



## Weekly Fish and Water Operations Outlook

11/22/2022 – 11/28/2022

**FORECASTED WEATHER:** Dry weather with a slight warming trend through the week. Pattern change possible late in post-Thanksgiving weekend.

Table 1: Anticipated weekly operational ranges by tributary. Environmental and fish conditions updated by respective watershed groups at varying intervals that may not coincide with the weekly range of Water Operations

Tributary/Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
Clear Creek	<ul style="list-style-type: none"> <li>• Current Release: 200 cfs</li> <li>• Anticipated Weekly Range of Releases: 200 cfs</li> </ul>	<ul style="list-style-type: none"> <li>• Spring-run Chinook salmon eggs are hatching and fry are starting to emerge.</li> <li>• Fall-run Chinook Salmon spawning is nearly complete and their eggs are incubating in the gravel.</li> <li>• O. mykiss adults are migrating and holding in Clear Creek. Last year's juvenile O. mykiss are present.</li> </ul> <p><i>(Updated 11/21/22)</i></p>
Sacramento River	<ul style="list-style-type: none"> <li>• Shasta Storage: 1.399 MAF</li> <li>• Current Release: 3,250 cfs</li> <li>• Anticipated Weekly Range of Releases: 3,250 cfs</li> </ul>	<ul style="list-style-type: none"> <li>• Spring-run Chinook salmon adults have completed spawning. Eggs are in gravel incubating.</li> <li>• Winter-run Chinook juvenile salmon have all emerged from redds and migrating downstream.</li> <li>• Winter-run Chinook salmon and Spring-run (length-at-date) juveniles being caught in low numbers and genetics being taken to confirm run assignment.</li> <li>• Fall-run Chinook salmon spawning is underway and will last into early December. Carcass surveys for fall-run are underway. Eggs are incubating and in gravel.</li> </ul> <p><i>(Updated 11/21/22)</i></p>

Tributary/Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
Feather River	<ul style="list-style-type: none"> <li>Oroville Storage: 993 TAF</li> <li>Current Release: 1,600 cfs</li> <li>Anticipated Weekly Range of Releases: 1,600 cfs to 1,200 cfs</li> <li>Daily temperature maximum: 51 F at Fish Hatchery</li> </ul>	<ul style="list-style-type: none"> <li>Adult Fall-run Chinook Salmon spawning is coming to an end, eggs are in gravel and incubating</li> <li>Adult Spring-run Chinook Salmon spawning has ended, eggs are in gravel and incubating.</li> <li>Approximately 15-20 green sturgeon present from Sunset Pumps to Boyd's Pump.</li> <li>Adult and juvenile O. mykiss present.</li> </ul> <p>(Updated 11/22/22)</p>
American River	<ul style="list-style-type: none"> <li>Folsom Storage: 257 TAF</li> <li>Current Release: 1,300 cfs</li> <li>Anticipated Weekly Range of Releases: 1,300 cfs</li> </ul>	<ul style="list-style-type: none"> <li>Adult fall-run Chinook Salmon are present and beginning to spawn. Eggs are in the gravel.</li> <li>Juvenile and adult O. mykiss are present.</li> </ul> <p>(Updated 10/25/22)</p>
Stanislaus River	<ul style="list-style-type: none"> <li>New Melones Storage: 587 TAF</li> <li>Current Release: 200 cfs</li> <li>Anticipated Range of Weekly Releases: 200 cfs</li> </ul>	<ul style="list-style-type: none"> <li>Juvenile and adult O. mykiss are present.</li> <li>Adult fall-run Chinook salmon are present and spawning. Eggs are in the gravel.</li> </ul> <p>(Updated 10/24/22)</p>
Delta	<ul style="list-style-type: none"> <li>Freeport: 5,500 to 7,000 cfs</li> <li>Vernalis: 400 to 800 cfs</li> <li>Delta Outflow index: 3,000 to 4,000 cfs</li> <li>Combined Exports: 1,400 to 2,800 cfs</li> <li>JPP: 900 cfs to 1,800 cfs</li> <li>CCF: 500 cfs to 1,000 cfs</li> <li>Expected Daily OMR Index Values: -1,500 to -2,400 cfs</li> <li>DCC Gates: Closed as of 11/21 scheduled to open 11/25 and close 11/28. Closed during week and open on weekends operation may be adjusted due to real-time conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Adult O. mykiss present</li> <li>Adult and juvenile Green Sturgeon present</li> <li>Delta Smelt subadults and adults were detected in the Sacramento River Deepwater Shipping Channel in August, in Suisun Marsh (Grizzly Bay) in September, and in the lower Sacramento River in November.</li> <li>Longfin Smelt sub-adults have been detected in the lower Sacramento River and downstream of the confluence, including at Chipps in October and November. Adults have been detected in Suisun Bay and Suisun Marsh in November.</li> </ul> <p>(Updated 11/22/22)</p>

Table 2a-b: WY 2023 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 2023 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). \* TBD – no draft JPE produced, ITL and performance thresholds are TBD currently

Species/run	Threshold	Current Status	Weekly Trend	Updated
Green sturgeon	WY 2023 salvage = 74	WY 2023 salvage = 0 (0%)	No change expected	11/21/2022

Species/run	Threshold	Current Status	Weekly Trend	Updated
Natural winter-run Chinook Salmon	WY 2023 loss = TBD * (50% of 1.17% of JPE)	WY 2023 loss = 0	No change expected	11/21/2022
Natural Steelhead	Dec 1 – Mar 31 = 707 (50% of 1,414)  Apr 1 – June 15 = 776 (50% of 1,552)	WY 2023 loss = 0 Dec 1 – Mar 31 = 0 (0%) Apr 1 – June 15 = 0 (0%)	No change expected	11/21/2022
Sacramento River Hatchery winter-run Chinook salmon	WY 2023 loss = TBD* (50% of 0.12% of JPE)	WY 2023 loss = 0 (0%)	No change expected	11/21/2022
Battle Creek Hatchery winter-run Chinook salmon	WY 2023 loss = TBD * (50% of 0.12% of JPE)	WY 2023 loss = 0 (0%)	No change expected	11/21/2022
Proposed Action Hatchery yearling spring-run Chinook salmon surrogates	> 0.5% of each release group	WY 2023 loss = 0 (0%)	No change expected	11/21/2022
Delta Smelt	After Dec. 1: Running 3-day avg. flows at Freeport >25,000 cfs Running 3-day avg. turbidity at Freeport => 50 FNU Daily avg. Turbidity at OBI=> 12 FNU	Freeport 3-day avg. Flow = 7017.3 CFS Turbidity = 1.70 FNU  OBI daily Avg Turbidity = 2.31 FNU	Not relevant	11/14/2022
Delta Smelt	Daily avg. Turbidity at OBI=> 12 FNU	OBI daily Avg Turbidity = Not relevant	Not relevant	11/21/2022
Delta Smelt	Daily avg. Temperature at CCF > 25°C for three consecutive days	CCF daily avg. Temperature = Not relevant	Not relevant	11/21/2022

Table 2b. 10-Year Salmonid Cumulative Loss

Species/run	Threshold	Current Status	Updated
Natural winter-run Chinook salmon	Loss = 8,738	Cumulative loss = 264.2 (3.0%)	11/21/2022
Hatchery winter-run Chinook salmon	Loss = 5,356	Cumulative loss = 6.71 (0.13%)	11/21/2022
Natural steelhead	Loss = 6,038 (Dec 1 – Mar 31) Loss = 5,826 (Apr 1 – June 15)	Cumulative loss = 530.2 (8.8%, Dec 1 – Mar 31) 474.5 (8.1%, Apr 1 – June 15)	11/21/2022

Table 3a-d: Relevant Water Year 2023 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	10/31/22	N/A
Winter-run yearly loss (8.6.1)	Nov. 1 - Jun. 30	In effect	TBD (based on JPE)	N/A	N/A	11/14/22	Based on JPE (TBD)
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	N/A	N/A	11/14/22	N/A
Mid and late season Winter-run daily loss threshold (8.6.3)	Jan 1 – May 31	Not in effect	N/A	N/A	N/A	10/31/22	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	10/31/22	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 $\geq$ 25,000 AND  [three-day Freeport turbidity running avg $\geq$ 50 NTU OR Smelt Monitoring Team recommendation]	N/A	N/A	11/21/22	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	11/21/22	N/A
Larval and/Juvenile Delta smelt Protection (8.5.2)	ongoing	In effect, not triggered	- If 5-day cum. salvage of juv.DS $\geq$ 1 [average 3-yr FMWT index + 1], then -5000 OMR - If DS in SLS/20mm or 3-d temp at Jersey Point $\geq$ 12C, and SLS/20mm Secchi for 12 south delta stations $\leq$ 1m, then -3500 OMR	N/A	N/A	11/21/22	N/A

Table 3c: Longfin Smelt

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Update	Comments
Early Adult Protection (8.3.3)	Dec. 1 - Feb. 28	Not in effect	-Cum. salvage > [most recent FMWT/10] = 1 fish (Sept.-Oct. Index) OR -Smelt Monitoring Team determines high likelihood of LFS movement into high-risk areas	N/A	N/A	11/21/22	N/A
OMR Mgt. for Adults (8.4.1)	Dec. 1 -Feb. 28	Not in effect	-Smelt Monitoring Team recommendation	N/A	N/A	11/21/22	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 >=2stations	N/A	N/A	11/21/22	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	In effect, not triggered	-Sac. R. at Rio Vista >55,000, OR SJR at Vernalis >8,000	Rio Vista = 2,000 to 5,500 cfs SJ = 400 to 800 cfs	N/A	11/14/22	N/A

Table 3d: OMR

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
OMR Mgmt. Offramp (8.8)	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 and Prisoners Point. • Days exceeded: Criteria met as of 6/16/2022	N/A	N/A	10/10/22	N/A

Table 4: Fish monitoring gear efficiency and disruptions. Status Categories: [1] Active (ongoing sampling), [2] Partial Interruption (some sampling interruptions), [3] Interrupted (sampling fully suspended), [4] Not Active (sampling not scheduled)

Monitoring survey	Region	Notes (as of 11/22/2022)	Status
SWP regular counts, CWT reading	Delta	Active	1
SWP larval sampling	Delta	Not Active	4
CVP regular counts, CWT reading	Delta	Active	1
CVP larval sampling	Delta	Not Active	4
Smelt Larval Survey	Delta	Not Active	4
LEPS	Delta	Not Active	4
20mm Survey	Delta	Not Active	4
Spring Kodiak Trawl	Delta	Not Active	4
Fall Mid-water Trawl	Delta	Active	1
Summer Townet Survey	Delta	Not Active	4
Bay Study	Delta	Active	1
DJFMP- Chipps and Sacramento Trawls	Delta	Active (sampling three days a week starting in May)	1
DJFMP- Seines	Delta	Active	1
EDSM	Delta	Active	1
EMP	Delta	Active	1
Mossdale	Delta	Active	1
USGS Flow monitoring	Delta	Active	1
Red Bluff Diversion Dam screw trap	Sacramento River	Active	1

<b>Monitoring survey</b>	<b>Region</b>	<b>Notes (as of 11/22/2022)</b>	<b>Status</b>
Knights Landing screw trap	Sacramento River	Active	1
Tisdale screw trap	Sacramento River	Active	1
GCID screw trap	Sacramento River	Active	1
Yuba River (Hallwood) screw trap	Yuba River	Active – weekdays only	1
Redd dewatering and stranding surveys	Sacramento River	Not Active	4
Sacramento Carcass and Redd Surveys	Sacramento River	Active	1
Lower Sacramento Rotary Screw Trap	Sacramento River	Active	1
Feather River (upper DWR)	Sacramento River	Active (Eye side only)	1
Feather River (lower CDFW)	Sacramento River	Active	1
SJRRP CDFW Field Monitoring	San Joaquin River	Active	1
SJRRP USFWS and USBR Field Monitoring	San Joaquin River	Not Active	4
Stanislaus Fish Weir	San Joaquin River	Active	1