Smelt Monitoring Team – Tuesday, December 5th, 2023

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

- During the next meeting, SMT to check in with Randi about including information from the Operations Outlook in future meeting summaries.

ANNOUNCEMENTS

- USBR noted that the outlook has a mistake in the OMRI, the correct values are -3000 cfs to -7000 cfs.

MEETING SUMMARY

PART 1: Updates on Water Operations and Biological Updates

Relevant Actions & Triggers

USBR reported on anticipated Old and Middle River (OMR) management measures. The Integrated Early Winter Pulse Protection action became active on December 1, 2023 but not triggered. CDFW reported on the Incidental Take Permit (ITP) Conditions of Approval (COA) currently in effect and whether they have been triggered. CDFW noted that starting December 1, 2023, COA 8.3.1 (Integrated Early Winter Pulse Protection) and 8.3.3 (Adult Longfin Smelt Entrainment Protection) can be considered. 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.	Active
OMR Management	Manage to a more positive OMR than -5,000 cfs.	From the onset of OMR management to the end.	N/A	Not active
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.	Not active
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
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

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

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.	Active, Not 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 if: Cumulative expanded salvage, Dec 1st through Feb 28th, exceeds most recent Fall Midwater Trawl (FMWT) Index divided by 10, or SMT determines that there is a high risk of entrainment.	Dec 1 through Feb 28th	Salvage threshold for water year (WY) 2024 is 28.8 until updated with the December index.	Active, Not Triggered
8.4.1 (OMR Management for Adult Longfin Smelt)	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: 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	Onset of OMR management through Feb 28th	SMT recommendation based on weekly risk assessment.	Not active

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
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 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.	Not active
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	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.	Not active
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	Not active

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 2022 September through November 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 ≥12°C and Secchi from the most recent SLS/20 mm survey is ≤1m averaged across the 12 stations (809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918, and 919)	Active, Not 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.	Not active
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

Current Operations & Outlook

- Releases from Whiskeytown Dam on Clear Creek are currently 200 cfs.
- Releases from Keswick Dam on the Sacramento River are currently 5,000 cfs.
- Releases from Oroville Dam on the Feather River are currently 1,750 cfs.
- Releases from Nimbus Dam on the American River are 2,000 cfs with no anticipated changes.
- Releases from Goodwin Dam on the Stanislaus River are currently 200 cfs.
- Delta Cross Channel (DCC) gates closed on November 27th.
- Jones Pumping Plant is currently exporting 1,800 cfs with a range of 1,800 cfs to 2,700 cfs.
- The State facility is currently exporting 3,000 cfs with a range of 1,500 cfs to 4,500 cfs.
- Expected Daily OMR Index Values are between -3,000 cfs and -7,000 cfs.
- Sacramento River flows at Freeport range between 8,000 cfs and 10,000 cfs.
- San Joaquin River flows at Vernalis range between 1,000 cfs to 1,500 cfs.
- The Delta Outflow index ranges between 4,000 cfs and 5,500.
- X2 is greater than 81 km.
- Tides are currently transitioning from Neap to Spring tide. New moon on 12/12.

Review of Environmental Conditions and Survey Updates

CDFW delivered catch updates on relevant surveys to the SMT.

- FMWT mid-season memo has been distributed.
- December survey will conclude 12/19, San Francisco Bay survey will conclude 12/13, SLS will begin next week on 12/11.
- FMWT September to November Index for LFS is 288. This translates to COA 8.3.3 salvage threshold of 8 adult LFS assuming standard expansion factor.
- DWR inquired if following the December survey that there would be a FMWT seasons total index value distributed to DWR for ITP COA 8.3.3 purposes.

USFWS provided catch updates on EDSM and Chipps Island Trawl.

- EDSM sampled 35 sites from Monday through Thursday and detected no Delta Smelt.
    - The abundance estimate is 0 based on last week's detections. The last non 0 abundance estimate is from November 28th and was 1293.
- EDSM detected 227 LFS, 3 in Suisun Bay measuring between 98 to 111mm and 224 in Suisun Marsh with lengths ranging from 52mm to 110mm. Some adult LFS

for the broodstock program were unmeasured to minimize stress associated with handling. Of the captured fish, 14 were transferred to FCCL, which was the first broodstock transfer. An additional 13 LFS were sent to DOP for further study.

    - Next week EDSM will sample Monday to Thursday.

- Chipps Island Trawl sampled 10 of 30 tows due to mechanical challenges with the boat. No DS or LFS were detected. The boat issue has since been fixed and sampling will resume as normal on Monday, Wednesday, and Thursday.

CDFW provided a Salvage Update

- There was a brief power outage at the Skinner Fish Facility on 11/28/23 lasting for 25 minutes during which time no salvage occurred. No osmerids were salvaged last week.

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

DS

- USBR did not have any items for discussion.
- CDFW noted that they had hoped to see DS from the experimental release program in the surveys but have not detected any yet.

LFS

- CDFW noted that based on seasonal timing, water temperatures, and increased catches by EDSM, it is likely that the LFS population scale migration into the Delta has begun.

PART 3: Live-edit Assessments

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

- Question 1 and 2: Removed language indicating that IEWPP would be active on December 1st.

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.

- Based on increased detections of LFS, the time of season, and the water temperatures, conditions are conducive for spawning, LFS have likely begin their population scale migration into the Delta.

Delta Smelt and Longfin Smelt Risk Assessments

Delta Smelt

- Risk of entrainment remains low for all life stages in all regions.

Longfin Smelt

- Risk of entrainment remains low for all life stages in all regions.
- Migration has likely stated, and several sub-adults or adults and adults have been detected near or east of Chipps Island. X2 is relatively high at ~90Km.
- USFWS asked if X2 was higher or lower than the previous week.
    - CDFW responded that X2 was slightly lower than the previous week.
- USFWS asked if there was evidence of a wet December.
    - CDFW noted that there is a large pressure ridge in the Pacific Northwest and thus there is no major precipitation expected in the next 14 days. Unsure about the timeline beyond then.

Changes in exposure risk from previous week

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

Life Stages Present

- Delta Smelt: Sub-Adults and Adults.
- Longfin Smelt: Sub-Adults and Adults.

Part 4: Additional Considerations/Discussion

Agencies reported no items for elevation to WOMT.