

Weekly Fish and Water Operations Outlook 10/27/2020 – 11/2/2020

Pleasant temperatures for week with highs in the 70's, but gusty winds (particularly on Monday and Tuesday) continue to elevate fire weather concerns. Controlling factors for operations are the minimum monthly average Delta Outflow requirement for October of 4,000 cfs, and the minimum flows on the Sacramento River at Rio Vista.

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 cfs • Temperature compliance target: 56°F at Igo (September 16 to October 31) • 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: 2.101 MAF • Current Release: 5,000 cfs • Anticipated Weekly Range of Releases to Sacramento: 4,800 cfs - 5,000 cfs • Temperature compliance targets: 56°F at CCR gauge • Northern CVP Water Temperature Reports 	<ul style="list-style-type: none"> • Late spawning winter-run Chinook salmon eggs still in gravel. Some eggs and alevin in the redds (late spawners). • 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 10/26: 69.4%) • 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.
Feather River	<ul style="list-style-type: none"> • Oroville Storage: 1.530MAF • Current Release: 2,450 cfs • Anticipated Weekly Range of Releases to Feather: 2, 450 cfs • Daily average temperature compliance targets: 60 ± 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.

Tributary/ Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
American River	<ul style="list-style-type: none"> Folsom Storage: 0.367 MAF Current Release: 1,500 cfs Anticipated Weekly Range of Releases to American: 1,250 cfs - 1,500 cfs New temperature compliance target at Watt Avenue: 59°F (56°F with 10/28 bypass) 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. Beginning 10/13/2020 as of 10/22/2020, 40 Chinook salmon carcasses have been observed. Average water 10/19/2020 to 10/22/2020 at Fair Oaks was 64.9°F
Stanislaus River	<ul style="list-style-type: none"> New Melones Storage: 1.504 MAF Current Release to Stanislaus: Fluctuating within week Anticipated Range of Weekly Releases to Stanislaus: 200 cfs to 1500 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. Adult Chinook salmon carcass surveys began 10/6/2020. No carcasses have been observed since the start of the surveys.
Delta	<ul style="list-style-type: none"> Freeport: 6,500 to 8,000 cfs Vernalis: 400 to 2,000 cfs Delta Outflow index: 2,500 to 6,000 cfs Combined Exports: 2,100 to 4,700 cfs JPP: 1,800 to 2,700 cfs CCF: 0 to 2000 cfs Expected OMR Index Values: -1,500 to -4,000 cfs DCC: Open, w/ closure for Moke pulses 10/28 through 10/31 	<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. First juvenile spring-run Chinook salmon observed in beach seine at Tisdale (10/20/2020). 99-100% steelhead juveniles yet to enter the Delta and 0-1% in Delta.

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	10/25/2020
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	10/25/2020
Hatchery	WY 2021 loss = NA	WY 2021 loss = NA	No change expected	10/25/2020

Species/run	Threshold	Current Status	Trend	Updated through
winter-run Chinook salmon	10-year cumulative loss = 5,356	Cumulative loss = 0 (0%)		
Natural steelhead	WY 2021 loss = 0 10-year cumulative loss = 11,864	WY 2021 loss = 0 Cumulative loss = 727 (6.1%)	No change expected	10/25/2020

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

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 <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	Not 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]	N.A	N.A	N.A	N.A
Winter-run discrete daily loss (8.6.2)	Nov. 1 - Dec. 31	Not in effect	11/1-11/30: loss of 6/day unclipped older juv. Winter-run 12/1-12/31: loss of 26/day clipped older juv. Winter-run	N.A	N.A	N.A	N.A
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

<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>
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 ≥ 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 ≥ 1.67 [average 3-yr FMWT index + 1] <u>OR</u> , - 3-day cum. salvage of juv. DS >11	current 5-day salvage = 0	N.A	Based on salvage data from 10/25/20	N.A

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

<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 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 = 2,000 to 5,500 cfs SJ = 400 to 2,000 cfs	N.A	10/26/20	N.A

Table 3d. OMR Management

<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 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	N.A	N.A	N.A