



Salmon Monitoring Team (SaMT) Weekly Meeting

Teams call: 4/15/25 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).

Participants

- California Department of Fish and Wildlife (CDFW)
- California Department of Water Resources (DWR)
- NOAA National Marine Fisheries Service (NMFS)
- State Water Resources Control Board (SWRCB)
- U.S. Bureau of Reclamation (Reclamation)
- U.S. Fish and Wildlife Service (USFWS)
- Kearns & West (K&W)

Announcements

- N/A

Relevant Actions & Triggers

- **Delta Cross Channel (DCC) Gate operations (PA 4.10.5.3):** See Outlook and Assessment for more information.

- SWP ITP/CVP PA Winter-run Chinook Salmon Annual Loss Thresholds (COA 8.4.3/PA 3.7.4.5.3):** DWR and Reclamation will operate Banks Pumping Plant and Jones Pumping Plant consistent with Condition of Approval (COA) 8.4.3/PA 3.7.4.5.3 of the SWP ITP/SWP and CVP PA. These values are based on the final juvenile production estimate (JPE).
 - The natural-origin Winter-run Chinook salmon Annual Loss Threshold for this year is based on the initial length-at-date (LAD) identification of natural-origin older juvenile Chinook salmon and the thresholds described above. If genetic analysis of natural-origin older juvenile Chinook salmon observed in salvage at the SWP or CVP subsequently confirms that any given Chinook salmon is not genetically identified as a CHNWR that fish will not count towards the loss threshold. This threshold is loss of natural-origin winter-run Chinook salmon from the CVP and SWP greater than or equal to 0.5% of the winter-run Chinook salmon JPE (loss threshold = $98,893 \times 0.5\% = 494.47$). If cumulative loss of natural-origin CHNWR in a brood year exceeds 50% of the annual loss threshold (loss > 247.24), then Permittee shall, in coordination with Reclamation, adjust south Delta exports to achieve a 7-day average of the OMR index no more negative than -3,500 cfs for 7 consecutive days. If a CHNWR is salvaged during the 7-day action, the action will be extended for another seven days. At the conclusion of the action, Permittee, in coordination with Reclamation shall revert to the weekly distributed loss threshold until the 75% threshold is reached or throughout the end of the OMR Management season. If the 75% loss threshold (loss > 370.85) is exceeded AND the Winter-Run Chinook salmon Machine Learning Model predicts that an OMR index of -2,500 cfs would shift the model output to a classification of CHNWR absence with a minimum probability of absence prediction of 0.559 for 1 of 30 sub-models for any of the 7 most recent prediction days, then a 7-day average OMR index of -2,500 cfs will be operated to for 7 consecutive days. Thereafter, each winter-run observed in salvage will trigger a 7-day OMR index of -2,500 cfs for 7 consecutive days IF the Winter-Run Chinook salmon Machine Learning Model predicts that an OMR index of -2,500 cfs would shift the model output to a classification of CHNWR absence with a minimum probability of absence prediction of 0.559 for 1 of 30 sub-models for any of the 7 most recent prediction days.
 - The hatchery-origin Chinook salmon Annual Loss Threshold for this year is loss of both LSNFH and Battle Creek clipped CWT 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 ≥ 162.41 and loss > 3.44, respectively). If the 50% and 75% thresholds are exceeded, the same process will occur as what occurs for the natural-origin winter-run Chinook salmon (as discussed in above bullet).
 - The final JPE was distributed on 1/10/25 for WY 2025.

- **SWP ITP and CVP PA Winter-run Weekly Loss Thresholds (COA 8.4.4/PA 3.7.4.5.4):** DWR and Reclamation will operate Banks Pumping Plant and Jones Pumping Plant consistent with COA 8.4.4/PA 3.7.4.5.4 of the SWP ITP/SWP and CVP PA. These values are based on the product of the weekly percentage of natural-origin CHNWR present in the Delta, scaled to 100% (Table 4, Column E of the SWP ITP), and 50% of the natural-origin CHNWR annual loss threshold (COA 8.4.3/PA 3.7.4.5.3).
 - The final JPE Memo was issued on 1/10/25. The weekly loss threshold for the remainder of the season is provided below:
 - 4/2/25 – 6/30/25: 0 fish
 - If the 7-day rolling sum of loss exceeds the above thresholds in any given week, the required response is to reduce SWP and CVP exports to reach an average OMR index of no more negative than –3,500 cfs for seven consecutive days. DWR and Reclamation shall restrict exports in response to initial LAD identification of natural-origin older juvenile Chinook salmon. If genetic analysis of an individual natural-origin 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 loss threshold and continued export restrictions under the PA or COA are not required if the weekly loss threshold has consequently not been met.
- **SWP ITP Spring Delta Outflow Implementation (COA 8.12.1):** Permittee shall reduce exports from April 1 to May 31 each year to achieve the SWP proportional share (COA 8.7) of export reductions established by the ratio of Vernalis flow (cfs) to combined SWP and CVP exports, scaled by water year type, to provide incidental spring outflow.
 - In a critical water year type, the ratio of Vernalis flow to SWP and CVP combined exports shall be 1:1
 - In a dry water year type, the ratio of Vernalis flow to SWP and CVP combined exports shall be 2:1
 - In a below normal year, the ratio of Vernalis flow to SWP and CVP combined exports shall be 3:1
 - In an above normal or wet year, the ratio of Vernalis flow to SWP and CVP combined exports shall be 4:1

Weekly Fish and Water Operations Outlook, Current Operations

- SaMT reviewed and updated the Outlook document. The updated Outlook document will be shared with SaMT via SharePoint link by close of business (COB) 4/16/25.
- Additional details and operations context shared at the 4/15/25 meeting include:
 - Feather River releases are currently 9,900 cfs.
 - Sacramento River flows at Freeport are approximately 43,300 cfs.
 - San Joaquin River at Vernalis flows were approximately 2,172 cfs.

- Clifton Court Forebay (CCF) exports will remain at 600 cfs through the end of April.
- Delta Outflow was approximately 41,500 cfs as of 4/14/25.
- QWEST was +5,214 cfs on 4/14/25.
- The controlling factor is currently -5,000 cfs.
- X2 is currently 62 km.
- SWP share of San Luis Reservoir storage is approximately 962 TAF.
- CVP share of San Luis Reservoir storage is approximately 850 TAF.
- Total storage of the San Luis Reservoir is approximately 1.81 MAF.
- Questions and Comments
 - CDFW asked why Jones Pumping Plant exports are decreasing.
 - Reclamation responded that this is for the D-1641 requirements.
 - CDFW requested to include the -2,500 cfs OMRI from 4/10/25 - 4/17/25 in the Operational Intent. CDFW offered to draft language to add in to the Intent. The following was drafted and added: COA 8.4.3 (75% threshold) was re-triggered on 4/7/25 which triggered an OMRI of -2,500 cfs for 7 days. Operations began targeting this OMRI from 4/10 - 4/17; however, due to I/E ratio being more controlling and operations not being able to decrease more than health and safety minimums, both COA 8.12.1 and COA 8.4.3 are being met this week.

Part 2: Open Discussion on Species Status

Salmon Conservation and Research Facility (SCARF) Spring-run

- CDFW shared there was a CWT spring-run from the SCARF Project that was released sometime in March and April of 2024 that was observed in salvage on 4/9/25.

Part 3. Live Edit Assessments

Natural Spring-Run Weekly Risk Assessment

- SaMT reviewed and updated the Natural-origin Spring-Run Weekly Risk Assessment.
- Questions and Comments
 - CDFW acknowledged that there are large numbers of spring-run Chinook salmon in the system due to the number of releases happening this time of year. CDFW provided added language about overall high risk in the Central Delta. The addition stated: CDFW believes that overall entrainment risk for central Delta is high due to seasonal migration timing. Historically, over 50% of YOY SR are migrating past Knights Landing and into the Delta. There are also planned hatchery releases this upcoming week as well as SR hatchery fish released last

week that are moving downstream and likely to cue natural-origin fish migration, including YOY SR. Due to the number of SR juveniles likely to be moving through the system in the next week, overall entrainment risk is estimated to be high.

- CDFW mentioned they are seeing fish in the Fish Restoration Program (FRP) sites, including some at Winter Island and Brown's Island restoration sites, which are near Chipps Island. CDFW suggested using that data for the next couple of weeks since the Chipps Island Trawls have not been sampling for the past few weeks. A few fish have been observed there, but data for the FRP sites are not reported on a weekly basis, only when spring-run sized fish are observed.

Assessment for CVP and SWP Delta Operations on ESA and CESA-listed Species

- SaMT reviewed the PA Assessment for CVP and SWP Delta Operations on ESA and CESA-listed Species.
- Questions and Comments
 - CDFW noted that on 4/10/25, there was an ad-clipped adult Chinook Salmon carcass found in the upper reaches near Wallace Weir. The CWT tag revealed it to be a winter-run Chinook salmon from Livingston Stone Fish Hatchery.
 - DWR added that sometimes winter-run travel the wrong way, up through Cache Slough into the Bypass. There was one year where a significant portion of the population of winter-run went in that direction. The farmers said it's not uncommon to see fish going up in that area at this time of year. It's interesting to see what type of numbers they're seeing. It seems to have decreased significantly after work at Wallace Weir was undertaken.
 - CDFW acknowledged that fortunately it was only one mortality, which is much lower than in the past. CDFW stated that the Winter-run Machine Learning Model was predicting absence of winter-run on 4/11/25 if operations targeted an OMRI of -2,500 cfs and -3,500 cfs all the submodels predicted absence; however, for OMRI range of -5,000 cfs, roughly half of the submodels were predicting low presence. As of 4/14/25, all of the submodels are predicting absence for OMRI ranges between -2,500 cfs and -5,000 cfs. This is interesting because according to historical salvage of hatchery winter-run, salvage was expected to decrease and/or be very unlikely between 4/11/25 - 4/15/25, which is what the model predicted and similar to CDFW's recommendation a few weeks prior.

- Reclamation asked about the Battle Creek fish to be released in April and why it is happening so late this year. Did an issue with fish size cause the delay?
 - CDFW responded that the fish were very small this year with the cooler water temperatures; therefore, hatchery staff were having trouble getting fish to the appropriate size for release. In addition, Battle Creek fish tend to be raised a little later as a general rule. They typically go out in April compared with the Livingston Stone fish that go out sooner, at least when comparing to WY 2023. They are raised at Mt. Lassen Trout Farm in really cold water so they grow slower. CDFW added that the winter-run spawning stock was late in 2024 which would also cause a later release time for those fish.

Part 4. Additional Considerations/Discussion

Special Steelhead Study

- CDFW provided a recap of a special study at the Skinner Fish Facility this year for retaining 30 clipped and 30 wild steelhead. CDFW had questioned if they need to use a special, authorized study code in database. There is a specific code for when fish are collected and utilized as part of a special study and they are *not* added to the salvage and loss numbers. Using the code has regulatory implications for their season totals. If a fish is accidentally euthanized, +1 is added to Loss. That didn't happen to these fish, but it's loss above what is typical, so the salvage team wants to know if they should add +1 for each fish retained for the study. CDFW noted that loss values are not stored in the database; they are calculated. CDFW would like feedback from SaMT.
 - DWR said this is sampling consistent with the term and condition in part of the NMFS BiOp on juvenile steelhead. Counting them as +1 seems appropriate and helps with tracking. The plan is to not have an undue impact. Moving forward, those numbers may be updated in the future at the SWFSC. This year DWR is planning on 30 hatchery-origin and 30 natural fish. But because it didn't get started until April, DWR is going to split that total between April and May resulting in 15 fish per month.
 - NMFS also supports assigning +1 loss for each fish and for not manually inputting this data every week. Annual steelhead loss total would then increase by 30.
 - CDFW clarified that it would be 15 for April and 15 for May.
 - DWR isn't sure what numbers have been collected this month; will check with facility staff.
 - CDFW asked if there is a way to go back and add +1 in the database retroactively so that when we access it in the future we know what the total loss was for those fish.
 - CDFW reiterated they don't store loss values in the database. They have to add 1 manually, so that's 60 total changes by the time they run the

steelhead report which results in a lot of extra work. They could add notes instead that add +1 loss.

- CDFW asked if that is also done for Chinook Salmon.
- CDFW confirmed that is correct; loss values are not stored in the database. They're always calculated every time a report is run.

Steelhead Salvage vs Loss

- DWR asked if there was a resolution to the question about salvage versus loss.
 - NMFS shared that leadership wanted to bring the issue back to SaMT to discuss further.
 - K&W relayed that they received an official request to revisit this topic and provide an answer by end-of-month. Discussion can go into next week as well. Will need specific points from SaMT to support their recommendation.
 - NMFS shared language to submit: "3.7.4.5.6 Steelhead Weekly Distributed Loss Threshold: To minimize the potential for a disproportionate impact of entrainment of steelhead present in the Delta on any single week, Reclamation and DWR will manage OMR based on a weekly distributed loss threshold. The weekly loss threshold is the annual loss threshold distributed over the period of observed steelhead salvage between January 1 and June 30 using the 7-day weekly periods identified in the weekly distributed loss table for winter-run Chinook salmon, extended through June 30. DWR and Reclamation will reduce exports to achieve a 7-day average OMR value no more negative than -3,500 cfs for seven consecutive days when the 7-day rolling sum of steelhead salvage, calculated daily, exceeds the weekly loss threshold of 120 fish".
- NMFS feels strongly this is based on loss and it makes logical sense to just track loss.
 - CDFW agreed because all previous triggers have been loss-based and do not see a reason to change that.
 - DWR said, as staff who helped develop this particular trigger, they envisioned it to be based on loss.
 - Reclamation was hoping the fish agencies would clarify for the group. They assumed it was loss, and therefore agree with this proposed decision.
- CDFW asked if it will go to WOMT for a decision, or did they have trouble deciding and sent it to SaMT to decide.
 - WOMT wants SaMT to make a recommendation to them to assist in WOMT's decision and request that SaMT share key points for the reasoning behind the decision.
 - NMFS added the following key points:
 - The PA says "weekly loss threshold of 120 fish"

- The title of this PA section is “Steelhead Weekly Distributed Loss Threshold”
- Other fish thresholds are based on loss, not salvage
- A 2023 Reclamation document developing the steelhead weekly loss threshold said: “The weekly loss threshold is the annual loss threshold distributed over the period of observed steelhead salvage between January 1 and June 30” $3,000 \text{ loss} / 25 \text{ weeks (Jan 1-June 30)} = 120 \text{ loss/week}$.
 - Kearns & West will review the Key Points section to ensure it is the proper format for WOMT.
 - NMFS leadership said salvage wasn’t considered to be the trigger during development of the action.
 - Reclamation leadership also viewed it as loss.
 - Kearns & West wants to ensure USFWS has a chance to read the document to be submitted to WOMT and provide agreement before it gets submitted.
 - CDFW agrees with the recommendation from a technical perspective, with acknowledgement that steelhead are not a CESA listed species nor regulated by the State.
 - SWRCB will abstain.
 - Reclamation will ask leadership if they want to support or abstain.

Items to Raise to WOMT

1. No items to raise to WOMT on for the week of 4/15/25.
2. SaMT is preparing a Briefing Paper on Steelhead threshold language for WOMT with the expected delivery by the end of the April.

Next SaMT Meeting

- The next Weekly Operations Meeting will be on Tuesday, 4/22/25. If needed, SaMT will meet at the conclusion of the Operations meeting.

Action Items

- Brian Schreier, DWR and Travis Apgar, CDFW to connect offline about white sturgeon and documenting related triggers.
- Kevin Reece, DWR, to look into the steelhead numbers that have been collected for April, confirm dates and times are also being noted and, if not, will ensure it starts.
- Kyle Griffiths, CDFW, to inform Gaer Aasen when changes must be made to the database.

- Chase Ehlo, Reclamation, to check with leadership on whether to abstain or provide support for the steelhead loss recommendation to WOMT and will update Briefing Paper accordingly.
- All to inform their WOMT reps that they are making a technical decision within SaMT on the Steelhead Special Study decision on accounting for loss.
- Kearns & West to add Steelhead Loss vs. Salvage document to SharePoint for SaMT members to edit as appropriate.