



— BUREAU OF —  
RECLAMATION

## Salmon Monitoring Team (SaMT) Weekly Meeting

**Teams call: 1/30/24 at 9:00 a.m.**

### Objective

Provide information to the Water Operations Management Team (WOMT), the U.S. Bureau of Reclamation (Reclamation) and California Department of Water Resources (DWR) on measures to reduce adverse effects from Delta operations of the Central Valley Project (CVP) and the State Water Project (SWP) on salmonids and green sturgeon. Final versions of the Proposed Action Assessment, and Fish and Water Operations Outlook will be posted to [Reclamation's Delta Monitoring Work Group](#) webpage, while final version of the Meeting Notes will be posted to Reclamation's [Salmon Monitoring Team](#) webpage. Meeting participants include representatives from: California Department of Fish and Wildlife (CDFW), DWR, National Marine Fisheries Service (NMFS), State Water Resources Control Board (SWRCB), Reclamation, and the U.S. Fish and Wildlife Service (USFWS).

### Agenda Items

1. Introductions
2. Housekeeping
3. Updates on Water Operations and Biological Conditions
4. Open Discussion on Species Status
5. Live-edit Assessments (Proposed Action Assessment and ITP Risk Assessment)
6. Additional Considerations/Other Topics
7. Next Meeting

#### Agenda Item 2. Housekeeping

##### *SaMT Roster*

- To ensure that recent additions to the SaMT roster are included in communications, please Reply All to the latest emails sent by Kearns & West or refer to the roster spreadsheet in MS Teams.

#### Agenda Item 3. Updates on Water Operations and Biological Conditions

- The Fish and Water Operations Outlook document was reviewed. Please refer to the Operations Outlook, PA Assessment, and ITP Risk Assessment documents. All flows and releases, unless otherwise noted, are reported as approximated daily averages.

- Sacramento River is entering a local minimum between precipitation events. Flows at Freeport were 38,000 cfs on 1/29/24 and are expected to decrease for the next two days before increasing over 2/1 – 2/5/24 due to anticipated storm-related precipitation.
- Net Delta Outflow Index is approximately 45,000 cfs and is expected to decrease over 1/31 – 2/1/24 before increasing again with anticipated storm-related precipitation.
- QWEST was approximately +7,800cfs on 1/29/24 and is expected to decrease to a range of +5,000 to +6,000 cfs over 1/30 – 1/31/24. Anticipated precipitation could increase levels to above +10,000 cfs after 2/2/24.
- Rio Vista flows are approximately 40,000 cfs and are expected to decrease over 1/30 – 2/1/24 before potentially increasing. Flows are more uncertain following the second storm event, however, there is potential to increase again to approximately 55,000 cfs.
- Goodwin Dam is anticipated to remain at 1,500 cfs due to encroachment at New Melones.
- For details on salvage that occurred in the past week please refer to the Operations Outlook, PA Assessment, and ITP Risk Assessment documents. Additionally, all salvage information can be found online at <https://filelib.wildlife.ca.gov/Public/salvage/>.

#### ***Actions Currently in Effect***

- The Interim Operations Plan (IOP) is currently in effect resulting from a court order issued on 2/28/2023 and in effect until 3/31/2024 or until the Court issues a ruling on the 2024 IOP. Reclamation shall adopt the following provisions of the SWP ITP:
  - 8.5.2 Larval and Juvenile Delta Smelt Protection
  - 8.6.1 Winter-run Single-year Loss Threshold
  - 8.6.2 Early-season Natural Winter-run Chinook Salmon Discrete Daily Loss Threshold
  - 8.6.3 Mid- and Late-season Natural Winter-run Chinook Salmon Daily Loss Threshold<sup>1</sup>
  - 8.6.4 Daily Spring-run Chinook Salmon Hatchery Surrogate Loss Threshold
  - 8.7 OMR Flexibility During Delta Excess Conditions
  - 8.8 End of OMR Management

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<sup>1</sup> The SWP ITP was amended for WY 2024 on 12/22/2023 which modifies the winter-run daily loss threshold calculations for COA 8.6.3. and furthermore, lowers the daily loss thresholds that were originally agreed upon in the 2023 IOP extension. Because this new amendment was not part of the original 2023 IOP Extension agreed to by Reclamation and the State and ordered by the Court on 2/28/2023, it is not included in the current operation of the 2023 IOP Extension. Operating the CVP to this new amendment would be inconsistent with the current court order; therefore, CVP will operate to COA 8.6.3, excluding the 12/22/2023 amendment but including WY 2023 SWP ITP amendment that was signed on 1/20/23, in to maintain operations under the 2023 IOP Extension.

- **Delta Cross Channel (DCC) Gate operations (PA 4.10.5.3):** See Outlook and Assessment for more information.
- **ITP Winter-run Single-year Loss Threshold (COA 8.6.1):** DWR will operate Banks Pumping Plant consistent with Condition of Approval 8.6.1 of the ITP. These values are based on the juvenile production estimate (JPE). The final JPE for brood year 2023 natural-origin winter-run Chinook salmon has been estimated at 234,896. The below thresholds are based on the final JPE.
  - The ITP natural-origin Winter-run Single-year Loss Threshold for this year is loss of unclipped length-at-date winter-run Chinook salmon from the CVP and SWP greater than or equal to 1.17% of the winter-run Chinook salmon JPE (loss  $\geq$  2,748.28). If 50% of the threshold is exceeded (loss  $\geq$  1,374.14), the required response is to reduce SWP exports by its proportional share, according to the coordinated operations agreement (COA), that would be required to reach a 14-day average OMR of -3,500 cfs. If 75% of this threshold is exceeded (loss  $\geq$  2,061.21), the required response is to reduce SWP exports by its proportional share, according to the COA, that would be required to reach a 14-day average OMR of -2,000 cfs.
  - The ITP hatchery-origin Chinook salmon Single-year Loss Threshold for this year is loss of clipped length-at-date winter-run Chinook salmon from the CVP and SWP greater than or equal to 0.12% of the winter-run Chinook salmon hatchery-origin JPE (loss  $\geq$  232.30). If 50% of the threshold is exceeded (loss  $\geq$  116.15), the required response is to reduce SWP exports by its proportional share, according to the coordinated operations agreement (COA), that would be required to reach a 14-day average OMR of -3,500 cfs. If 75% of this threshold is exceeded (loss  $\geq$  174.23), the required response is to reduce SWP exports by its proportional share, according to the COA, that would be required to reach a 14-day average OMR of -2,000 cfs.
- **ITP Mid- and Late-season Natural Winter-run Chinook Salmon Daily Loss Threshold (COA 8.6.3):** From 1/1/24 – 1/31/24 and 2/1/24 – 2/29/24 DWR will operate Banks Pumping Plant consistent with Condition of Approval 8.6.3 of the ITP. The ITP Daily Loss Threshold for January is loss of older juvenile Chinook salmon from CVP and SWP greater than 0.00124% for January and greater than 0.00231% for February of the winter-run Chinook salmon JPE. If the threshold is exceeded (loss  $>$  2.91 for January and loss  $>$  5.43 for February), the required response is to reduce SWP exports by its proportional share, according to the COA, that would be required to reach an OMR of no more negative than -3,500 cfs for five consecutive days. DWR shall restrict exports in response to the initial length-at-date identification of natural older juvenile Chinook salmon and the thresholds described above. If genetic analysis of an individual natural older juvenile Chinook salmon observed in salvage at the SWP or CVP indicates that it is not a winter-run, that individual shall not count toward the daily loss threshold and continued export restrictions under this COA are not required if the daily loss threshold has consequently not been met.

**Weekly Fish and Water Operations Outlook, Current Operations**

- SaMT reviewed and updated the Outlook document. The updated Outlook document will be distributed to the SaMT via email by close of business (COB) 1/31/24.
- SaMT discussed Fish Monitoring Gear Efficiency/Disruptions as addressed within the Operations Outlook and updated accordingly.

**SaMT Estimates of Fish Distribution**

- SaMT estimates of the current distribution of listed Chinook salmon and CCV steelhead, as a percentage of each population, are based on recent monitoring data and historical migration timing patterns. Estimates this week are based on YOY winter-run and YOY spring-run as well as natural origin steelhead at the real-time monitoring locations. These estimates are reported in the final Assessment document, available on the [Delta Monitoring Workgroup](#) webpage.

Location	Yet to Enter Delta	In the Delta	Exited the Delta past Chipps Island
Young-of-year (YOY) winter-run Chinook salmon	Current: 30-44% Last week: 35-50%	Current: 55-65% Last week: 50-60%	Current: 1-5% Last week: 0-5%
YOY spring-run Chinook salmon	Current: 65-80% Last week: 65-80%	Current: 20-35% Last week: 20-35%	Current: 0% Last week: 0%
*YOY hatchery winter-run Chinook salmon	Current: 100% Last week: 100%	Current: 0% Last week: 0%	Current: 0% Last week: 0%
Natural-origin steelhead	Current: 75-84% Last week: 80-89%	Current: 15-20% Last week: 10-15%	Current: 1-5% Last week: 1-5%

**Rationale for distribution**

- Wild winter-run Chinook Salmon
  - Roughly 17 wild winter-run Chinook salmon were observed at the Lower Feather River RST, 29 at Tisdale RST, 25 at Knights Landing RST, 8 at the Beach Seines, and 4 at the Sacramento Trawl. Since winter-run were observed at monitoring locations upstream and within the Delta and since LAD winter-run have been observed in salvage, SaMT estimates that an additional 5% of the wild winter-run Chinook salmon population have migrated into the Delta. 1 winter-run was also observed at Chipps Island; therefore, CDFW, NMFS, Reclamation, and USFWS agreed that although 1 fish does not necessarily constitute 1%, in order to count for the fact that winter-run have been observed at Chipps Island, it is appropriate to push the range to 1-5% this week.
- Wild spring-run Chinook Salmon:
  - Roughly 10 wild spring-run Chinook salmon were observed at the Lower Feather RST, 3 at Tisdale RST, 14 at Knights Landing, and 7 at the Beach Seines. Due to seasonal timing and small number of spring-run observed at monitoring locations within the Delta, SaMT estimates that a 5% increase this week was not warranted.

## Agenda Item 4. Open Discussion on Species Status

### *Salvage Update for 1/22/24 – 1/28/24*

- Salvage and loss totals are detailed in the Salvage update shared via email. Please refer to the email for specific figures.
- Additional fish from the Coleman experimental releases on 12/18/23 were observed as well as tagged fish from the San Joaquin River Restoration program.
- CDFW is waiting on genetic information on a winter-run length-of-date caught on 1/28/24.
- Currently observing young-of-year fry at the federal facility.
- Unclipped Steelhead were observed this week.
- White sturgeon were collected on 1/22/24 at the SWP Skinner Facility, and on 1/25/24 and 1/27/24 at the federal facility, all measuring a minimum of 300 mm TL.
- Salvage was down briefly on 1/24/24 for an equipment inspection at the CVP facility.

## Agenda Item 5. Live edit Assessments

### *Proposed Action Assessment*

- SaMT reviewed and updated the current week's Proposed Action Assessment document. The updated Proposed Action Assessment will be distributed to the SaMT via email by COB 1/31/24. The final assessment will be posted to [Reclamation's Delta Monitoring Workgroup](#) webpage.

### *ITP Risk Assessment*

- The draft ITP Risk Assessment will be distributed on 1/30/24 with comments due COB Thursday (2/1/24). Past ITP Risk Assessments can be found at [CDFW's Water Project Operations](#) webpage.

## Agenda Item 6. Additional Considerations/Other Topics

### *Genetic Testing Results*

- Farida Islam, DWR, discussed genetic results purchased from Cramer Fish Sciences for the purpose of conducting genetic analysis on unclipped, older juvenile Chinook salmon that enter the fish collection facility. DWR shares this data with the various regulatory groups, including SaMT, as soon as it is available. Chinook salmon falling outside of the unclipped older juvenile category are not processed via the super-rapid analysis method; however, genetics are still being taken on all natural-origin fish but results will be available at a later date than the older juvenile results.
- To provide an example, on 1/29/24, DWR shared data that included two of three samples salvaged at the Delta Fish Facilities on 1/28/24. However, since genetics is still being conducted on 1 of the 3 older juveniles, DWR cannot make a decision that COA 8.6.3 did not trigger because that 1 fish that is awaiting genetics still exceeds the daily loss

threshold for COA 8.6.3. For the super-rapid analysis method, results are expected within 24 hours.

- DWR asked SaMT members if they would like to see partial data from the genetic analysis as it's available, or if they would rather wait for the bundled set of data for each calendar day.
- SaMT members shared the following comments:
  - Partial data would be helpful, especially in situations where the partial data may end the trigger for the CVP facility but not the SWP facility. [DWR]
  - Partial data when it's first available is preferred. Genetically-confirmed fish may not count towards the loss, so the trigger may no longer be exceeded. While loss threshold is currently low, it is expected to increase in February, making it important to view the data in real time. [CDFW]
  - Suggestion to email the partial data notifications to a smaller/select group to avoid unnecessarily inundating people with emails. Once the full day's information is compiled, it could be distributed to the whole group. [CDFW]
  - The salvage unit's preference would be to receive data as early as possible to expedite data entry into the database. [CDFW]
  - Request to include a disclaimer in emails with partial data that not all fish have been processed for the day. [NMFS]
- SaMT members concluded that partial data will be sent out to the entire SaMT group as it becomes available along with a disclaimer that the data does not represent the full day's analysis.
- CDFW suggested having a meeting with SaMT members to discuss trigger notifications and who should be on which email list. CDFW suggests following the Trigger Notification Process document that has been sent to DWR where initial trigger notifications are only sent to a small internal group. This would limit the emails that SaMT is receiving, especially since many members of SaMT do not want to be involved in the entire process from start to finish but rather just knowing the final result.

#### ***Winter-run Chinook Salmon Machine Learning Tool***

- CDFW provided an update on the latest model run from the Winter-run Chinook Salmon Machine Learning Model. CDFW shared the a few figures that showed an increased probability of low presence for the upcoming week as well as a decreased probability of absence. This was mostly due to seasonal timing and flows and temperatures at Red Bluff from 6 months ago, which was shown in the SHAP plot.

#### **Agenda Item 7. Next Meeting**

- The next SaMT meeting will be held on Tuesday, 2/6/24 on Microsoft Teams and will feature a presentation on the SHERLOCK pilot study from Melinda Baerwald, DWR.