

Smelt Monitoring Team Meeting Summary

Tuesday, December 3, 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)

Announcements

- The Smelt Monitoring Team (SMT) agreed to share updates via email in lieu of meeting on 12/24/2024 and 12/31/2024 assuming no triggers are likely to be activated by at that time.
 - USFWS requested that an update on hydrological conditions be shared with the SMT via email on the previous Fridays (12/20/2024 and 12/27/2024). Reclamation agreed.
 - The SMT agreed to provide the necessary information including survey updates from CDFW and USFWS, hydrological conditions, hydrologic conditions forecasts, and operational conditions via email on Monday afternoons (12/23/2024 and 12/30/2024).
 - DWR noted that the updated Longfin Smelt (LFS) Fall Index from San Francisco Bay Study (SFBS) survey may be released during this period and will be relevant for trigger thresholds for both adult and larval/juvenile LFS OMR management actions.
- K&W asked the SMT if they would advise on whether K&W would need a summary if the SMT meetings are covered by email.

- Reclamation noted that it was unlikely that K&W would need to prepare a summary but would check with their management.
- CDFW asked when the SMT would discuss the SMT charter as the Record of Decision (ROD) is expected to be signed soon.
 - USFWS noted there will be a WOMT charter, which would likely be developed before the SMT charter and suggested that the SMT wait for that to be finalized before developing the SMT charter.
 - The anticipated signing date for the ROD is 12/20/2024 so charter discussions are unlikely to occur until 2025.

Action Items

- **Reclamation** to confirm whether K&W would need to prepare meeting summaries for the weeks of 12/23/2024 and 12/30/2024 if there are no formal SMT meetings.

Advice to WOMT

- No advice to WOMT.

Meeting Summary

Part 1: Updates on Water Operations and Biological Conditions

Relevant Actions & Triggers

- No actions have been triggered at this time.
- The State Water Project (SWP) and Central Valley Project (CVP) are both operating to D-1641 standards.

The table below has been updated with the 2024 SWP Incidental Take Permit (ITP) Conditions of Approval.

Old and Middle River (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	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.	Active, Not Triggered
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

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

Measures	Requirement	Time Frame	Trigger	Action Status
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

ITP Conditions of Approval

Approval	Requirement	Time Frame	Trigger	Action Status
8.3.1 (First Flush Action)	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 3-day running average of daily turbidity at Freeport is greater than, or equal to, 50 FNU.	Active, Not Triggered

Approval	Requirement	Time Frame	Trigger	Action Status
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	<p>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).</p> <p>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.</p>	Not Active
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	Final salvage threshold for water year (WY) 2025 is TBD. Current threshold per Aug-Oct Bay Study Index is 42.	Active, Not Triggered

Approval	Requirement	Time Frame	Trigger	Action Status
8.4.1 (Larval and Juvenile Delta Smelt Protection)	<p>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.</p> <p>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.</p>	After the end of Adult Delta Smelt Entrainment Protection (8.3.2) until the end of OMR management	<p>Average Secchi disk depth from all stations on the San Joaquin River upstream of Jersey Point and stations south of the lower San Joaquin River in the most recent survey is less than 1 meter.</p> <p>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.</p>	Not Active

Approval	Requirement	Time Frame	Trigger	Action Status
8.4.2 (Larval and Juvenile Longfin Smelt Entrainment Protection)	<p>Adjust south Delta exports to achieve a 7-day average of the OMR index no more negative than -3,500 cfs for seven days.</p> <p>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.</p> <p>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.</p>	Jan 1 through the end of OMR management	<p>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.</p> <p>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.</p>	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

Operational Questions

- CDFW inquired about reduced exports at Tracy Pumping Plan on December 2nd?
 - Reclamation responded that they were anticipating the First Flush action being triggered and had been proactive by submitting a change order for reducing exports late last week. First Flush was not triggered and consequently exports were scheduled to increase this week.
 - CDFW noted that on December 1st the three-day running average of California Data Exchange Center (CDEC) daily average turbidity at Freeport for November 28th through the 30th was 49.9 FNU. However, if one calculates the daily average themselves using hourly or 15-minute data instead of the daily average reported on CDEC, the three-day running average was 50.5 FNU, which would have triggered the First Flush action. The daily average reported on CDEC calculates daily average from the hourly data and midnight is included in the calculation for the previous day, which is why there is a discrepancy in these calculations.
 - Reclamation noted there was substantial internal discussion about whether the First Flush should have been triggered. In order to reduce future confusion and discrepancies, Reclamation will ask SacPAS administrators change the way they calculate averages to reduce confusion and discrepancies between what operators are seeing and what is shown on CDEC.

- DWR asked for some additional clarification about how the averages are displayed on SacPAS.
 - Reclamation noted that based on feedback from CDFW they had reconfigured the tables on SacPAS and showed the SMT where the relevant information is located.
- CDFW pointed out that it is important to note that while the First Flush action was not triggered on a regulatory basis, biologically first flush only happens once per year, thus the recent storm event likely cued the DS spawning migration.
 - Reclamation operators asked if that assertion was supported by survey detections.
 - Reclamation scientists shared that because DS population levels are exceedingly low, environmental factors are used as a proxy alongside historical timing to generally understand DS movement. Detection information can provide limited additional information.

CDFW agreed on the need to use environmental proxies and historical data due to challenges with detections.

Agency Survey Updates

CDFW delivered catch updates on relevant surveys to the SMT.

- SFBS and Fall Midwater Trawl are on the water starting this week (the week of 12/2/2024) for their December surveys.
- SLS 12 began sampling on 12/2/2024. Sample processing is ongoing, and so far 3 larval LFS have been detected in the Central and South Delta Stations.
- Reclamation asked CDFW if the data could be shared via an Excel file in lieu of a PDF for ease of documentation in other locations.
 - CDFW agreed to share the Excel file in addition to the PDF normally shared.

USFWS provided catch updates for EDSM and Chipps Island Trawl

- EDSM was on the water from 11/25/2024-11/29/2024, sampled 36 sites, and detected 2 VIE tagged DS (left blue anterior from 11/18/2024 release).
 - EDSM detected 48 LFS with 36 detections in Suisun Marsh and 12 in Suisun Bay. 8 LFS were transferred to the Fish Culture and Conservation Laboratory (FCCL) for broodstock and 13 LFS were flash frozen and sent to UC Davis for the Directed Outflow Project (DOP).
 - The DS abundance estimate for the week of 11/25/2024 is 310 with 95% CI (50; 1,054).
- Chipps Island Trawl was on the water 11/25/2024-11/29/2024, sampled 30 tows, and detected 0 DS and 11 LFS with 10 adults being transferred to the FCCL for broodstock.

- CDFW asked what the differences are for EDSM with the change to Phase 1 this week?
 - USFWS noted that Phase 1 adds the South Delta stratum.
 - CDFW asked about the change in gear codes on the EDSM daily spreadsheets.
 - USFWS noted that it could be a mistake and that the different codes are for different individual Kodiak Trawl nets, but mesh sizes were the same for all nets. Additionally, the daily report is reporting the net serial number, but all Phase 1 tows are using Kodiak nets with the same dimensions.

CDFW shared the following salvage update.

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

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

DS

- Reclamation noted the recent rain event and subsequent increase in flows and turbidity likely initiated population-level spawning movement of DS. The current negative OMRI levels and turbidity conditions indicate a Moderate risk to DS and likelihood of dispersal into areas of High risk in the future.
 - USFWS reiterated the biological importance of the recent turbidity and flow conditions which likely initiated population-scale DS migration despite the regulatory trigger for a First Flush action not being met. USFWS reminded the SMT that there are no protections for DS in place and with high exports and a strongly negative OMRI, it is likely that there will be DS in salvage in the coming weeks.
 - SMT agencies agreed with Reclamation's proposal for Moderate risk.

LFS

- CDFW proposed differentiated risk between LFS life stages. Larval LFS near the confluence in the lower Sacramento and lower San Joaquin River are at High risk of entrainment given highly negative QWEST and OMRI. Larval LFS have already been detected in the central and south Delta. CDFW proposed Low risk for adult and sub-adult LFS due to X2 being relatively low at 72 km and a distribution in Suisun Bay and Suisun Marsh putting them outside of the zone of influence.
 - DWR agreed that risk for sub-adults and adults is Low. However, risk for larvae may not be High for all larvae given we do not yet have data on larval distribution from the entire SLS 12 survey and there may be significant numbers of larval LFS downstream of the confluence following last week's storm event. DWR agreed that larval LFS in the Central and South Delta are at High risk.
 - CDFW responded that it is hard to say where LFS are spawning but based on the upstream location of X2 when spawning occurred in mid-November, CDFW proposes that larval risk should be High.

- DWR noted that the location of LFS is challenging to understand and while they would agree that spawning likely occurred upstream in mid-November, a lack of data outside the central and south Delta make it impossible to say with certainty where larval LFS are located.
- USFWS agreed with CDFW and DWR about sub-adult and adult risk being Low and reminded the SMT there is no federal take exemptions yet as the ROD has not been signed.
- Reclamation agreed with proposed risk levels as well and noted that majority of SLS stations have not been processed yet so it is hard to know where the whole population is located.
- USFWS added that according to CDEC turbidity at two South Delta stations (Prisoners Point and Franks Tract) is currently above 12 FNU.
- USFWS suggested the SMT should consider requesting to initiate qualitative larval sampling sooner than usual.
 - DWR noted that qualitative larval sampling usually begins in February and that it is not unprecedented to see larval LFS at this time of year. The turbidity in the lower San Joaquin River is currently around 18 FNU and high exports could draw fish towards the OMR corridor.

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

- Table 3C
 - The Threshold value for the Age 1+ LFS Index was updated to reflect the latest value based on the Aug-Oct Bay Study Index (42).

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
 - 2) DWR noted that exports are similar to last week.

- CDFW asked if anticipated positive QWEST values are because of the negative -2,000 cfs OMRI originally reported in the draft outlook.
 - DWR responded that the positive QWEST was due to the -2,000 cfs OMRI.
 - CDFW requested that QWEST should be updated to reflect the revised anticipated OMRI values.
- X2 Conditions
 - USFWS asked what the source for the X2 value is.
 - DWR responded that the X2 value is an interpolation between Port Chicago and Mallard Point based on surface salinity of 2.64 EC.
 - DWR also noted that CDEC values are updated and show the latest X2 at 72.23 km.

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

Agencies reported no items for elevation to WOMT.

Next SMT Meeting

The next SMT meeting will be held on Tuesday 12/10/2024 on Microsoft Teams.