

PARTICIPANTS

- CDFW
- DWR
- SWRCB
- USBR
- USFWS
- Kearns & West

ACTION ITEMS

- K&W will add an item on the April 20th SMT meeting agenda for CDFW’s presentation on historical size distribution data of Longfin Smelt (LFS).

MEETING SUMMARY

PART 1: Updates on Water Operations and Biological Updates

Relevant Actions & Triggers

USBR reported on the OMR management measures currently in effect and whether they have been triggered; CDFW reported on the ITP Conditions of Approval that are currently in effect and whether they have been triggered. 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 relevant.

Proposed Action

OMR Management Measures	Requirement	Time Frame	Trigger	Active? Triggered?
Integrated Early Winter Pulse Protection (“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 cfs	Dec 1 to Jan 31	(1) Running three-day average of daily flows at Freeport >25,000 cfs; and (2) Running three-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	Not active; Not triggered

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

OMR Management Measures	Requirement	Time Frame	Trigger	Active? Triggered?
			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		Yes (initiated on 1/1/2021 for salmon)
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 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.	Off-ramped; not triggered
Larval and Juvenile DS	Run hydrodynamic models and forecasts of entrainment, informed by the EDSM or other relevant survey data to estimate the percentage of larval and juvenile Delta smelt (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	Active; not triggered

ITP Conditions of Approval

Condition of Approval	Requirement	Time Frame	Trigger	Active? Triggered?
8.1.5.2 (Smelt Monitoring Team Risk Assessment)	Outlines contents for weekly risk assessments of DS and LFS required under 8.1.5 and 8.1.1	Nov 1 st through June 30 th or until off-ramped by 8.8		Yes
8.3.1 (Integrated Early Winter)	Reduce south Delta exports for 14 consecutive days to maintain a 14-day average OMR index no more	Dec 1 to Jan 31	Three day running average daily flows at Freeport greater than, or equal to,	Not active

Condition of Approval	Requirement	Time Frame	Trigger	Active? Triggered?
Pulse Protection)	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.		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.	
8.3.3 (Adult Longfin Smelt Entrainment Protection)	After December 1, if an Integrated Early Winter Pulse Protection (Condition of Approval 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 1 st through Feb 28 th , exceeds most recent FMWT Index divided by 10, or SMT determines that there is a high risk of entrainment.	Dec 1 through Feb 28th	Salvage threshold is three LFS for WY 2021.	Not active
8.4.1 (OMR Management for Adult Longfin Smelt)				Off-ramped due to detection of Longfin Smelt larvae on December 28 th
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 Larval 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	Triggered on 1/26, 2/2, 2/23, 3/9, 3/16, 3/30

Condition of Approval	Requirement	Time Frame	Trigger	Active? Triggered?
8.4.3 (High flow offramp for Longfin Smelt)	If triggered, Conditions of Approval 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.	No
8.5.1 (Turbidity Bridge Avoidance)	Maintain daily average turbidity in Old River at Bacon Island (OBI) at a level of less than 12 NTU. If the daily average turbidity at OBI is greater than 12 NTU, 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 NTU.	After the first flush or Feb 1 until April 1st	Turbidity at OBI > 12 FNU	Off-ramped; not 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 salvage of DS exceeds 11 in three days, 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 -3,500 cfs.	Nov 1 st through June 30 th or until off-ramped by 8.8	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 threshold for this year is one.	Active; Not Triggered

Condition of Approval	Requirement	Time Frame	Trigger	Active? 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 1 st through June 30 th of dry and critical water years for DS*	Larval Smelt are detected at SLS Station 716 during the period identified for each species, and/or when recommended by the SMT	Off-ramped for LFS; Active but not triggered for DS

Current Operations & Outlook

USBR and DWR shared operations updates from the Outlook. Their observations included:

- USBR CVO reported that dry meteorological conditions continue with no significant precipitation in the forecast for the coming week.
- Releases from Whiskeytown Dam on Clear Creek are currently 225 cfs. If possible, operators will reduce flows to 200 cfs but may not have the opportunity due to ongoing maintenance.
- Releases on the Sacramento River from Keswick Dam are currently at 4,500 cfs; they will be increased to 5,000 cfs on Thursday (April 8th) in anticipation of additional diversions as agricultural activities ramp up this month.
- American River releases from Nimbus Dam are currently 1,750 cfs and will be increased to 2,000 cfs on Thursday (April 8th) to support the ability to meet D-1641 outflow requirements in the Delta.
- Releases from Goodwin Dam on the Stanislaus River are currently 400 cfs in order to manage salinity at Vernalis, another D-1641 requirement. Releases are planned over the weekend and into next week in response to the spring pulse flow.
- Jones Pumping Plant exports are currently 400 cfs. CVO began cycling operations last week and will continue to do so through Wednesday (April 7th) to help manage outflow requirements.
- The Delta Cross-channel Gates are currently closed and are expected to remain closed through mid-May per the PA and D-1641 requirements. Construction activities on the gates are nearly complete.
- DWR reported that Feather River releases from Oroville increased to 1,500 cfs over the weekend and will decrease to 1,300 cfs today.
- Sacramento River flows at Freeport are currently around 8,300 cfs and will remain near this value for the rest of the week.
- Clifton Court inflow is 300 cfs and will range between 300 and 500 cfs this week.
- Delta outflows are between 7,000 and 7,200 cfs to meet the D-1641 outflow requirements.
- QWEST ranged between 1,200 and 1,500 cfs last week and will remain positive (between 500 and 1,500 cfs) in the coming days.
- The OMRI was -400 cfs over the weekend and -700 cfs today. The expected OMRI range for the upcoming seven days is between -400 and -1,000 cfs.
- X2 was >81 km yesterday (April 5th).

CDFW noted that the Old & Middle Rivers tidally filtered estimated flow reported by the OMR station on CDEC has differed significantly from the OMRI in the last several days. DWR suggested the discrepancies were likely caused by debris. CDFW reminded the group that the ITP requires tracking the difference between the OMRI and flow values at the OMR station.

Review of Environmental Conditions and Survey Updates

CDFW shared survey updates.

- Spring Kodiak Trawl (SKT) 4 sampled last week (March 29th to April 4th). No DS were detected. One LFS was detected at Station 519 in Honker Bay (78 mm).
- SKT 5 will take place between April 26th and 29th.
- 20-mm Survey 1 processing is nearly complete. No DS were collected. 479 LFS have been identified so far (7 to 29 mm).
- 20-mm Survey 2 is sampling this week. Preliminary data from yesterday's (April 5th) sampling include:
 - Station 809: 28 LFS (10 to 23 mm)
 - Station 901: Eight LFS (7 to 19 mm)
 - Station 902: Zero LFS
 - Station 914: Zero LFS
 - Station 915: Zero LFS

USFWS asked how the size distribution of fish in 20-mm Survey 2 compare to other recent larval LFS surveys.

- DWR shared that LFS collected in Smelt Larval Survey (SLS) 6 at Station 809 ranged from 6 to 11 mm, fish collected at Station 901 ranged from 6 to 9 mm, and an 8 mm LFS was collected at Station 902.
- CDFW noted that the SLS net is less efficient for larger juveniles so the size distribution for the final SLS survey is often smaller than the size distribution of the first 20-mm survey.
- DWR reported that the 2020 20-mm Survey 1 (sampled March 16th – 18th, 2020) collected fish between 6 and 18 mm. Due to COVID, the next LFS catch was not until 20-mm Survey 5 (sampled May 11th – 18th, 2020), which had a median length of 26 mm.

USFWS reported on the Enhanced Delta Smelt Monitoring (EDSM) Program.

- Last week (March 29th to April 2nd) was the first week of Phase 2 (20 mm) sampling. Processing is ongoing. Zero DS were detected so far. Final catch data should be available by Friday (April 9th). 137 larval LFS have been identified so far, including:
 - Eight LFS in the lower Sacramento River strata on March 29th (7.8 to 16.1 mm).
 - Two LFS in the lower San Joaquin River strata on March 29th (13 and 22 mm).
 - 127 LFS in the Suisun Marsh strata on March 30th (6.7 to 30.1 mm).
- There will be no EDSM sampling this week due to COVID mitigations.
- The Chipps Island Trawl caught six LFS in the last week:
 - One LFS on March 30th (87 mm, no expression, mortality).
 - Two LFS on April 2nd (70 mm with no expression; 85 mm, transferred to the Fish Conservation and Culture Laboratory (FCCL)).
 - Three LFS on April 5th (72, 77, and 83 mm, no expression. The 83 mm fish was not transferred to FCCL due to poor condition).
- The Chipps Island crew will be sampling four days this week and five days next week.

CDFW provided a salvage update (March 30th to April 5th).

- No adult or larval DS were salvaged.

- The SWP did not export on March 29th, April 1st, or April 4th.
- 32 LFS were salvaged at the SWP, bringing the expanded salvage season total to 60 LFS.
- 72 LFS were salvaged at the CVP, bringing the expanded salvage season total to 92 LFS.

CDFW shared larval sampling at CVP and SWP with SMT members via email after the meeting:

- *No DS larvae were detected at either facility.*
- *No LFS larvae were detected at the SWP.*
- *The following detections were reported from the CVP:*
 - *Two LFS on March 30th (15.1 and 19.5 mm)*
 - *Seven LFS on March 31st (17.0 to 19.4 mm)*
 - *One LFS on April 1st (19 mm)*
 - *Three LFS on April 2nd (13.8 to 18.9 mm)*

USBR shared water quality data (three-station average daily water temperature as of April 5th was 16.51° C; daily average turbidity at Old River at Bacon Island (OBI) was 2.60 FNU and is currently 3.20 FNU). The seven-day weather forecast for Antioch is mostly clear to sunny with W to SW winds from 6 to 14 mph and gusts up to 23 mph; the seven-day weather forecast for Stockton is mostly sunny and partly cloudy with W to NW winds from 6 to 14 mph and gusts up to 20 mph. X2 is >81 km; the estimated Sacramento River X2 is 85.9 km and the estimated San Joaquin River X2 is 85.5 km.

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

CDFW observed that adult LFS are still present in the system, though with water temperatures >16° C, the older fish will likely move out of the Delta soon. The ITP risk assessment will continue to consider adult, juvenile, and larval LFS.

CDFW will prepare a presentation on historical size distribution data of LFS for the April 20th SMT meeting.

CDFW proposed carrying forward the same language in the risk assessment as the previous week. Although Condition of Approval 8.4.2 remains in effect, the projected OMRI values for the next week are more positive than the least negative OMRI limit the SMT can recommend under 8.4.2. CDFW will note that some salvage is occurring, but this is not unexpected. No DS were detected near Barker Slough, so there is no reason to believe DS are at risk of entrainment at Barker Slough and no recommendation is needed under Condition of Approval 8.12.

USFWS, CDFW, and DWR agreed.

USFWS and USBR noted that the CDFW website that hosts fish catch and length distribution data (20-mm Survey) is not compatible with certain browsers (e.g., Google Chrome or Microsoft Edge). CDFW recommended using Firefox or Internet Explorer instead.

PART 3: Live-edit Assessments

ITP Longfin Smelt Risk Assessment

CDFW updated the ITP assessment based on the discussion documented in Part 2 above.

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

USBR reviewed updates to the assessment, which largely focused on the latest detection data and anticipated changes in conditions (including turbidity, OMR Index, and QWEST values). Edits to the assessment included:

- Updated descriptions of DS distribution to reference “no recent detections” instead of “a few recent detections”.
- A statement in the abiotic conditions section noting the turbidity bridge avoidance action was off-ramped but the SMT is still tracking turbidity values in the Delta.
- Revised references to water temperature to be “above 12° C” instead of “near 12° C”.

The group reviewed the relevant assessment questions: (1) Between December 1 and January 31, has any first flush condition been exceeded? (2) Do DS have a high risk of migration and dispersal into areas at high risk of future entrainment? (3) Has a spent female DS been collected? (4) If OMR of -2,000 cfs does not reduce daily average OBI turbidity below 12 NTU/FNU, what OMR target is deemed protective between -2,000 and -5,000 cfs? (5) If daily average OBI turbidity is greater than 12 NTU/FNU, what do other station locations show? (6) If daily average OBI is greater than 12 NTU/FNU, is a turbidity bridge avoidance action not warranted? What is the supporting information? (7) After March 15 and if QWEST is negative, are larval or juvenile DS within the entrainment zone of the CVP and SWP pumps based on surveys? (8) Based on real-time spatial distribution of DS and currently available turbidity information, should OMR be managed to no more negative than -3,500? (9) What do hydrodynamic models, informed by EDSM or other relevant data, suggest the estimated percentage of larval and juvenile DS that could be entrained may be?

- The responses to questions one, two, three, five, seven, eight, and nine did not change at all or were updated to reflect the latest dates and data.
- The responses to questions four and six were updated to note the turbidity bridge avoidance action was off-ramped.

USBR reviewed the Executive Summary:

- Conditions have not changed since last week, so the SMT did not make any revisions.

No non-consensus issues were identified.

Additional Considerations/Discussion

Agencies reported no items for elevation to WOMT.