Smelt Monitoring Team Meeting Summary

Tuesday, November 26, 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 (Reclamation)
- U.S. Fish and Wildlife Service (USFWS)
- Kearns & West (K&W).

Action Items

- **K&W** to add an agenda item to the next Weekly Water Operations meeting to discuss the SaMT and SMT schedule for holiday meetings.
- **Agencies** to check with their management whether meetings on weeks of 12/23/2024 and 12/30/2024 could be substituted with email updates if live discussions are not needed.
- **CDFW** to provide an update on this year's LFS salvage threshold.

Advice to WOMT

- No advice to WOMT.

Announcements

- None.

Meeting Summary

Part 1: Updates on Water Operations and Biological Conditions

Relevant Actions & Triggers

- There are no active actions or triggers at this time. However, the First Flish Action (COA 8.4.1) may be triggered on 12/1/2024 when the action becomes active.
- The SWP and CVP are both operating to D-1641 standards.

The table below has been updated with the 2024 SWP ITP Conditions of Approval.

OMR Management Season for smelts has not begun for the 2024-25 season. 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

Measures	Requirement	Time Frame	Trigger
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.
OMR Management	Manage to a more positive OMR than -5,000 cfs.	From the onset of OMR management to the end.	N/A

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

Measures	Requirement	Time Frame	Trigger
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.
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.
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

ITP Conditions of Approval

Approval	Requirement	Time Frame	Trigger	Action Status
8.3.1 (First Flush)	Adjust south Delta exports for 14 consecutive days to maintain a 14-day average OMR index no more negative than -2,000 cfs within three days of when the criteria are met.	Dec 1 through Feb 28	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.	Not Active
8.3.2 (Adult Delta Smelt Entrainment Protection)	Adjust south Delta exports to achieve a 5-day average OMR index no more negative than -3,500 cfs until the daily average turbidity in at least one of the three turbidity sensors is less than 12 FNU for two consecutive days.	After First Flush Action (8.3.1) or Dec 20 until the three-day average Jersey Point or Rio Vista water temperature reach 53.6°F	Daily average turbidity at or greater than 12 FNU at each of three turbidity sensors in the OMR corridor (Old River at Franks Tract near Terminous (OSJ), Holland Cut (HOL), and Old River at Bacon Island (OBI). Temporarily offramps when daily average flows at Vernalis are great than 10,000 cfs immediately reinstated when the daily average flows at Vernalis drop below 8,000 cfs.	Not Active

Approval	Requirement	Time Frame	Trigger	Action Status
8.3.3 (Adult Longfin Smelt Entrainment Protection)	Adjust south Delta exports to achieve one of the following depending on when the salvage threshold was exceeded: From December 1 to the start of the OMR Management season, Permittee, in coordination with Reclamation, shall adjust south Delta exports to achieve an OMR index no more negative than -5,000 cfs on a 7-day average for seven consecutive days and then, initiate OMR Management season; OR from the start of the OMR Management season to the end of February, if OMR Management was initiated by a different Condition of Approval, Permittee shall, in coordination with Reclamation, adjust south Delta exports to achieve an OMR index no more negative than -3,500 cfs on a 7-day average for seven consecutive days.	Dec 1 through Feb 28	Salvage threshold for water year (WY) 2025 is TBD.	Not Active
8.4.1 (Larval and Juvenile Delta Smelt Protection)	Adjust south Delta exports to achieve a 7-day average OMR index no more negative than -3,500 cfs until the average Secchi disk depth is greater than 1 meter. Adjust south Delta exports to achieve a 7-day average of the OMR index no more negative than -5,000 cfs when the average Secchi disk depth in the most recent survey is great than 1m.	After the end of Adult Delta Smelt Entrainment Protection (8.3.2) until the end of OMR management	Average Secchi disk depth in the most recent survey is less than 1 meter. Temporarily offramps when daily average flows at Rio Vista are greater than 55,000 cfs OR daily average flows at Vernalis are greater than 8,000 cfs, immediately reinstate when either daily average flows at Rio Vista are below 40,000 cfs or daily average flows at Vernalis are less than 5,000 cfs.	Not Active

Approval	Requirement	Time Frame	Trigger	Action Status
8.4.2 (Larval and Juvenile Longfin Smelt Entrainment Protection)	Adjust south Delta exports to achieve a 7-day average of the OMR index no more negative than -3,500 cfs for seven days. If the WY cumulative juvenile LFS salvage at the SWP and CVP salvage facilities exceeds 50% of the average annual salvage observed from 2009 through the preceding WY, then adjust south Delta exports to achieve a 7-day average OMRI of -3,500 cfs for 14-days. If the WY cumulative juvenile LFS salvage at the SWP and CVP salvage facilities exceeds 75% of the average annual salvage observed from 2009 through the preceding WY, then adjust south Delta exports to achieve a 7-day average OMRI of -2,500 cfs for 14-days. If salvage of juvenile LFS continues after the 14-day action, then SMT shall advise WOMT on an appropriate measure.	Jan 1 through the end of OMR management	The seven-day average QWEST is less than 1,500 cfs AND larval and juvenile Longfin Smelt (LFS) catch in the most recent Smelt Larval Survey (SLS) or 20-mm Survey at stations 809 and 812 exceeds the catch threshold set by the age 1+ LFS Index. Temporarily offramps when daily average flows at Rio Vista are greater than 55,000 cfs OR daily average flows at Vernalis are greater than 8,000 cfs, immediately reinstate when either daily average flows at Rio Vista are below 40,000 cfs or daily average flows at Vernalis are less than 5,000 cfs.	Not Active
8.6 (End of OMR Management)	If triggered, OMR Management would be off-ramped for LFS and DS.	Onset of OMR management through June 30	Daily mean water temperature at CCF is greater than or equal to 25° C for three consecutive days.	Not Active

Approval	Requirement	Time Frame	Trigger	Action Status
8.10.1 (Barker Slough Pumping Plant Larval Delta Smelt Protection)	Barker Slough Pumping Plant will operate to a maximum 7-day average diversion rate less than 60 cfs (March 1 to April 30) or 100 cfs (May 1 to June 30).	March 1 through June 30 of dry and critical water years	Catch of larval DS (<25 mm fork length) in the 20-mm Survey at station 718 exceeds 14% (March 1 to April 30) or 5% (May 1 to June 30) of the total catch of larval DS across the Cache Slough area of the north Delta (20-mm Survey stations 716, 718, 719, 720, 723, 724, and 726).	Not Active
8.10.2 (Barker Slough Pumping Plant Larval Longfin Smelt Protection)	Barker Slough Pumping Plant will operate to a maximum 7-day average diversion rate less than 100 cfs.	Jan 1 through March 31 of dry and critical water years	Water year type changes to dry or critical after Jan 1	Not Active

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

Agency Survey Updates

CDFW delivered catch updates on relevant surveys to the SMT.

- SFBS was on the water for their November survey from 11/4/2024-11/14/2024. SFBS detected 0 DS and 42 LFS, 2 LFS (one adult and one juvenile) were collected in the lower Sacramento River.
    - SFBS will be on the water for the week of 12/2/2024 for their December survey.
- FMWT will be on the water for the week of 12/2/2024 for their December survey.
- SLS is scheduled to begin surveying 12/2/2024.

USFWS provided catch updates for EDSM and Chipps Island Trawl

- EDSM was on the water from 11/18/2024-11/22/2024, sampled 36 sites, and detected 0 DS.
    - EDSM detected 50 LFS with 5 adults transferred to the FCCL for broodstock and 11 transferred to the UC Davis Directed Outflow Program (DOP).
    - The DS abundance estimate for the week of 11/18/2024 is 0*. The previous non-zero abundance estimate was 990 (95% Confidence Interval: 98 to 4,054) from the

week of 11/11/2024. An asterisk (*) is used to emphasize weeks when no Delta Smelt were caught, and NA is used to indicate that sampling did not occur or quantity could not be calculated.

- On 11/25/2024 EDSM detected a VIE tagged adult DS from the 11/18/2024 experimental release in the Sacramento Deep Water Ship Channel.
- Chipps Island Trawl was on the water 11/18/2024-11/22/2024, sampled 30 tows, and detected 0 DS and 16 LFS with 4 adults being transferred to the FCCL for broodstock.
- USFWS added that DS or LFS transferred to the FCCL for broodstock are not measured to reduce handling and are listed as fork length 0 mm.

CDFW shared the following salvage update.

No osmerids were detected in salvage and the following operational variances were reported:

- Tracy Fish Salvage Facility did a CO2 flush on 11/19.
- The 2400 salvage count on 11/21/2024 was not performed due to malfunctioning equipment.

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

DS

- Reclamation asked for a discussion regarding whether risk of entrainment for DS is Low or Moderate. Environmental conditions and seasonal timing indicate the start of the population level migration for DS, indicating a Moderate risk. However, lack of detections and low turbidity in the central and south Delta point to Low risk. Furthermore, it seems as though the First Flush action will be triggered on 12/1/2024.
    - USFWS noted that they would support Moderate risk given environmental conditions and because the trigger date for the First Flush condition is 12/1/24, falling within the current advice period.
    - CDFW agreed with USFWS and pointed out that due to the known life history of DS, fish are likely moving through the system and thus risk is Moderate. In response to Reclamation's point about low detections and no salvage, CDFW holds the position that due to overall low population levels, risk can be assessed using environmental proxies even in the absence of detections.
    - DWR noted that they could go either way regarding level of risk and are fine with Moderate risk. There is still low turbidity in the central and south Delta, including the OMR corridor, which should promote DS to migrate towards the Sacramento River instead of the San Joaquin River. This indicates that the risk of entrainment is not high.
- USFWS asked what the projected OMRI will be between now and 12/1/2024.
    - Reclamation responded that they are taking action in anticipation of operating to meet the First Flush action requirement of a 14-day average -2,000 cfs OMRI

starting 12/2/2024. The daily average OMRI will likely reach -2,000 cfs around 12/4/2024.

LFS

- CDFW noted that the LFS population distribution is shifting slightly eastward from Suisun Marsh. The 14°C average temperature is conducive to spawning. Some portion of the population may begin spawning but it is not peak spawning timing yet. Risk is likely Low given recent detections and seasonal timing.
    - DWR agreed with CDFW's proposal, adding that this early season flow event should be good for pushing spawning downstream of the confluence.
    - USFWS and Reclamation concurred with CDFW's risk proposal.
- DWR asked CDFW for an update on this year's Age 1+ LFS Index (used to calculate the adult LFS salvage threshold), noting COA 8.3.3 will be relevant starting 12/1/2024.
    - CDFW noted that those data are not ready at this time and would follow up with the SMT by email.

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

- No edits were made.

LFS

- No edits were made.

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
    - 1) CDFW suggested changing NTU to FNU.
    - 2) CDFW noted that risk is Moderate regardless of whether an action is triggered later this week. If the question is not applicable until 12/1/2024, the SMT should note that the question is not applicable, but risk is still Moderate.
        - USFWS agreed that the question should say not applicable.
    - USFWS asked if the X2 location was being determined by the most accurate tools available.

        - Reclamation noted that they have been using the X2 values reported in the Fish and Water Operations Outlook. In the previous seasons, DWR had previously requested the SMT not reference the X2 calculator they developed when the X2 location is above 81 km due to some level of uncertainty.

- Executive Summary
    - DWR shared the Bay-Delta Live constituent tracker turbidity tool with the SMT.
    - Reclamation noted that the SMT could add a date to the executive summary to note the date at which the South Delta turbidity data was informing the assessment.
    - CDFW suggested adding language indicating that turbidity is currently low in the south Delta, but is elevated in the lower San Joquin and that turbidity could be pulled into the south Delta this week with the highly negative OMRI expected. Turbidity is difficult to predict so just noting that turbidity could change quickly.

ITP Longfin Smelt and Delta Smelt Risk Assessment

There is no weekly ITP risk assessment required under the 2024 ITP.

Part 4: Additional Considerations/Discussion

K&W asked about the meeting summary review schedule for the upcoming week.

- The SMT agreed to finalize the meeting summary on Monday 12/2/2024.
- USFWS asked when CDFW has to continue doing risk assessments.
    - CDFW noted that weekly risk assessments are no longer required by the 2024 SWP ITP.

SMT Presentations

- Reclamation noted that the changes requested by CDFW are live on SacPAS.
- CDFW plans to present updates to the ITP at the 12/3/2024 SMT meeting.
- Reclamation plans to present SacPAS updates at the 12/10/2024 SMT meeting.

Agencies reported no items for elevation to WOMT.

Next SMT Meeting

The next SMT meeting will be held on Tuesday 12/3/2024 on Microsoft Teams.