

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 10/27/2015 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: Farida Islam, Aaron Miller, Rhiannon Mulligan
Reclamation: Josh Israel, Michele Palmer, Peggy Manza
NMFS: Barb Byrne, Jeff Stuart, Meiling Roddam
USFWS: Craig Anderson, Leigh Bartoo
CDFW: Duane Linander, Bob Fujimura
SWRCB: Matt Holland, Chris Carr
EPA: Erin Foresman

Agenda Items

1. Agenda review and introductions
2. RPA Implementation review
3. Current Operations
4. Fish Monitoring
5. Technical issues/comments on Rapid Genetic Testing Protocol
6. DOSS Advice
7. Next DOSS meeting

Agenda Item 2.

RPA Implementation Review

Delta RPA Actions that may affect operations during October:

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

- Neither of the two alerts has been triggered since 10/1/15.
- Recent (10/20-10/26/15) conditions for:
 - Wilkins Slough flow: 4,838-5,818 cfs (range of mean daily flow)
 - Knights Landing temperature: 62-63.5°F (range of temperatures reported at the rotary screw traps during trap checks)
 - Mill Creek flow : 72-76 cfs (range of mean daily flow)
 - Deer Creek flow: 63-66 cfs (range of mean daily flow)

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.

Action IV.1.2² (DCC gate operations):

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

Byrne (NMFS) reminded DOSS that Action IV.3 (Export management in response to loss or loss-density triggers) may affect operations during November and December; tracking of that RPA Action will begin November 1.

Agenda Item 3.

Current Operations (10/27/2015)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	300	Jones Pumping Plant	1,000
Reservoir Releases (cfs)			
Feather - Oroville	1,200	American - Nimbus	500
		Sacramento - Keswick	5,000
		Stanislaus - Goodwin	1,000*
		Trinity - Lewiston	300
Reservoir Storage (in TAF)			
San Luis (SWP)	302	San Luis (CVP)	55
Oroville	1,024	Shasta	1,433
New Melones	277	Folsom	153
Delta Operations			
DCC	Open	Sacramento River at Freeport (cfs)	6,494
Outflow Index (cfs)	~ 3,971 (3-day)	San Joaquin River at Vernalis (cfs)	991**
E:I	~ 16% (3-day avg.)	X2	>81 km

*10/20/15 was the first day of a three-peak fall pulse flow on the Stanislaus River that will last through early November. Goodwin releases will decrease to 600 cfs, then increase again this upcoming weekend to 1200 cfs, then gradually ramp down to the fall base flow of 200 cfs by 11/10.

**The fall pulse flow on the Stanislaus River is expected to contribute to Vernalis flows over the next two weeks.

Seasonal salinity management is currently controlling exports.

Current daily OMR Index is approximately -1,500 cfs.

The weather forecast suggests the chance of some rain in the valley (~ < 0.25 inches) this week, and slightly more rain for early next week (~ 0.4 inches).

Manza (Reclamation) informed DOSS that the DCC gates might be closed from Thursday morning to Friday morning (24 hours) to help meet the Rio Vista water quality standard.

Agenda Item 4.

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

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	10/18-10/24	10/18-10/24	10/18-10/24	10/18-10/25	10/19-10/26	10/20-10/26	10/18-10/24
Total Catch	1 (650mm; Chinook Adult)	0	0	0	0	19	0
FR Chinook						6 (smolts)	
WR Chinook						11	
SR Chinook						2	
LFR Chinook							
Ad-Clipped Chinook							
Delta Smelt							
Splittail							
Longfin Smelt							
Steelhead (ad-clip)							
Steelhead (wild)							
Green Sturgeon							
Flows (avg. cfs)				5,467	5,420	918	
W. Temp. (avg. °F)				63	61	60	
Turbidity (avg. NTU)				5.3	9.8	4.4	

^A Sampling period was from 10/18 at 10:15 am to 10/25 at 10:00 am

^B Sampling period was from 10/19 at 8:00 am to 10/26 at 8:15 am.

The question was raised about how GCID operators define smolts versus juveniles. Byrne (NMFS) will inquire and send DOSS the information.

Red Bluff Diversion Dam (RBDD)

USFWS biweekly report (10/8-10/21/15) for preliminary estimates of passage by brood-year and run for unmarked juvenile Chinook salmon captured by rotary screw traps at RBDD included:

Run and Species	Biweekly Total	Brood Year Total
Winter-run Chinook (BY2015)	46,986	217,489

Fish Salvage³: 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 juveniles from other runs (fall, spring, late-fall) are assumed rare or absent; many spring-run juveniles have likely not emerged yet from redds, fall-run spawning is just beginning, and late-fall-run spawning has yet to occur.

Agenda Item 5.

Technical issues/comments on Rapid Genetic Testing Protocol

The draft procedures for rapid genetic testing of older-juvenile-sized Chinook loss from November 2015-May 2016 was sent to DOSS, by Israel (Reclamation), for review and comments by 10/23. Israel addressed and compiled comments and sent the revised version to DOSS. Israel also raised several questions to DOSS for discussion as summarized below:

- 1) Is DOSS receiving the information at the appropriate time?
 - DOSS will receive the genetic information as soon as it is available, and primarily for the purposes of communication and documentation.
- 2) What is the appropriate-sized fish to be genetically tested? Should fish smaller than the older juvenile size range be tested as well-to avoid missing genetic winter-run that are smaller than the winter-run size class that is part of the older-juvenile size category?
 - DOSS suggests that when the older juvenile Chinook seen in salvage triggers rapid genetic testing, all unmarked Chinook that are salvaged the same day should be tested as well to determine whether any fish smaller than the older juvenile size category might be genetic winter-run.
 - DOSS was supportive of the idea of collecting and archiving tissues from all unmarked Chinook that are salvaged to genetically test as empty wells on the genotyping plate are available.
- 3) Has DOSS discussed acceptable assignment scores for decision making?
 - Some DOSS members expressed concerns about having limited technical knowledge of genetic testing, and thus suggested that genetics experts (*e.g.*, from NOAA's Southwest Fisheries Science Center [SWFSC]) provide input regarding this question, which would be shared with DOSS.

³Salvage 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.

- Israel will have Cramer Fish Sciences write up a brief that can be shared with the NOAA-SWFSC to get their input, which will be shared with DOSS.
- 4) Will the JPE or ITL be calculated in reference to using genetic identification of salvaged fish for estimating loss?
 - Potential changes to the JPE or ITL calculations are being discussed by management.
 - DOSS has not been asked to develop genetics-based management thresholds.
- 5) Does changing the way facility loss is estimated deserve a new pilot framework for OMR management? If so, what would that be like?
 - DOSS has not been asked to develop a new pilot framework for OMR management
 - DOSS discussed that having explicit guidance for how the genetic information will be used to review operational decisions in WY 2016 would be very useful.

Agenda Item 6.

DOSS Advice to WOMT and NMFS: None.

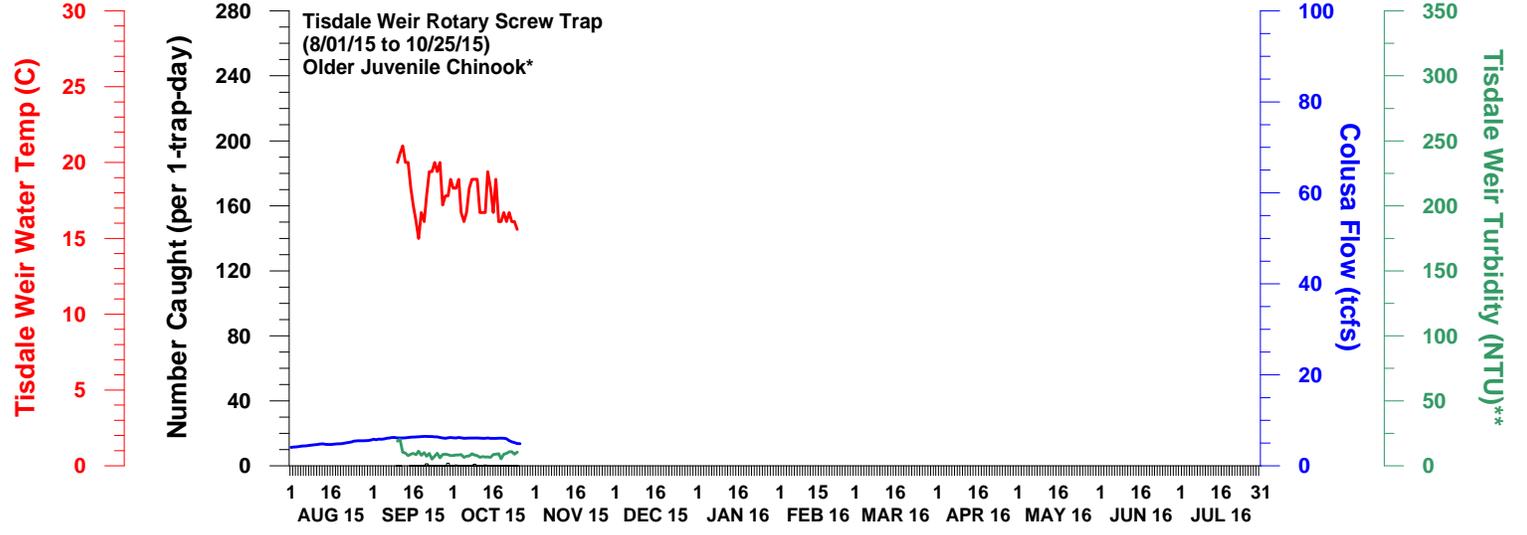
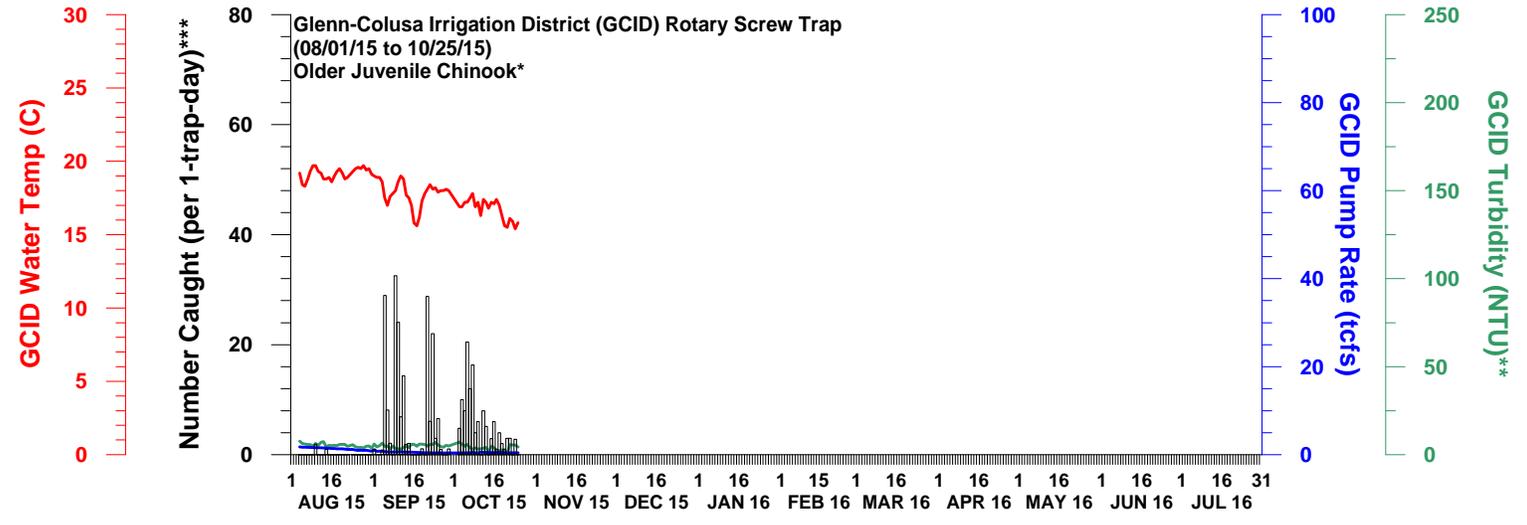
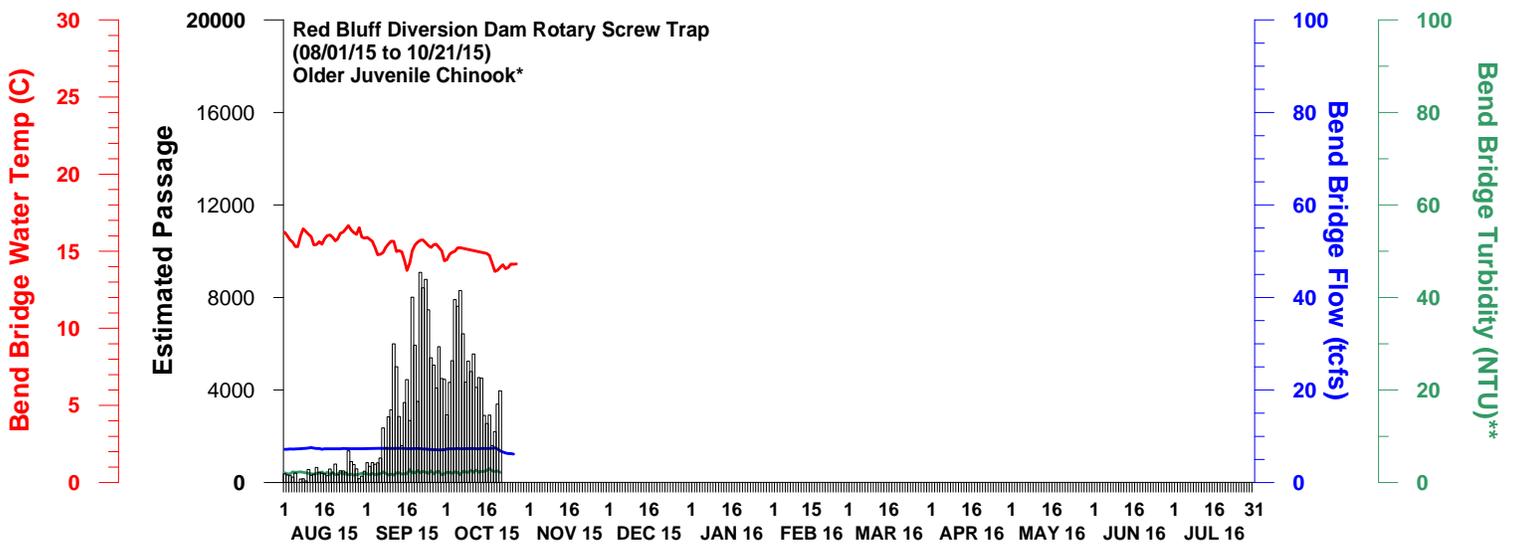
Agenda Item 7.

Next Meeting: The next DOSS conference call will be on 11/10/15 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. While these figures were provided after the DOSS call, the data summarized in these graphs were available during the DOSS call. For additional graphs, please visit the DWR website at:

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

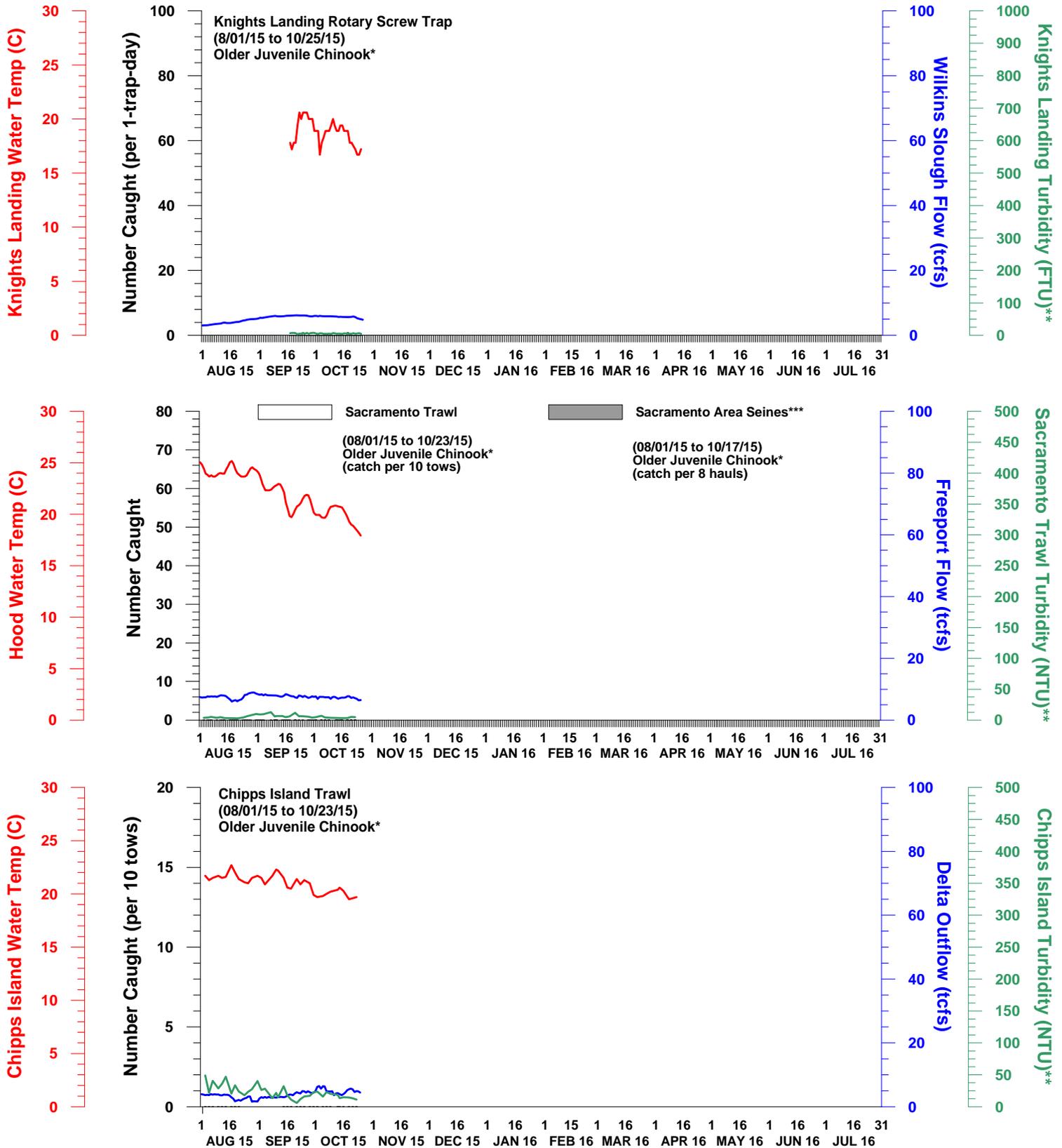
NUMBER OF UNMARKED OLDER JUVENILE CHINOOK MEASURED IN THE SACRAMENTO RIVER



DWR-DES 27 OCTOBER 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 27 OCTOBER 2015

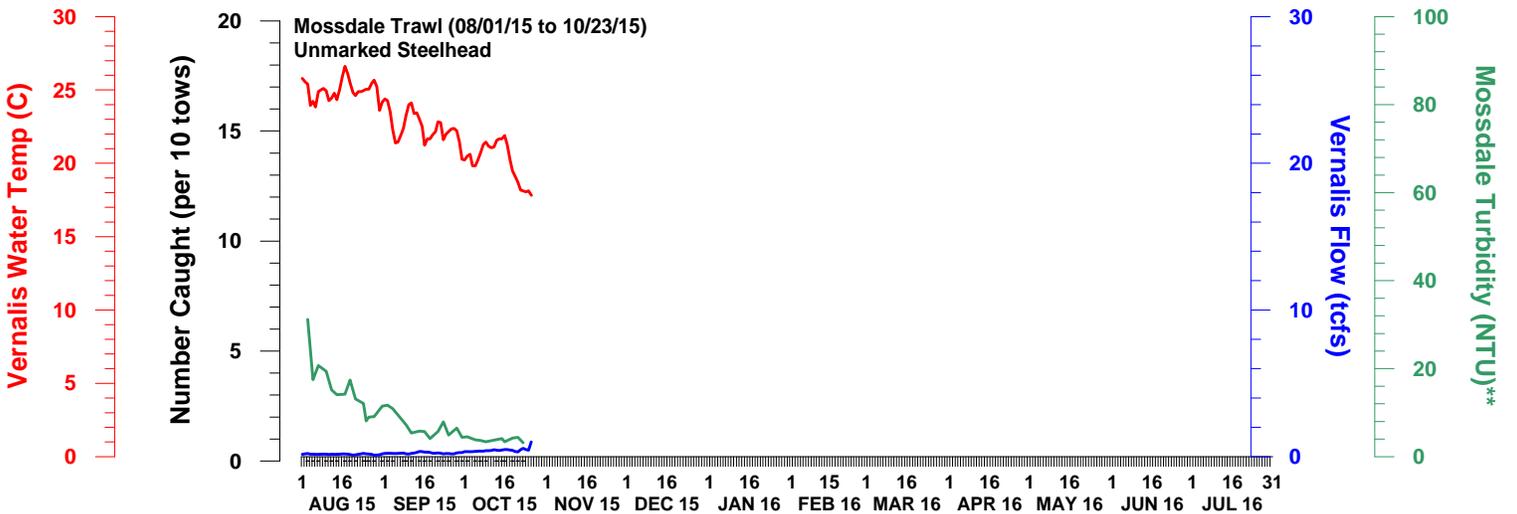
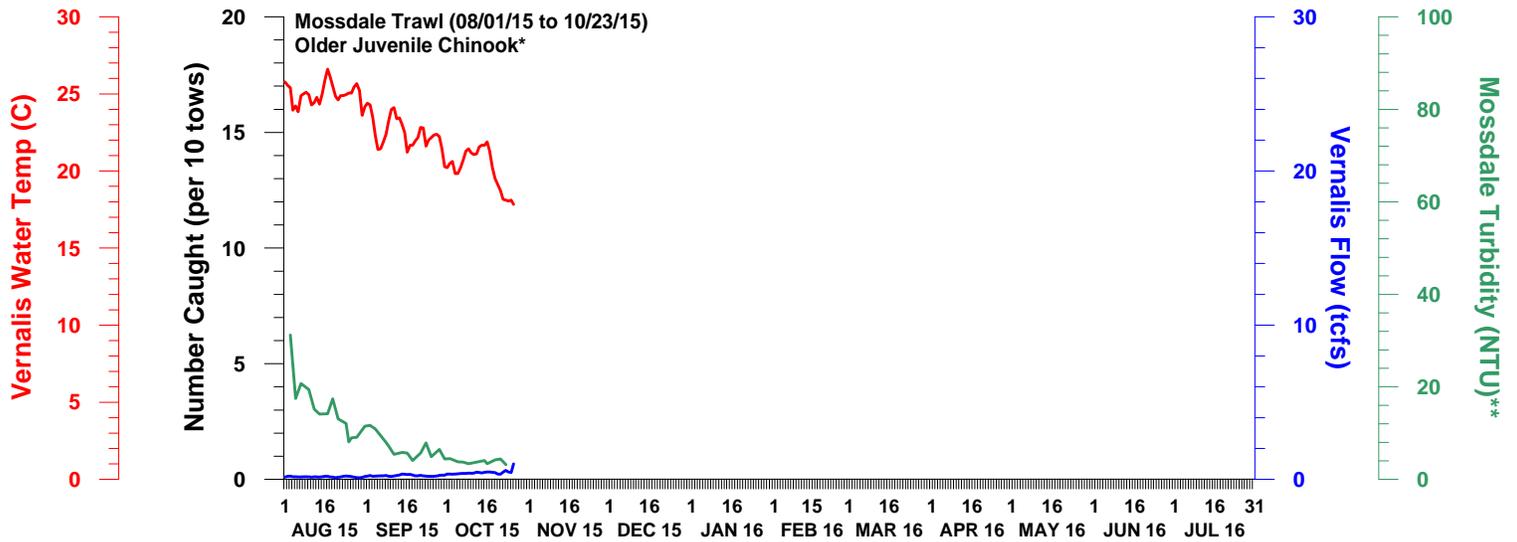
Preliminary data from DFW, FWS, and CDEC; subject to revision.

*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 27 OCTOBER 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.

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).