



Salmon Monitoring Team (SaMT) Weekly Meeting

Teams call: 3/26/24 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. Items to Raise to WOMT
8. Next Regular 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 approximately 39,750 cfs.

- A change order is in place for Nimbus Dam to decrease releases from 4,500 to 4,000 cfs on 3/29/24 for storage conservation.
- San Joaquin River flows at Vernalis are approximately 5,450 cfs.
- A change order is in place for a spring pulse on the Stanislaus River beginning 3/28/24. Goodwin Dam releases will initially drop to 800 cfs a release pattern is expected shortly to vary between 200 cfs to 2,500 cfs to accommodate the pulse flow schedule.
- Clifton Court Forebay exports are scheduled to be 1,300 cfs on 3/26/24 in order to target the OMRI of no more negative than -500 cfs. Exports may vary depending on potential changes to the OMRI.
- Delta Outflow is approximately 45,900 cfs.
- QWEST is at +11,725 cfs.
- Rio Vista flows were 46,000 cfs on 3/18/24 and is expected to decrease through the week, potentially below 40,000 cfs.
- San Luis Reservoir total storage is 1.475 MAF; the SWP storage share is 509 TAF.
- 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
 - 8.8 End of OMR Management

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.

- **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 thresholds below 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 -2,500 cfs. If 100% of this threshold is exceeded (loss $\geq 2,748.28$), the required response is to immediately convene SaMT to review recent fish distribution information and operations and provide advice regarding future planned Project operations to minimize subsequent loss during that year.
 - 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 ≥ 232.30). If 50% of the threshold is exceeded (loss ≥ 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 ≥ 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 -2,500 cfs.
- **ITP Mid- and Late-season Natural Winter-run Chinook Salmon Daily Loss Threshold (COA 8.6.3):** From 3/1/24 – 3/31/24, DWR will operate Banks Pumping Plant consistent with Condition of Approval 8.6.3 of the ITP. The ITP Daily Loss Threshold for March is loss of older juvenile Chinook salmon from CVP and SWP greater than 0.00231% of the winter-run Chinook salmon JPE. If the threshold is exceeded (loss > 8.74), 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.

- SaMT reviewed and updated the Outlook document. The updated Outlook document will be distributed to the SaMT via email by close of business (COB) 3/27/24.
- 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: 1-5% Last week: 1-5%	Current: 55-69% Last week: 65-79%	Current: 30-40% Last week: 20-30%
YOY spring-run Chinook salmon	Current: 20-30% Last week: 29-40%	Current: 60-75% Last week: 55-70%	Current: 5-10% Last week: 1-5%
YOY hatchery winter-run Chinook salmon	Current: 20-30% Last week: 79-85%	Current: 40-60% Last week: 10-20%	Current: 20-30% Last week: 1-5%
Natural-origin steelhead	Current: 20-35% Last week: 25-40%	Current: 25-50% Last week: 25-50%	Current: 30-40% Last week: 25-35%

Rationale for distribution

- Wild winter-run Chinook Salmon
 - 13 wild winter-run were seen at Chipps Island, 1 at the Lower Sacramento RST, and 2 at the Sacramento Trawl. It was confirmed that there are still wild winter-run passing through Red Bluff Diversion Dam (RBDD) RST’s and are still upstream of the Delta. Due to Chipps Island Trawl catching 13 winter-run, and migrating timing indicates that peak Delta entry occurs in March, SaMT estimated that an additional 10% of winter-run Chinook salmon in the Delta have exited past Chipps Island. The total in the Delta estimation was decreased to 55-69% and total exited the Delta increased to 30-40%.
- Wild spring-run Chinook Salmon
 - 14 wild spring-run Chinook salmon were observed at the Lower Sacramento Trawl, 7 at Knights Landing, a few at both the Beach Seines and EDSM, and 2 at Chipps Island. SaMT estimated that the range of fish within the Delta increased by 5% this week to a total of 60-75%. SaMT estimated that 5-10% of spring-run Chinook salmon have exited the Delta due to the observations at Chipps Island. Although SaMT agreed that it is still early for spring-run to be exiting the Delta in large numbers, seasonal timing, coupled with seeing them at Chipps Island, does indicate that they are beginning to migrate out.
- Hatchery winter-run Chinook Salmon

- CalFishTrack showed 59 hatchery winter-run Chinook salmon exit past Benicia Bridge as well as approximately 217 pass a received near Yuba City. Due to the total release being 581 fish, detecting 217 near the Delta led CDFW to believe that many moved out last week. SaMT increased the range for hatchery winter-run that have moved into the Delta to 40-60% and increased the number exited to 20-30%.
- Natural-origin Steelhead
 - Natural-origin Steelhead were observed at the following locations: 2 at Butte Creek, 1 at Knights Landing, 1 at Tisdale, 1 at Mossdale, as well as in salvage every day last week. Historically, 46% of natural-origin Steelhead have exited past Chipps Island at this time. SaMT estimates an additional 5% have migrated past Chipps Island for a total of 30-40% for fish that have exited the Delta and 25-50% present in the Delta coming from both the Sacramento Basin and San Joaquin Basin.

Agenda Item 4. Open Discussion on Species Status

Salvage Update for 3/18/24 – 3/25/24

- Salvage and loss totals are detailed in the Salvage update shared via email. Please refer to the email for specific figures.
- There is a planned outage at the Tracy Fish Collection Facility on 3/28/24. The CVP anticipates an interruption in CVP salvage and larval counts. This was noted in the Fish and Water Operations Outlook.
- A large number of winter-run-sized Chinook salmon were observed in salvage, along with spring-run, late fall-run, and fall-run sized Chinook salmon.
- Wild Steelhead (70 fish) and hatchery Steelhead (14 fish) were observed in salvage.
- On 3/23/24, there was a potential missed fish count at the CVP facility due to the fact that the collecting bucket was not properly secured in the drain and fish may have escaped underneath.
- Most hatchery fish observed during the reporting period came from the San Joaquin River side.
- A tag with the number 06-31-70 was observed in salvage on 3/21/24 at the CVP export facility. The number was associated with a SCARF fish released in February 2023.

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 3/27/24. 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 3/26/24 with comments due COB Thursday (3/28/24). Past ITP Risk Assessments can be found at [CDFW's Water Project Operations](#) webpage.

Agenda Item 6. Additional Considerations/Other Topics

Discussion on Winter-Run Chinook Salmon Loss

- SaMT discussed and refined the following language, included in the Proposed Action Assessment:
 - *The CVP and SWP may target an OMRI as negative as -2,500 cfs this week. SaMT acknowledges that while there does not seem to be any export level that would result in zero loss, this would likely result in an increase in loss per day based on the Tillotson Model and observed loss based on previous weeks' operations targeting an OMRI no more negative than -2,500 cfs. Any increase in loss would not be beneficial to the winter-run population and would likely lead to an earlier exceedance of the incidental take limit (ITL).*
- CDFW reiterated additional information discussed in the 3/22/24 off-cycle meeting that they would like to have included in this segment of the Proposed Action Assessment but acknowledged that USBR is the owner of the document and can determine how much to include. CDFW's suggestions included:
 - An expressed interest in providing a more concrete OMRI recommendation to WOMT.
 - Noting that salvage is typically high during March for both length-at-date (LAD) and genetic winter-run Chinook salmon. With operations being controlled by COA 8.6.1 under the IOP, the goal is to minimize additional salvage going forward after hitting the 100% threshold and the agencies should use that lens to plan for operations for the rest of the season.
 - Noting that exports are only one factor that impacts winter-run and that temperatures, Red Bluff diversions, and migration timing are also contributing factors.
- USBR shared some of CDFW's viewpoints about including information discussed on 3/22/24 and that they'd encountered issues with the OMRI guidance document.

Agenda Item 7. Items to Raise to WOMT

- *The CVP and SWP have been operating to OMRI of no more negative than -500 cfs beginning on 3/11/24. Weekly loss of natural-origin Steelhead has decreased significantly since OMRI of -500 cfs has been targeted. The CVP and SWP may target an OMRI as negative as -2,500 cfs this week.*
- CDFW notes that decreasing OMRI to -2,500 cfs as a result of increased exports is not supported by SaMT's 3/22 "advice regarding future project operations to minimize subsequent loss during the year" (as required by ITP COA 8.6.1) which was clear that "lowering exports would contribute to minimizing subsequent loss [of winter-run Chinook Salmon] this year." Therefore, CDFW recommends that OMRI should remain more positive than -500 cfs in order to minimize subsequent loss due to the 100% Annual

Loss Threshold exceedance. Loss has decreased by nearly half since an OMRI of -500 cfs was targeted. Decreasing OMRI to -2,500 cfs is likely to also increase loss according to previous week's loss data when OMRI was targeting -2500 cfs. See the section in the Proposed Action assessment for the previous 5 weeks of loss data that occurred while operations were targeting an OMRI of -2,500 cfs vs operating to an OMRI of -500 cfs that further supports that decreasing OMRI would increase loss.

- Reclamation is elevating operational changes to OMRI of -500 cfs to -2,500 cfs to WOMT.
 - CDFW noted that although there was documentation of non-consensus at this meeting, there was also language that was agreed on by all agencies and was written in the notes that were sent to WOMT: “A decrease in exports through a more positive OMRI is expected to decrease future loss relative to higher export rates, therefore lowering exports would contribute to minimizing subsequent loss this year.”
- DWR added a non-consensus statement with the following language:
 - *DWR SaMT members prefer to elevate operational recommendations to WOMT. We agree that lower OMRI will result in lower salvage and loss relative to higher exports but note that there was not opportunity during the time allotted for the SaMT meeting this week for thorough discussion of genetic, acoustic tag, and other information and its implications for the risk assessment to the winter-run population from operations, which may suggest a different level of risk than loss of LAD older juveniles suggests. Rather than provide this information and our interpretation of its implications via edits to this week's notes, DWR will initiate discussion of this information at the next SaMT meeting to provide all SaMT members the opportunity to discuss and respond to this information.*

Agenda Item 8. Next Meeting

- The next SaMT meeting will be held on Tuesday, 4/2/24 on Microsoft Teams.