



— BUREAU OF —
RECLAMATION

Weekly Fish and Water Operations Outlook 2/6/2024 – 2/12/2024

Water Project Operational Intent for Week

- Implementation of the “Integrated Early Winter Pulse Protection” action with the 14-day averaged OMRI no more negative than –2,000 cfs ends 2/5. Effective 2/7 operations will target a 7-day average OMRI flow no more negative than -3,500 cfs per the 2023 IOP/ITP COA 8.5.2. X2 at Chipps for 28 days in February; E/I <= 0.35

Forecasted Weather

- Unsettled weather continues at start of week with periods of heavy snow, showers and gusty winds. Drier conditions return by this 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">• 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 <i>O. mykiss</i> are migrating and spawning. Their eggs are incubating and juveniles are rearing. <p>(Updated 2/5/2024)</p> |

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| Sacramento River | <ul style="list-style-type: none"> Shasta Storage: 3.713 MAF Current Release: 15,000 cfs Anticipated Weekly Range of Releases: 15,000 cfs to 20,000 cfs for flood management. | <ul style="list-style-type: none"> Late fall-run Chinook adults are continuing their spawning but we are past the peak period. Late-fall run Chinook eggs/alevins are currently incubating/residing in the gravel. Fall-run redds are mostly emerged. Fry are very actively migrating downstream. Adult winter-run are arriving in the upper river and holding. <p>(Updated 2/5/2024)</p> |
| Feather River | <ul style="list-style-type: none"> Oroville Storage: 2.698 MAF Current Release: 9,000 cfs Anticipated Weekly Range of Releases: 3,000 cfs to 10,000 cfs for flood management. | <ul style="list-style-type: none"> Fall-run Chinook salmon adult spawning has ended. Eggs are incubating in gravel. Fry are beginning to emerge and migrate downstream. <i>O. mykiss</i> juveniles are rearing. Adults are spawning and eggs are incubating in gravel. Adult green sturgeon are still holding in the LFC near Fish Barrier Dam. Spring-run Chinook salmon adult spawning has ended. Eggs are incubating in gravel. Fry are emerging and migrating downstream. <p>(Updated 2/5/2024)</p> |
| American River | <ul style="list-style-type: none"> Folsom Storage: 558 TAF Current Release: 1,750 cfs Anticipated Weekly Range of Releases: 1,750 cfs to 4,000 cfs for flood management | <ul style="list-style-type: none"> <i>O. mykiss</i> juveniles are rearing. Adult fall-run Chinook salmon spawning has ended. Eggs are incubating in gravel. Fry are beginning to emerge and migrate downstream. <i>O. mykiss</i> – Adults present <p>(Updated 1/30/2024)</p> |
| Stanislaus River | <ul style="list-style-type: none"> New Melones Storage: 1.980 MAF Current Release: 1,500 cfs Anticipated Weekly Range of Releases: 300 cfs to 1,500 cfs for flood management | <ul style="list-style-type: none"> <i>O. mykiss</i> - 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>(Updated 1/29/2024)</p> |
| Delta | <ul style="list-style-type: none"> Freeport: 30,000 to 50,000 cfs Vernalis: 4,000 to 8,500 cfs Delta Outflow index: 35,000 to 85,000 cfs Combined Exports: 4,000 to 10,000 cfs JPP: Current 3,500 cfs, Range 3,500 cfs to 4,200 cfs CCF: Current 2,000 cfs, Range 500 cfs to 6,500 cfs Expected Daily OMR Index Values: -2,000 cfs to -5,000 cfs DCC Gates: Closed on 11/27 for season X2 is approx. 70 km Tides: Transitioning from Neap to Spring tide, new moon 2/9 | <ul style="list-style-type: none"> Juvenile and adult <i>O. mykiss</i> present Juvenile Chinook Salmon present Adult and juvenile Green Sturgeon present Delta Smelt sub-adults and adults have been detected in the lower Sacramento River, Deep Water Shipping Channel, Suisun Marsh, lower San Joaquin River, and the South Delta. DS population scale migration is ongoing, and water temperatures are suitable for spawning. 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 Napa River, San Pablo Bay, Suisun Bay and Marsh, the Confluence, lower Sacramento and San Joaquin rivers, and the |

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| | | Central and South. LFS population scale migration and spawning are ongoing. (Updated 2/5/2024) |
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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 | 2/5/2024 |
| Natural winter-run Chinook Salmon | WY 2024 loss = 1374 (50% of 1.17% of JPE) | WY 2024 loss = 191.35 (13.9%) | Increasing | 2/5/2024 |
| Natural Steelhead | Dec 1 – Mar 31 = 707; (50% of 1,414) Apr 1 – June 15 = 776 (50% of 1,552) | WY 2024 loss = 307.12 Dec 1 – Mar 31 = 307.12 (43.4% of the 50% threshold) Apr 1 – June 15 = 0 (0% of the 50% threshold) | Increasing | 2/5/2024 |
| Sacramento River Hatchery winter-run Chinook salmon | WY 2024 loss = 140.93 (50% of 0.12% of JPE) | WY 2024 loss = 0 (0%) | Increasing | 2/5/2024 |
| Battle Creek Hatchery winter-run Chinook salmon | WY 2024 loss = 234.90 (1% of JPE) | WY 2024 loss = 0 (0%) | No change expected | 2/5/2024 |
| 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) 28.05 (9.2%) 2) 17.306 (4.9%) 3) 27.79 (8.3%) | Increasing | 2/5/2024 |
| Delta Smelt | After Dec. 1: Running 3-day avg. flows at Freeport >25,000 cfs AND | Triggered 1/21/2024 with Freeport 3-day avg. Flow = 46,653 cfs; Turbidity = 78.0 FNU | Increase this week | 2/5/2024 |

| Species/run | Threshold | Current Status | Weekly Trend | Updated |
|-------------|---|---|--------------|------------|
| | Running 3-day avg. turbidity at Freeport => 50 FNU | | | |
| Delta Smelt | Daily avg. Turbidity at OBI=> 12 FNU | OBI Daily Average = 6.1 FNU | | 2/5/2024 |
| 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 = 561.60 (6.43%) | 2/5/2024 |
| Hatchery winter-run Chinook salmon | Loss = 5,356 | Cumulative loss = 6.71 (0.13%) | 2/5/2024 |
| Natural steelhead | Loss = 6,038 (Dec 1 – Mar 31) Loss = 5,826 (Apr 1 – June 15) | Cumulative loss = 1883.58 (31.2%, Dec 1 – Mar 31) 1012.50 (17.4%, Apr 1 – June 15) | 2/5/2024 |

Table 3a: 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 <i>(when ≥ 5% of spring-run or winter-run in Delta)</i> | In effect | ≥ 5% of the Winter-run or Spring-run population in Delta | N/A | N/A | 1/298/2024 | 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 = 191.35 | Salvage is likely to occur in the upcoming week | 2/5/24 | Natural-origin LAD winter-run Chinook salmon (WR) were observed in salvage the previous week. |

| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Updated | Comments |
|--|------------------|-----------------------|--|--|--|--------------|---|
| 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 |
| Mid and late season Winter-run daily loss threshold (8.6.3) | Jan 1 – May 31 | In effect | 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). 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. | Max daily Loss of older juvenile Chinook occurred on 2/1 with loss of 37.98. | Salvage of older juveniles is likely in the upcoming week. | 2/5/2024 | Trigger was exceeded on multiple days during last week based on LAD Older Juvenile loss threshold but 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 >= 25,000 AND [three-day Freeport turbidity running avg >=50 FNU OR Smelt Monitoring Team | Triggered on 1/21/2024 with Freeport 3-day avg. Flow = 46,653 cfs; Turbidity = 78.0 FNU | Flows expected to increase this week | 2/5/24 | N/A |

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| | | | recommendation] | | | | |
| 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 = 6.1 FNU | Turbidity may increase with additional inflow | 2/5/24 | N/A |
| Larval and/Juvenile Delta smelt Protection (8.5.2) | Nov. 1 – Jun. 30 | Triggered 2/5/2024 | - 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= 12.23 °C Average Secchi Depth = 70cm (as of 2/5) | | 2/5/24 | 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 | Jan 1 – Jun 30 | Triggered | -LFS larvae or juveniles in >=4 SLS or 20 mm stations in | SLS 2 detected 24 larvae at stations 809, 812, 815, 901 | N/A | 1/23/24 | SWP is restricted to an OMRI of – |

| | | | | | | | |
|--|--|--------------------------|---|---|----------------------|--------|---|
| Protection (8.4.2) | | | central and south Delta, OR -LFS catch/tow >5 larvae or juveniles in >=2stations | and 902 on 1/22/24. | | | 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 = 30,000 – 70,000 – cfs SJ = 4,000 – 8,500 cfs | Flows are increasing | 2/6/24 | The increase is likely to trigger 8.4.3 later this week |

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 2/6/2024) | Status |
|---|------------------|--|--------|
| SWP regular counts, CWT reading | Delta | Active | 1 |
| SWP larval sampling | Delta | Not Active (Will begin 2/26) | 4 |
| CVP regular counts, CWT reading | Delta | Active | 1 |
| CVP larval sampling | Delta | Not Active (Will begin 2/20) | 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 Townet 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 |
| 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 | Partially Interrupted (Inactive due to high flows from 1/30/24 - 2/5/24) | 2 |

| Monitoring survey | Region | Notes (as of 2/6/2024) | Status |
|--|-------------------|---|--------|
| Tisdale RST | Sacramento River | Partially Interrupted (Inactive due to high flows from 2/1/24 - 2/2/24) | 2 |
| 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 1/31/24-2/5/24) | 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 |