



Weekly Fish and Water Operations Outlook

1/30/2024 – 2/5/2024

Water Project Operational Intent for Week

- Implementation of the “Integrated Early Winter Pulse Protection” action began 1/23. The Projects will coordinate their combined exports for 14 consecutive days so that the 14-day averaged OMRI for the period shall not be more negative than -2,000 cfs through 2/5.

Forecasted Weather

- The week begins warm and dry. By mid-week, an active weather pattern will bring cooler temperatures, gusty winds, precipitation and mountain snow to the Central Valley region. For the weekend, a clearing (wet to dry) trend develops, with cooler temperatures remaining in place.

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"> • Current Release: 200 cfs • Anticipated Weekly Range of Releases: 200 cfs | <ul style="list-style-type: none"> • Spring-run Chinook salmon fry rearing. • Fall-run Chinook salmon eggs are incubating and hatching. Juveniles are emerging and rearing. • Late fall-run Chinook Salmon adults are spawning and eggs are incubating. • Adult O. mykiss are migrating and spawning. Their eggs are incubating and juveniles are rearing. <p><i>(Updated 1/22/2024)</i></p> |

| Tributary/Division | Anticipated Weekly Ranges | Related Environmental and Fish Conditions |
|--------------------|--|--|
| Sacramento River | <ul style="list-style-type: none"> • Shasta Storage: 3.591 MAF • Current Release: 5,000 cfs • Anticipated Weekly Range of Releases: 5,000 cfs to 40,000 cfs for flood management. | <ul style="list-style-type: none"> • Adult fall-run Chinook salmon spawning is complete. Late fall-run Chinook adults are approaching peak spawning and some are still holding. • Fall-run redds are in various stages. Some eggs are still incubating, while others have emerged. Fry are beginning to migrate downstream. • Late-fall run Chinook eggs are currently incubating in gravel. <p><i>(Updated 1/29/2024)</i></p> |
| Feather River | <ul style="list-style-type: none"> • Oroville Storage: 2.691 MAF • Current Release: 1,750 cfs • Anticipated Weekly Range of Releases: 1,750 cfs to 15,000 cfs. | <ul style="list-style-type: none"> • Fall-run Chinook salmon adult spawning has ended. Redds are being observed in both the HFC and LFC. Eggs are incubating in gravel. Fry are beginning to emerge and migrate downstream. • O. mykiss juveniles are rearing. Adults are migrating upstream. • Adult green sturgeon are still holding in the LFC. • Spring-run Chinook salmon adults have completed spawning. Eggs are incubating in gravel. Fry are emerging and migrating downstream. <p><i>(Updated 1/22/2024)</i></p> |
| American River | <ul style="list-style-type: none"> • Folsom Storage: 529 TAF • Current Release: 1,750 cfs • Anticipated Weekly Range of Releases: 1,750 cfs to 3,000 cfs for flood management | <ul style="list-style-type: none"> • O. mykiss juveniles are rearing. • Adult fall-run Chinook salmon spawning has ended. • Eggs are incubating in gravel. • Fry are beginning to emerge and migrate downstream. • O. mykiss – Adults present <p><i>(Updated 1/30/2024)</i></p> |

| Tributary/Division | Anticipated Weekly Ranges | Related Environmental and Fish Conditions |
|--------------------|--|---|
| Stanislaus River | <ul style="list-style-type: none"> • New Melones Storage: 1.984 MAF • Current Release: 1,500 cfs • Anticipated Weekly Range of Releases: 1,500 cfs for flood management | <ul style="list-style-type: none"> • O. mykiss - Adult and juveniles present • Fall-run Chinook salmon spawning has ended. • Eggs are incubating in gravel. Fry are beginning to emerge and migrate downstream. <p style="text-align: right;"><i>(Updated 1/29/2024)</i></p> |
| Delta | <ul style="list-style-type: none"> • Freeport: 30,000 to 75,000 cfs • Vernalis: 2,500 to 6,000 cfs • Delta Outflow index: 35,000 to 80,000 cfs • Combined Exports: 3,500 to 5,200 cfs • JPP: Current 1,800 cfs, Range 1,800 cfs to 3,600 cfs • CCF: Current 2,000 cfs, Range 800 cfs to 2,500 cfs • Expected Daily OMR Index Values: -1,800 cfs to -2,200 cfs • DCC Gates: Closed on 11/27 for season • X2 is approx. 61 km • Tides: Transitioning from Spring to Neap tide, last quarter moon 2/2 | <ul style="list-style-type: none"> • Juvenile and adult O. mykiss present • Juvenile Chinook Salmon present • Adult and juvenile Green Sturgeon present • Delta Smelt sub-adults and adults (size-based) have been detected in the lower Sacramento River, Deep Water Shipping Channel, Suisun Marsh, and the South Delta. DS population scale migration is ongoing. • 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, Central and South Delta, and the Lower Sacramento River. LFS population scale migration and spawning are ongoing. <p style="text-align: right;"><i>(Updated 1/29/2024)</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 BY 2023 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 | 1/29/2024 |
| Natural winter-run Chinook Salmon | WY 2024 loss = 1374 (50% of 1.17% of JPE) | WY 2024 loss = 64.47 (4.7%) | Increasing | 1/29/2024 |
| Natural Steelhead | Dec 1 – Mar 31 = 707; (50% of 1,414) Apr 1 – June 15 = 776 (50% of 1,552) | WY 2024 loss = 89.29 Dec 1 – Mar 31 = 89.29 (12.6 % of the 50% threshold) Apr 1 – June 15 = 0 (0% of the 50% threshold) | Increasing | 1/29/2024 |
| Sacramento River Hatchery winter-run Chinook salmon | WY 2024 loss = 140.93 (50% of 0.12% of JPE) | WY 2024 loss = 0 (0%) | Increasing | 1/29/2024 |
| Battle Creek Hatchery winter-run Chinook salmon | WY 2024 loss = 234.90 (1% of JPE) | WY 2024 loss = 0 (0%) | No change expected | 1/29/2024 |
| Proposed Action Hatchery yearling spring-run Chinook salmon surrogates | > 0.5% of each release group 1) 12/22/2023 group 1: 60,764 = 303.82 2) 12/29/2023 group 2: 71,049 = 355.25 3) 1/11/2024 group 3: 67,018 = 335.09 | WY 2024 loss = 1) 24.53 (8.1%) 2) 10.01 (2.8%) 3) 24.28 (7.2%) | Increasing | 1/29/2024 |
| 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 | Triggered 1/21/2024 with Freeport 3-day avg. Flow = 44210 cfs; Turbidity = 57.8 FNU | Increase this week | 1/29/2024 (data from 1/28/2024) |

| Species/run | Threshold | Current Status | Weekly Trend | Updated |
|-------------|---|---|--------------|------------|
| Delta Smelt | Daily avg. Turbidity at OBI=> 12 FNU | OBI Daily Average = 3.51 FNU | N/A | 1/29/2024 |
| 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 = 434.72 (4.98%) | 1/29/2024 |
| Hatchery winter-run Chinook salmon | Loss = 5,356 | Cumulative loss = 6.71 (0.13%) | 1/29/2024 |
| Natural steelhead | Loss = 6,038 (Dec 1 – Mar 31) Loss = 5,826 (Apr 1 – June 15) | Cumulative loss = 1665.75 (27.6%, Dec 1 – Mar 31) 1012.50(17.4%, Apr 1 – June 15) | 1/29/2024 |

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 $\geq 5\%$ of spring-run or winter-run in Delta) | In effect | $\geq 5\%$ of the Winter-run or Spring-run population in Delta | N/A | N/A | 1/29/2024 | In effect as of January 1. |
| Winter-run yearly loss (8.6.1) | Nov. 1 - Jun. 30 | In effect | 2,748.28 (1.17% of Natural LAD WR of Final JPE) 232.30 (0.12% of LSNFH WR of Final JPE) | Loss of total LAD Winter-run = 64.47 | Salvage is likely to occur in the upcoming week | 1/29/24 | Natural-origin LAD winter-run Chinook salmon (WR) were observed in salvage the previous week. |
| 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 = N/A | N/A | 1/22/2024 | N/A |

| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Updated | Comments |
|---|------------------|-----------------------|---|---|--|--------------|--|
| 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 natural-origin LAD older juvenile (Winter-run, Yearling fall-run, and Late fall-run). Updated with genetic results as they become available. If genetics confirms that the older juvenile is NOT a WR then that fish will not count towards the threshold. Upcoming loss value: 2/1-2/29: loss of 5.43 fish /day of natural-origin LAD older juvenile (Winter-run, Yearling fall-run, and Late fall-run). | Max daily Loss of older juvenile Chinook occurred on 1/26 and 1/28 with loss of 9.57. | Salvage of older juveniles is likely in the upcoming week. | 1/29/2024 | Trigger was exceeded on 1/22, 1/25, 1/26, 1/27, and 1/28 based on LAD Older Juvenile loss threshold. Only 1 genetically confirmed WR was observed in salvage on 1/16/24 which triggered COA 8.6.3. |
| 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 | Triggered | - three-day Freeport daily flow running avg \geq 25,000 AND [three-day Freeport turbidity running avg \geq 50 FNU OR Smelt Monitoring Team recommendation] | Triggered on 1/21/2024 with Freeport 3-day avg. Flow = 44210 cfs; Turbidity = 57.8 FNU | Flows expected to increase this week | 1/29/24 | 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 | OBI daily average = 3.51 FNU | N/A | 1/29/24 | 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 = 11.44 °C Average Secchi Depth = 118cm (as of 1/22) | N/A | 1/29/24 | 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 |

| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Updated | Comments |
|--|--|--------------------------|--|---|--------------|--------------|---|
| 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 2 detected 24 larvae at stations 809, 812, 815, 901 and 902 on 1/22/24. | N/A | 1/23/24 | SWP is restricted to an OMRI of – 5,000 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 = 20,000 – 65,000 – cfs SJ = 2,500 – 6,000 cfs | N/A | 1/29/24 | 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 1/30/2024) | 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 |

| Monitoring survey | Region | Notes (as of 1/30/2024) | Status |
|--|-------------------|---|---------------|
| Environmental Monitoring Program (EMP) | Delta | Active | 1 |
| Mossdale Trawl | 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 (Late fall-run Chinook salmon) | Sacramento River | Active | 1 |
| Lower Sacramento RST | Sacramento River | Partially Interrupted (Inactive due to high flows from 1/21/24-1/29/24) | 2 |
| Feather River (upper DWR) RST | Feather River | Active | 1 |
| Feather River (lower CDFW) RST | Feather River | Active | 1 |
| Lower American River at Watt Ave RST | American 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 (Fall-run Chinook salmon) | American River | Not Active | 4 |
| Stanislaus Carcass Survey (Steelhead) | Stanislaus River | Active | 1 |
| Caswell RST | Stanislaus River | Active | 1 |
| Wallace Weir | Cache Slough | Active | 1 |
| Butte Creek RST/Diversion Trap | Butte Creek | Active | 1 |