guidance on SWG advice and recommendations. SWG notes will be posted at: http://www.fws.gov/sfbaydelta/cvp-swp/smelt_working_group.cfm

Agenda Item 7.

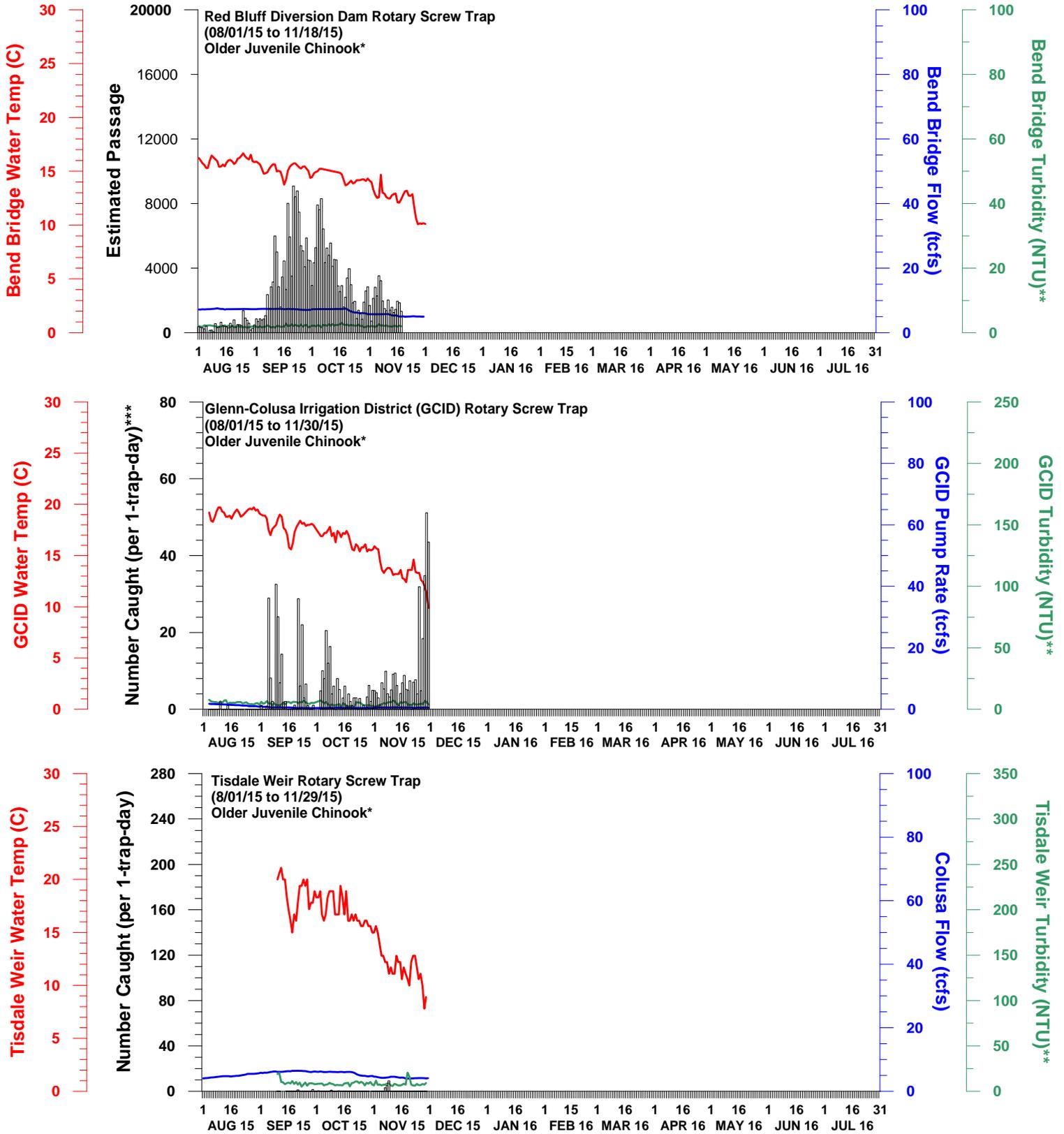
DOSS Advice to WOMT and NMFS: None.

Agenda Item 8.

Next Meeting: The next DOSS conference call will be on 12/8/15 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>

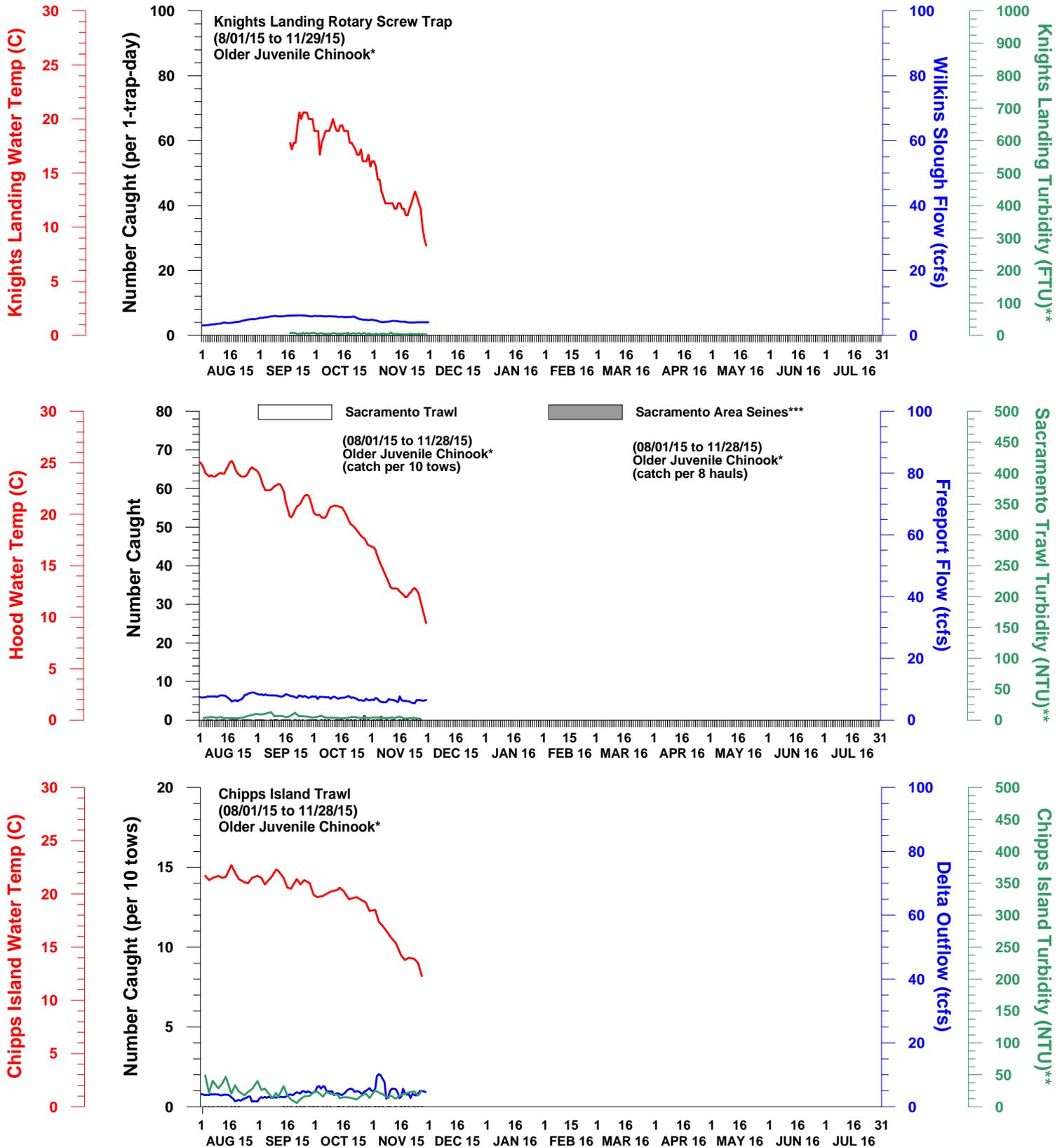
NUMBER OF UNMARKED OLDER JUVENILE CHINOOK MEASURED IN THE SACRAMENTO RIVER



DWR-DES 1 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.

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



DWR-DES 1 December 2015

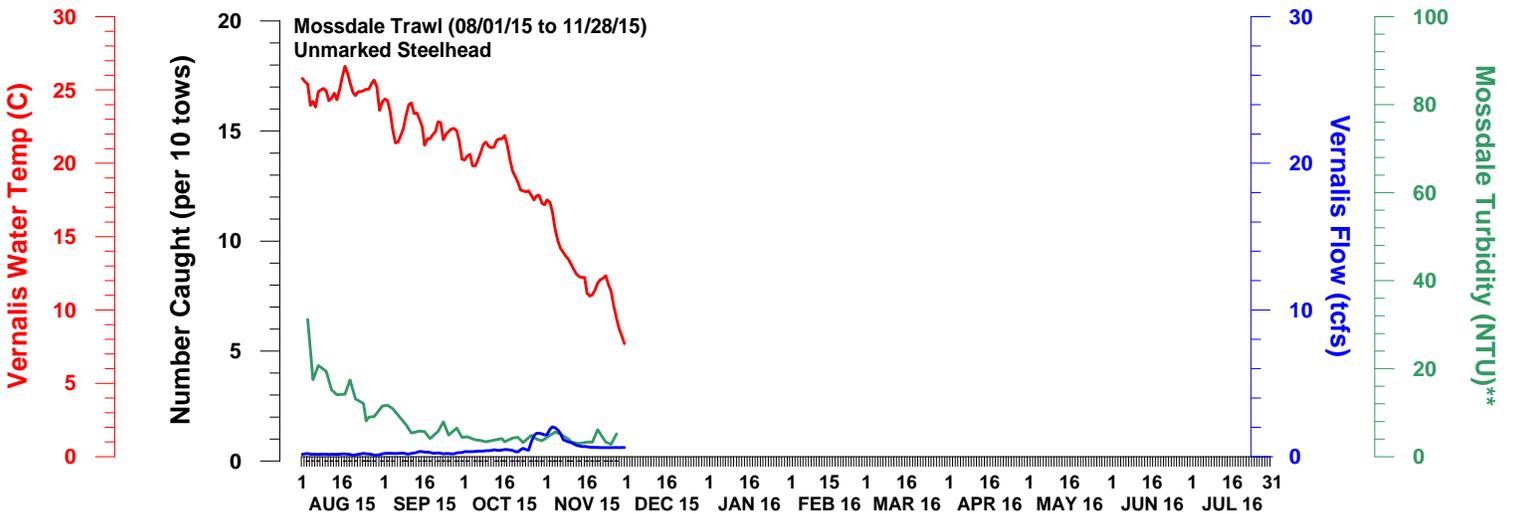
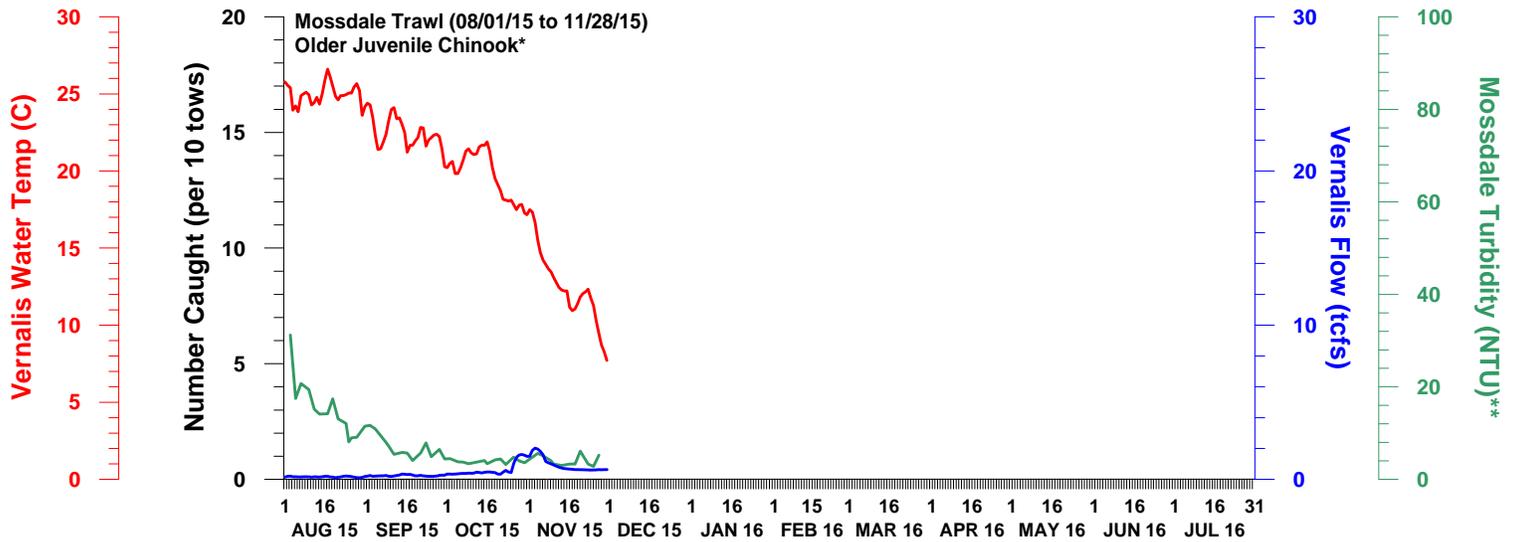
Preliminary data from DFW, FWS, and CDEC; subject to revision.

*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

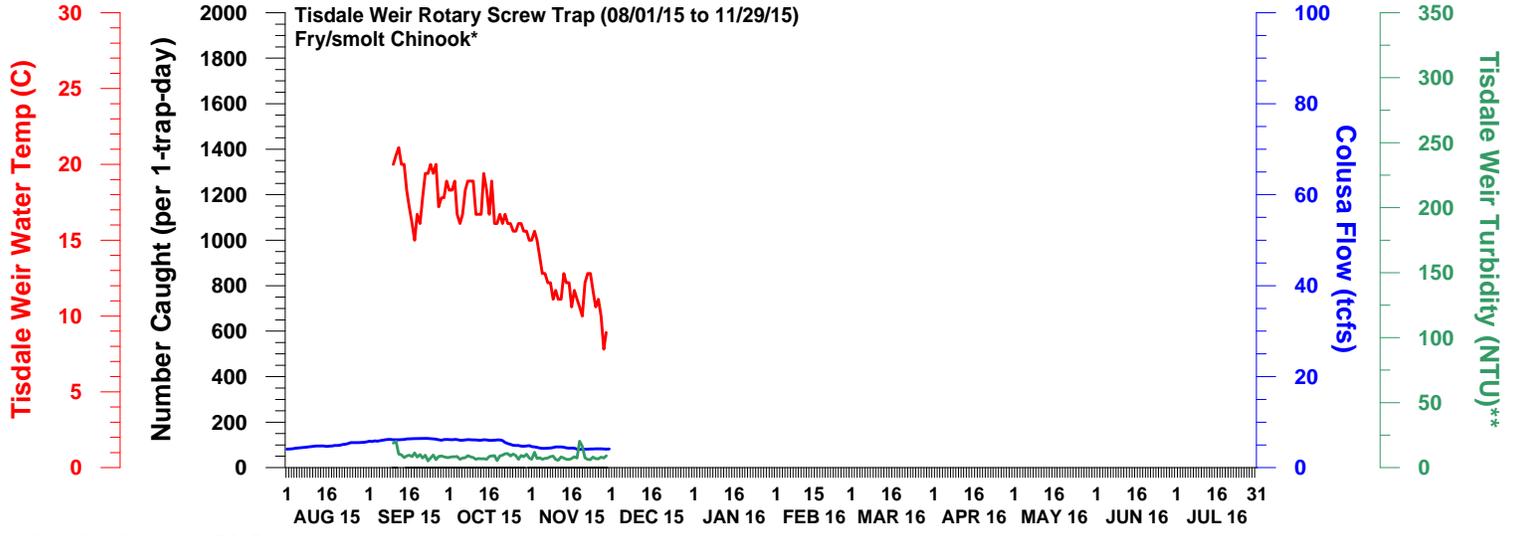
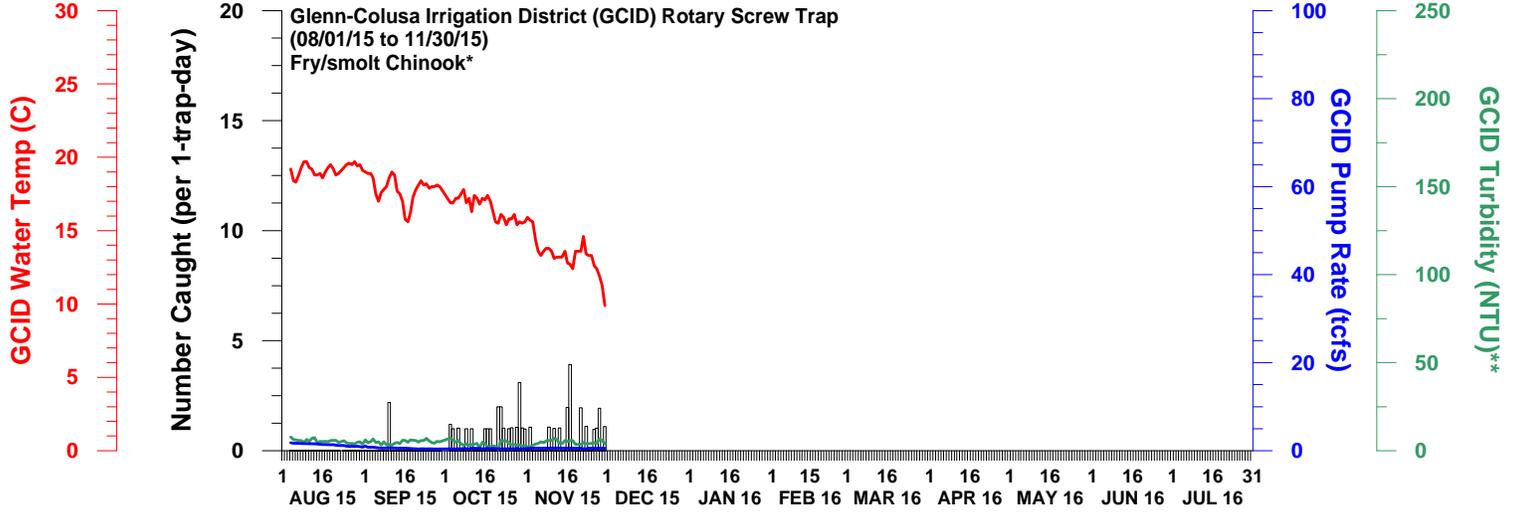
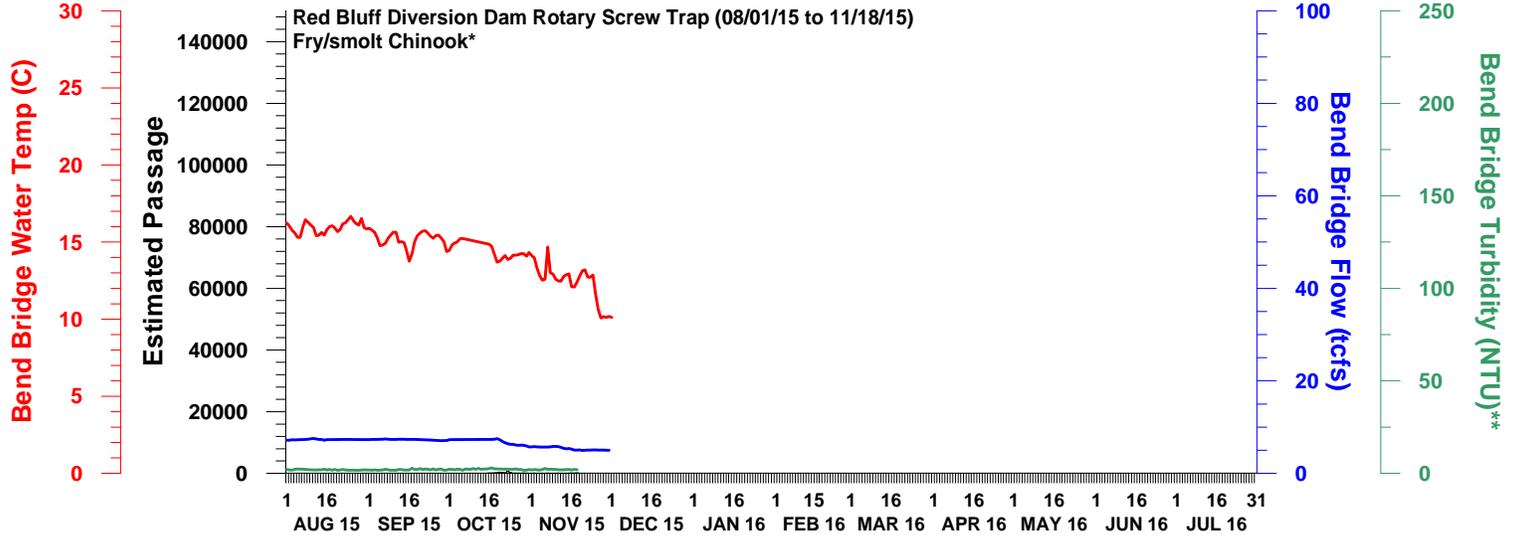


DWR-DES 1 December 2015
Preliminary data from FWS and CDEC; subject to revision.

*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.

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

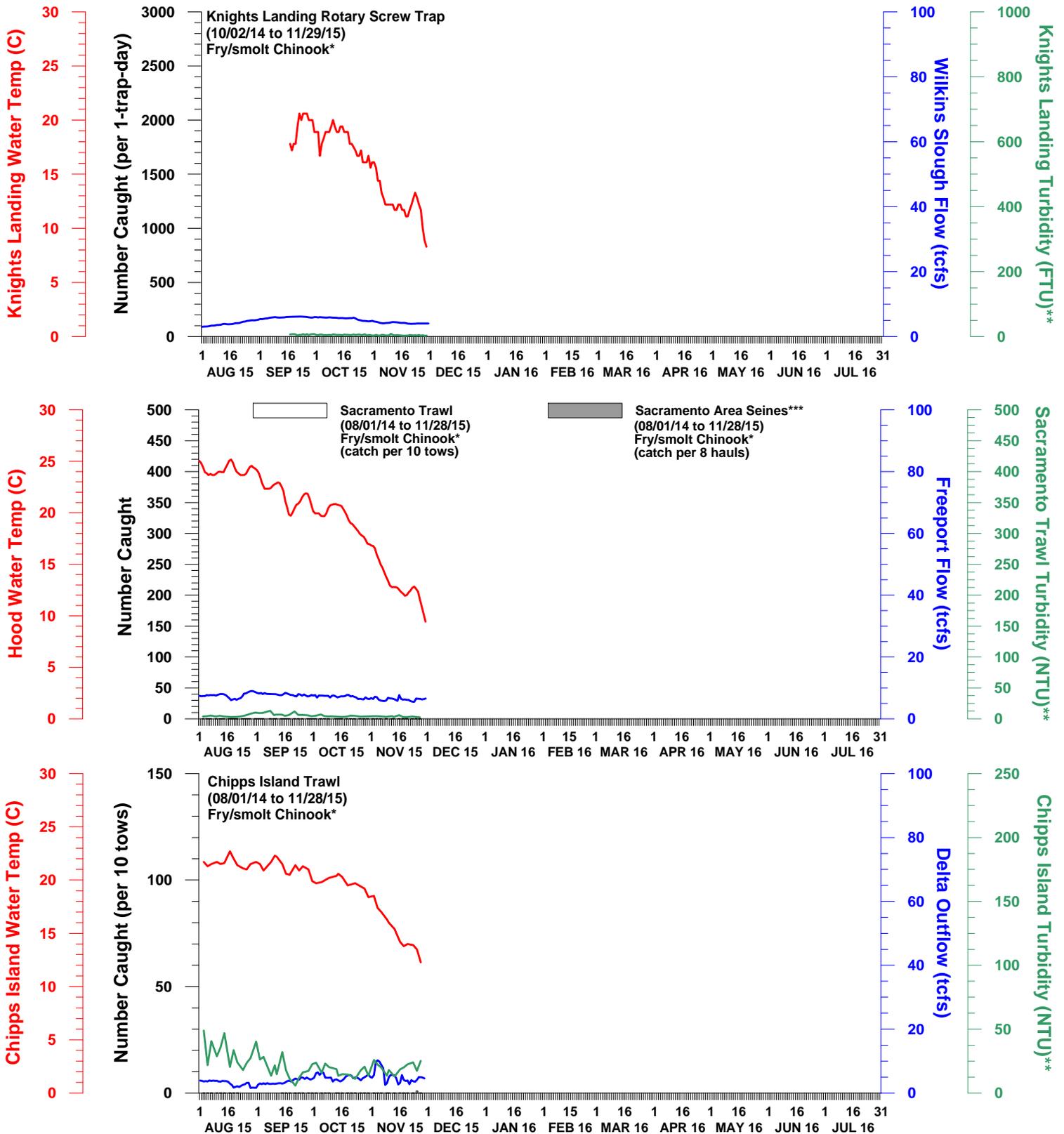


DWR-DES 1 December 2015
Preliminary data from DFW, FWS, GCID, and CDEC; subject to revision.

*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 1 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.

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).