

Smelt Monitoring Team Meeting Summary Tuesday, February 6, 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

- DWR and USBR request clarification from their management and legal departments about the interpretation of Condition of Approval (COA) 8.5.2 (Larval and Juvenile Delta Smelt Protection) if the 3-day average water temperature at Jersey Point drops below 12°C.

ADVICE TO WOMT

- Starting 02/07/2024, the Old and Middle River Index (OMRI) will be limited to no more negative than -3,500 cfs on a 7-day average under COA 8.5.2 until the average Secchi depth in the Central and South Delta is greater than 1 m as measured by the next Smelt Larva Survey (SLS).
- SMT continues to recommend the State's share of OMRI be limited to -5,000 cfs on a 7-day average under COA 8.4.2, Larval and Juvenile Longfin Smelt Protection, though this will not control operations during the upcoming week. This

may be off-ramped by conditions at Rio Vista under COA 8.4.3, High Flow Offramp, later this week.

ANNOUNCEMENTS

- N/A

MEETING SUMMARY

PART 1: Updates on Water Operations and Biological Conditions Updates

Relevant Actions & Triggers

Starting 02/07/2024, Reclamation and DWR will begin 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 ended 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 remains triggered but is not controlling. The descriptions below are intended as summaries and do not provide all the details related to each action or trigger. 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 1/23/2024- 2/5/2024

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

OMR Management Measures	Requirement	Time Frame	Trigger	Triggered?
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
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 1st through June 30th 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

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 28th	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 28th	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 1st through June 30th 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, triggered on 1/10/24 by SLS 1 and again on 1/25/24 by SLS 2

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, Not Triggered. Likely to be triggered in the coming week.
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 FWMT 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 2/5/24 by SLS 3, action will start on 2/7/2024

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

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 a range of 15,000 cfs to 20,000 cfs for flood management.
- Releases from Oroville Dam on the Feather River are currently 9,000 cfs with a range of 3,000 cfs to 10,000 cfs for flood management.
- Releases from Nimbus Dam on the American River are 1,750 cfs with a range of 1,750 cfs to 4,000 cfs for flood management.
- Releases from Goodwin Dam on the Stanislaus River are currently 1,500 cfs with a range of 300 cfs to 1,500 cfs for flood management.
- Jones Pumping Plant is currently exporting 3,500 cfs with a range of 3,500 cfs to 4,200 cfs. Reclamation reported that exports from Jones Pumping Plant will reach the upper bound of the anticipated range for the week.
- The State facility is currently exporting 2,000 cfs with a range of 500 cfs to 6,500 cfs.
- Expected Daily OMR Index Values are between -2,000 cfs to -5,000 cfs.
- Sacramento River flows at Freeport range between 30,000 to 50,000 cfs.
- San Joaquin River flows at Vernalis range between 4,000 to 8,500 cfs.
- The Delta Outflow index ranges from 35,000 to 85,000 cfs.
- X2 is around 70 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 2 processing is now complete. There were 12 combined new LFS detections, with 6 LFS detections in San Pablo Bay and 6 LFS detections in the Napa River regions with fork lengths ranging between 7-9mm.
 - The San Francisco Bay Study (SFBS) began its February sampling and is scheduled to be on the water from 2/5-2/14/24.
 - SLS 3 is on water this week from 2/5-2/7/24. The average Secchi depth this week is 70cm for 11 out of the 12 south and central Delta stations. Water conditions did not allow the sampling of station 918.

USFWS provided catch updates on EDSM and Chipps Island Trawl.

- EDSM was on the water from 1/29/24-2/2/24 and completed 33 sites.
 - EDSM detected 1 VIE tagged DS in the Lower San Joaquin, 8 LFS in Suisun Bay, and 1 ad-clipped DS and 40 LFS in Suisun Marsh.
 - EDSM also detected 3 marked (2 ad-clipped and 1 VIE tagged) adult DS in the Lower San Joaquin and 2 adult DS, 1 marked and 1 unmarked, in Suisun Marsh on 2/5/24. The unmarked DS was transferred to the Fish Conservation and Culture Laboratory (FCCL) for broodstock while the 3 marked DS were sent to the UC Davis Directed Outflow Program (DOP).
 - 2 DS were captured as Code 9 in the net after the tow had been completed. The Code 9 DS will not be represented in the abundance estimates due to the uncertainty around where they were detected.
 - The abundance estimate for the week of 2/5/24 is 3,613.
 - Sampling will continue Monday – Thursday of this week.
 - USFWS shared that the unmarked DS detected on 1/22/24 was confirmed to have at least one wild parent and will be used for broodstock at the FCCL.
 - Sampling will begin in the Western Delta region on 2/12/24. No sampling will occur the week of 2/19/24 due to an office retreat.
 - CDFW asked if all of the DS detected in the San Joaquin River were detected in one tow. USFWS noted that multiple fish were pulled in with the net and two were Code 9 but there was 1 confirmed DS detection in the actual tow.
- Chipps Island Trawl was on the water from 1/29/24-2/2/24 and completed 33 tows and detected a total of 24 LFS.

- Sampling this week is scheduled for Monday, Tuesday, Thursday, and Friday.

CDFW shared the following salvage update.

- No osmerids were detected in salvage in the last seven days and no operational variances were reported.

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

DS

- Reclamation recommended keeping risk the same as last week: Moderate in the OMR corridor and Low everywhere else.
 - DWR and CDFW agreed with the suggestion to keep risk the same.
- DWR asked about the role of changing temperatures in triggering COA 8.5.2 and if the COA would off-ramp if temperatures at Jersey Point fall below 12°C. The SMT discussed the interpretation of COA 8.5.2 and whether it could be off-ramped by water temperatures <12°C at Jersey Point or would remain active regardless of water temperature.
 - The SMT had a consensus that the biological intent behind the action was that the COA would remain active for the season once the temperature threshold was met.
 - DWR and USBR agreed to request clarification and coordination from management and legal staff to confirm the legal interpretation of COA 8.5.2.
 - CDFW asked DWR if they would continue operating to -3,500 cfs OMRI even if the temperature at Kersey Point falls below 12°C. DWR clarified that they intend to keep operating to the -3,500 cfs OMRI unless they received new direction.

LFS

- CDFW shared that they recommend keeping risk Low for LFS in all regions given that there is no new survey data and that hydrological conditions remain favorable. DWR agreed with CDFW's proposal.

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.

Delta Smelt

- Reclamation shared that IEWPP ended and COA 8.5.2 was triggered on 2/5/24. State and Federal agencies will begin operating to those standards per the 2023 Interim Operations Plan (IOP).
- Reclamation shared the changes to environmental conditions including updated turbidity information.
- CDFW asked Reclamation if turbidity information should be added to the COA 8.5.1 section. Reclamation agreed and made the requested change.

LFS

- CDFW asked if COA 8.4.3 (High flow offramp for Longfin Smelt) was expected to be triggered in the coming week given flows at Rio Vista are anticipated to increase. DWR responded that today 2/6/24 would be the first day above the threshold and the high flow off ramp trigger would likely be met 2/7/24. CDFW suggested adding language to reflect that in Table 3c. Language was added saying “flows are increasing.” and “The increase is likely to trigger 8.4.3 later this week.”

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.

- Qualitative larval sampling will begin on 2/20/24 at the Tracy fish facility and on 2/27/24 at the Skinner fish facility.
- Abiotic Conditions
 - Clifton Court turbidity was 14.8NTU as of 2/5/24. Turbidity remains below 12FNU at OBI.
- Other Environmental Conditions
 - Reclamation asked the SMT if they would like to include both COA 8.5.2 and COA 8.6.3 in the Operational Intent of the PA Assessment. DWR shared that the COAs have different averaging periods.
 - Language was updated to reflect this point, “... (based on COA 8.5.2).”

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

- Starting 02/07/2024, the OMRI will be limited to no more negative than -3,500 cfs on a 7-day average under COA 8.5.2 until the average Secchi depth in the Central and South Delta is greater than 1 m as measured by the next SLS.
- SMT continues to recommend the State's share of OMRI be limited to -5,000 cfs on a 7-day average under COA 8.4.2, Larval and Juvenile Longfin Smelt Protection. This may be off-ramped by conditions at Rio Vista under COA 8.4.3, High Flow Offramp, later this week.
- QWEST values are anticipated to be between +6,000 cfs and +15,000 cfs.

Delta Smelt

- Risk remains Moderate for sub-adults and adults in the Central and South Delta and remains Low in all other regions for all life-stages.
- 3 marked adult DS were detected in the Confluence region.

Longfin Smelt

- Risk remains Low for all life stages in all regions.
- X2 is approximately 70 km.

Change in Exposure

- Delta Smelt: Risk for DS in the Central Delta remains Moderate.
- Longfin Smelt: No changes.

Life Stages Present

- Delta Smelt: Sub-Adults and 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 02/13/2024 on Microsoft Teams.