

Smelt Monitoring Team Meeting Summary Tuesday, March 5, 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

- Smelt Monitoring Team (SMT) continues to recommend Old and Middle River Index (OMRI) be limited to no more negative than -3,500 cfs on a 7-day average under Condition Of Approval (COA) 8.5.2, until the average Secchi depth in the Central and South Delta is greater than 1m as measured by the next Smelt Larva Survey (SLS).

ANNOUNCEMENTS

- N/A

MEETING SUMMARY

PART 1: Updates on Water Operations and Biological Conditions Updates
Relevant Actions & Triggers

Starting on 03/04/2024, Reclamation and DWR began targeting a 7-day average OMRI no more negative than -3,500 cfs under COA 8.5.2. The Integrated Early Winter Pulse Protection (IEWPP) (“First Flush” Event) action was off-ramped on 02/05/2024. CDFW reported on the ITP Conditions of Approval (COA) currently in effect and whether they have been triggered. COA 8.4.2 Larval and Juvenile Longfin Smelt Entrainment Protection was not triggered by SLS 4. Steelhead Protection is limiting OMRI to no more negative than -2,500 cfs on a 14-day average. The table below is a summary and does not provide all the details related to each action or trigger. Rather, it is used to track the status of OMR Management Measures and Conditions Of Approval on a week-to week-basis in the “Triggered?” column on the far right. For full descriptions, please see the OMR Guidance Document or ITP as needed.

Proposed Action

OMR Management Measures	Requirement	Time Frame	Trigger	Triggered? *
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	Triggered? *
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.	Active, Not Triggered
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.	Not active, following COA 8.5.2 under 2023 IOP
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	Not active

ITP Conditions of Approval

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
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	Triggered?
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	Triggered?
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 30 th or until the temperature off-ramp 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 SLS 4 and temporarily off-ramped by COA 8.4.3

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
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, Triggered 2/6/24 by Rio Vista daily average flows exceeding 55,000 cfs
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	Active, Not Triggered

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
8.5.2 (Larval and Juvenile Delta Smelt Protection)	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.	Nov 1st through June 30th or until off-ramped by 8.8.	(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. Or (2) when a larval/juvenile DS is detected in SLS/20 mm 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)	Active, Triggered on 3/4/24 by SLS 5; previously triggered by SLS 3 on 2/21/24

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
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.	Not active due to Below Normal water year type forecast

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 200 cfs with no anticipated changes for the week.
- Releases from Keswick Dam on the Sacramento River are currently 15,000 cfs with no anticipated changes for the week.
- Releases from Oroville Dam on the Feather River are currently 14,000 cfs with a range of 8,000 cfs to 15,000 cfs for flood management.
- Releases from Nimbus Dam on the American River are 6,000 cfs with a range of 6,000 cfs to 8,000 cfs for flood management.
- Releases from Goodwin Dam on the Stanislaus River are currently 1,000 cfs with a range of 1,000 cfs to 1,500 cfs for flood management.
- Jones Pumping Plant is currently exporting 4,200 cfs with a range of 3,600 cfs to 4,200 cfs.
- The State facility is currently exporting 2,700 cfs with a range of 2,000 cfs to 5,000 cfs.
- Expected Daily OMR Index Values are between -2,000 cfs to -2,500 cfs.
- Sacramento River flows at Freeport range between 50,000 to 70,000 cfs.

- San Joaquin River flows at Vernalis range between 8,000 to 13,000 cfs.
- The Delta Outflow index ranges from 70,000 to 110,000 cfs.
- X2 is <56 km.
- Delta Cross Channel (DCC) gates closed on 11/27/2023 and are expected to remain closed for the season.

Review of Environmental Conditions and Survey Updates

CDFW delivered catch updates on relevant surveys to the SMT.

- SLS 4 processing is complete, with 682 new LFS detections. The distribution of detections is as follows: 235 LFS in Suisun Bay and West, 340 LFS detections in the Napa River, and 107 LFS in San Pablo Bay.
 - The average Secchi depth for 11 of the 12 South and Central Delta stations is 95 cm. Station 918 was not measured or sampled.
 - SLS 5 will be on the water this week from 3/4/24-3/6/24.

USFWS provided catch updates for EDSM, Chipps Island Trawl, and DJFMP.

- EDSM was on the water from 2/26/24-2/29/24 and sampled 36 sites. EDSM detected a total of 4 marked (1 ad-clipped and 3 VIE tagged) DS and 10 LFS.
 - The most recent non-zero abundance estimate for the week of 2/26/24 is now 10,103.
 - A DS that was initially identified in the field as a Wakasagi was genetically confirmed as a Delta Smelt.
 - EDSM is on the water this week, sampling from 3/3/24-3/5/24.
- Chipps Island Trawl was on the water on 2/26, 2/27, 2/29, and 3/1/24 and sampled all 40 tows and captured 4 LFS
 - Chipps Island Trawl is on the water this week, sampling on 3/4,3/5, 3/7, and 3/8/24.
- DJFMP was on the water 2/26/24-2/29/24, sampled 40 tows and detected 4 LFS.

CDFW shared the following salvage update.

- No osmerids detected in salvage or larval sampling and no operational variances were reported.

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

DS

- Reclamation recommended keeping risk the same – Moderate for all life stages in the OMR corridor, and Low for all life stages in all other regions – this week.

Despite changing turbidity patterns, risk is recommended to remain the same in all locations.

- CDFW agreed with Reclamations suggestion for risk and their rationale.

LFS

- CDFW recommended that, based on the environmental conditions and the centroid of distribution having shifted towards the Confluence region, risk should remain Low for all stages in all regions.
 - DWR agreed with CDFW's recommendation for risk.

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

- N/A

LFS

- Table 3b
 - Larval and Juvenile DS Protections 8.5.2 trigger dates were updated.
 - Secchi depth is 95 cm.

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

Delta Smelt (DS)

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.

- Distribution
 - Forty-five Delta Smelt have been detected this water year. Forty of these have been from experimental releases.
 - COA 8.5.2: retriggered on 3/4/2024.
- Evaluation Questions
 - 7) ...no ripe or spent adult female or larval DS have been detected. Mean Secchi depths for 11 of the 12 South Delta stations was <1 m as of 3/4/2024.

- DWR asked if for Evaluation Question 7 the IOP observed date should be mentioned.
 - Reclamation agreed and added language saying: “Due to following the IOP 2023, we are not considering the March 15 date; instead we are following COA 8.5.2.”
- Executive Summary
 - CDFW suggested language for consistency with the ITP Risk Assessment saying: “detected in salvage (pre-expansion)...”

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

- Smelt Monitoring Team (SMT) continues to recommend Old and Middle River Index (OMRI) be limited to no more negative than -3,500 cfs on a 7-day average under Condition Of Approval (COA) 8.5.2, until the average Secchi depth in the Central and South Delta is greater than 1m as measured by the next Smelt Larva Survey (SLS).
- COA 8.4.2 was not triggered by SLS 4
- OMRI is limited to -2,500 cfs on a 14-day average for Steelhead Protection.
 - Reclamation noted that the 100% loss threshold for Steelhead had been exceeded. CDFW responded that they were not sure that operational conditions had been adjusted based on the 100% loss threshold.
 - The SMT discussed the Steelhead Exceedance actions being implemented. The discussion centered on the possible differences between the current loss which has exceeded the 100% threshold and whether that would trigger a new management action. The SMT reached a common understanding that while the 100% Steelhead exceedance had been met, management actions would continue to be the same as for the 75% exceedance threshold. The SaMT will continue to monitor the situation on a weekly basis and make management action recommendations to WOMT based on the latest data and detections.
 - CDFW suggested language to clarify the Steelhead Protections in the ITP Risk Assessment: “OMRI is limited to -2,500 cfs on a 14-day average for Steelhead Protections.”
- CDFW asked DWR when the new water year type would be released. DWR and SWRCB clarified that would be released on 3/8/24.

- USFWS asked CDFW about an email that mentioned if the SLS crew would be able to sample Station 908 later this week and the Secchi depth is >1 m then the COA 8.4.2 could be triggered. CDFW clarified that was the case because all the other stations were sampled with an average of 95 cm so adding station 908 to the average could possibly trigger the COA.

Delta Smelt

- Risk remains Moderate in the OMR corridor for all life stages. Risk remains Low in all other regions for all life-stages.
- DS population-level migration is likely completed.
- DWR suggested language saying: “Water temperatures have exceeded 12 C at Jersey Point.”

Longfin Smelt

- Risk remains Low for all life stages in all regions.
- LFS spawning is on-going.

Change in Exposure

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

Life Stages Present

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

Part 4: Additional Considerations/Discussion

Agencies reported no items for elevation to WOMT.

Next SMT Meeting

The next SMT meeting will be held on Tuesday 03/12/2024 on Microsoft Teams.