



Weekly Fish and Water Operations Outlook

11/15/2022 – 11/21/2022

FORECASTED WEATHER: Dry conditions for week. Windy on Tuesday and Wednesday. Temperatures warm close to normal by midweek.

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 eggs are hatching and fry are starting to emerge. • Fall-run Chinook Salmon spawning is nearly complete and their eggs are incubating in the gravel. • O. mykiss adults are migrating and holding in Clear Creek. Last year's juvenile O. mykiss are present. <p><i>(Updated 11/14/22)</i></p> |
| Sacramento River | <ul style="list-style-type: none"> • Shasta Storage: 1.397 MAF • Current Release: 3,600 cfs • Anticipated Weekly Range of Releases: 3,600 cfs to 3,250 cfs | <ul style="list-style-type: none"> • Spring-run Chinook salmon adults have completed spawning. Eggs are in gravel incubating. • Winter-run Chinook juvenile salmon are present in upper river and all have emerged 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. Eggs are incubating and in gravel. <p><i>(Updated 11/14/22)</i></p> |

| Tributary/Division | Anticipated Weekly Ranges | Related Environmental and Fish Conditions |
|--------------------|---|--|
| Feather River | <ul style="list-style-type: none"> Oroville Storage: 1.027 MAF Current Release: 2,000 cfs Anticipated Weekly Range of Releases: 2,000 cfs to 1,600 cfs Daily temperature maximum: 51 F at Fish Hatchery | <ul style="list-style-type: none"> Adult Fall-run Chinook Salmon are spawning, eggs are in gravel and incubating Adult Spring-run Chinook Salmon spawning has ended, eggs are in gravel and incubating. Approximately 15-20 green sturgeon present from Sunset Pumps to Boyd's Pump. Adult and juvenile O. mykiss present. <p>(Updated 11/14/22)</p> |
| American River | <ul style="list-style-type: none"> Folsom Storage: 268 TAF Current Release: 1,300 cfs Anticipated Weekly Range of Releases: 1,300 cfs | <ul style="list-style-type: none"> Adult fall-run Chinook Salmon are present and beginning to spawn. Eggs are in the gravel. Juvenile and adult O. mykiss are present. <p>(Updated 10/25/22)</p> |
| Stanislaus River | <ul style="list-style-type: none"> New Melones Storage: 585 TAF Current Release: 200 cfs Anticipated Range of Weekly Releases: 200 cfs | <ul style="list-style-type: none"> Juvenile and adult O. mykiss are present. Adult fall-run Chinook salmon are present and spawning. Eggs are in the gravel. <p>(Updated 10/24/22)</p> |
| Delta | <ul style="list-style-type: none"> Freeport: 5,500 to 8,000 cfs Vernalis: 400 to 800 cfs Delta Outflow index: 3,500 to 5,000 cfs Combined Exports: 1,400 to 2,800 cfs JPP: 900 cfs to 1,800 cfs CCF: 500 cfs to 1,000 cfs Expected Daily OMR Index Values: -1,000 to -2,600 cfs DCC Gates: Closed as of 11/14 Scheduled to open 11/18 and close 11/21. Closed during week and open on weekends operation may be adjusted due to real-time conditions. | <ul style="list-style-type: none"> Adult O. mykiss present Adult and juvenile Green Sturgeon present Delta Smelt subadults and adults were detected in the Sacramento River Deepwater Shipping Channel in August, in Suisun Marsh (Grizzly Bay) in September, and in the lower Sacramento River in November. Longfin Smelt sub-adults have been detected in the lower Sacramento River and downstream of the confluence, including at Chipps in October. Adults have been detected in Suisun Bay and Suisun Marsh in November. <p>(Updated 11/14/22)</p> |

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 | 11/14/2022 |

| Species/run | Threshold | Current Status | Weekly Trend | Updated |
|--|---|--|--------------------|------------|
| Natural winter-run Chinook Salmon | WY 2023 loss = TBD * (50% of 1.17% of JPE) | WY 2023 loss = 0 | No change expected | 11/14/2022 |
| 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 | 11/14/2022 |
| 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 | 11/14/2022 |
| 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 | 11/14/2022 |
| Proposed Action Hatchery yearling spring-run Chinook salmon surrogates | > 0.5% of each release group | WY 2023 loss = 0 (0%) | No change expected | 11/14/2022 |
| Delta Smelt | After Dec. 1: Running 3-day avg. flows at Freeport >25,000 cfs Running 3-day avg. turbidity at Freeport => 50 FNU Daily avg. Turbidity at OBI=> 12 FNU | Freeport 3-day avg. Flow = 8111.88 CFS Turbidity = 2.22 FNU OBI daily Avg Turbidity = 1.78 FNU | Not relevant | 11/14/2022 |
| Delta Smelt | Daily avg. Turbidity at OBI=> 12 FNU | OBI daily Avg Turbidity = Not relevant | Not relevant | 11/14/2022 |
| Delta Smelt | Daily avg. Temperature at CCF > 25°C for three consecutive days | CCF daily avg. Temperature = Not relevant | Not relevant | 11/14/2022 |

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%) | 11/14/2022 |
| Hatchery winter-run Chinook salmon | Loss = 5,356 | Cumulative loss = 6.71 (0.13%) | 11/14/2022 |
| 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) | 11/14/2022 |

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 <i>(when ≥ 5% of spring-run or winter-run in Delta)</i> | Not in effect | -5% of the Winter-run or Spring-run population in Delta | N/A | N/A | 10/31/22 | N/A |
| Winter-run yearly loss (8.6.1) | Nov. 1 - Jun. 30 | In effect | TBD (based on JPE) | N/A | N/A | 11/14/22 | Based on JPE (TBD) |
| 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 | 11/14/22 | N/A |
| Mid and late season Winter-run daily loss threshold (8.6.3) | Jan 1 – May 31 | Not in effect | N/A | N/A | N/A | 10/31/22 | 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 | 10/31/22 | 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 | Not in effect | - three-day Freeport daily flow running avg $\geq 25,000$ AND [three-day Freeport turbidity running avg ≥ 50 NTU OR Smelt Monitoring Team recommendation] | N/A | N/A | 11/14/22 | 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 | 11/14/22 | N/A |
| 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-yr FMWT index + 1], then -5000 OMR - If DS in SLS/20mm or 3-d temp at Jersey Point ≥ 12 C, and SLS/20mm Secchi for 12 south delta stations ≤ 1 m, then -3500 OMR | N/A | N/A | 11/14/22 | N/A |

Table 3c: Longfin Smelt

| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Update | 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 | 11/14/22 | N/A |
| OMR Mgt. for Adults (8.4.1) | Dec. 1 -Feb. 28 | Not in effect | -Smelt Monitoring Team recommendation | N/A | N/A | 11/14/22 | 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 | 11/14/22 | 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 | N/A | 10/10/22 | 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 11/15/2022) | Status |
|-------------------------------------|------------------|---|--------|
| SWP regular counts, CWT reading | Delta | Active | 1 |
| SWP larval sampling | Delta | Not Active | 4 |
| CVP regular counts, CWT reading | Delta | Active (with an outage on 11/10) | 2 |
| 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 Towntnet Survey | Delta | Not Active | 4 |
| Bay Study | Delta | Active | 1 |
| DJFMP- Chipps and Sacramento Trawls | Delta | Active (sampling three days a week starting in May) | 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 |

| Monitoring survey | Region | Notes (as of 11/15/2022) | Status |
|---------------------------------------|-------------------|------------------------------------|---------------|
| Knights Landing screw trap | Sacramento River | Not Active (due to heavy debris) | 4 |
| 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 (Inactive from 11/9- 11/13) | 2 |
| Feather River (upper DWR) | Sacramento River | Active (Eye side only) | 1 |
| 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 | Active (until 11/17/22) | 1 |
| Stanislaus Fish Weir | San Joaquin River | Active | 1 |