



— BUREAU OF —
RECLAMATION

Salmon Monitoring Team (SaMT) Weekly Meeting

Teams call: 3/12/24 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
 - a. Contingency planning
 - b. Proposed Action Assessment recommendations
3. Non-consensus protocol
4. Updates on Water Operations and Biological Conditions
5. Open Discussion on Species Status
6. Live-edit Assessments (Proposed Action Assessment and ITP Risk Assessment)
7. Additional Considerations/Other Topics
 - a. OMRI Evaluation Project (Ryon Kurth, DWR)
8. Next Regular Meeting
9. Ad hoc Meeting 3/12/24

Agenda Item 2. Housekeeping

Contingency Planning

- SaMT decided to schedule an ad hoc meeting for later in the day to finalize coverage of agenda items due to the lack of sufficient time during the regular weekly meeting.

Proposed Action Assessment Recommendations

- Feedback was provided on the appropriate usage of the Proposed Action Assessment document. It was expressed that evaluating through the defined sections of the Assessment is preferred over a separate recommendation drafted by SaMT, therefore, SaMT's focus will be on updating the evaluation sections. Individual SaMT members are still encouraged to share their own recommendations with the group.

Non-Consensus Protocol

- A reminder was provided that the weekly SaMT meeting is a forum where differences in opinion can and should be shared. Total consensus is not a requirement for working through the various items covered during the meeting. Alternative opinions and input will be recognized and documented.

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 58,500 cfs and expected to decrease through the week as reservoirs make changes to storage levels in accordance with the current, dry forecast.
- A change order is out for 3/14 – 3/18/24 to incrementally decrease Keswick Dam releases from 15,000 cfs to 7,000 cfs for ACID dam installation and maintenance work.
- A change order is out for 3/13/24 to decrease Nimbus Dam releases from 6,000 cfs to 5,250 cfs.
- San Joaquin River flows at Vernalis were 6,500 cfs on 3/11/24 and have been dropping rapidly over the past few days. Flows are expected to drop to approximately 4,000 cfs through the week.
- Starting 3/11/24, Jones Pumping Plant is incrementally reducing exports through the week to target an Old and Middle River Index (OMRI) of no more negative than -500 cfs and will gradually decrease to 1,800 cfs.
- Clifton Court Forebay exports were 600 cfs on 3/11/24 in order to target the OMRI of no more negative than -500 cfs. Exports may increase slightly this week before decreasing again.
- Delta Outflow as of 3/11/24 was 68,600 cfs and is expected to decrease through the week.
- QWEST is at a peak level of approximately +14,400 cfs and expected to decrease to +10,000 cfs this week.
- Rio Vista flows were 54,000 cfs on 3/11/24 and is expected to decrease through the week, potentially down to 40,000 cfs.

- Total San Luis Reservoir storage is approximately 1.483 MAF as of 3/11/24. The SWP share of storage is 523 TAF; the CVP share is 960 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
- **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-

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.

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.

- 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 -2,500 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.

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) 3/13/24.
- 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: 70-84% Last week: 75-89%	Current: 15-25% Last week: 10-20%
YOY spring-run Chinook salmon	Current: 33-49% Last week: 38-54%	Current: 50-65% Last week: 45-60%	Current: 1-2% Last week: 1-2%
YOY hatchery winter-run Chinook salmon	Current: 90-95% Last week: 95-100%	Current: 5-10% Last week: 0-5%	Current: 0% Last week: 0%
Natural-origin steelhead	Current: 25-40% Last week: 25-40%	Current: 30-55% Last week: 35-60%	Current: 20-30% Last week: 15-25%

Rationale for distribution

- Wild winter-run Chinook Salmon:
 - 4 wild winter-run were seen at Chipps Island, a few at EDSM, 2 at the Sacramento Trawl and 7 at Knights Landing. Due to Chipps Island Trawl catching 4 winter-run, seasonal timing suggests that peak Delta entry is in March, and SacPAS historical timing indicating that an average (from 2009 to 2022) of 25% have exited the Delta, SaMT estimated that an additional 5% of winter-run Chinook salmon in the Delta have exited past Chipps Island. Due to moving 5% through the system past Chipps Island the total in the Delta estimation was moved to 70-84% and total exited past Chipps Island to 15-25%.
- Wild spring-run Chinook Salmon:
 - 7 wild spring-run Chinook salmon were observed at Knights Landing RST, 4 at the Beach Seines, a few at EDSM, and 2 at the Sacramento Trawl. SaMT estimated that the range of fish within the Delta increased by 5% this week to a total of 50-65%. Since it is only mid-March and Chipps Island Trawl did not observe any spring-run in the previous week, SaMT recommended keeping the range of estimated spring-run Chinook salmon that have exited past Chipps Island to 1-2%.
- Hatchery winter-run Chinook Salmon:
 - CalFishTrack showed a few additional hatchery winter-run Chinook salmon enter the Delta during the previous week, but none yet that have exited the Delta. SaMT decided to increase the range for hatchery winter-run that have moved into the Delta to 5-10% and keep exited at 0% until detections at Benecia Bridge are observed on CalFishTrack.
- Natural-origin Steelhead:
 - Natural-origin Steelhead were observed at the following locations: 1 at Butte, 1 at Tisdale, 1 at the Sacramento Trawl, 66 at Feather River, as well as a high number in salvage. None were observed exiting Chipps Island in the previous week. SaMT estimates an additional 5% have migrated past Chipps Island for a total of

20-30% for fish that have exited the Delta and 30-55% 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 3/4/24 – 3/10/24

- Salvage and loss totals are detailed in the Salvage update shared via email. Please refer to the email for specific figures.
- Older juvenile Chinook salmon were observed in salvage during the reporting period.
- Wild Steelhead were observed in salvage with the average loss increasing to 62.95 fish per day.
- CDFW was alerted to a data entry error after the preliminary weekly salvage report was created; a corrected version will be distributed to SaMT.
- Tagged Chinook salmon observed during the reporting period were confirmed to be from the San Joaquin River Restoration Program and USFWS's Coleman National Fish Hatchery.
- Winter-run and spring-run length-at-date (LAD) Chinook salmon were observed, along with young-of-year (YOY) fall-run Chinook salmon.
- Clipped and unclipped Steelhead were observed in salvage at both fish collection facilities.
- No other operational variances or reduced counts were reported at the fish collection facilities during the reporting period.

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 3/13/24. 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 3/12/24 with comments due COB Thursday (3/14/24). Past ITP Risk Assessments can be found at [CDFW's Water Project Operations](#) webpage.

Agenda Item 6. Additional Considerations/Other Topics

OMRI Evaluation Project

- Ryon Kurth, DWR, shared information about the upcoming kickoff of a collaborative telemetry project with CDFW, along with support from East Bay Municipal Utility District and USBR. 240 ad-clipped and acoustically-tagged Steelhead are to be released from the Mokelumne River Hatchery to evaluate the effects of the -500 cfs OMRI on

Steelhead behavior in the Delta. Project discussions began on 3/8/24 and the fish are estimated to be released between 3/8/24 - 3/9/24.

- CDFW asked if there will be any additional releases with OMRI above or below -500 cfs in order to compare between different OMRI values?
 - DWR answered that the release is only to assess OMRI of -500 cfs. They did not release any steelhead prior to OMRI flows increasing to -500 cfs and they do not have any plans to release any steelhead if OMRI decrease to more negative than -500cfs.

Evaluation Questions

- USBR staff were instructed to incorporate additional text and figures into the evaluation questions beginning this week. If any SaMT members would like early access to the document to make edits ahead of the meeting, please contact Brian Mahardja, Chase Ehlo, and/or Nick Bertrand at USBR to request access for editing.

Evaluation of OMRI -500 cfs

- SaMT noted it was not possible to determine an effect of the -500 cfs OMRI since it just recently went into effect. DWR estimated a total Steelhead loss of 5.44 on 3/11/24; however, it is not enough data to understand how steelhead loss has been affected since the OMRI of -500 cfs has been in place. DWR speculated that loss should decrease when less water is pumped, and that a better indicator of loss would be loss density. Shifting to a more positive OMRI would, in theory, help Steelhead move out of the south Delta. DWR recommended ongoing observation of Steelhead loss density as a measure of determining the type of effect created by the -500 cfs OMRI.
- Due to operations targeting an OMRI no more negative than -500 cfs beginning 3/11/24, SaMT has not had enough data to evaluate whether steelhead loss has decreased since the OMRI of no more negative than -500 cfs has been in effect. SaMT will reassess next week to see if a decrease in salvage has occurred and compare loss rates relative to the Tillotson Model predictions to provide further technical advice.
- The relevant evaluation question and supporting information in the Proposed Action Assessment are included here:
 - *If OMR is more negative than -5,000 cfs, are there changes in spawning, rearing, foraging, sheltering, or migration behavior beyond those anticipated to occur under OMR management at -5,000 cfs?*
 - *Expected OMR flows are targeting -500 cfs for the next week. Under OMR flows more negative than -5,000 cfs the SaMT expects impacts to rearing, foraging, sheltering, or migration of salmonids present in the south Delta. Salmonid presence in the south Delta is difficult to assess because of limited observations and there is uncertainty in how much of the population might be impacted.*

Agenda Item 7. Next Meeting

- The next SaMT meeting will be held on Tuesday, 3/19/24 on Microsoft Teams.

Action Items

- SaMT members interested in providing advance edits to evaluation questions to contact Brian Mahardja (bmahardja@usbr.gov), Chase Ehlo (cehlo@usbr.gov), and/or Nick Bertrand (nbertrand@usbr.gov) for document access.
- Kearns & West to add Rapid Genetics Update to the 3/19/24 meeting agenda.

Agenda Item 8. Ad hoc Meeting 3/12/24

- Due to time constraints, SaMT opted to add an additional meeting to cover any items not discussed in the regular weekly meeting.
- Recurring items discussed:
 - ITP Risk Assessment (see Agenda Item 5)
 - New items discussed:
 - Evaluation of COA 8.6.1 LAD WR 75% and 100% Loss Exceedance
 - Genetic Discussion

Evaluation of COA 8.6.1 LAD WR 75% and 100% Loss Exceedance

- CDFW informed the SaMT members that moving forward the SaMT ITP Risk Assessment will include information on LAD WR. Due to the 75% Loss Threshold being exceeded on 3/7/25, operations are targeting an OMRI of -2,500 cfs through 3/21/24. This action will occur through the end of OMR Management season (COA 8.8); however, after 3/21/24, DWR and Reclamation may convene SaMT and determine if risk of LAD WR is no longer present. This will be documented in a SaMT ITP Risk Assessment and provided to WOMT for a final decision on adjustment of the -2,500 cfs OMRI flow criteria.
- CDFW also informed the SaMT members that if the 100% Annual Loss Threshold is exceeded this week then SaMT will need to immediately convene to review recent fish distribution information and provide advice to WOMT to minimize subsequential loss of winter-run this water year.

Genetic Discussion

- For those interested in reviewing data for genetic winter-run Chinook salmon, contact Kevin Reece, DWR, for a copy of the data.
- Update on Rapid Genetics
 - Have been hitting the trigger for winter-run LAD consistently.
 - DWR has temporarily reduced the pickup window to Mon/Thu for sample pickup in order to relieve staff. Samples will still be processed within 24 hours, and will be available on Tue/Fri.
 - If an OMRI of -2,500 cfs resumes, they will go back to daily pickup and process.