Weekly Fish and Water Operations Outlook 11/09/2021 – 11/15/2021

Dry and cool at start of Monday. A weather system approaches late Monday into Tuesday, bringing widespread rain and wind, along with high elevation snow. Dry conditions return Thursday, with a warming trend.

Tributary/ Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
Clear Creek	• Current Release: 200 cfs • Anticipated Weekly Range of Releases to Clear Creek: 200 cfs	• Spring-run Chinook Salmon eggs are incubating, hatching, and fry are present • Adult fall-run Chinook Salmon spawning and eggs in the gravel • O. mykiss and steelhead adults present, their migrations are ongoing • Late-fall run Chinook Salmon not present, will be arriving in the coming months (*updated 10/29/2021*)
Sacramento River	• Shasta Storage: 1.04 MAF • Current Release: 3,600 cfs • Anticipated Weekly Range of • Releases to Sacramento River: 3,600 to 3,250 cfs	• Winter-run Chinook Salmon juveniles present • Adult spring-run Chinook Salmon eggs in gravel • Fall-run Chinook Salmon spawning, eggs and alevin in gravel, and some holding and waiting to spawn in November • Late fall-run Chinook Salmon holding • Green Sturgeon adults and juvenile present • Adult steelhead present • (updated 10/28/21)
Feather River	• Oroville Storage: 996 TAF • Current Release: 950 cfs • Anticipated Weekly Range of Releases to Feather River: 950 cfs • Daily temperature targets: 51°F (±4°F) at Fish Hatchery	• Fall-run Chinook Salmon spawning, eggs and alevin in gravel, and some holding and waiting to spawn in November. • Juvenile and Adult steelhead present • Adult spring-run Chinook Salmon eggs in gravel. • (updated 11/1/21)

Tributary/ Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
American River	• Folsom Storage: 325 TAF • Current Release: 550 cfs • Anticipated Weekly Range of Releases to American River: 550 cfs	• Fall-run Chinook Salmon holding and spawning. Eggs are in gravel. • Juvenile and adult steelhead expected to be present. • (updated 10/21/21)
Stanislaus River	• New Melones Storage: 833 TAF • Current Release: 200 cfs • Anticipated Range of Weekly Releases to Stanislaus River: 200 cfs	• Juvenile and adult O. mykiss expected to be present • Adult fall-run Chinook Salmon present • Adult Chinook Salmon spawning observed • (updated 10/20/2021)
Delta	• Freeport: 8,500 to 20,000 cfs • Vernalis: 600 to 900 cfs • Delta Outflow index: 2,000 to 12,000 cfs • Combined Exports: 4,700 to 10,880 cfs • JPP: 4,200 cfs to 2,700 cfs • CCF: 6,680 cfs to 2,000 cfs • Expected OMR Index Values: -4,000 to -11,000 cfs • DCC Gates: Open on 11/5, most likely will remain open for salinity control	• Juvenile winter-run Chinook Salmon 80-90% yet to enter Delta, 10-19% in Delta, 0-1% exited Delta past Chipps Island • YOY spring-run Chinook Salmon: 99-100% yet to enter Delta, 0-1% in Delta, 0% exited past Chipps Island • Juvenile Steelhead: 95-99% yet to enter Delta, 1-5% in Delta, 0% exited Delta past Chipps Island • Adult fall-run Chinook Salmon entering Delta and migrating upstream towards spawning grounds • Adult steelhead present • Adult and juvenile Green Sturgeon present • Subadult Delta Smelt expected to be present in the Deep Water Ship Channel and downstream of the confluence. • Longfin Smelt adults unlikely to be in the Delta. Juveniles present in Suisun Marsh, San Pablo and Central Bay. Adults present in Suisun Bay and Suisun Marsh. • (updated 11/09/2021)

Table 2a-b: WY 2022 relevant Fish and Environmental Criteria and Status in 2019 Reclamation LTO Action Cumulative loss for the duration of 2019 Biological Opinion began upon signature of ROD, 2/19/2020.

Table 2a: WY 2022 Salmonid Current Loss and Delta Smelt Abiotic Conditions. Additional Real-Time OMR Restrictions and Performance Objectives (4.10.5.10.2) and Onset of OMR Management (4.10.5.10.1).

Species/run	Threshold	Current Status	Weekly Trend	Updated
Green sturgeon	WY 2022 salvage = 74	WY 2022 salvage = 0 (0%)	No change expected	11/07/2021
Natural winter-run Chinook Salmon	WY 2022 loss = TBD *	WY 2022 loss = 0	Possible but unlikely	11/07/2021
Natural Steelhead**	Dec 1 – Mar 31 = 707 (50% of 1,414) Apr 1 – June 15 = 776 (50% of 1,552)	Dec 1 – Mar 31 = 2.72 (0.38%) Apr 1 – June 15 = 0 (0%)	Possible	11/07/2021
Delta Smelt	After Dec. 1: Running 3-day avg. flows at Freeport >25,000 cfs Running 3-day avg. turbidity at Freeport =>50 FNU	Freeport 3-day avg. Flow = 889Turbidity = 5.96	Not applicable until Dec. 1	11/9/2021

* TBD – no draft JPE produced, ITL and performance thresholds are TBD currently

** First steelhead loss for WY 2021, which occurred on 10/30/2021, is included in the December 1 through March 31 time-period.

Table 2b. 10-Year Salmonid Cumulative Loss

Species/run	Threshold	Current Status	Updated
Natural winter-run Chinook salmon	Loss = 8,738	Cumulative loss = 204.9 (2.3%)	11/07/2021
Hatchery winter-run Chinook salmon	Loss = 5,356	Cumulative loss = 0 (0%)	11/07/2021
Natural steelhead **	Loss = 6,038 (Dec 1 – Mar 31) Loss = 5,826 (Apr 1 – June 15)	Cumulative loss = 445.91 (7.4%, Dec 1 – Mar 31) 374.8 (6.4%, Apr 1 – June 15)	11/07/2021

Table 3a-d: Relevant Water Year 2022 Fish Criteria and Status for Listed Fish under the SWP Long-Term Incidental Take Permit.

Table 3a: Chinook Salmon

Action	Timeframe	Current Action Status	Threshold(s)	**Current Relevant Data**	**Weekly Trend**	**Last Updated**	**Comments**
OMR Mgmt. triggered (8.3.2)	Jan. 1 - Jun. 30 (when ≥ 5% of spring-run or winter- run in Delta)	Not in effect	- 5% of the Winter-run or Spring-run population in Delta	N.A.	N.A.	**10/4/21**	**N.A.**
Winter-run yearly loss (8.6.1)	Nov. 1 - Jun. 30	In effect (Based on JPE Value)	TBD (Based on JPE guidance)	Current yearly WR loss (natural) = 0; Current yearly WR loss (hatchery) = 0	Possible but unlikely for natural Winter-run	**11/8/21**	**Based on salvage data from 11/7/21**
Winter-run discrete daily loss (8.6.2)	Nov. 1 - Dec. 31	In effect	11/1-11/30: loss of 6/day unclipped older juv. Winter-run 12/1-12/31: loss of 26/day unclipped older juv. Winter-run	max single daily loss from previous week = 0.00 fish (no WR observed yet)	No change expected	**11/8/21**	N.A.
Spring-run surrogate protection (8.6.4)	Feb. 1 - Jun. 30	Not in effect:	TBD (based on the number of fish released)	N.A.	N.A.	**11/1/21**	N.A.

Table 3b: Delta Smelt

Action	Timeframe	Current Action Status	Threshold(s)	**Current Relevant Data**	**Weekly Trend**	**Last Updated**	**Comments**
Integrated Early Winter Pulse Protection ('First Flush') (8.3.1)	Dec. 1 - Jan. 31	Not in effect	three-day Freeport daily flow running avg >= 25,000 AND [three-day Freeport turbidity running avg >=50 NTU OR Smelt Monitoring Team recommendation]	**N.A.**	**N.A.**	**N.A.**	**N.A.**
Turbidity Bridge Avoidance (8.5.1)	Dec. 15 - Apr. 1	Not in effect	Occurs after the Integrated Early Winter Pulse protection or February 1 (whichever until April 1) comes first - avg. OBI turbidity > 12 NTU	**N.A.**	**N.A.**	**N.A.**	**N.A.**
Larval and/Juvenile Delta smelt Protection (8.5.2)	ongoing	In effect	- 5-day cum. salvage of juv. DS >= 1.67 [average 3-yr FMWT index + 1] OR, 3-day cum. salvage of juv. DS >11	**current 5-day salvage = 0**	**no change expected**	**11/8/2021**	**Based on salvage data from 11/7/21**

Table 3c: Longfin Smelt

Action	Timeframe	Current Action Status	Threshold(s)	**Current Relevant Data**	**Weekly Trend**	**Last Updated**	**Comments**
Early Adult Protection (8.3.3)	Dec. 1 - Feb. 28	Not in effect	Cum. salvage > [most recent FMWT/10] = Cum salvage > [most 1.2 fish OR - Smelt Monitoring Team determines high likelihood of LFS movement into high-risk areas	**N.A.**	**N.A.**	**N.A.**	**N.A.**
OMR Mgt. for Adults (8.4.1)	Dec. 1 -Feb. 28	Not in effect	- Smelt Monitoring Team recommendation	**N.A.**	**N.A.**	**N.A.**	**N.A.**
Larval and Juvenile longfin smelt Entrainment Protection (8.4.2)	Jan 1 – Jun 30	Not in effect	- LFS larvae or juveniles in >=4 SLS or 20 mm stations in central and south Delta, OR - LFS catch/tow >5 larvae or juveniles in >=2 stations	**N.A.**	**N.A.**	**N.A.**	**N.A.**
High Flow OMR Off-Ramp for longfin smelt (8.4.3)	Based on the status of 8.3.3, 8.4.1, & 8.4.2	Not in effect	- Sac. R. at Rio Vista >55,000, OR - SJR at Vernalis >8,000	**Rio Vista = 5,000 to 7,000 cfs** **SJ = 800 to 1,000 cfs**	**N.A.**	**N.A.**	**N.A.**

Table 3d: OMR

Action	Timeframe	Current Action Status	Threshold(s)	**Current Relevant Data**	**Weekly Trend**	**Last Updated**	**Comments**
OMR Mgmt. Offramp (8.3.2)	Jun. 1 – Jun. 30	Not in effect	>95% of the Winter-run and Springrun populations have migrated past Chipps Island AND Current daily average water temperature at Mossdale exceeds22.2°C for 7 nonconsecutive days in June AND Current daily average water temperature at Prisoners Point exceeds 22.2°C for 7 non-consecutive days in June. Current daily mean water temperature at CCF is greater than 25°C for three consecutive days	N.A.	**N.A.**	**10/4/21**	**N.A**

Table 4. Fish monitoring gear efficiency and disruptions.

Monitoring Survey	**Notes (as of 11/09/2021)**	**Status ***
Delta	N.A.	N.A.
SWP regular counts, CWT reading, and larval sampling	Active (no pumping from 11/4-11/5)	1
CVP regular counts, CWT reading, and larval sampling	Active (No disruptions)	1
Smelt Larval Survey	Not Active	4
20mm Survey	Not Active	4
Spring Kodiak Trawl	Not Active	4
Fall Mid-water Trawl	Active (No disruptions)	1
Summer Townet Survey	Not Active	4
Bay Study	Active (No disruptions)	1
DJFMP- Chipps and Sacramento Trawls	Active (No disruptions)	1
DJFMP- Seines	Active with one disruption: not sampling San Joaquin Seines (due to low water)	2
EDSM	Active	1
EMP	?	?
Mossdale	Active	1
USGS Flow monitoring	Active (No disruptions)	1
Sacramento River	N.A.	N.A.
Red Bluff Diversion Dam screw trap	Active (No disruptions)	1
Knights Landing screw trap	Active	1

Monitoring Survey	Notes (as of 11/09/2021)	Status *
Tisdale screw trap	Active	1
GCID screw trap	Active	1
Redd dewatering and stranding surveys	Not Active	4
Sacramento Carcass and Redd Surveys	Active	1
Feather River	N.A.	N.A.
Feather River screw trap	Not Active (anticipate starting mid to late November 2021)	4
San Joaquin River	N.A.	N.A.
SJRRP CDFW Field Monitoring	Active (No disruptions)	1
SJRRP USFWS and USBR Field Monitoring	Active (No disruptions)	1
Stanislaus Fish Weir	Active (No disruptions)	1

* Status: Weekly categories include:
[1] Active (ongoing sampling)
[2] Partial Interruption (some sampling interruptions)
[3] Interrupted (sampling fully suspended)
[4] Not Active (sampling not scheduled)