



Smelt Monitoring Team Meeting Summary

Tuesday, June 11, 2024

Meeting Objective

To collectively assess how current operations and environmental conditions could be impacting Delta Smelt and Longfin Smelt and to provide information to Water Operations Management Team (WOMT) on the status of Delta Smelt and Longfin Smelt, their exposure to operations of the CVP and SWP, and their potential sensitivity to environmental and operational changes; i.e., assess changes in risk week-to-week.

Participants

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

Action Items

- N/A.

Advice to WOMT

- N/A.

Announcements

- SMT agreed to a virtual end of year debrief following the conclusion of the regular meeting on 6/25/24.
- SMT agreed to an in person meeting to kick off the 2024-2025 SMT season.

Meeting Summary

Part 1: Updates on Water Operations and Biological Conditions Updates

Relevant Actions & Triggers

- CVP and SWP operators are targeting an Old and Middle River Index (OMRI) range of -3,500 cfs to -5,000 cfs.

CDFW reported on the ITP Conditions of Approval (COA) currently in effect and whether they have been triggered. CVP operations are currently following the 2024 Interim Operations Plan (IOP). The table below summarizes the status of OMR Management Measures and Conditions of Approval on a week-to-week-basis through updates in the “Action Status” column on the far right. For full descriptions of OMR Management Measures and Conditions of Approval, please see the OMR Guidance Document or ITP.

Proposed Action

| OMR Management Measures | Requirement | Time Frame | Trigger | Action Status* |
|--|---|--|--|--|
| Integrated Early Winter Pulse Protection (IEWPP) (“First Flush” Turbidity Event) | Reduce exports for 14 consecutive days so that the 14-day averaged OMR index for the period shall not be more negative than -2,000 cubic feet per second (cfs). | Dec 1 to Jan 31 | (1) Running 3-day average of daily flows at Freeport >25,000 cfs; and (2) Running 3-day average of daily turbidity at Freeport ≥50 Nephelometric Turbidity Units (NTU ¹); or (3) Real-time monitoring indicates a high risk of migration and dispersal into areas at high risk of future entrainment or a spent Delta Smelt (DS) has been collected in monitoring surveys. | Off-ramped. Implemented 1/23/24-2/5/24 |
| OMR Management | Manage to a more positive OMR than -5,000 cfs. | From the onset of OMR management to the end. | N/A | Active, Triggered 1/1/24 due to salmonid presence in the Delta |

¹ The current instrumentation measures turbidity in Formazin Nephelometric Units (FNU).

| OMR Management Measures | Requirement | Time Frame | Trigger | Action Status* |
|--|--|---|--|-----------------------|
| Turbidity Bridge Avoidance ("South Delta Turbidity") | If the daily average turbidity at Bacon Island cannot be maintained less than 12 NTU, manage exports to achieve an OMR no more negative than -2,000 cfs until the daily average turbidity at Bacon Island drops below 12 NTU. | After the first flush or Feb 1 (whichever comes first) and until a ripe or spent female DS is detected or April 1 (whichever is first). | Average daily turbidity in Old River at Bacon Island (OBI) at a level of more than 12 NTU. | Off-ramped |
| Larval and Juvenile Delta Smelt | Run hydrodynamic models and forecasts of entrainment, informed by the Enhanced Delta Smelt Monitoring (EDSM) or other relevant survey data to estimate the percentage of larval and juvenile DS that could be entrained. If necessary, manage exports to limit entrainment to be protective based on the modeled recruitment levels. | On or after March 15 of each year until off-ramp criteria are met. | If QWEST is negative AND larval or juvenile DS are within the entrainment zone of the pumps based on real-time sampling of spawning adults or young of year life stages. USFWS Memo/Technical Note 47: When the Secchi depth in the South Delta is less than 1 meter, Reclamation will operate to OMR no more negative than -3,500 cfs. When the Secchi depth in the south Delta is greater than 1 meter, Reclamation and DWR will operate to OMR no more negative than -5,000 cfs. | Active, Not Triggered |
| End of OMR Management | OMR criteria may control operations until June 30 (for DS and Chinook salmon), until June 15 (for steelhead/rainbow trout), or when the species-specific off ramps have occurred, whichever is earlier. | During OMR management to June 30, or when the DS temperature off ramp has been reached. | DS: when the daily mean water temperature at Clifton Court Forebay (CCF) reaches 77°F for 3 consecutive days | Active, Not Triggered |

ITP Conditions of Approval

| Condition of Approval | Requirement | Time Frame | Trigger | Action Status |
|--|--|--|---|----------------------|
| 8.1.5.2 (Smelt Monitoring Team Risk Assessment) | Outlines contents for weekly risk assessments of DS and Longfin Smelt (LFS) required under 8.1.5 and 8.1.1. | Nov 1 st through June 30 th or until off-ramped by 8.8 | N/A | Active |
| 8.3.1 (Integrated Early Winter Pulse Protection) | Reduce south Delta exports for 14 consecutive days to maintain a 14-day average OMR index no more negative than -2,000 cfs, and convene the Smelt Monitoring Team (SMT) within one day of triggering. After maintaining a 14-day average OMR index no more negative than -2,000 cfs for 14 days, Permittee shall maintain a 14-day average OMR index no more negative than -5,000 cfs, initiating the OMR Management season. | Dec 1 to Jan 31 | 3-day running average daily flows at Freeport greater than, or equal to, 25,000 cfs, AND Three-day running average of daily turbidity at Freeport is greater than, or equal to, 50 FNU OR The SMT determines that real-time monitoring of abiotic and biotic factors indicates a high risk of DS migration and dispersal into areas at high risk of future entrainment. | Off-ramped on 2/5/24 |

| Condition of Approval | Requirement | Time Frame | Trigger | Action Status |
|--|---|------------------------------------|---|--|
| 8.3.3 (Adult Longfin Smelt Entrainment Protection) | After December 1, if an Integrated Early Winter Pulse Protection (COA 8.3.1) has not yet initiated, Permittee shall reduce south Delta exports to maintain a 14-day average OMR index no more negative than - 5,000 cfs and initiate OMR Management (Condition of Approval 8.3) if: Cumulative combined LFS salvage (total estimated LFS counts at the CVP and SWP salvage facilities beginning December 1 through February 28 exceeds the most recent Fall Midwater Trawl (FMWT) LFS index divided by 10, Real-time monitoring of abiotic and biotic factors indicates a high risk of LFS movement into areas at high risk of future entrainment, as determined by DWR and CDFW SMT staff. | Dec 1 through Feb 28 th | Salvage threshold for water year (WY) 2024 is 46.4. | Off-ramped as of 1/1/24 due to initiation of OMR season by COA 8.3.2 |

| Condition of Approval | Requirement | Time Frame | Trigger | Action Status |
|--|---|---|---|---|
| 8.4.1 (OMR Management for Adult Longfin Smelt) | <p>The SMT shall conduct weekly risk assessments and decide whether to recommend an OMR flow requirement to minimize entrainment of adult LFS. The SMT may provide advice to restrict south Delta exports for seven consecutive days to achieve a seven-day average OMR index within three risk categories:</p> <p>Low risk: OMR between - 4,000 cfs to -5,000 cfs Medium risk: OMR between -2,500 cfs to -4,000 cfs High risk: OMR between - 1,250 cfs to -2,500 cfs</p> | Onset of OMR management through Feb 28 th | SMT recommendation based on weekly risk assessment. | Off-ramped as of 12/18/23 due to detection of larval LFS by Smelt Larva Survey (SLS) 12 |
| 8.4.2 (Larval and Juvenile Longfin Smelt Entrainment Protection) | If triggered, it will restrict south Delta exports for seven consecutive days in order to maintain a seven-day average OMR index no more negative than -5,000 cfs and convene the SMT to recommend an OMR flow limit between -1,250 and - 5,000 cfs. | January 1 st through June 30th or until the temperature offramp occurs | (1) LFS larvae or juveniles are found in four or more of the 12 Smelt Larvae Survey (SLS) or 20 mm stations in the central or south Delta, or (2) LFS catch per tow exceeds five larvae or juveniles in two or more of the 12 stations in the central or south Delta. The relevant stations are: 809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918 and 919. | Active, Not Triggered by 20-mm Survey 6 |

| Condition of Approval | Requirement | Time Frame | Trigger | Action Status |
|---|--|---|---|-----------------------|
| 8.4.3 High flow offramp for Longfin Smelt | If triggered, COA 8.4.1 and 8.4.2 are not required or would cease if previously required. | Throughout OMR management season | When river flows are (a) greater than 55,000 cfs in the Sacramento River at Rio Vista or (b) greater than 8,000 cfs in the San Joaquin River at Vernalis. If flows subsequently drop below 40,000 cfs in the Sacramento River at Rio Vista or below 5,000 cfs in the San Joaquin River at Vernalis, the OMR limit previously required as a part of Conditions of Approval 8.4.1 and 8.4.2 shall resume. | Active, Not Triggered |
| 8.5.1 Turbidity Bridge Avoidance | Maintain daily average turbidity at OBI at a level of less than 12 FNU. If the daily average turbidity at OBI is greater than 12 FNU, Permittee shall restrict south Delta exports to achieve an OMR flow that is no more negative than -2,000 cfs until the daily average turbidity at OBI is less than 12 FNU. | After the first flush or Feb 1 until end of OMR management or until CDFW agrees that the action may be ended or modified. | Turbidity at OBI > 12 FNU | Off-ramped |

| Condition of Approval | Requirement | Time Frame | Trigger | Action Status |
|--|---|---|--|-----------------------|
| 8.5.2 (Larval and Juvenile Delta Smelt Protection) | <p>If triggered, this Condition of Approval will restrict south Delta exports for seven consecutive days in order to maintain a seven-day average OMR index no more negative than -5,000 cfs and SMT members will meet to assess the risk of entrainment. The SMT may provide further advice to restrict exports in order to maintain an OMR index more positive than -5,000 cfs. In their assessment, SMT members will determine if risk of entrainment is low, medium, or high; subsequent OMR restrictions will be based on level of risk. Furthermore, if trigger (2) or (3) are met, this Condition of Approval will restrict south Delta exports to maintain a seven-day average OMR index no more negative than -3,500 cfs until the average Secchi depth is greater than 1 meter in the south Delta stations in a subsequent SLS or 20 mm survey. If average south Delta Secchi depth continues to be less than or equal to 1 meter in a subsequent SLS or 20mm survey, then Permittee shall continue restrictions and request a risk assessment by the Smelt Monitoring Team to determine if additional advice and subsequent restrictions are warranted and provide advice to WOMT.</p> | Nov 1st through June 30th or until off-ramped by 8.8. | <p>(1) When the five-day salvage of juvenile DS is greater than or equal to one plus the average prior three years' FMWT index (rounded down). The 2023 September through December FMWT index for DS was zero.</p> <p>Or (2) when a larval/juvenile DS is detected in SLS/20 mm</p> <p>Or (3) the 3-day average water temperature at Jersey Point is $\geq 12^{\circ}\text{C}$ and Secchi from the most recent SLS/20 mm survey is $\leq 1\text{m}$ averaged across the 12 stations (809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918, and 919)</p> | Active, Not Triggered |

| Condition of Approval | Requirement | Time Frame | Trigger | Action Status |
|---|--|---|---|---|
| 8.8 (End of OMR Management) | If triggered, OMR Management would be off-ramped for LFS and DS. | From the onset of OMR management through June 30th | Daily mean water temperature at CCF is >25° C for three consecutive days. | Active, Not Triggered |
| 8.12 (Barker Slough Pumping Plant Longfin and Delta Smelt Protection) | Barker Slough Pumping Plant will reduce exports so the maximum 7-day average is <60 cfs. | From January 15 through March 31 in dry and critical water years for LFS, and from March 1st through June 30th for DS | Larval Smelt are detected at SLS Station 716 during the period identified for each species, and/or when recommended by the SMT. | LFS: Off-ramped. DS: Not active due to Above Normal water year type forecast as of 5/14/24. |
| 8.17 (Export Curtailments for Spring Outflow) | Reduce exports from April 1 st to May 31 st each year to achieve the SWP proportional share of export reductions established by the ratio of Vernalis flow to combined CVP and SWP exports, scaled by water year type, to provide incidental spring outflow. | April 1 st through May 31 st | The three-day average Delta outflow is less than 44,500 cfs | Off-ramped. Implemented 4/10/24-5/31/24. |

Not active: The COA could become active in this season, but the on-ramp conditions have not been met.

Active, not triggered: The on-ramping condition has been met, but the trigger condition has not been met.

Active, triggered: The trigger condition has been met.

Off-ramped: This COA could no longer become active in this season.

* [Glossary](#)

Current Operations & Outlook

- Releases from Whiskeytown Dam on Clear Creek are currently 150 cfs with a range of 150 cfs to 500 cfs for a Spring attraction pulse.
- Releases from Keswick Dam on the Sacramento River are currently 9,000 cfs with a range of 9,000 cfs to 10,000 cfs for the week.
- Releases from Oroville Dam on the Feather River are currently 3,800 cfs with a range of 2,000 cfs to 5,000 cfs for the week.
- Releases from Nimbus Dam on the American River are 3,000 cfs with a range of 3,000 cfs to 4,000 cfs for the week.
- Releases from Goodwin Dam on the Stanislaus River are currently 850 cfs with a range of 850 cfs to 1,500 cfs for the week.

- Jones Pumping Plant is currently exporting 4,200 cfs with an anticipated range of 3,500 cfs to 4,200 cfs.
- The State facility (SWP) is currently exporting 1,700 cfs with an anticipated range of 300 cfs to 2,500 cfs.
- Expected Daily OMR Index Values are between –3,500 cfs to –5,000 cfs.
- Sacramento River flows at Freeport range between 13,000 to 16,000 cfs.
- San Joaquin River flows at Vernalis range between 2,500 to 3,200 cfs.
- The Delta Outflow index ranges from 10,000 to 13,000 cfs.
- X2 is 73 km.
- Delta Cross Channel (DCC) gates closed on 6/10/24 and will open for the season on 6/14/24.

Review of Environmental Conditions and Survey Updates

CDFW delivered catch updates on relevant surveys to the SMT.

- 20-mm Survey 3 was on the water from 4/15/24-4/18/24 and there are 628 new LFS detections from the Napa River.
 - Processing and species identification for 20-mm Survey 3 is complete.
- 20-mm Survey 4 was on the water from 4/29/24-5/2/24 and there are 4 new DS detections from Suisun Bay and Suisun Marsh.
- 20-mm Survey 6 was on the water from 5/27/24-5/30/24 and there are 157 new LFS detections mostly from By and Marsh. Processing for other stations is ongoing.
- 20-mm Survey 7 is on the water this week from 6/10/24-6/13/24. The Secchi depth will be provided to the SMT via email as it becomes available.

USFWS provided catch updates for EDSM and Chipps Island Trawl.

- EDSM was on the water last week from 6/3/24-6/6/24 and sampled 38 sites. There are 12 new DS detections since the last SMT meeting, bringing the WY total to 217. The new DS detections were from the Sacramento Deep Water Ship Channel, the Lower Sacramento River, and Suisun marsh.
 - EDSM has identified 4,444 LFS during this season's 20-mm trawling to date, with a majority from Suisun Bay, Suisun Marsh, and Cache Slough.
 - Processing of samples from weeks 42-45 is ongoing.
 - EDSM is on the water this week, sampling from 6/10/24-6/13/24.
 - The most recent DS abundance estimate is 3,558,101 from the week of 5/6/24.

- Chipps Island Trawl was on the water on 6/3/24 and 6/5/24, sampled 20 tows and did not detect any DS or LFS. Sampling was shorted due to adverse weather conditions.
 - Chipps Island Trawl is on the water this week on 6/10/24, 6/12/24, and 6/14/24.

CDFW shared the following salvage update.

- No DS or LFS were detected in salvage or reported in qualitative larval sampling this week.
- No operational variances were reported.

Part 2: Open Discussion on Species Status (Structured-Unstructured Time)

DS

- Reclamation suggested keeping risk Low for all life stations in all regions based on similar conditions to the previous week. Survey detections show that the majority of DS are likely outside the zone of entertainment and turbidity remains steady. OMR Management season will likely be ending shortly.
 - CDFW, DWR, and USFWS agreed with the above proposal.

LFS

- CDFW suggested keeping risk Low for all life stages in all regions based on survey detections and environmental conditions. No other agencies or SMT members objected to this assessment.

Qualitative Larval Sampling

- Reclamation shared that the main concern last week in whether to continue or end qualitative larval sampling was the potential for detection of larval DS in qualitative larval sampling this past week, given the influx of larval catch. There were no larval DS detections in sampling. The sampling team alerted Reclamation to the large influx of larvae of warm water species which is making it increasingly difficult to continue sampling. As of 6/4/24, water temperatures at Clifton Court Forebay (CCF) exceeded the 22.5°C temperature when qualitative larval sampling ended in previous years. Reclamation proposed ending this season's qualitative larval sampling.
 - CDFW added that they had been waiting for the results of the identification of the larval fish from the two previous weekends to inform their perspective. The lack of DS or LFS larvae detections despite the recent increase in exports along with warming conditions and seasonal timing suggest that it is unlikely that larval DS or LFS will be detected through qualitative larval sampling.
 - CDFW, DWR, USFWS, and Reclamation agreed to end qualitative larval sampling starting today. Reclamation and DWR agreed to direct their respective sampling teams to end qualitative larval sampling.

Part 3: Live-edit Assessments

Review of Tables 2 and 3 of the Fish and Water Operations Outlook

The SMT reviewed and discussed updates to Tables 2a, 3b, and 3c of the Weekly Fish and Water Operations Outlook which include the latest dates, detections, conditions, and data.

DS

- Table 2a
 - Clifton Court Forebay (CLC) temperature is 24.1°C.

LFS

- N/A.

Proposed Action Weekly Evaluation of Delta Smelt, including Distribution, Abiotic Conditions, Risk Assessment Questions, and Executive Summary

The SMT reviewed and discussed updates to the PA Assessment for DS, which include the latest dates, detections, conditions, data, and reflects the discussion documented in Part 2 above.

- Evaluation Questions
 - 7) Reclamation asked DWR if QWEST values were driven by OMRI or other factors.
 - DWR clarified that QWEST was significantly impacted by whether the DCC gates were open or closed.
 - USFWS asked Reclamation about the schedule for DCC gates operations.
 - Reclamation clarified that the gates were open over the past weekend (6/8/24-6/9/24) and were closed on 6/10/24 and will remain closed until 6/14/24 when they will open and remain open for the season.
 - Reclamation added language saying “QWEST will remain positive when the Delta Cross Channel (DCC) Gates are open and becomes negative when DCC Gates are closed.”

ITP Longfin Smelt and Delta Smelt Risk Assessment

The SMT reviewed and discussed updates to the ITP Risk Assessment for DS and LFS, which include the latest dates, detections, conditions, data, and reflects the discussion documented in Part 2 above.

Advice to WOMT and LFS Executive Summary

- No advice to WOMT.

Delta Smelt

- Risk remains Low for all life stages in all regions.

Longfin Smelt

- Risk remains Low for all life stages in all regions.

Change in Exposure

- Delta Smelt: No changes.
- Longfin Smelt: No changes.

Life Stages Present

- Delta Smelt: Larvae, Juveniles, Sub-Adults, Adults.
- Longfin Smelt: Larvae, Juveniles, Sub-Adults, Adults.

Part 4: Additional Considerations/Discussion

Agencies reported no items for elevation to WOMT.

The SMT discussed possible topics for an end of season debrief.

- CDFW asked the SMT what they were thinking about an end of season debrief in terms of topics.
 - K&W noted that the topics for discussion were: feedback for K&W, DS-Wakasagi hybridization, and meeting summary format changes to track controlling actions through the season.
 - USFWS suggested that the SMT could look at the impact of the Steelhead loss actions on DS and LFS loss and entrainment. During 2022, a Dry Water Year, when exports were low salvage was still high. This year has been interesting and somewhat unique due to being an Above Normal Water Year while having low exports.
 - CDFW noted that if the group was interested in pursuing this topic, using PTM may be beneficial to the discussion.
 - Reclamation added that in previous years there was discussion about any analyses that agencies wanted to perform in the off-season in addition to a discussion about what presentations for the beginning of next year.
 - SMT agreed to adding the end of season debrief to the end of the last SMT meeting on 6/25/24.

Next SMT Meeting

The next SMT meeting will be held on Tuesday 06/18/2024 on Microsoft Teams.