

Weekly Fish and Water Operations Outlook 11/17/2020 – 11/23/2020

Dry weather on Monday. Rain, high elevation snow and gusty winds on Tuesday and Wednesday. Drier weather returning towards the end of the week into the weekend. Minimum monthly average Delta Outflow of 4,500 cfs for November.

Tributary/Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
Clear Creek	<ul style="list-style-type: none"> • Current Release: 215 cfs • Anticipated weekly range: 215 cfs • 	<ul style="list-style-type: none"> • Spring-run spawning completed by mid-November and fall-run Chinook salmon spawning underway. • Steelhead juveniles rearing.
Sacramento River	<ul style="list-style-type: none"> • Shasta Storage: 2.041 MAF • Current Release: 4,600 cfs • Anticipated Weekly Range of Releases to Sacramento: 4,600 cfs - 4,000 cfs • Temperature compliance targets: 56°F at CCR gauge 	<ul style="list-style-type: none"> • Juvenile winter-run Chinook salmon passage at Red Bluff Diversion Dam (BY20 total through 11/03/2020: 1,699,038 fish; average historic passage (2010 – 2019) as of 11/15: 82.1%) • Late fall-run Chinook salmon and steelhead juveniles rearing • Green sturgeon adults and juveniles present. Adults are being acoustically tagged. • Adult fall-run Chinook salmon starting spawning. • Juvenile spring-run Chinook salmon passage at Red Bluff Diversion Dam (BY20 total through 11/03/2020: 71,140 fish; average historic passage (2010 – 2019) as of 11/15: 12.6%)
Feather River	<ul style="list-style-type: none"> • Oroville Storage: 1.386 MAF • Current Release: 2,450 cfs • Anticipated Weekly Range of Releases to Feather: 2,450 – 2,200 cfs • Daily average temperature compliance targets: 51 ± 4°F at Fish Hatchery gage • 	<ul style="list-style-type: none"> • • Spring-run Chinook salmon adults spawning is completed. • Green sturgeon adults holding. • Juvenile steelhead rearing. • Adult fall-run Chinook salmon adults are spawning.
American River	<ul style="list-style-type: none"> • Folsom Storage: 0.334 MAF • Current Release: 1,250 cfs • Anticipated Weekly Range of Releases to American: 1,250 cfs • New temperature compliance target as of 11/1/2020 at Hazel Avenue: 56°F 	<ul style="list-style-type: none"> • Juvenile steelhead rearing. • Adult fall-run Chinook salmon immigrating and spawning. • As of 11/13/2020, 128 Chinook salmon carcasses have been observed. 43 carcasses observed in the past week. • Average water 11/2/2020 to 11/13/2020 at Fair Oaks was 56.5°F

Tributary/Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
Stanislaus River	<ul style="list-style-type: none"> • New Melones Storage: 1.499 MAF • Current Release to Stanislaus: 200 cfs • Anticipated Range of Weekly Releases to Stanislaus: 200 cfs 	<ul style="list-style-type: none"> • Juvenile steelhead rearing through summer/fall. • As of 11/12/2020, 1 O. mykiss passed the weir to date this water year. • As of 11/12/2020, 1595 Chinook salmon have been observed moving upstream past the adult video weir. 140 Chinook salmon were observed between 11/9/2020 – 11/15/2020. • As of 11/5/2020, 271 fall-run Chinook redds observed, 195 observed in the past week. • 4 adult Chinook salmon carcass has been observed on the San Joaquin River carcass surveys.
Delta	<ul style="list-style-type: none"> • Freeport: 7,000 to 9,000 cfs • Vernalis: 700 to 1200 cfs • Delta Outflow index: 3,500 to 6,500 cfs • Combined Exports: 2,300 to 5,750 cfs • JPP: 800 to 2750 cfs CCF: 1500 to 3000 cfs • Expected OMR Index Values: -2,500 to -5,500 cfs • DCC: Closed starting 11/16 (gates to remain closed for upcoming weekend, potential for last weekend after Thanksgiving for another opening / closing cycle) 	<ul style="list-style-type: none"> • Green sturgeon adult and juveniles present. • Adult fall-run Chinook salmon and steelhead immigrating through Delta • 98-100% winter-run Chinook salmon juveniles yet to enter the Delta and 0-2% in Delta. • 99-100% spring-run Chinook salmon juveniles yet to enter the Delta and 0-1% in Delta. • 99-100% steelhead juveniles yet to enter the Delta and 0-1% in Delta. • Based on our understanding of life history and limited distribution data, Delta Smelt adults would be holding below the confluence in anticipation of migration.

Table 2. WY 2021 relevant Fish and Environmental Criteria and Status in 2019 Reclamation LTO Action and NMFS and USFWS Biological Opinions. Cumulative loss for the duration of 2019 Biological Opinion began upon signature of ROD, 2/19/2020.

Species/run	Threshold	Current Status	Trend	Updated through
Green sturgeon	WY 2021 salvage = 74	WY 2021 salvage = 0	No change expected	11/15/2020
Natural winter-run Chinook salmon	WY 2021 loss = TBD 10-year cumulative loss = 8,738	WY 2021 loss = 0 Cumulative loss = 183 (2.1%)	No change expected	11/15/2020
Hatchery winter-run Chinook salmon	WY 2021 loss = NA 10-year cumulative loss = 5,356	WY 2021 loss = NA Cumulative loss = 0 (0%)	No change expected	11/15/2020
Natural steelhead	WY 2021 loss = 0 10-year cumulative loss = 11,864	WY 2021 loss = 0 Cumulative loss = 727 (6.1%)	No change expected	11/15/2020
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. flows = 7844 cfs turbidity =2.23 FNU	Not Applicable until Dec. 1	11/17/2020

Table 3a-d: Relevant Water Year 2021 Fish Criteria and Status for Listed Fish under the SWP Long-Term Incidental Take Permit.

Table 3a: Chinook Salmon

<u>Action</u>	<u>Timeframe</u>	<u>Current Action Status</u>	<u>Threshold(s)</u>	<u>Current Relevant Data</u>	<u>Weekly Trend</u>	<u>Last Updated</u>	<u>Comments</u>
OMR Mgmt. triggered (8.3.2)	Jan. 1 - Jun. 30 <i>(when >= 5% of spring-run or winter-run in Delta)</i>	Not in effect	- 5% of the Winter-run or Spring-run population in Delta	N.A	N.A	N.A	N.A
Winter-run yearly loss (8.6.1)	Nov. 1 - Jun. 30	In effect	- cum. loss of 10,002 unclipped (natural) Winter-run [1.17% of JPE] - cum. loss of 110 clipped (hatchery) Winter-run [0.12% of JPE]	Current yearly loss = 0 0 natural, 0 hatchery	no change expected	11/16/20	Based on 11/15/20 salvage data
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	11/16/20	Based on 11/15/20 salvage data
Winter-run relative daily loss (8.6.3)	Jan. 1 - May 31	Not in effect	1/1 - 1/31: 0.00635% loss of Winter-run JPE = TBD 2/1 - 2/28: 0.00991% = TBD 3/1 - 3/31: 0.0146% = TBD 4/1 - 4/30: 0.00507% = TBD 5/1 - 5/31: 0.0077% = TBD	N.A	N.A	N.A	N.A
Spring-run surrogate protection (8.6.4)	Feb. 1 - Jun. 30	Not in effect	- Feather CWT Spring-run surrogates cum. loss >0.25% for any release group <u>OR</u> - Coleman or Nimbus Fall-run cum. loss >0.25% for any release group	N.A	N.A	N.A	N.A

Table 3b: Delta Smelt

<u>Action</u>	<u>Timeframe</u>	<u>Current Action Status</u>	<u>Threshold(s)</u>	<u>Current Relevant Data</u>	<u>Weekly Trend</u>	<u>Last Updated</u>	<u>Comments</u>
Integrated Early Winter Pulse Protection ('First Flush') (8.3.1)	Dec. 1 - Jan. 31	Not in effect	- three-day Freeport daily flow running avg \geq 25,000 <u>AND</u> - [three-day Freeport turbidity running avg \geq 50 NTU <u>OR</u> 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 comes first ,until April 1 - 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 \geq 1.67 [average 3-yr FMWT index + 1] <u>OR</u> . - 3-day cum. salvage of juv. DS > 11	current 5-day salvage = 0	no change expected	11/16/20	Based on salvage data from 11/15/20

Table 3c: Longfin Smelt

<u>Action</u>	<u>Timeframe</u>	<u>Current Action Status</u>	<u>Threshold(s)</u>	<u>Current Relevant Data</u>	<u>Weekly Trend</u>	<u>Last Updated</u>	<u>Comments</u>
Early Adult Protection (8.3.3)	Dec. 1 - Feb. 28	Not in effect	- Cum. salvage > [most recent FMWT/10] = 1.2 fish_ <u>OR</u> - 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 \geq 4 SLS or 20 mm stations in central and south Delta, <u>OR</u> - LFS catch/tow > 5 larvae or juveniles in \geq 2 stations	N.A	N.A	N.A	N.A

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
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, <u>OR</u> - SJR at Vernalis >8,000	Rio Vista = 2,500 to 6,500 cfs SJ = 700 to 1,200 cfs	N.A	11/16/20	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 Spring-run populations have migrated past Chipps Island AND - Current daily average water temperature at Mossdale exceeds 22.2°C for 7 non-consecutive 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	N.A	N.A