

Weekly Fish and Water Operations Outlook 11/10/2020 – 11/16/2020

Dry with below average temperatures through mid-week; freezing temperatures on Monday and Tuesday mornings. Chances for rain and snow return late in week and continue 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 • Northern CVP Water Temperature Reports 	<ul style="list-style-type: none"> • Spring-run and fall-run Chinook salmon spawning underway. • Late fall-run Chinook salmon and steelhead juveniles rearing.
Sacramento River	<ul style="list-style-type: none"> • Shasta Storage: 2.053 MAF • Current Release: 4,800 cfs • Anticipated Weekly Range of Releases to Sacramento: 4,800 cfs - 4,600 cfs • Temperature compliance targets: 56°F at CCR gauge • Northern CVP Water Temperature Reports 	<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 11/08: 78.8%) • 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 11/10: 12.1%)
Feather River	<ul style="list-style-type: none"> • Oroville Storage: 1.442 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 • Feather River Temperature 	<ul style="list-style-type: none"> • Spring-run Chinook salmon adults are spawning, spawning is on the decline. • Green sturgeon adults holding. Adult sturgeon being acoustically tagged in the Yuba River. • Juvenile steelhead rearing. • Adult fall-run Chinook salmon adults are spawning.

Tributary/ Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
American River	<ul style="list-style-type: none"> • Folsom Storage: 0.339 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 • Water Forum Latest Conditions 	<ul style="list-style-type: none"> • Juvenile steelhead rearing. • Adult fall-run Chinook salmon immigrating and spawning. • Adult Chinook salmon carcass surveys began on 10/13/2020. • Beginning 10/13/2020 as of 11/5/2020, 84 Chinook salmon carcasses have been observed. • Average water 11/2/2020 to 11/5/2020 at Fair Oaks was 58.6°F
Stanislaus River	<ul style="list-style-type: none"> • New Melones Storage: 1.497 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. • Adult fall-run Chinook salmon immigrating and most holding. Some early spawning. • As of 11/8/2020, 1512 Chinook salmon have been observed moving upstream past the adult video weir. 321 Chinook salmon were observed between 11/2/2020 – 11/8/2020. • As of 11/1/2020 1 <i>O. mykiss</i> passed the weir to date this water year. • 1 adult Chinook salmon carcass has been observed on the San Joaquin River carcass surveys.
Delta	<ul style="list-style-type: none"> • Freeport: 9,000 to 7,000 cfs • Vernalis: 1200 to 700 cfs • Delta Outflow index: 6,000 to 3,500 cfs • Combined Exports: 1,100 to 3,800 cfs • JPP: 800 to 1800 cfs CCF: 300 to 1500 cfs • Expected OMR Index Values: -1,000 to -2,500 cfs • DCC: Close 11/9, Open 11/13 for Rio Vista 	<ul style="list-style-type: none"> • Green sturgeon adult and juveniles present. • Adult fall-run Chinook salmon immigrating through Delta • Adult CCV steelhead migrating 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	11/8/2020
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	11/8/2020
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	11/8/2020
Natural steelhead	WY 2021 loss = 0 10-year cumulative loss = 11,864	WY 2021 loss = 0 Cumulative loss = 727 (6.1%)	No change expected	11/8/2020
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 = 8,292 cfs turbidity = 1.97 FNU	Not Applicable until Dec. 1	11/9/2020

Table 3: 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	11/9/20	Based on 11/8/20 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	11/9/20	Based on 11/8/20 salvage data
Winter-run relative daily loss (8.6.3)	Jan. 1 - May 31	In effect	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>	N.A	N.A	N.A	N.A

<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>
			- Coleman or Nimbus Fall-run cum. loss >0.25% for any release group				

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 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 \geq 1.67 [average 3-yr FMWT index + 1] <u>OR</u> , 3-day cum. salvage	current 5-day salvage = 0	no change expected	11/9/20	Based on salvage data from 11/8/20

<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>
			of juv. DS >11				

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 >=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, <u>OR</u> SJR at Vernalis >8,000	Rio Vista = 2,500 to 6,000 cfs SJ = 700 to 1,200 cfs		11/9/20	

Table 3d: OMR

<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. Offramp (8.3.2)	Jun. 1 – Jun. 30	Not in effect	- >95% of the Winter-run and Spring- run	N.A.	N.A.	N.A.	N.A.

<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>
			<p>populations have migrated past Chipps Island <u>AND</u></p> <p>- Current daily average water temperature at Mossdale exceeds 22.2°C for 7 non-consecutive days in June <u>AND</u></p> <p>- Current daily average water temperature at Prisoners Point exceeds 22.2°C for 7 non consecutive days in June.</p> <p>Current daily mean water temperature at CCF is greater than 25°C for three consecutive days</p>				