# Weekly Fish and Water Operations Outlook

10/29/2024 – 11/4/2024

## Water Project Operational Intent for Week

Both (CVP and SWP) water projects are operating to the following D-1641 standards: 1) monthly average Delta Outflow (and Rio Vista flow) not less than 4,000 cfs in October and 4,500 cfs in November, 2) E/I ratio no greater than 0.65, and 3) daily Chlorides at Contra Costa Intake (at Rock Slough) no greater than 250 mg/l.

## Biological Context

No ESA biological protections “controlling” water project operations have been “triggered” at this time.

## Forecasted Weather

Light rain and high elevation snow to start the week, turning to windy conditions on Tuesday. Another weather system with showers, winds and high elevation snow moving in late Wednesday through early Saturday.

## Tables

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

| Tributary/Division | Anticipated Weekly Ranges | Related Environmental and Fish Conditions |
| --- | --- | --- |
| Clear Creek | * Current Release: 200 cfs * Anticipated Weekly Range of Releases: 200 cfs | * Fall-run Chinook Salmon actively spawning and their eggs incubating. * Spring-run Chinook Salmon eggs are incubating and beginning to hatch. * O. mykiss adults are migrating into the creek. * (Updated 11/05/2024) |
| Sacramento River | * Shasta Storage: 2.616 MAF * Current Release: 6,800 cfs * Anticipated Weekly Range of Releases: 4,500 cfs to 6,800 cfs. | * Winter-run adult spawning is complete, winter-run fry remain in gravel * Spring-run adults havecompleting spawning, spring run eggs/fry remain in the gravel * Fall-run adults are actively spawning, fall-run eggs/fry are in the gravel * Late-fall adults are migrating upstream from the ocean and holding in the watershed * Winter-run fry are migrating past RBDD in relatively low numbers considering this is the typical peak passage time period. * Small numbers of late-fall pre-smolts, late-fall juveniles from last spring, spring-run, fall-run smolts and O. Mykiss juveniles also passing RBDD at this time. * (Updated 10/29/2024) |
| Feather River | * Oroville Storage: 1.704 MAF * Current Release: 1,750 cfs * Anticipated Weekly Range of Releases: maintain at 1,750 cfs * Daily temperature maximum: 51 +/- 4 degrees F at Fish Hatchery | * Spring-run Chinook spawning is complete, eggs are incubating in gravel. * Fall-run Chinook salmon adults are migrating upstream and spawning. * Adult O. mykiss present and migrating upstream. * (Updated 11/04/2024) |
| American River | * Folsom Storage: 409 TAF * Current Release: 1,500 cfs * Anticipated Weekly Range of Releases: 1,500 cfs to 2,000 cfs | * Fall-run Chinook salmon adults are migrating upstream and spawning. * (Updated 10/14/2024) |
| Stanislaus River | * New Melones Storage: 1.796 MAF * Current Release: 600 cfs * Anticipated Range of Weekly Releases: 200 cfs after Nov 7. | * Juvenile and adult O. mykiss are present. * Adult fall-run Chinook Salmon are spawning. * (Updated 11/04/2024) |
| Delta | * Freeport: 8,000 to 9,000 cfs * Vernalis: 1,300 to 2,700 cfs * Delta Outflow index: 3,300 to 4,500 cfs * Combined Exports: 4,500 to 6,800 cfs * JPP: 1,800 cfs to 3,500 cfs * CCF: 1,000 cfs to 5,000 cfs * Expected Daily OMR Index Values: -3,500 to -5,700 cfs * DCC Gates: Opened on 10/11. * X2 > 81 km * Tides: Transition from Neap to Spring; First Quarter Moon on 11/8. | * No update * (Updated 10/8/2024) |

Table 2a-b: WY 2025 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 2025 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.

| Species/run | Threshold | Current Status | Weekly Trend | Updated |
| --- | --- | --- | --- | --- |
| Green sturgeon | WY 2025 salvage = 74 | WY 2025 salvage = 0 (0%) | No change expected | 10/28/2024 |
| Natural winter-run Chinook Salmon | WY 2025 loss = TBD \*  (50% of 1.17% of JPE) | WY 2025 loss = 0 | No change expected | 10/28/2024 |
| Natural Steelhead | Dec 1 – Mar 31 = 707 (50% of 1,414)  Apr 1 – June 15 = 776 (50% of 1,552) | WY 2025 loss = 0  Dec 1 – Mar 31 = 0 (0%)  Apr 1 – June 15 = 0 (0%) | No change expected | 10/28/2024 |
| Sacramento River Hatchery winter-run Chinook salmon | WY 2025 loss = TBD\* (50% of 0.12% of JPE) | WY 2025 loss = 0 (0%) | No change expected | 10/28/2024 |
| Battle Creek  Hatchery winter-run Chinook salmon | WY 2025 loss = TBD \*  (50% of 0.12% of JPE) | WY 2025 loss = 0 (0%) | No change expected | 10/28/2024 |
| Proposed Action Hatchery yearling spring-run Chinook salmon surrogates | > 0.5% of each release group | WY 2025 loss = 0 (0%)\* | No change expected | 10/28/2024 |
| Delta Smelt | After Dec. 1:  Running 3-day avg. flows at Freeport >25,000 cfs  Running 3-day avg. turbidity at Freeport =>50 FNU | Freeport 3-day avg.  Flow = Not relevant  Turbidity = Not relevant | Not relevant | 10/28/2024 |
| Delta Smelt | Daily avg. Turbidity at OBI=>12 FNU | OBI Daily Average = Not relevant | Not relevant | 10/28/2024 |
| Delta Smelt | Daily avg. Temperature at CCF > 25°C for three consecutive days | CCF daily avg. Temperature = Not relevant | Not relevant | 10/28/2024 |

Table 2b. 10-Year Salmonid Cumulative Loss

| Species/run | Threshold | Current Status | Updated |
| --- | --- | --- | --- |
| Natural winter-run Chinook salmon | Loss = 8,738 | Cumulative loss =  4575.3 (52.36%) | 10/28/2024 |
| Hatchery winter-run Chinook salmon | Loss = 5,356 | Cumulative loss =  11.04 (0.21%) | 10/28/2024 |
| Natural steelhead | Loss = 6,038 (Dec 1 – Mar 31) Loss = 5,826 (Apr 1 – June 15) | Cumulative loss =  4951.27 (82%, Dec 1 – Mar 31)  2923.28 (50.2%, Apr 1 – June 15) | 10/28/2024 |

Table 3a-d: Relevant Water Year 2025 Fish Criteria and Status for Listed Fish under the SWP Long-Term Incidental Take Permit.

Table 3a: Chinook Salmon

\* No draft WR JPE for WY 2025. Final JPE letter is expected in January.

| 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)* | Not in effect | -5% of the  Winter-run or Spring-run population in  Delta | N/A | N/A | 10/7/24 | N/A |
| Winter-run yearly loss  (8.6.1) | Nov. 1 - Jun. 30 | Not in effect | TBD (based on JPE)\* | N/A | N/A | 10/7/24 | 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. Chinook Salmon | N/A | N/A | 10/28/24 | N/A |
| Mid and late season Winter-run daily loss threshold (8.6.3) | Jan 1 – May 31 | Not in effect | TBD (based on JPE)\* | N/A | N/A | 10/7/24 | 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 | 10/7/24 | 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 | Triggered 12/31/2022, -2000 OMR action will last through 1/16/2023 | - three-day Freeport daily flow running avg>= 25,000 AND  [three-day Freeport turbidity running avg >=50 NTU OR Smelt Monitoring Team recommendation] | FPT flow: 75,692 cfs  FPT turbidity: 128.2 FNU | Dynamic and elevated | 1/9/23 | Data from 1/8/23 |
| Turbidity Bridge Avoidance (8.5.1) | Dec. 15 -  Apr. 1 | In effect, triggered | Occurs after the Integrated Early Winter Pulse protection or February 1 (whichever comes first) until April 1  -avg. OBI turbidity>12 FNU | OBI = 17.83 FNU | Elevated | 1/17/23 | Data from 1/16/23 |
| Larval and/Juvenile Delta smelt Protection (8.5.2) | ongoing | In effect, not triggered | - If 5-day cum. salvage of juv.DS >= 1[average 3-yrFMWT 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 = 10.74  SLS 1 avg Secchi = 26 cm | No change expected | 1/17/23 | Data from 1/16/23 |

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] =40 fish (Sept.-Dec. Index) OR  -Smelt Monitoring Team determines high likelihood of LFS movement into high-risk areas | Cum salvage total = 12 | No change expected | 1/17/23 | Salvage at CVP on 1/1/23 and 1/14/23 and 1/15/23 |
| OMR Mgt. for Adults (8.4.1) | Dec. 1 -Feb. 28 | Off-ramped | -Smelt Monitoring Team recommendation | N/A | N/A | 12/27/22 | N/A |
| Larval and Juvenile Longfin Smelt Entrainment Protection (8.4.2) | Jan 1 – Jun 30 | In effect, not 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: 0 larvae in central and south Delta | None expected | 1/17/23 | SLS 1 was in the field 1/3 - 1/6 |
| 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 | Triggered, not controlling | -Sac. R. at Rio Vista>55,000, OR  SJR at Vernalis >8,000 | Rio Vista = 3,500 – 4,500 cfs  SJ = 1,500 to 2,700 cfs | N/A | 10/21/24 | N/A |

Table 3d: OMR

| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Updated | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| OMR Storm Flexibility (8.7) | Jan 1 – Jun 30 | Not in Effect | -Delta is in excess  -QWEST is > 0  -Measurable amount of precipitation has occurred  -None of COA’s are controlling operations (8.3.1, 8.3.3, 8.4.1, 8.4.2, 8.5.1, 8.5.2, 8.6.1, 8.6.2, 8.6.3, 8.6.4)  -Cumulative salvage at CVP and SWP of yearling CNFH LFR Chinook salmon (as yearling CHNSR surrogates) is < 0.5% with any of the release groups  -Risk Assessments conducted by the SaMT/SMT determines no changes in spawning, rearing, foraging, sheltering, or migration behavior as a result of OMR Flex operations beyond those are likely to occur. | N/A | N/A | 10/14/24 | Based on storm conditions |
| 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. | N/A | N/A | 10/14/24 | 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 10/29/2024) | 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 |
| Spring Kodiak Trawl | Delta | Active | 1 |
| 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 |
| 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 |
| GCID RST | Sacramento River | Not Active | 4 |
| Yuba River (Hallwood) RST | Yuba River | Active | 1 |
| Butte Creek Carcass Surveys | Butte Creek | Active | 1 |
| Butte Creek RST | Butte Creek | 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 | Sacramento River | Not Active | 4 |
| Feather River (lower CDFW) RST | Sacramento River | Not Active | 4 |
| Feather River Carcass Survey | Sacramento River | Active | 1 |
| SJRRP CDFW Field Monitoring | San Joaquin River | Active | 1 |
| SJRRP USFWS and USBR Field Monitoring | San Joaquin River | Active | 1 |
| Stanislaus Fish Weir | San Joaquin River | Active | 1 |
| Stanislaus River Carcass Survey | San Joaquin River | Active | 1 |
| American River Carcass Survey | Sacramento River | Active | 1 |

Preference (i.e., a y-intercept of 0.5)