BUREAU OF RECLAMATION

Salmon Monitoring Team (SaMT) Weekly Meeting

Teams call: 10/8/24 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).

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 (USBR)
- U.S. Fish and Wildlife Service (USFWS)
- Kearns & West (K&W)

Announcements

- For the remainder of October, SaMT will meet at 9 a.m. on Tuesdays.
- Once the Smelt Monitoring Team (SMT) begins on 11/5/24, there will be a joint SaMT/SMT Operations meeting at 9 a.m., immediately followed by the SaMT meeting.
- Please reach out to Mia Schiappi (mschiappi@kearnswest.com) and Bethany Taylor (btaylor@kearnswest.com), both of Kearns & West, with any questions or concerns during the water year.

- Kearns & West will have an additional notetaker, Colin Johnson, joining this year to provide additional support and meeting coverage.
- Kyle Griffiths, CDFW, shared that CDFW has a new member, Tariq Celeste, joining this season.
- This season will aim to include additional hybrid meeting opportunities. In-person attendance is encouraged and open to all members, and locations will be rotated among host agencies as much as possible.
- SaMT Teams SharePoint
    - The draft Operations Outlook and Proposed Action Assessment documents will be available for editing each week on Teams.
    - Taylor will distribute the SharePoint link each Monday afternoon for the Outlook and Assessment.
        - SaMT edits should be completed by COB Thursday of each week in the shared document.
    - Taylor will distribute the SharePoint link each Tuesday for the draft meeting notes and make these available for editing by SaMT. When editing, please consider the following:
        - Be respectful of other members' existing edits.
        - Avoid unnecessary "wordsmithing".
        - Suggest different language by adding a comment bubble.
        - Avoid adding additional information that was not discussed in the meeting. The purpose of the summary is to capture the discussions that occurred in the meeting.
        - Please plan to complete edits by COB Thursdays whenever possible.
    - A link to the final meeting notes for the week will be distributed by COB on Friday of each week.
    - This is a recent change; everyone should be able to access this folder, and Kearns & West recommends bookmarking these links. Please reach out to Schiappi and Taylor with any access issues. The link is also included in the SaMT meeting invitation.

Meeting Summary

Part 1. Updates on Water Operations and Biological Conditions

Relevant Actions & Triggers

- The Interim Operations Plan (IOP) is currently in effect resulting from a court order issued on 4/1/2024 and in effect until 12/20/2024. 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 Threshold
    - 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 and Reclamation 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 ≥ 2,748.28). If 50% of the threshold is exceeded (loss ≥ 1,374.14), the required response would be to reach a 14-day average OMR of -3,500 cfs. If 75% of this threshold is exceeded (loss ≥ 2,061.21), the required response would be to reach a 14-day average OMR of -2,500 cfs. If 100% of this threshold is exceeded (loss ≥ 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 would be to reach a 14-

day average OMR of -3,500 cfs. If 75% of this threshold is exceeded (loss ≥ 174.23), the required response would be to reach a 14-day average OMR of -2,500 cfs.

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) 10/9/24. Additional details and operations context shared at the 10/8/24 meeting include:
- Feather River releases have been decreasing over the last week from 9,000 cfs to the current level of 5,000 cfs. Additional decreases are expected starting 10/10/24 in order to reach 2,500 cfs by mid-October.
- Sacramento River releases at Freeport are approximately 13,300 cfs and will decrease through to week to 11,000 cfs.
- San Joaquin River flows were approximately 1,400 cfs and likely increasing through the week, possibly to 2,000 cfs depending on when the Stanislaus River fall pulse flow reaches Vernalis.
- Starting 10/13/24, exports at Clifton Court Forebay (CCF) will be at 5,000 cfs before rapidly decreasing to zero cfs to allow for herbicide application over the span of 3 days. The application will be combined with a planned outage.
- Delta Outflow is 4,400 cfs as of 10/7/24 and will be maintained at this level for water quality in the Jersey Point area. Water quality is still good due to operating to fall X2 in September.
- QWEST is varying with DCC gate operations and measured +2,500 cfs on 10/7/24. When the gates are closed, it is expected to measure approximately -6,000 cfs. It is expected to be in the positive range next week, between +2,000 to +3,000 cfs.
- OMR Index was approximately -8,600 cfs on 10/7/24 and will remain close to this until cutbacks are made for the outage, during which it will shift into positive figures.
- X2 was >81 km as of 10/7/24.
- American River releases will remain at 1,500 cfs for October unless additional releases are needed for the Delta.
- Questions on Operations
- CDFW asked what the vegetation management (herbicide application) dates are for CCF.
- DWR replied that the gates will be closed early on 10/13/24. Application and soak time will run from 10/14 – 10/16/24. Banks will be offline through 10/18/24.
- 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.

Table 1. Fish Distribution Table

Location	Yet to Enter Delta	In the Delta	Exited the Delta
Young-of-year (YOY) winter-run Chinook salmon	Current: 100% Last week: N/A	Current: 0% Last week: N/A%	Current: 0% Last week: N/A
YOY spring-run Chinook salmon	Current: 100% Last week: N/A	Current: 0% Last week: N/A	Current: 0% Last week: N/A
YOY hatchery winter-run Chinook salmon	Current: N/A Last week: N/A	Current: N/A Last week: N/A	Current: N/A Last week: N/A
Natural origin steelhead	Current: 100% Last week: N/A	Current: 0% Last week: N/A	Current: 0% Last week: N/A

Justification for Fish Distribution Figures

- YOY winter-run Chinook salmon
    - None observed as of 10/8/24.
- YOY spring-run Chinook salmon
    - None observed as of 10/8/24.
- YOY hatchery winter-run Chinook salmon
    - None observed as of 10/8/24.
- Natural origin steelhead
    - None observed as of 10/8/24.

Part 2: Open Discussion on Species Status

Salvage Update

- There were no salmonids collected in salvage this week.
- CDFW will begin sending out weekly reports later in the season when salmon begin to be observed at the collection facilities.

Hatchery Operations

- N/A

Part 3. 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 available to SaMT on SharePoint by COB 10/8/24. The final assessment will be posted to Reclamation's Delta Monitoring Workgroup webpage.

ITP Risk Assessment

- SaMT does not yet require an ITP Risk Assessment for discussion. When applicable, the updated draft ITP Risk Assessment will be distributed via email by COB of the meeting day for review by SaMT members with comments due by COB Thursdays. The ITP Risk Assessment will be finalized by COB on Fridays and can be found at CDFW's Water Project Operations webpage.

Part 4. Additional Considerations/Discussion

Presentation from Melinda Baerwald, DWR: Increasing Accuracy of Genetic Assignment in Salvage

- Melinda Baerwald (Baerwald), DWR, presented on genetic panels for run-type assignment.
- Clemento panel – developed 10 years ago; has been used up to this point and focused on coastal fisheries
- Full Chinook panel – most recent and available for use this year; proposing to switch usage to this panel and focuses on the Central Valley.
- Both panels:
    - Rely on Genotyping in Thousands (GT-seq)
    - Sequences up to thousands of individual fish
    - 100s of genetic regions in a panel
    - Under 48-hour turnaround time in ideal conditions
    - Show accuracy at identifying winter-run Chinook salmon
    - Distinguish between males and females
- Spring and fall-run Chinook salmon have less genetic differentiation, which is why some mixing happens with man-made barriers and hatchery classification practices.
- In Water Year 2024 (WY24), 88 fish were identified by the Clemento Panel as spring-run with a late Adult Return Timing (ART) genotype.

- Late ART genotype fish are typically fall-run or late fall-run.
- Early return timing fish are typically spring-run or winter-run. This alerted biologists to the incorrect assignment of many fish as spring-run.
- Researchers investigating this issue used the SHERLOCK panel, the Ancestry Informed Marker (AIM) panel which is designed for the Central Valley, and the Transition panel as well as the Clemento panel on the same 88 Chinook salmon in question.
- Only the Clemento panel categorized the 88 Chinook salmon as spring-run; the other three panels assigned these fish to fall-run or late fall-run.
- Researchers confirmed that the Full Chinook panel provides the best accuracy with greater data resolution and genetic loci. It also shows compatibility with hatchery PBT data.
- Recommendation from DWR is to switch to the Full Chinook panel.
- Featured Geneticists:
    - Carlos Garza, NMFS
    - Scott Blankenship, Cramer Fish Sciences
    - Melinda Baerwald, DWR
    - Christian Smith, USFWS
    - Jeff Ronson, CDFW

Questions

- Kearns & West asked if DWR needs consensus from SaMT in order to switch to the Full Chinook panel.
    - They have brought it up to regulatory agencies in the past. NMFS and CDFW alone didn't feel that they were the deciding group to make that decision. Uniformly, they thought it was a good choice to switch, however they chose to run it through SaMT and then present a recommendation to WOMT for an official approval decision.
- Kearns & West asked if any SaMT members have concerns about the adoption of this panel or would like more time to review.
- CDFW asked if there are any downsides to the Full Chinook panel.
    - Baerwald replied that there are no downsides. There are more markers, accuracy, and power with this panel. Geneticists across agencies are in agreement about moving forward with this method.
- Another DWR member asked about a formal process for agency upper management to review the panel based on geneticist recommendations, or if SaMT is the approving body.

- Baerwald said it would likely be WOMT that gives final approval based on SaMT's recommendation. The researchers are working on a process for lab intercalibration to ensure the same results across individuals for parentage-based tagging. Reclamation has requested that this process be transparent to ensure everyone is getting the same results. For run type, it's not as hard to be able to do that type of process.
- CDFW thanked Baerwald for presenting this information to SaMT and shared verbal support for the switch to the Full Chinook panel.
- USFWS asked how the process works for a catch of several hundred Chinook. This is something USFWS experiences regularly.
- Baerwald said it's about the resource and where you want to put them. They have evidence that length-at-date (LAD) is not the best process for categorization. As far as handling large amounts of fish rapidly, SHERLOCK is another option being explored. There will be one more year of pilot study for SHERLOCK before it is ready, and it's being brought into the testing facility. Both SHERLOCK and the Full Chinook panel are good tools to implement.
    - USFWS relayed that their season has already started. If SHERLOCK is ready to go at the start of next season, that would be a good feasible option.
- NMFS asked if sampling and handing methods are similar for the full panel.
- Baerwald confirmed the methods are identical.
- Some agencies requested to review this information with their upper management staff. This topic will be revisited at the 10/15/24 SaMT meeting.

Next SaMT Meeting

- The next SaMT Meeting is scheduled for Tuesday, 10/15/24 at 9 a.m.

Action Item

- SaMT members to review and consider the full Chinook panel for potential implementation.
- Melinda Baerwald, DWR, to share the presentation slides after 10/10/24.