

Weekly Fish and Water Operations Outlook 11/3/2020 – 11/9/2020

Unseasonably warm temperatures continuing at start of week, with highs in the lower 80's. Big temperature drop forecast for Friday, with highs in the upper 60's and continuing through 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: 2.078 MAF • Current Release: 5,000 cfs • Anticipated Weekly Range of Releases to Sacramento: 5,000 to 4,800 cfs • Northern CVP Water Temperature Reports 	<ul style="list-style-type: none"> • Late spawning winter-run Chinook salmon alevin in the redds. • Juvenile winter-run Chinook salmon passage at Red Bluff Diversion Dam (BY20 total through 10/20/2020: 1,467,024; average historic passage (2010 – 2019) as of 11/01: 74.4%) • Late fall-run Chinook salmon and steelhead juveniles rearing. • Green sturgeon adults and juveniles present. • Majority of fall-run Chinook salmon spawned.
Feather River	<ul style="list-style-type: none"> • Oroville Storage: 1.507 MAF • Current Release: 2,450 cfs • Anticipated Weekly Range of Releases to Feather: 2, 450 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. • Green sturgeon adults holding. Adult sturgeon being acoustically tagged in the Yuba River. • Juvenile steelhead rearing. • Adult fall-run Chinook salmon adults are spawning.
American River	<ul style="list-style-type: none"> • Folsom Storage: 0.351 MAF • Current Release: 1,250 cfs • Anticipated Weekly Range of Releases to American: 1,250 cfs • New temperature compliance target at Watt Avenue: 56°F • Water Forum Latest Conditions 	<ul style="list-style-type: none"> • Juvenile steelhead rearing. • Adult fall-run Chinook salmon immigrating and holding. • Adult Chinook salmon carcass surveys began on 10/13/2020. • As of 10/22/2020, 40 Chinook salmon carcasses have been observed.

Stanislaus River	<ul style="list-style-type: none"> • New Melones Storage: 1.496 MAF • Current Release to Stanislaus: Pulse ending, stabilizing flows to 200 cfs • Anticipated Range of Weekly Releases to Stanislaus: 400 cfs to 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. • Adult weir monitoring began 9/10/2020 and is planned to operate through the first week in November. • As of 10/26/2020, 738 Chinook salmon have been observed moving upstream past the adult video weir. No <i>O. mykiss</i> have passed the weir to date this water year. • No adult Chinook carcasses have been observed since the 10/6/20 start of the surveys.
Delta	<ul style="list-style-type: none"> • Freeport: 7,000 to 8,500 cfs • Vernalis: 2,000 to 400 cfs • Delta Outflow index: 6,000 to 3,500 cfs • Combined Exports: 1,800 to 3,700 cfs • JPP: 2,700 to 1,000 cfs CCF: 0 to 2000 cfs • Expected OMR Index Values: -1,500 to -3,500 cfs • DCC: Close 11/2 for Rio Vista flows, Open 11/6-8, Close again 11/9 for Rio Vista flows 	<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 • 99-100% winter-run Chinook salmon juveniles yet to enter the Delta and 0-1% 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 SMT's 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	11/1/2020
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	11/1/2020
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	11/1/2020
Natural steelhead	WY 2021 loss = 0 10-year cumulative loss = 11,864	WY 2021 loss = 0 Cumulative loss = 727 (6.1%)	No change expected	11/1/2020
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 = 7324 cfs turbidity =2.07 FNU	Not Applicable until Dec. 1	11/3/2020

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

<u>Species</u>	<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>
Chinook salmon	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			
	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	11/2/20	Based on 11/1/20 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	11/2/20	Based on 11/1/20 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			
	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			
Delta smelt	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 <u>AND</u> - [three-day Freeport turbidity running avg >=50 NTU <u>OR</u> Smelt Monitoring Team recommendation]	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			
	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] <u>OR</u> , - 3-day cum. salvage of juv. DS >11	current 5-day salvage = 0	no change expected	11/2/20	Based on salvage data from 11/1/20

Longfin smelt	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			
	OMR Mgt. for Adults (8.4.1)	Dec. 1 - Feb. 28	Not in effect	- Smelt Monitoring Team recommendation	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, <u>OR</u> - LFS catch/tow >5 larvae or juveniles in >=2 stations	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 = 2,000 to 5,500 cfs SJ = 400 to 2,000 cfs		11/2/20	
OMR	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 <u>AND</u> - Current daily average water temperature at Mossdale exceeds 22.2°C for 7 non-consecutive days in June <u>AND</u> - 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			