



## Salmon Monitoring Team (SaMT) Weekly Meeting

Teams call: 3/19/24 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
  - a. Review Steelhead figures (Adam Nanninga, USFWS)
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 48,400 cfs and is decreasing through the week as reservoirs make changes to storage levels in accordance with the current, dry forecast.
- San Joaquin River flows at Vernalis were 5,300 cfs and is being supported by releases from the Tuolumne River. It was noted that flow levels dropped below 5,000 cfs on 3/16/24 for a couple of days.
- Clifton Court Forebay exports were approximately 1,000 cfs on 3/18/24 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 as of 3/18/24 was 57,000 cfs and is expected to decrease through the week.
- QWEST is at a peak level of approximately +11,500 cfs and expected to decrease but anticipated precipitation could cause a flow spike before decreasing.
- Rio Vista flows were 46,000 cfs on 3/18/24 and is expected to decrease through the week, potentially below 40,000 cfs.
- 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 Threshold<sup>1</sup>
  - 8.6.4 Daily Spring-run Chinook Salmon Hatchery Surrogate Loss Threshold
  - 8.7 OMR Flexibility During Delta Excess Conditions

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<sup>1</sup> 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.

- 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-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  $\geq 232.30$ ). 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: 65-79% Last week: 70-84%	Current: 20-30% Last week: 15-25%
YOY spring-run Chinook salmon	Current: 29-40% Last week: 33-49%	Current: 55-70% Last week: 50-65%	Current: 1-5% Last week: 1-2%
YOY hatchery winter-run Chinook salmon	Current: 79-85% Last week: 90-95%	Current: 10-20% Last week: 5-10%	Current: 1-5% Last week: 0%
Natural-origin steelhead	Current: 25-40% Last week: 25-40%	Current: 25-50% Last week: 30-55%	Current: 25-35% Last week: 20-30%

**Rationale for distribution**

- Wild winter-run Chinook Salmon
  - 2 wild winter-run were seen at Chipps Island, 1 at the Mossdale Trawl, 2 at ED SM, and 1 at the Sacramento Trawl. Due to Chipps Island Trawl catching 2 winter-run, migrating timing indicates that peak Delta entry occurs in March, and SacPAS historical timing indicating that an average (from 2009 to 2022) of 35% 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 decreased to 65-79% and total exited past Chipps Island to 20-30%.
- Wild spring-run Chinook Salmon
  - 6 wild spring-run Chinook salmon were observed at the Beach Seines, 1 at Mossdale Trawl, 2 at the Sacramento Trawl, 1 at Chipps Island, and many have also been observed in salvage. SaMT estimated that the range of fish within the Delta increased by 5% this week to a total of 55-70%. Since it is only mid-March

and Chipps Island Trawl saw only 1 spring-run in the previous week, SaMT recommended extending the range of estimated spring-run Chinook salmon that have exited past Chipps Island to 1-5%.

- Hatchery winter-run Chinook Salmon
  - CalFishTrack showed a few hatchery winter-run Chinook salmon exit past Benicia Bridge as well as more entering the Delta during the previous week. SaMT decided to increase the range for hatchery winter-run that have moved into the Delta to 10-20% and increase the number exited to 1-5%.
- Natural-origin Steelhead
  - Natural-origin Steelhead were observed at the following locations: 3 at Butte, 2 at Knights Landing, 1 at Chipps Island, 1 at EDSM, as well as several in salvage. SaMT estimates an additional 5% have migrated past Chipps Island for a total of 25-35% 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 3/11/24 – 3/17/24***

- 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 unclipped Steelhead were observed in salvage. Steelhead loss has decreased from the previous week.
- All length-at-date (LAD) runs of Chinook salmon were observed except for Unclassified.
- Tagged Chinook salmon from the San Joaquin River Restoration Program were observed.
- 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 3/20/24. 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 3/19/24 with comments due COB Thursday (3/21/24). Past ITP Risk Assessments can be found at [CDFW's Water Project Operations](#) webpage.

## Agenda Item 6. Additional Considerations/Other Topics

### *Discussion of Steelhead Figures*

- Adam Nanninga, USFWS, shared information and figures on Steelhead. The figures were distributed to SaMT members via email on 3/18/24.
- USFWS has recently received inquiries about Steelhead catch trends in salvage. USFWS shared graphs depicting cumulative catch numbers from 2019 through 2024. Catch numbers at Chipps Island are currently just above 70 unclipped Steelhead. Nanninga noted that the number of unclipped Steelhead seen at Chipps Island tends to remain lower annually, with 2024 being lower than any of the previous 5 years as of the 3/12/24 data. Most observed Steelhead are adipose-clipped hatchery fish.
- USFWS also shared catch figures for unclipped and clipped Rainbow Trout. The graphs compared the 2023 and 2024 brood years with the 10-year average but did not present any significant numbers at this time.
- One item to note is that the Mossdale Trawl is catching almost no Rainbow Trout compared with the salvage facilities. More trout are being caught on the Sacramento River side of the Delta than the San Joaquin side.
- USBR added that there have been other fish behavior-related anomalies this year, including the release of tagged fish on the Mokelumne River that had a few detections upstream and some of them all the way near the Delta Cross Channel. *O. mykiss* were also recently caught in the Sacramento Deepwater Ship Channel, indicating upstream migration.
- Questions
  - USBR asked for the size range of the Rainbow Trout that are being caught by the trawls.
    - USFWS replied that they are in the 200 mm range.
  - USFWS asked USBR if fish are being caught in the Sacramento Trawl that were released in the Mokelumne River. Are they still moving upstream once they're in the Sacramento River?
    - USBR responded that the release point was somewhere in the Central Delta. From there, they move northeast, closer to the Delta Cross Channel.
    - DWR added that they've also seen trout in the Georgiana Slough.
    - DWR also surmised that something about the water conditions are encouraging Rainbow Trout to stay put rather than immediately move elsewhere.

### *Discussion on Steelhead Loss*

- CDFW noted the question of whether to include the 350+ mm Steelhead in the official loss totals in the Proposed Action Assessment. There were a few fish captured in salvage in January and February that were also above 350 mm length.

- CDFW noted a significant decrease in Steelhead loss compared with late February through early March. On 3/11/24, DWR and Reclamation began operating to an OMRI no more negative than -500 cfs in order to decrease steelhead loss and avoid hitting the NMFS Incidental Take Limit. Below is a comparison of the previous 4 weeks, including the most recent loss with OMRI targeting -500 cfs (highlighted in bold):
  - 1,650.16 fish for 2/19 – 2/25/24
  - 530.81 fish for 2/26 – 3/3/24
  - 723.8 fish for 3/4 - 3/10/24
  - **139.03 fish for 3/11 – 3/17/24**
- The Tillotson Model results at OMRI of -500 cfs predicted a median daily loss of 23.43 fish per day last week, which is higher than what was observed over the previous week when an OMRI of no more negative than -500 cfs was targeted. At -1,500 cfs OMRI the latest range of model runs predict a median daily loss of 11.06 and at -500 cfs OMRI the prediction for the median daily loss is 9.33 fish. CVP and SWP may target an OMRI no more negative than -1,500 cfs this week which is predicted to increase loss per day based on the Tillotson Model.
- Reclamation has made a policy call to propose operating to an OMRI of -1,500 cfs for the upcoming week but was not sure if there was a biological rationale for proposing OMRI of -1,500 cfs. USBR management wants to focus on the implications of the population rather than focusing solely on loss. This encompasses data on the Red Bluff Diversion Dam Passage from 2023, the STARS model data on through-Delta survival, and hatchery percentage loss data.
- SaMT discussed Reclamation’s proposal of -1,500 cfs. SaMT acknowledges that this change in OMRI will likely increase loss per day based on the Tillotson Model which would not be beneficial to the Steelhead population and would increase the likelihood of exceeding the Incidental Take Limit (ITL) at an earlier date.

#### Agenda Item 7. Items to Raise to WOMT

- Reclamation is expected to elevate the proposal to operate to an OMRI of no more negative than -1,500 cfs to WOMT on 3/20/24.

#### Agenda Item 8. Next Meeting

- The next SaMT meeting will be held on Tuesday, 3/26/24 on Microsoft Teams.