



Salmon Monitoring Team (SaMT) Weekly Meeting

Teams call: 2/13/24 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

- N/A

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 flows at Freeport are 57,700 cfs and should decrease for a few days before increasing again with anticipated precipitation.

- American River flows will increase from 3,500 cfs to 6,000 cfs on 2/14/24. Flows could potentially increase again later in the week due to precipitation.
- San Joaquin River flows are expected to increase to a maximum of 7,400 cfs and is expected to decrease this week.
- Clifton Court Forebay (CCF) exports are varying due to targeting the OMRI of -3,500 cfs for the 7-day average. On 2/12/24, exports measured 3,100 cfs.
- QWEST was approximately +11,000 cfs on 2/12/24 and is expected to decrease to approximately +9,000 to +10,000 cfs on 2/13/24.
- Rio Vista flows were just under 57,000 cfs on 2/12/24 and are expected to decrease this week, potentially dropping below 40,000 cfs.
- Discussion Questions
 - What is San Luis [storage] currently at? [CDFW]
 - Federal share was 869 TAF as of 2/12/24. We are getting close to maximum storage levels (966 TAF). [USBR]
- 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 Threshold¹
 - 8.6.4 Daily Spring-run Chinook Salmon Hatchery Surrogate Loss Threshold
 - 8.7 OMR Flexibility During Delta Excess Conditions

¹ 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.

- 8.8 End of OMR Management
- **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 (LAD) 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 LAD 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 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 $>$ 5.43), 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 LAD 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) 2/14/24.
- 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: 10-34% Last week: 25-39%	Current: 65-80% Last week: 60-70%	Current: 1-10% Last week: 1-5%
YOY spring-run Chinook salmon	Current: 55-70% Last week: 60-75%	Current: 30-45% Last week: 25-40%	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: 50-74% Last week: 65-84%	Current: 25-40% Last week: 15-30%	Current: 1-10% Last week: 1-5%

Rationale for Distribution

- Wild winter-run Chinook Salmon
 - A few wild winter-run Chinook salmon were observed at Tisdale RST, 1 at Knights Landing RST, 1 at the Beach Seines, and 2 at the Sacramento Trawl, 2 at the Lower Sacramento RST, and 5 at Chipps Island Trawls. Since winter-run were observed at monitoring locations upstream and within the Delta and since LAD winter-run have been observed in salvage in high numbers over the previous week, SaMT estimates that an additional 10% of the wild winter-run Chinook salmon population have migrated into the Delta. After discussion, SaMT members decided to extend the range of fish that have exited the Delta past Chipps Island to 1-10%, due to the higher WR JPE for WY 2024 and historical data on SacPAS (23-year average) estimating that up to 7% have exited at this time with only 3 of those historical years had greater than 7% exited past Chipps Island.
- Wild spring-run Chinook Salmon
 - Twelve wild spring-run Chinook salmon were observed at the Lower Sacramento RST, 2 at Knights Landing RST, none yet at Chipps Island, and a few in salvage. SaMT estimates that the Lower Sacramento RST would have likely continued to catch SR if they had been trapping due to the catch of SR the day prior to pulling the traps out of the water and the storm events that occurred the previous week. SaMT estimated the range of fish within the Delta increased by 5% this week.

The spring-run population this year is estimated to be low. Many LAD fall-run have already been observed in salvage and in the RST's; therefore, SaMT estimates that observations in real-time monitoring sites may be low this year for SR.

- Hatchery winter-run Chinook Salmon
 - There have been no acoustically-tagged hatchery winter-run observed as of 2/13/24.
- Natural-origin Steelhead
 - One Steelhead was seen at Butte Creek, 3 at the Sacramento Trawl, 1 at Mossdale Trawl, and quite a few were observed in salvage. None were seen at Chipps Island. Looking at historical data, 22% are typically seen past Knights Landing by early February. SMT recommended to expand the range to 1-10% for fish that have exited the Delta past Chipps Island and expand the range of fish in the Delta by 10% to a total of 25-40% due to high flows and the number of Steelhead observed in salvage.

Agenda Item 4. Open Discussion on Species Status

Salvage Update for 2/5/24 – 2/11/24

- Salvage and loss totals are detailed in the Salvage update shared via email. Please refer to the email for specific figures.
- High numbers of older, wild juvenile Chinook salmon were observed each day of the reporting period. Older juvenile loss was contributed to the winter-run, spring-run, and late-fall-run classification categories as well as older, larger yearling fall-run Chinook salmon.
- No true genetic winter-run Chinook salmon were reported this week. Chinook salmon that were categorized as winter-run LAD were later genetically confirmed to be non-winter. The majority of hatchery fish observed appear to be late-fall-run and spring-run. Tagged fish from the San Joaquin River Restoration Program and the Coleman National Fish Hatchery experimental releases continue to be observed in salvage. During the reporting period, the facilities also observed a large number of Chinook salmon classified as genetic spring-run by population structure analysis; however, all but one of these fish also possessed the “late” run-timing genotype at the Greb1L region of the genome, which has been shown to be strongly associated with either fall-run or late-fall run phenotypes. Spring-run and winter-run phenotypes are typically associated with the “early” run-timing genotype for the Greb1L region, indicating the assignment of these fish is uncertain and needs further investigation.
- High numbers of both wild and hatchery Steelhead were observed during the reporting period.
- The collection facilities have exceeded the 50% December – March loss threshold for Steelhead.

- The SWP facility reported reduced counts on 2/5/24 and 2/6/24 due to high fish numbers.

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 2/14/24. 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 2/13/24 with comments due COB Thursday (2/15/24). Past ITP Risk Assessments can be found at [CDFW's Water Project Operations](#) webpage.

Agenda Item 6. Additional Considerations/Other Topics

Genetic Data Updates

- CDFW suggested limiting the real-time genetic data recipients list to a smaller group to avoid an overload of emails. A full data report would then be sent to the full group once per week. Anyone who wishes to remain included in the limited recipient list or has other related concerns about receiving the genetics data daily rather than weekly may contact Mia Schiappi, Kearns& West (mschiappi@kearnswest.com).

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 a few figures from 1/12/24 – 2/11/24 that showed a decrease in probability of low presence and an increase in high presence. 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. Because the absence runs of the model are under the purple threshold and some of the low presence runs are below the green threshold, CDFW expects to see a decrease in absence and low presence as well as an increase in high presence this upcoming week at the salvage facilities. The model is likely underpredicting presence in salvage this week due to exports being underestimated. However, the model shows that if combined export levels are greater than 7,000 cfs, the model predicts high presence to occur. Therefore, if exports increase to greater than 7,000 cfs in the upcoming week, the low presence will decrease and the high presence will increase, resulting in a greater number of fish in salvage. Prediction charts shared on 2/13/24 are underestimating the presence of salvage for the week. When high presence is predicted, the model is typically accurate, however the model is still predicting a range of low presence. An updated chart with updated exports will be shared if time allows for an additional model run this week.

Agenda Item 7. Next Meeting

- The next SaMT meeting will be held on Tuesday, 2/20/24 on Microsoft Teams.

Action Items

- Any SaMT members that have concerns with receiving the genetics data through email weekly rather than daily are to contact Mia Schiappi, Kearns & West (mschiappi@kearnswest.com) and share their concerns.