

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

- K&W to add discussion of potential approaches to getting genetic analyses on Delta Smelt (DS) to the agenda of an upcoming Smelt Monitoring Team (SMT) meeting.

MEETING SUMMARY

PART 1: Updates on Water Operations and Biological Updates

Relevant Actions & Triggers

The federal Integrated Early Winter Pulse Protection action is active but has not been triggered. The ITP COA 8.3.1 (Integrated Early Winter Pulse Protection) and 8.3.3 (Adult Longfin Smelt Entrainment Protection) can now be considered while the recent detection of a Longfin Smelt (LFS) by Smelt Larval Survey (SLS) 12 off-ramped COA 8.4.1. 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 Old and Middle River (OMR) Guidance Document or ITP as needed.

Proposed Action

OMR Management Measures	Requirement	Time Frame	Trigger	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 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

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

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.		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

TTP 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 LFS required under 8.1.5 and 8.1.1.	Nov 1 st through June 30 th or until		Active

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
		off-ramped by 8.8		
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 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 1 st through Feb 28 th , 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 28 th	Salvage threshold for water year (WY) 2023 is 32.	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 28 th	SMT recommendation based on weekly risk assessment.	Off-ramped with detection of LFS larvae in SLS 12

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 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.	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 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 end of OMR management or until CDFW agrees that the action may be ended or modified.	Turbidity at OBI > 12 FNU	Not active
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	Nov 1 st through June 30 th or until off-ramped by 8.8	(1) When the five-day salvage of juvenile Delta Smelt is greater than or equal to one plus the average prior three years' FMWT index (rounded down). The 2022 September through	Active, not triggered

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
	<p>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.</p>		<p>November FWMT index for DS was zero.</p> <p>Or (2) when a larval/juvenile DS is detected in SLS/20 mm</p> <p>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)</p>	
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 30 th	Daily mean water temperature at CCF is $>25^{\circ}\text{C}$ 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 1 st through June 30 th 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

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

- USBR reported on weather conditions noting a dry pattern with a general warming trend, and potential for light rain in northern California.
- Releases from Whiskeytown Dam on Clear Creek are currently 200 cfs. No changes expected.
- Releases from Keswick Dam on the Sacramento River are 3,250 cfs. No changes expected.
- Releases from Nimbus Dam on the American River are 1,300 cfs. No changes expected.
- Releases from Goodwin Dam on the Stanislaus River are 200 cfs. No changes expected.
- The federal facility is exporting 1,800 cfs with a change order for December 23rd targeting 900 cfs.
- Delta Cross Channel (DCC) gates remain closed. No changes expected for the next seven-day period.
- DWR reported that Feather River releases are 950 cfs.
- As of December 19th, Sacramento River flows at Freeport had fallen to 8,900 cfs with reduced storm runoff and effects from tidal changes.
- San Joaquin River flows at Vernalis were around 1,200 cfs as of December 19th and will likely recede through the week.
- State facility exports are 1,000 cfs and will decrease to 500 cfs by the 21st.
- December 19th Delta outflows were approximately 5,000 cfs and will remain in the 4,000 to 5,000 cfs range for the week ahead.
- As of December 19th, QWEST was approximately -600 cfs. It may bounce between slightly positive and slightly negative depending on exports, but will likely be near zero.
- Rio Vista flows are 6,000 cfs.
- Strong spring tidal effects will peak on Friday, December 23rd with a neap tide arriving next week.
- Water quality continues to be the controlling factor in the Delta.
- The OMR Index expected this week is approximately -2,400 cfs and will shift to -1,500 cfs through the week.
 - December 17th OMR at USGS gauge:
 - Daily: -5,800 cfs
 - Five-Day: -4,500 cfs
 - 14-Day: -2,400
 - December 17th OMR Index:
 - Daily: -5,000 cfs
 - Five-Day: -5,100 cfs
 - 14-Day: -2,600 cfs
 - December 19th OMR Index:
 - Daily: -2,400 cfs
 - Five-Day: -5,000 cfs
 - 14-Day: -2,900 cfs

The survey table was updated to reflect the completion of the FMWT for the season.

Review of Environmental Conditions and Survey Updates

CDFW delivered catch updates on relevant surveys to the SMT.

- The December FMWT survey is complete, and data will be available next week.
- The December Bay Study survey is complete with catch widely dispersed and no detections in the San Joaquin River. Most detections were in the South Bay.

- Juvenile LFS: 101 (48 to 80 mm)
- Adult LFS: 14 (85 to 109 mm)
- SLS 13 is on the water and samples are still being processed. Central and South Delta station samples are prioritized, but only a handful are processed at this time.
 - Preliminary (QC-ed) results show one larval LFS (7mm) detected in the Lower San Joaquin River at station 812.
- SLS 12 samples are still being processed and data should be available by the week of December 26th.

USFWS provided catch updates on the Enhanced Delta Smelt Monitoring Program (EDSM) and Chipps Island Trawl.

- EDSM sampled Monday through Thursday the week of December 12th, completing 33 sites, with weather complicating operations and preventing sampling at five of the planned 36 sites. At least three sites were completed in each stratum.
 - DS: Zero
 - LFS: One sub-adult in Suisun Marsh stratum (63 mm).
- EDSM is scheduled to sample Monday through Thursday this week.
- The week of December 12th Chipps Island crews completed all 30 scheduled tows.
 - DS: Zero
 - LFS: 15 (67 to 119 mm)
 - Fourteen of the 15 fish were transferred to Fish Conservation and Culture Laboratory (FCCL) for broodstock.
- This week Chipps Island will sample Monday, Wednesday, and Friday.
- The DS abundance estimate for the week of December 12th was zero due to no detections.
 - The last non-zero abundance estimate is from the week of November 7th at 1,240.

CDFW provided a salvage update (December 12th to December 18th).

- No DS or LFS have been detected at either facility this WY.

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

CDFW noted that the risk to DS will likely decline relative to last week given the less negative OMR Index.

DWR reiterated that last week two DS, approximately 60 mm, were detected in the Lower Sacramento River near Sherman Island by the FCCL broodstock collection effort. Both fish were transported to FCCL for broodstock. One was tagged from the November 30th hard release and the other was not tagged.

CDFW highlighted that LFS detections have decreased across the system this past week.

PART 3: Live-edit Assessments

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

USBR reviewed proposed changes to the PA Assessment, which include the latest dates, detections, data and the following:

- Evaluation question 2 notes lower likelihood of entrainment with decreased exports.

ITP Longfin Smelt Risk Assessment

The SMT reviewed and discussed updates to the ITP Risk Assessment for LFS, which include the latest dates, detections, and data as well as:

Advice to WOMT

- No items for elevation to WOMT.

Sections 1-A and 1-B

- 1-A
 - DS subadults and adults – Routing Risk: Removed language on increased risk due to increased exports and noted new DS detections.
 - LFS sub-adult and adults – Routing Risk: Acknowledged increase in detections at the start of December with fewer detections in the last half of the month.
- 1-B
 - LFS larvae – Exposure Risk: Added larvae detected in the Lower San Joaquin River at station 812 by SLS 13. Risk level is low.

Change in exposure from last week

- DS: No changes in risk.
- LFS No changes in risk.

Executive Summary

- DS: No additional changes.
- LFS: No additional changes.

Part 4: Additional Considerations/Discussion

Agencies reported no items for elevation to WOMT.