BUREAU OF RECLAMATION

Salmon Monitoring Team (SaMT) Weekly Meeting

Teams call: 4/8/25 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 x 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 OMRI 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 threshold for the previous week and the upcoming weeks 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) 4/9/25. Additional details and operations context shared at the 4/8/25 meeting include:
    - Sacramento River flows at Keswick Dam are 5,400 cfs and will be decreased to allow for maintenance work at GCID. Releases may ramp back up after work is completed.

- Feather River releases will increase on 4/9/25 from 11,000 cfs to 12,500 cfs.
- Sacramento River flows at Freeport are approximately 47,500 cfs as of 4/7/25 and expected to decrease over the next couple of days.
- San Joaquin River at Vernalis flows were approximately 2,300 cfs as of 4/7/25.
- Clifton Court Forebay (CCF) exports are targeting -5,000 OMRI. The OMRI is dependent on the fish salvage conditions from Sunday; starting on 4/9/25, OMRI could shift to -3,500 cfs.
- Delta Outflow was approximately 47,000 cfs as of 4/7/25 with potential to decrease below 44,500 cfs in next couple days.
- QWEST was +4,200 cfs on 4/7/25. The 7-day QWEST average is +5,700 cfs.
- Rio Vista flows were 43,000 cfs on 4/7/25 and are expected to decrease through the week.
- CVP share of San Luis Reservoir storage is approximately 832.6 TAF.
- Total storage of the San Luis Reservoir is approximately 1.83 MAF.
- Questions and Comments
    - CDFW said they collected another hatchery winter-run in salvage that triggered the 75% threshold. The Winter-Run Machine Learning Model was ran and was above the 0.559 threshold, requiring operations to target an OMRI of -2,500 cfs for a duration of 7 days. CDFW asked where to include the language regarding the shift to a -2,500 cfs OMRI and shared it in the meeting: A hatchery-origin Winter-run Chinook Salmon was observed on 4/4/25. According to COA 8.4.3, "Once 75% of the annual loss threshold is exceeded, each CHNWR observed in salvage shall trigger another operation to a 7-day average OMR index no more negative than -2,500 cfs for seven consecutive days, if the Winter-Run Chinook Salmon Machine Learning Model and associated OMR Conversion Tool predict that a change in the OMR index to -2,500 cfs will 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 seven most recent prediction days". The Winter-run Predictions Tool was ran on 4/7/25 and one or more of the sub-models were above the 0.559 threshold, which triggers a -2,500 cfs OMRI for 7 days.
        - DWR asked if they are expected to send out a notification about the loss threshold exceedance or if this is a discussion that gets elevated to WOMT.
        - CDFW responded that the threshold exceedance is intended to operate as a hard trigger; therefore, DWR would send out a notification once CDFW shares the modeling results that confirm the trigger.

    - CDFW shared that modeling results were sent to DWR on 4/7/25.
    - NMFS requested receiving the winter-run modeling results on a regular basis from DWR. DWR noted that the results are typically ran weekly on Monday nights for information use only. However, if an exceedance is triggered that affects operations, the model will be run especially for that purpose and the modeling results will be shared with SaMT.
- Reclamation asked for clarification on the change in OMRI to -2,500 cfs and when the exceedance was triggered.
    - CDFW responded that COA 8.4.3 was triggered on 4/4/25; however, CWT information was not confirmed until Monday 4/7/25. The Winter-run Machine Learning Model was then ran on 4/7/25 and modeling results onramped COA 8.4.3 which required an OMRI of -2,500 cfs for 7 days. Since the onramp date occurred on 4/7/25, they have a 3-day window to implement the revised OMRI. Day 1, in this case, is 4/8/25.
- CDFW asked if the water year type will be updated this week.
    - DWR says the Bulletin 120 (B-120) comes out the afternoon of 4/8/25 that will announce the year type.
- NMFS asked if genetic results of the length-at-date (LAD) winter-run Chinook salmon on 4/6/25 are still pending.
    - DWR confirmed it was not a winter-run.
- CDFW asked about the change in X2 position from 59 km, in the Operations Outlook, to 61 km, reported verbally in the meeting.
    - DWR responded it changed from yesterday to today; on 4/7/25 it was at 59 km; on the morning of 4/8/25 it was at 61 km.
- CDFW asked if there was any clarification on the Director's Decision for the hatchery-origin WR threshold. CDFW heard that the decision was to operate to an OMRI of –5,000 cfs but was unsure if there was a duration to that decision and when it began.
    - DWR responded that they have no further information than the decision to operate to –5,000 cfs beginning 4/1.
- CDFW asked if a decision has been made on salvage versus loss for steelhead.
    - Reclamation responded that this is still in review by leadership.

Part 2: Open Discussion on Species Status

- N/A

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 requested to add: "CDFW believes that overall entrainment for central Delta is Medium risk due to seasonal migration timing and observations increasing juveniles being observed at the real-time monitoring stations."
    - CDFW requested to add: "CDFW believes that overall entrainment into the salvage facilities is Medium due to the number of SR being observed over the previous week at the facilities."

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 stated that it would not be appropriate to make changes to the federal assessment but had a few clarifying questions about the modeling results. CDFW asked about the Tillotson model results, stating that OMR has been tracking about 1,000 cfs lower than OMRI recently. Which one is the model looking at?
        - Reclamation responded that it might be the OMR at Bacon Island rather than the Index but would need to double check.
        - CDFW recommends that due to OMR being ~1,000 cfs more negative than OMRI, it might be more appropriate to assume that an OMR of -3,500 cfs would be similar to an OMRI of -2,500 cfs when reviewing the upcoming modeling results.
    - CDFW asked about how there is a decrease in genetically-confirmed winter-run beginning 4/1/25. CDFW wanted to clarify that April-May is when the I/E ratios were in place from the 2009 BiOp [which featured a stricter ratio]. Therefore, some of this decrease in WR observations is probably related to a decrease in exports from April – May per the I/E ratio and not just seasonal timing which should be taken into account when looking at these results.
        - Reclamation says that rationale sounds logical, although Reclamation cannot confirm due to not being present at that time.
        - CDFW added that the SWP has had a lag in data which could be a contributing factor. Usually, it's a week or two later when fish are observed.
        - Reclamation asked if including all genetic results from the Delta would be more effective.

- CDFW said that genetic data is spotty and doesn't go very far back. They primarily just wanted Reclamation's perspective. If they are operating to -5,000 cfs, that's not representative of conditions under which this data was historically collected, so they wouldn't expect it to track the same this year.
- Reclamation said the April-May Chinook salmon stragglers might have been caught in CCF and are just now moving out.

Part 4. Additional Considerations/Discussion

Special Steelhead Study

- CDFW heard from DWR about a special study at the Skinner Fish Facility this year for retaining 30 clipped and 30 wild steelhead. Does CDFW 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.
    - CDFW asked if the code is developed and used when a fish is *released* as part of a special study; however, in this case, it sounds like the fish are *collected* but were not considered part of the study at the time of salvage, so they would be included in the normal salvage count. When a fish is sacrificed, does it add a +1 to loss since it never gets released? In this scenario, it seems the code would not properly track loss. Suggestion to state in the Notes section [of the salvage database] that fish were sacrificed as part of a special study without coding them and affecting loss totals.
        - CDFW responded that it would have to be retroactively reported to them because those fish have already been collected.
        - CDFW asked if it's necessary to distinguish these fish in the salvage database?
        - CDFW responded that the language around loss calculation indicates [the notes] are for accidentally euthanized fish. I think it's appropriate to add +1, but CDFW needs data for numbers, lengths, and dates in order to do that. NMFS agrees with this suggestion of adding +1 for loss for each steelhead.
    - CDFW needs to determine who at NMFS has the data. Another point to consider is if adding +1 to loss contributes to any triggers. There's currently a lack of clarity around whether this is considered seasonal salvage or seasonal loss.
        - Reclamation said it likely wouldn't trigger the loss threshold and asked how many have been salvaged. CDFW is unsure.
        - DWR shared that the weekly steelhead loss threshold is 120 fish. The current weekly loss for steelhead is 36 fish. The annual loss threshold has not been met; it is at 15% as of 4/8/25.

- CDFW can revisit this item when Kevin Reece, DWR, returns. Geir Aasen, CDFW, is the database manager, so the data will need to be shared him.

Controlling Factors

- CDFW asked for clarification on which factors were controlling last week and for what duration.
    - DWR said from 4/1/25 - 4/2/25, they believed they were operating to -3,500 cfs. On 4/3/25, the directors clarified that it was changing to a -5,000 cfs limit starting 4/1/25.
    - CDFW asked: from 3/25/25 - 3/31/25, was that COA 8.4.4?
        - DWR said from 3/21/25 - 3/31/25 it was COA 8.4.4., in addition to the hatchery 50% threshold, that ended on 3/31/25.
            - CDFW believes that 3/21 – 3/28/25 was the 50% hatchery threshold and that 3/25 – 3/31/25 was the weekly threshold.
        - DWR had not heard any indication of the action response for the hatchery loss threshold exceedance ending ahead of the directors' decision. DWR interprets that the first decision was to target an OMRI no more negative than -3,500 cfs, and then the retroactive decision was to move to OMRI -5,000 cfs.
        - The weekly threshold (COA 8.4.4) was controlling through 3/31/25.

SacPAS Website

- NMFS relayed that the steelhead figures on the SacPAS website include 50%, 75%, and 100% loss threshold lines even though there is no action response for annual loss exceedances.
    - Reclamation offered to reach out to their SacPAS contact to ask for them to be removed.

Items to Raise to WOMT

1. N/A

Next SaMT Meeting

- The next Weekly Operations Meeting will be on Tuesday, 4/15/25. If needed, SaMT will meet at the conclusion of the Operations meeting.

Action Items

Reclamation

- Contact SacPAS to request the 50% and 75% steelhead threshold lines be removed from figures.
- Discuss the OMR change with Reclamation leadership.

DWR

- Distribute results of trigger notification that affect operations to SaMT.
- Add NMFS representative to weekly model runs.

NMFS

- Discuss the OMR change with NMFS leadership.