**Weekly Fish and Water Operations Outlook 11/09/2021 – 11/15/2021**

Dry and cool at start of Monday. A weather system approaches late Monday into Tuesday, bringing widespread rain and wind, along with high elevation snow. Dry conditions return Thursday, with a warming trend.

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| **Tributary/ Division** | **Anticipated Weekly Ranges** | **Related Environmental and Fish Conditions** |
| Clear Creek | * Current Release: 200 cfs * Anticipated Weekly Range of Releases to Clear Creek: 200 cfs | * Spring-run Chinook Salmon eggs are incubating, hatching, and fry are present * Adult fall-run Chinook Salmon spawning and eggs in the gravel * O. mykiss and steelhead adults present, their migrations are ongoing * Late-fall run Chinook Salmon not present, will be arriving in the coming months   (*updated 10/29/2021*) |
| Sacramento River | * Shasta Storage: 1.04 MAF * Current Release: 3,600 cfs * Anticipated Weekly Range of   Releases to Sacramento River: 3,600 to 3,250 cfs | * Winter-run Chinook Salmon juveniles present * Adult spring-run Chinook Salmon eggs in gravel * Fall-run Chinook Salmon spawning, eggs and alevin in gravel, and some holding and waiting to spawn in November * Late fall-run Chinook Salmon holding * Green Sturgeon adults and juvenile present * Adult steelhead present   (*updated 10/28/21*) |
| Feather River | * Oroville Storage: 996 TAF * Current Release: 950 cfs * Anticipated Weekly Range of Releases to Feather River: 950 cfs * Daily temperature targets: 51°F (±4°F) at Fish Hatchery | * Fall-run Chinook Salmon spawning, eggs and alevin in gravel, and some holding and waiting to spawn in November. * Juvenile and Adult steelhead present * Adult spring-run Chinook Salmon eggs in gravel.   (*updated 11/1/21*) |
| American River | * Folsom Storage: 325 TAF * Current Release: 550 cfs * Anticipated Weekly Range of Releases to American River: 550 cfs | * Fall-run Chinook Salmon holding and spawning. Eggs are in gravel. * Juvenile and adult steelhead expected to be present.   *(updated 10/21/21)* |
| Stanislaus River | * New Melones Storage: 833 TAF * Current Release: 200 cfs * Anticipated Range of Weekly Releases to Stanislaus River: 200 cfs | * Juvenile and adult *O. mykiss* expected to be present * Adult fall-run Chinook Salmon present * Adult Chinook Salmon spawning observed   (*updated 10/20/2021*) |
| Delta | * Freeport: 8,500 to 20,000 cfs * Vernalis: 600 to 900 cfs * Delta Outflow index: 2,000 to 12,000 cfs * Combined Exports: 4,700 to 10,880 cfs * JPP: 4,200 cfs to 2,700 cfs * CCF: 6,680 cfs to 2,000 cfs * Expected OMR Index Values: -4,000 to -11,000 cfs * DCC Gates: Open on 11/5, most likely will remain open for salinity control | * Juvenile winter-run Chinook Salmon 80-90% yet to enter Delta, 10-19% in Delta, 0-1% exited Delta past Chipps Island * YOY spring-run Chinook Salmon: 99-100% yet to enter Delta, 0-1% in Delta, 0% exited past Chipps Island * Juvenile Steelhead: 95-99% yet to enter Delta, 1-5% in Delta, 0% exited Delta past Chipps Island * Adult fall-run Chinook Salmon entering Delta and migrating upstream towards spawning grounds * Adult steelhead present * Adult and juvenile Green Sturgeon present * Subadult Delta Smelt expected to be present in the Deep Water Ship Channel and downstream of the confluence. * Longfin Smelt adults unlikely to be in the Delta. Juveniles present in Suisun Marsh, San Pablo and Central Bay. Adults present in Suisun Bay and Suisun Marsh.   (*updated 11/09/2021*) |

Table 2a-b: WY 2022 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 2022 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).

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| --- | --- | --- | --- | --- |
| **Species/run** | **Threshold** | **Current Status** | **Weekly Trend** | **Updated** |
| Green sturgeon | WY 2022 salvage = 74 | WY 2022 salvage = 0 (0%) | No change expected | 11/07/2021 |
| Natural winter-run Chinook Salmon | WY 2022 loss = TBD \* | WY 2022 loss = 0 | Possible but unlikely | 11/07/2021 |
| Natural Steelhead  \*\* | Dec 1 – Mar 31 = 707 (50% of 1,414) Apr 1 – June 15 = 776 (50% of 1,552) | Dec 1 – Mar 31 = 2.72 (0.38%)  Apr 1 – June 15 = 0 (0%) | Possible | 11/07/2021 |
| 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 = 8892  Turbidity = 5.96 | Not applicable until Dec. 1 | 11/9/2021 |

\* TBD – no draft JPE produced, ITL and performance thresholds are TBD currently

\*\* First steelhead loss for WY 2021, which occurred on 10/30/2021, is included in the December 1 through March 31 time-period.

# Table 2b. 10-Year Salmonid Cumulative Loss

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| **Species/run** | **Threshold** | **Current Status** | **Updated** |
| Natural winter-run Chinook salmon | Loss = 8,738 | Cumulative loss = 204.9 (2.3%) | 11/07/2021 |
| Hatchery winter-run Chinook salmon | Loss = 5,356 | Cumulative loss = 0 (0%) | 11/07/2021 |
| Natural steelhead  \*\* | Loss = 6,038 (Dec 1 – Mar 31) Loss = 5,826 (Apr 1 – June 15) | Cumulative loss =  445.91 (7.4%, Dec 1 – Mar 31)  374.8 (6.4%, Apr 1 – June 15) | 11/07/2021 |

Table 3a-d: Relevant Water Year 2022 Fish Criteria and Status for Listed Fish under the SWP Long-Term Incidental Take Permit.

Table 3a: Chinook Salmon

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| **Action** | **Timeframe** |  | **Threshold(s)** |  | **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 | NA | NA | **10/4/21** |  |
| Winter-run yearly loss  (8.6.1) | Nov. 1 - Jun. 30 | In effect  (Based on JPE  Value) | TBD (Based on JPE guidance) | Current yearly WR loss (natural) = 0;  Current yearly WR loss (hatchery) = 0 | Possible but unlikely for natural Winter-run | **11/8/21** | **Based on salvage data from 11/7/21** |
| 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 | max single daily loss from previous week = 0.00 fish (no WR observed yet) | No change expected | **11/8/21** |  |
| Spring-run surrogate protection  (8.6.4) | Feb. 1 - Jun. 30 | Not in effect: | TBD (based on the number of fish released) | NA |  | **11/1/21** |  |
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Table 3b: Delta Smelt

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| 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.** | **N.A.** | **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.** | **N.A.** | **N.A.** |
| Larval and/Juvenile Delta smelt Protection (8.5.2) | ongoing | In effect | * 5-day cum. salvage of juv. DS >= 1.67 [average 3-yr FMWT index + 1] OR,   3-day cum. salvage of juv. DS >11 | **current 5-day salvage = 0** | **no change expected** | **11/8/2021** | **Based on salvage data from 11/7/21** |

Table 3c: Longfin Smelt

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| 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] = 1.2 fish OR * Smelt Monitoring Team determines high likelihood of LFS movement into high-risk areas | **N.A.** | **N.A.** | **N.A.** | **N.A.** |
| OMR Mgt. for Adults (8.4.1) | Dec. 1 -Feb. 28 | Not in effect | - Smelt Monitoring Team recommendation | **N.A.** | **N.A.** | **N.A.** | **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 >=2 stations | **N.A.** | **N.A.** | **N.A.** | **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 | Not in effect | * Sac. R. at Rio Vista >55,000, OR   SJR at Vernalis >8,000 | **Rio Vista = 5,000 to 7,000 cfs**  **SJ = 800 to 1,000 cfs** |  |  |  |

Table 3d: OMR

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| Action | Timeframe | Current  Action  Status | Threshold(s) | **Current**  **Relevant**  **Data** | **Weekly Trend** | **Last**  **Updated** | **Comments** |
| OMR  Mgmt.  Offramp  (8.3.2) | Jun. 1 – Jun. 30 | Not in effect | * >95% of the Winter-run and Springrun populations have   migrated past Chipps Island AND     * Current daily average water temperature at Mossdale   exceeds22.2°C for 7 nonconsecutive days in June  AND     * Current daily average water temperature at Prisoners Point exceeds 22.2°C for 7 non-consecutive days in June.      * Current daily mean water temperature at CCF is greater than 25°C for three consecutive days | N/A |  | **10/4/21** |  |

Table 4. Fish monitoring gear efficiency and disruptions.

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| **Monitoring Survey** | **Notes (as of 11/09/2021)** | **Status \*** |
| **Delta** |  |  |
| SWP regular counts, CWT reading, and larval sampling | Active (no pumping from 11/4-11/5) | 1 |
| CVP regular counts, CWT reading, and larval sampling | Active (No disruptions) | 1 |
| Smelt Larval Survey | Not Active | 4 |
| 20mm Survey | Not Active | 4 |
| Spring Kodiak Trawl | Not Active | 4 |
| Fall Mid-water Trawl | Active (No disruptions) | 1 |
| Summer Townet Survey | Not Active | 4 |
| Bay Study | Active (No disruptions) | 1 |
| DJFMP- Chipps and Sacramento  Trawls | Active (No disruptions) | 1 |
| DJFMP- Seines | Active with one disruption: not sampling San Joaquin Seines (due to low water) | 2 |
| EDSM | Active | 1 |
| EMP | ? | ? |
| Mossdale | Active | 1 |
| USGS Flow monitoring | Active (No disruptions) | 1 |
| **Sacramento River** |  |  |
| Red Bluff Diversion Dam screw trap | Active (No disruptions) | 1 |
| Knights Landing screw trap | Active | 1 |
| Tisdale screw trap | Active | 1 |
| GCID screw trap | Active | 1 |
| Redd dewatering and stranding surveys | Not Active | 4 |
| Sacramento Carcass and Redd Surveys | Active | 1 |
| **Feather River** |  |  |
| Feather River screw trap | Not Active (anticipate starting mid to late November 2021) | 4 |
| **San Joaquin River** |  |  |
| SJRRP CDFW Field Monitoring | Active (No disruptions) | 1 |
| SJRRP USFWS and USBR Field  Monitoring | Active (No disruptions) | 1 |
| Stanislaus Fish Weir | Active (No disruptions) | 1 |

\* Status: Weekly categories include:

1. Active (ongoing sampling)
2. Partial Interruption (some sampling interruptions)
3. Interrupted (sampling fully suspended)
4. Not Active (sampling not scheduled)