# Weekly Fish and Water Operations Outlook

4/29/2025 – 5/5/2025

## Water Project Operational Intent for Week

The D-1641 standards for CVP/SWP operations in April and May include: (1) Delta Outflow per X2 requirements, and 2) export limits. In addition, the agricultural irrigation season begins on April 1, so there are standards to protect the water quality of irrigation water for diversion.

SWP Exports are equal to the respective State share of COA 8.12.1 of the ITP or 600 cfs, whichever is greater. CVP Exports are in accordance with the respective Federal share of Footnote 18 of D-1641.

## Biological Context

Exports are restricted to increase spring outflows and improve migratory conditions in the Delta. No other “triggers” are currently active.

## Forecasted Weather

Return to dry and mild weather through early next week. Chances for rain and snow next week, but mainly mountain showers.

## 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: 225 cfs * Anticipated Weekly Range of Releases: 225 cfs | * Adult spring run Chinook Salmon are migrating to the creek. * Spring, fall, and late fall Chinook Salmon fry are rearing and emigrating. * O. mykiss/steelhead eggs incubating and hatching and fry are rearing and emigrating. * (Updated 4/21/2025) |
| Sacramento River | * Shasta Storage: 4.402 MAF * Current Release: 6,000 cfs * Anticipated Weekly Range of Releases: 6,000 to 11,000 cfs. | * Spring-run adults are migrating upstream and holding in the Sac. * Winter-run adults are preparing to begin spawning and have been in the system some months now. * Late fall-run adults have completed spawning * Spring, Fall and late fall Chinook Salmon fry are rearing and emigrating. * O. mykiss/steelhead eggs incubating and hatching and fry are rearing and emigrating. * White sturgeon are currently spawning and larvae are moving downstream. * (Updated 4/28/2025) |
| Feather River | * Oroville Storage: 3.249 MAF * Current Release: 2,300 cfs * Anticipated Weekly Range of Releases: 1,500 cfs to 2,300 cfs * Daily temperature maximum: 51 degrees F at Fish Hatchery | * Spring-run Chinook Salmon juveniles are emerging and migrating downstream. * Spring-run Chinook Salmon adults are migrating upstream. * Fall-run Chinook Salmon juveniles are rearing and migrating downstream. * *O. mykiss* are emerging and migrating downstream. * Sturgeon have been detected in the river around Sunset Pumps and Shanghai Bend, both species are currently in spawning season. * (Updated 04/28/2025) |
| American River | * Folsom Storage: 904 TAF * Current Release: 4,700 cfs * Anticipated Weekly Range of Releases: 3,200 cfs to 5,000 cfs | * Fall-run Chinook Fry are migrating downstream. * (Updated 3/25/2025) |
| Stanislaus River | * New Melones Storage: 1.994 MAF * Current Release: 350 cfs * Anticipated Range of Weekly Releases: 300 cfs to 1,600 cfs | * Juvenile and adult *O. mykiss* are present. * Fall-run fry have emerged and are migrating downstream. * (Updated 3/18/2025) |
| Delta | * Freeport: 18,000 to 27,000 cfs * Vernalis: 1,800 to 2,600 cfs * Delta Outflow index: 18,000 to 27,000 cfs * Combined Exports: 1,500 to 2,400 cfs * JPP: 900 to 1,800 cfs * CCF: 600 cfs * Expected Daily OMR Index Values: -700 to -1,800 cfs * DCC Gates: Closed on 11/18. * X2 = 67 km * Tides: Transitioning from Spring to Neap; First Quarter Moon on 5/4 | * YOY Chinook Salmon are migrating through the Delta and exiting the system. * Adult Delta smelt were last detected by EDSM on 3/17/25 in the SDWSC. 20-mm survey has detected three larval Delta smelt in the SDWSC and Central and South Delta. The most recent detections were on 4/14/25. * A total of 124,946 individual adult Delta smelt were released in WY2025. So far, there have been 79 confirmed detections of cultured Delta smelt. * Cumulative adult Delta smelt salvage is 17. One larval Delta smelt was detected in larval sampling at TFCF on 4/16/25. * Larval white sturgeon have been detected in the Sacramento River and Miner Slough. * Larval longfin smelt have been detected in the Central and South Delta, the Sacramento River, Suisun Marsh, Suisun Bay, the Confluence, and Carquinez Strait. * Juvenile longfin smelt have been detected in South and Central San Francisco Bay, San Pablo Bay, Suisun Marsh, and Suisun Bay. * Adult longfin smelt were last detected the week of March 10. Early March detections ranged from San Pablo Bay to the Confluence. * Adult, juvenile, and larval LFS have been detected in salvage. Cumulative adult LFS salvage = 8 and cumulative juvenile LFS salvage = 138. * (Updated 4/29/2025) |

Table 2a-b: WY 2025 relevant Fish and Environmental Criteria and Status in 2024 Reclamation LTO Action Cumulative loss for the duration of 2024 Biological Opinion began upon signature of ROD, 12/19/2024.

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 | 4/21/2025 |
|  |  |  |  |  |
| Natural winter-run Chinook Salmon (JPE= 98,982) | Incidental Take Limit= 554  Annual thresholds  50%= 277 fish  75%= 415 fish  100%= 554 fish | Loss= 28.82 (0.029% of JPE)  7-day rolling sum as of 4/13/25 =0 | Salvage is unlikely in the upcoming week. | 4/15/25 |
| Natural Steelhead | 100% threshold = 3,000 | WY 2025 loss = 524 (17.5% of threshold) as of 4/20/25 | Salvage continuing at similar rates | 4/29/25 |
| Steelhead Weekly Loss Threshold | 7-day rolling sum of steelhead salvage exceeds loss of 120 fish | No exceedances – 7 day rolling sum as of 4/27/25 = 3 | Salvage continuing at similar rates | 4/29/25 |
| Sacramento River Hatchery winter-run Chinook salmon (JPE= 135,342) | Annual thresholds  50%= 81 fish  75%= 122 fish  100%= 162 fish | Loss = 216.58 (133%)  50%= exceeded 3/18  75%= exceeded 3/19  100%= exceeded 3/22 | Salvage is unlikely in the upcoming week. | 4/15/25 |
| Battle Creek  Hatchery winter-run Chinook salmon | JPE = 2,868 | Loss = 0 (0%) | Released on 4/16/25. | 4/21/25 |
| Proposed Action Hatchery yearling spring-run Chinook salmon surrogates | See Table 3a | See Table 3a | See Table 3a | 4/7/25 |
| Delta Smelt | See Table 3b | See Table 3b | See Table 3b | 1/06/2025 |
| Longfin Smelt | See Table 3c | See Table 3c | See Table 3c | 1/06/2025 |

Table 3a-e: Relevant Water Year 2025 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 |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Onset of OMR Management (8.3) | Jan. 1 - Jun. 30 | **In effect** | Begins January 1 or earlier if COA 8.3.1, COA 8.3.2, or COA 8.3.3 are in effect (see Table 3b) | N/A | N/A | 3/10/25 | N/A |
| Winter-run Annual Loss  (8.4.3) | July 1 - Jun. 30 | **In effect** | -Natural-origin Winter-run Loss Threshold: 0.5% of JPE  -Hatchery-origin Winter-run Loss Threshold: 0.12% of JPE  -Battle Creek Loss threshold: 3.44 | Confirmed Genetic WR Annual Loss = 28.82  Hatchery origin Winter-run Loss =  216.58  Battle Creek Winter-run Loss = 0 | Unlikely to observe salvage of hatchery origin winter-run based on historical salvage. | 4/28/25 | No LAD WR was salvaged last week.  Loss for WR was changed as rerun of a LAD WR sample for genetic analysis confirmed it as spring run.  50%, 75%, and 100% of Sac River release hatchery loss threshold was hit on 3/18/25, 3/19/25, and 3/22/25 respectively.  117,225 BY 2024 WR was released in Battle Creek on 4/16/25. |
| Natural-origin Winter-run Early Season Weekly Loss Thresholds  (8.2.1) | Nov. 1- Dec. 31 | Not in Effect | N/A | N/A | N/A | 2/4/25 | N/A |
| Natural-origin Winter-run Weekly Loss (8.4.4) | Jan 1 – June 30 | **In effect** | Thresholds based on Table 4, Column E of 2024 SWP ITP:  [Annual Loss Threshold (based on JPE surrogate) x 50% of Annual Loss Threshold x Winter-run in Delta (based on Column E)] | 4/2/25-6/30/25 Threshold: 0 | Based on salvage thru 4/27  7-day LAD loss: 0  Total loss of 7 day rolling sum (includes **genetically** confirmed): 0 | 4/28/25 |  |
| Spring-run Protection Action and Surrogate Annual Loss  (8.4.5) | Natural-origin: Oct. – June 30  Hatchery-origin: Nov. 1 – June 30 | Natural- origin~~:~~ In effect  Hatchery-origin:  In effect | Group 1**: 1,747.23** (0.25% of 698,892 fish released)  Group 2:  **193.39**  (0.25% of 77,355 fish released)  Group 3:  **186.10**  (0.25% of 74,725)  **YOY spring run surrogates:**  Group 1:  **1,191.85** (0.25% of 476,741)  Group 2:  **1,189.58** (0.25% of 475,831)  Group 3:  **1,260.76**  (0.25% of 504,304)  Group 4: **1,737.93** (0.25% of 695,170)  Group 5:  **940.31**  (0.25% of 376,122) | Current Loss for Group #1 through 3/24/25: 1,050.61  (**60.13%** of the loss threshold)  Current Loss for Group #2 through 2/9/25:  72.52  (**37.50**% of the loss threshold)  Current Loss for Group #3 through 2/9/25: 43.33 (**23.28%** of the loss threshold)  Current loss for FR YOY spring-run surrogate  Group 1:  16.56 (1.39 % of the loss threshold)  Current loss for FR YOY spring-run surrogate Group 2:  76.26 (6.41 **%** of the loss threshold)  Current loss FR YOY spring-run surrogate  Group 3: 0  Current loss CNFH YOY spring-run surrogate  Group 4: 0  Current loss FR YOY spring-run surrogate Group #5: 0 | Likely to see more salvage | Yearling Group 1, 2 & 3 and YOY Group 1, 2, 3, and 4 updated through 4/18/25 for the SWP and 4/20/25 for the CVP. | No loss from any spring run surrogate group occurred last week.  YOY spring run surrogate group #5 was released in Feather River on 4/23/25 and 4/24/25. |

Table 3b: Delta Smelt

| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Updated | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| First Flush Action (8.3.1) | Dec. 1 – last day of February | Off ramped  Action triggered on Dec. 16, implemented from Dec. 19 through Jan 1, 2025 | - three-day Freeport (FPT) daily flow running avg>= 25,000 AND  [three-day Freeport turbidity running avg >=50 NTU OR Smelt Monitoring Team recommendation] | FPT 3-day avg.  Flow = Not relevant  Turbidity = Not relevant | N/A | 1/6/2025 |  |
| Adult Delta Smelt Entrainment Protection (“Turbidity Bridge Avoidance”) (8.3.2) | After IEWPP or Dec. 20 until 3-day average  temperatures at Jersey Point (SJJ) or Rio Vista (RVB) exceed 12 °C (53.6 °F) | Not active; offramped as of 2/25/25 | Occurs after the Integrated Early Winter Pulse protection or December 20 (whichever comes first) until 3-day average temperature offramp at Jersey Point (SJJ) or Rio Vista (RVB) > 12 °C (53.6 °F)  -OBI, OSJ, and HOL turbidity>12 FNU  -Vernalis flow >10,000 cfs (temporary offramp); <8,000 cfs (reinstated) | OSJ Turbidity = Not relevant  HOL Turbidity = Not relevant  OBI Turbidity = Not relevant  3-d SJJ temp = Not relevant  3-d RVB temp = Not relevant  Vernalis Flow = Not relevant |  | 2/25/25 |  |
| Larval and Juvenile Delta smelt Protection (8.4.1) | After Adult Delta smelt Entrainment Protection ends | Active as of 2/25/25.  Not triggered. | SLS/20mm Secchi depth for 12 south delta stations <= 1m  -Rio Vista flows >55,0000 cfs or Vernalis flows >8,000 cfs (temporary offramp); <40,000 cfs (Rio Vista) or <5,000 (Vernalis) action reinstated | Secchi depth = 116 cm  20-mm Survey 3  Rio Vista flows = 20,333 cfs  Vernalis flows = 2,522 cfs | Flows decreasing | 4/29/25 |  |

Table 3c: Longfin Smelt

| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Updated | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Adult LFS Protection (8.3.3) | Dec. 1 - end of February | Not active | -Cum. salvage > (Age 1+ LFS Index/20) +1 = 181 fish | Cum LFS salvage greater than 60mm = Not relevant | No change expected | 3/17/25 |  |
| Larval and Juvenile Longfin Smelt Entrainment Protection (8.4.2) | Jan. 1 – Jun. 30 | Active; not triggered.  Triggered on 1/19 and 1/28. Implemented 1/20-1/26 | -7-day average QWEST < +1,500 cfs, AND LFS larvae or juveniles in most recent SLS or 20 mm survey at 809 & 812 > 50; OR cumulative salvage > 50 or 75% avg annual salvage 2009-present  -Rio Vista flows >55,0000 cfs or Vernalis flows >8,000 cfs (temporary offramp); <40,000 cfs (Rio Vista) or <5,000 (Vernalis) reinstated | 7-day average QWEST =  +5,761 cfs  Larval/juvenile (>20mm) 809 + 812 catch (20-mm 3) = 0 (preliminary)  Cumulative juvenile (>20mm) salvage = 138  Rio Vista flows = 20,333 cfs  Vernalis flows = 2,522 cfs | Flows decreasing | 4/29/25 |  |

Table 3d: White Sturgeon

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Updated | Comments |
| White Sturgeon Entrainment Protection Action (8.4.7) | Year-round | Active; not triggered    Flow Conditions: Not met    Survey Conditions: **Met** | -YOY WS detected in one of the listed north or central Delta survey stations in the last 90 days    - Mean total exports for the last 90 days ≥ 14,296.76 + (-0.41)\*(90-day average Vernalis flow | YOY WS detections= 20-mm station 707 on 4/3/25  90-Day Avg Vernalis flows = 2209 cfs  90-Day Avg Exports = 5753 cfs | More YOY detections possible  Flow/Exports conditions unlikely to meet criterion | 4/28/25 | Survey Conditions met until 7/2/2025  WY 2025 salvage = 4 |

Table 3e: OMR

| Action | Timeframe | Current Action Status | Threshold(s) | Current Relevant Data | Weekly Trend | Last Updated | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| OMR Storm Flex (8.5) | Start of OMR – Onramp of Larval and Juvenile DS Protection Action (8.4.1) or last day of February (whichever occurs first) | Off-ramped as of 2/25/25 | -Delta is in excess  -QWEST is > +1,500 cfs  -X2 is < 81 km  - Daily average turbidity at OSJ, HOL, and OBI are <12 FNU  -Higher level of outflow available for diversion due to storm flows  -Measurable amount of precipitation has occurred  -None of COA’s are controlling operations (8.2.1, 8.3.2, 8.3.3,, 8.4.2, 8.4.3, 8.4.4, 8.4.5, 8.4.7)  -Cumulative loss at CVP and SWP of yearling CNFH LFR Chinook salmon (as yearling CHNSR surrogates) is < 0.5% with any of the release groups | QWEST=Not relevant  X2 = Not relevant  Turbidity = Not relevant  No relevant salmon loss threshold exceedances (see Tables 2a & 3a)  No COA’s are controlling operations |  | 2/25/25 |  |
| End of OMR  Management (8.6) | Jun. 1 – Jun. 30 | Not in effect | Smelt:  -Daily mean water temperature at Clifton Court Forebay (CLC) is > or equal to 25 C for 3 consecutive days  Salmonids:  -Daily mean water temperature is > 22.2 C at Mossdale and Prisoners Point for 7 days (can be non-consecutive). | N/A | N/A | 11/12/24 | N/A |
| Spring Outflow (COA 8.12.1) | April 1 – May 31 | In effect | Critical year: ratio of Vernalis flow to SWP and CVP combined exports shall be 1 to 1.  Dry year: ratio of Vernalis flow to SWP and CVP combined exports shall be 2 to 1.  **Below Normal year: ratio of Vernalis flow to SWP and CVP combined exports shall be 3 to 1.**  Above Normal/Wet year: ratio of Vernalis flow to SWP and CVP combined exports shall be 4 to 1 | High flow offramp (Delta Outflow greater than 44,500 cfs) was in effect from 4/1/25 - 4/9/25 | SWP at minimum health and safety (600 cfs) and operating to proportional share of Spring Outflow | 4/22/25 | 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 4/29/2025) | Status |
| --- | --- | --- | --- |
| SWP regular counts, CWT reading | Delta | Active | 1 |
| SWP larval sampling | Delta | Active | 1 |
| CVP regular counts, CWT reading | Delta | Active | 1 |
| CVP larval sampling | Delta | Active | 1 |
| Smelt Larval Survey | Delta | Not Active | 4 |
| LES | Delta | Active | 1 |
| 20mm Survey | 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 | Not Active | 4 |
| EMP | Delta | Active | 1 |
| Mossdale | Delta | Active (CDFW) | 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 |
| Mill Creek RST | Mill Creek | Active | 1 |
| Deer Creek RST | Deer Creek | Not Active | 4 |
| Yuba River (Hallwood) RST | Yuba River | Active | 1 |
| Butte Creek Carcass Surveys | Butte Creek | Not Active | 4 |
| Butte Creek RST | Butte Creek | 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 | Active | 1 |
| Feather River (upper DWR) RST | Sacramento River | Active | 1 |
| Feather River (lower CDFW) RST | Sacramento River | Active | 1 |
| Feather River Carcass Survey (fall-run Chinook Salmon) | 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 (steelhead) | San Joaquin River | Active | 1 |
| American River Carcass Survey | Sacramento River | Not Active | 4 |

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