



# Weekly Fish and Water Operations Outlook

1/16/2024 – 1/22/2024

## Water Project Operational Intent for Week

- Monthly Delta Outflow for January greater than 6,000 cfs; E/I ratio not to exceed 0.65; OMRI flow is less negative than or equal to -5,000 cfs. SWP is targeting a proportional share of combined exports that would result in an OMRI of -3500 on a 7-day average per the recommendation regarding the ITP COA 8.4.2.

## Forecasted Weather

- Rain and mountain snow returns Tuesday and Wednesday. Active weather picks up by weekend.

## Tables

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 fry rearing.</li> <li>• Fall-run Chinook salmon eggs are incubating and hatching. Juveniles are emerging and rearing.</li> <li>• Late fall-run Chinook Salmon adults are spawning and eggs are incubating.</li> <li>• Adult O. mykiss are migrating and spawning. Their eggs are incubating and juveniles are rearing.</li> </ul> <p><i>(Updated 1/12/2024)</i></p>

Tributary/Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
Sacramento River	<ul style="list-style-type: none"> <li>• Shasta Storage: 3.171MAF</li> <li>• Current Release: 5,000 cfs</li> <li>• Anticipated Weekly Range of Releases: 5,000 cfs.</li> </ul>	<ul style="list-style-type: none"> <li>• Adult fall-run Chinook salmon spawning is complete. Late fall-run Chinook adults are approaching peak spawning and some still holding prior to spawning.</li> <li>• Fall-run redds are in various stages from some still in redds, to others emerged and migrating downstream.</li> <li>• Late-fall redds still in egg stage in redds</li> </ul> <p><i>(Updated 1/12/2024)</i></p>
Feather River	<ul style="list-style-type: none"> <li>• Oroville Storage: 2.469 MAF</li> <li>• Current Release: 1,750 cfs</li> <li>• Anticipated Weekly Range of Releases: 1,750 cfs.</li> </ul>	<ul style="list-style-type: none"> <li>• Fall-run Chinook salmon adult spawning has ended. Redds are being observed in both the HFC and LFC.</li> <li>• O. mykiss juveniles are rearing. Adults are migrating upstream.</li> <li>• Adult green sturgeon are still holding in the LFC.</li> <li>• Spring-run Chinook salmon adults have completed spawning. Eggs are incubating in gravel. Fry are beginning to emerge and migrate downstream.</li> </ul> <p><i>(Updated 1/2/2024)</i></p>
American River	<ul style="list-style-type: none"> <li>• Folsom Storage: 473 TAF</li> <li>• Current Release: 1,750 cfs</li> <li>• Anticipated Weekly Range of Releases: 1,750 cfs</li> </ul>	<ul style="list-style-type: none"> <li>• O. mykiss juveniles are rearing.</li> <li>• Adult fall-run Chinook salmon are spawning. Eggs are incubating in gravel.</li> <li>• Fry are beginning to emerge.</li> </ul> <p><i>(Updated 12/19/2023)</i></p>
Stanislaus River	<ul style="list-style-type: none"> <li>• New Melones Storage: 1.983 MAF</li> <li>• Current Release: 1,000 cfs</li> <li>• Anticipated Weekly Range of Releases: 1,000 cfs</li> </ul>	<ul style="list-style-type: none"> <li>• O. mykiss - Adult and juveniles present</li> <li>• Fall-run Chinook salmon adults are spawning. Eggs are incubating in gravel.</li> </ul> <p><i>(Updated 12/4/2023)</i></p>

Tributary/Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions
Delta	<ul style="list-style-type: none"> <li>• Freeport: 14,000 to 30,000 cfs</li> <li>• Vernalis: 1,750 to 2,250 cfs</li> <li>• Delta Outflow index: 10,000 to 30,000 cfs</li> <li>• Combined Exports: 5,400 to 7,700 cfs</li> <li>• JPP: Current 3,600 cfs, Range 3,600 cfs to 4,200 cfs</li> <li>• CCF: Current 1,800 cfs, Range 1,800 cfs to 3,500 cfs</li> <li>• Expected Daily OMR Index Values: - 4,000 cfs to -5,100 cfs</li> <li>• DCC Gates: Closed on 11/27</li> <li>• X2 is around 75 km</li> <li>• Tides: Transitioning from neap to spring tide</li> </ul>	<ul style="list-style-type: none"> <li>• Juvenile and adult <i>O. mykiss</i> present</li> <li>• Juvenile Chinook Salmon present</li> <li>• Adult and juvenile Green Sturgeon present</li> <li>• Delta Smelt sub-adults and adults (size-based) are present in the lower Sacramento River.</li> <li>• Longfin Smelt sub-adults and adults have been detected in Suisun Marsh and Bay, Grizzly Bay, San Pablo Bay, Chipps Island, and at the Confluence and Lower Sacramento River. Longfin Smelt larvae have been detected in the Lower San Joaquin River, Suisun Marsh, the Confluence, and the Lower Sacramento River. LFS population scale migration and spawning is ongoing.</li> </ul> <p style="text-align: right;"><i>(Updated 1/9/2024)</i></p>

Table 2a-b: WY 2024 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 2024 Salmonid Current Loss and Delta Smelt Abiotic Conditions. Additional Real-Time OMR Restrictions and Performance Objectives (4.10.5.10.2, 4.10.5.10.3) and Onset of OMR Management (4.10.5.10.1). Genetic identification of salmon is not used in calculating loss, but results are included in the Assessment as they become available. The Final WR JPE for BY2023 is 234,896. The ITL and performance thresholds are TBD.

Species/run	Threshold	Current Status	Weekly Trend	Updated
Green sturgeon	WY 2024 salvage = 74	WY 2024 salvage = 0 (0%)	No change expected	1/15/2024
Natural winter-run Chinook Salmon	WY 2024 loss = 1374 (50% of 1.17% of JPE)	WY 2024 loss = LAD: 23.08 (1.7%) Genetic: 0 (0%)	No change expected	1/16/2024

Species/run	Threshold	Current Status	Weekly Trend	Updated
Natural Steelhead	Dec 1 – Mar 31 = 707; (50% of 1,414) Apr 1 – June 15 = 776 (50% of 1,552)	WY 2024 loss = 46.2 Dec 1 – Mar 31 = 46.2 (6.53 % of the 50% threshold) Apr 1 – June 15 = 0 (0% of the 50% threshold)	No change expected	1/16/2024
Sacramento River Hatchery winter-run Chinook salmon	WY 2024 loss = 140.93 (50% of 0.12% of JPE)	WY 2024 loss = 0 (0%)	No change expected	1/15/2024
Battle Creek Hatchery winter-run Chinook salmon	WY 2024 loss = 234.90 (1% of JPE)	WY 2024 loss = 0 (0%)	No change expected	1/15/2024
Proposed Action Hatchery yearling spring-run Chinook salmon surrogates	> 0.5% of each release group	WY 2024 loss = 0 (0%)	No change expected	1/15/2024
Delta Smelt	After Dec. 1: Running 3-day avg. flows at Freeport >25,000 cfs AND Running 3-day avg. turbidity at Freeport =>50 FNU	Freeport 3-day avg. Flow = 16938.81 cfs; Turbidity = 15.59 FNU	Decrease this week	1/15/2024
Delta Smelt	Daily avg. Turbidity at OBI=>12 FNU	OBI Daily Average = Not relevant	Not relevant	11/27/2023
Delta Smelt	Daily avg. Temperature at CCF > 25°C for three consecutive days	CCF daily avg. Temperature = Not relevant	Not relevant	11/27/2023

Table 2b. 10-Year Salmonid Cumulative Loss

Species/run	Threshold	Current Status	Updated
Natural winter-run Chinook salmon	Loss = 8,738	Cumulative loss = 412.23(4.5%)	1/16/2024
Hatchery winter-run Chinook salmon	Loss = 5,356	Cumulative loss = 6.71 (0.13%)	1/15/2024

Species/run	Threshold	Current Status	Updated
Natural steelhead	Loss = 6,038 (Dec 1 – Mar 31) Loss = 5,826 (Apr 1 – June 15)	Cumulative loss = 1622.66 (26.9%, Dec 1 – Mar 31) 1012.50(17.4%, Apr 1 – June 15)	1/16/2024

Table 3a-c: Relevant Water Year 2024 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 (when ≥ 5% of spring-run or winter-run in Delta)	In effect	5% of the Winter-run or Spring-run population in Delta	N/A	N/A	1/8/2024	In effect as of January 1.
Winter-run yearly loss (8.6.1)	Nov. 1 - Jun. 30	In effect	2,748.28 (0.0117% of interim JPE)	N/A	N/A	1/16/23	Updated with finalized JPE number
Winter-run discrete daily loss (8.6.2)	Nov. 1 - Dec. 31	Not in effect	26 older juvenile/day	Max Older Juvenile discrete daily loss observed last week = 0	Possible salvage of LAD older juveniles in the upcoming week	1/8/2024	No salvage of LAD older juveniles during the previous week.
Mid and late season Winter-run daily loss threshold (8.6.3)	Jan 1 – May 31	In effect	1/1-1/31: loss of 2.91 fish /day of unclipped LAD older juvenile (Winter-run, Yearling fall-run, and Late fall-run)	Loss of older juvenile Chinook occurred on 1/15 with loss of 5.76.	Possible salvage of more unclipped older juvenile	1/16/2024	Number of unclipped older juvenile were salvaged at both fish facilities

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
Spring-run surrogate protection (8.6.4)	Feb. 1 - Jun. 30	Not in effect	TBD	N/A	N/A	9/29/23	Will be updated when in effect

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	In effect	- three-day Freeport daily flow running avg $\geq 25,000$ cfs AND [three-day Freeport turbidity running avg $\geq 50$ FNU OR Smelt Monitoring Team recommendation]	Freeport 3-day avg. Flow = 20,729.22 cfs; Turbidity = 24.37 FNU	Flows expected to decrease this week	1/8/24	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 $> 12$ FNU	N/A	N/A	11/27/23	N/A

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
Larval and/Juvenile Delta smelt Protection (8.5.2)	Nov. 1 – Jun. 30	In effect, not triggered	- If 5-day cum. salvage of juv.DS >= 1 [average 3-yr FMWT index + 1], then –5000 OMR - If DS in SLS/20mm or 3-d temp at Jersey Point >= 12C, and SLS/20mm Secchi for 12 south delta stations <= 1m, then – 3500 OMR	Current 5-day salvage = 0 3-day SJJ temp= 11.05 °C Average Secchi Depth = 158 cm (as of 1/8)	N/A	1/9/24	N/A

Table 3c: Longfin Smelt

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
Early Adult Protection (8.3.3)	Dec. 1 - Feb. 28	Off-ramped	-Cum. salvage > [most recent FMWT/10] = 46 fish (Sept.-Dec. Index) OR -Smelt Monitoring Team determines high likelihood of LFS movement into high-risk areas	Cumulative salvage = 0	N/A	12/26/23	N/A
OMR Mgt. for Adults (8.4.1)	Onset of OMR mgmt - Feb. 28	Off-ramped	-Smelt Monitoring Team recommendation	N/A	N/A	12/19/23	N/A
Larval and Juvenile Longfin Smelt Entrainment Protection (8.4.2)	Jan 1 – Jun 30	Triggered	-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	SLS 1 detected five larvae at 809, 812, 815, and 901 on 1/10/24	N/A	1/16/24	SWP is targeting a proportional share of combined exports that would result in an OMRI of -3500 on a 7-day average
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 = 15,000 – 30,000 – cfs SJ = 1,750 – 2,250 cfs	N/A	1/16/24	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 1/16/2024)	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	Active	1
LEPS	Delta	Active	1
20mm Survey	Delta	Not Active	4
Fall Mid-water Trawl	Delta	Not Active	4
Summer Towntnet Survey	Delta	Not Active	4
Bay Study	Delta	Active	1
DJFMP- Chipps and Sacramento Trawls	Delta	Active	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 Rotary Screw Trap (RST)	Sacramento River	Active	1
Knights Landing RST	Sacramento River	Active	1
Tisdale RST	Sacramento River	Active	1
Yuba River (Hallwood) RST	Yuba River	Active	1
Redd dewatering and stranding surveys	Sacramento River	Active	1
Sacramento Carcass and Redd Surveys	Sacramento River	Active	1
Lower Sacramento RST	Sacramento River	Active	1
Feather River (upper DWR) RST	Feather River	Active	1

<b>Monitoring survey</b>	<b>Region</b>	<b>Notes (as of 1/16/2024)</b>	<b>Status</b>
Feather River (lower CDFW) RST	Feather River	Active	1
SJRRP CDFW Field Monitoring	San Joaquin River	Active	1
SJRRP USBR Field Monitoring	San Joaquin River	Active	1
Stanislaus Fish Weir	Stanislaus River	Active	1
American River Carcass/Redd Surveys	American River	Active	1
Caswell RST	Stanislaus River	Active	1
Wallace Weir	Cache Slough	Active	1
Butte Creek RST/Diversion Trap	Butte Creek	Active	1