**Weekly Fish and Water Operations Outlook**

**11/1/2022 – 11/7/2022**

**FORECASTED WEATHER:** Pattern change brings significant cooling, breezy winds and widespread rain and mountain snow mainly Tuesday and Wednesday. Possible morning frost for remainder of week.

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 | * Current Release: 200 cfs * Anticipated Weekly Range of Releases: 200 cfs | * Spring-run Chinook salmon eggs are incubating in the gravel.  The juveniles will be emerging soon. * Fall-run Chinook Salmon are spawning and their eggs are incubating in the gravel. * O. mykiss adults and juveniles are present. * *(updated 10/31/22)* |
| Sacramento River | * Shasta Storage: 1.418 MAF * Current Release: 3,900 cfs * Anticipated Weekly Range of Releases: 3,900 cfs | * Spring-run Chinook salmon adults have mostly completed spawning. Eggs are in gravel. * Winter-run Chinook juvenile salmon are present in upper river and are both emerging from redds and migrating downstream. Less than 1% of the juveniles remain in the redds the rest have emerged into the river and are slowly migrating downstream * Winter-run Chinook salmon and Spring-run (length-at-date) juveniles being caught in low numbers and genetics being taken to confirm run assignment. * Fall-run Chinook salmon spawning is underway and will last into early December. Carcass surveys for fall-run are underway. * (updated 11/01/22) |
| Feather River | * Oroville Storage: 1.107 MAF * Current Release: 2,400 cfs * Anticipated Weekly Range of Releases: 2,400 cfs to 2,300 cfs * Daily temperature maximum: 51 F at Fish Hatchery | * Adult Fall-run Chinook Salmon are just beginning to spawn, some still migrating upstream and some holding * Adult Spring-run Chinook Salmon spawning is slowing down and coming to an end, eggs are in gravel and incubating. * Approximately 15-20 green sturgeon present form Sunset Pumps to Boyd’s Pump. * Adult and juvenile O. mykiss present.   (updated 10/24/22) |
| American River | * Folsom Storage: 291 TAF * Current Release: 1,400 cfs * Anticipated Weekly Range of Releases: 1,400 cfs to 1,300 cfs | * Adult fall-run Chinook Salmon are present and beginning to spawn. Eggs are in the gravel. * Juvenile and adult *O. mykiss* are present.   (*updated 10/25/22*) |
| Stanislaus River | * New Melones Storage: 584 TAF * Current Release: 200 cfs * Anticipated Range of Weekly Releases: 200 cfs | * Juvenile and adult *O. mykiss* are present. * Adult fall-run Chinook salmon are present and spawning. Eggs are in the gravel. * *(updated 10/24/22)* |
| Delta | * Freeport: 6,000 to 8,000 cfs * Vernalis: 400 to 2,000 cfs * Delta Outflow index: 3,500 to 7,500 cfs * Combined Exports: 1,200 to 2,300 cfs * JPP: 900 cfs to 1,800 cfs * CCF: 300 cfs to 500 cfs * Expected Daily OMR Index Values: -1,000 to –2,000 cfs * DCC Gates: Closed as of 10/31. Scheduled to open 11/4 and close 11/7. Closed during week and open on weekends operation may be adjusted due to real-time conditions. | * Adult O. mykiss present * Adult and juvenile Green Sturgeon present * Two Delta Smelt adults were detected in the Sacramento River Shipping Channel in August and in Suisun Marsh in September. * Longfin Smelt sub-adults have been detected in the lower Sacramento River and downstream of the confluence, including a juvenile LFS at Chipps. Adults have been detected in Suisun Bay and Suisun Marsh.   (updated 11/01/22) |

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 | 10/31/2022 |
| Natural winter-run Chinook Salmon | WY 2023 loss = TBD \*  (50% of 1.17% of JPE) | WY 2023 loss = 0 | No change expected | 10/31/2022 |
| 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 | 10/31/2022 |
| 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 | 10/31/2022 |
| 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 | 10/31/2022 |
| Proposed Action Hatchery yearling spring-run Chinook salmon surrogates | > 0.5% of each release group | WY 2023 loss = 0 (0%) | No change expected | 10/31/2022 |
| Delta Smelt | Daily avg. Turbidity at OBI=>12 FNU | OBI daily Avg Turbidity = Not relevant | Not relevant | 10/31/2022 |
| Delta Smelt | Daily avg. Temperature at CCF > 25°C for three consecutive days | CCF daily avg. Temperature = Not relevant | Not relevant | 10/31/2022 |

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%) | 10/31/2022 |
| Hatchery winter-run Chinook salmon | Loss = 5,356 | Cumulative loss =  6.71 (0.13%) | 10/31/2022 |
| 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) | 10/31/2022 |

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  *(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 | 10/31/22 |  |
| Winter-run yearly loss  (8.6.1) | Nov. 1 - Jun. 30 | In effect (based on JPE) | TBD (based on JPE) | N/A | N/A | 11/7/22 | Still TBD for JPE |
| 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 | 11/7/22 |  |
| Mid and late season Winter-run daily loss threshold (8.6.3) | Jan 1 – May 31 | Not in effect |  | N/A | N/A | 11/7/22 |  |
| 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 | 11/7/22 |  |

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>= 25,000 AND  [three-day Freeport turbidity running avg >=50 NTU OR Smelt Monitoring Team recommendation] | N/A | N/A | 10/24/22 | 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 | 10/31/22 | N/A |
| Larval and/Juvenile Delta smelt Protection (8.5.2) | ongoing | In effect, not triggered | - 5-day cum. salvage of juv.DS >= 1[average 3-yrFMWT index + 1] OR,  - 3-day cum. Salvage of juv. DS >11 | N/A | N/A | 10/31/22 | 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 | 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 | 10/31/22 | N/A |
| OMR Mgt. for Adults (8.4.1) | Dec. 1 -Feb. 28 | Not in effect | -Smelt Monitoring Team recommendation | N/A | N/A | 10/31/22 | 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 | 10/31/22 | 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 | 10/10/22 |  |

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 11/1/2022) | 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 four days a week starting in February) | 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 |
| 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 | Not Active | 4 |
| 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 |