

## 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

- DWR to confer with their legal department and CDFW on the potential on-ramping of Incidental Take Permit (ITP) Condition of Approval (COA) 8.4.2.

## 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 <sup>1</sup> ); 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

<sup>1</sup> 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 <sup>st</sup> through June 30 <sup>th</sup> 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 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 <sup>st</sup> through Feb 28 <sup>th</sup> , 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 <sup>th</sup>	Salvage threshold for water year (WY) 2023 is 32.	Active, not triggered

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
8.4.1 (OMR Management for Adult Longfin Smelt)	<p>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:</p> <p>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</p>	Onset of OMR management through Feb 28 <sup>th</sup>	SMT recommendation based on weekly risk assessment.	Off-ramped with detection of LFS larvae in SLS 12
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

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
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 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 1 <sup>st</sup> through June 30 <sup>th</sup> 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 November FMWT 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 $\geq 12^{\circ}\text{C}$ 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)	Active, not triggered

Condition of Approval	Requirement	Time Frame	Trigger	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 30 <sup>th</sup>	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 1 <sup>st</sup> through June 30 <sup>th</sup> 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 return to a drier weather pattern with a decrease in air temperatures which may produce frost in the valley floor.
- Releases from Whiskeytown Dam on Clear Creek are currently 200 cfs. No changes expected for the next seven-day period.
- Releases from Keswick Dam on the Sacramento River are 3,250 cfs. No changes expected for the next seven-day period.
- Releases from Nimbus Dam on the American River are 1,300 cfs. No changes expected for the next seven-day period.
- Releases from Goodwin Dam on the Stanislaus River are 200 cfs. No anticipated changes.
- The federal facility is exporting 800 cfs with increases expected starting December 14<sup>th</sup> and ramping up to 2,700 cfs on the 15<sup>th</sup>.
- Strong flows from the east side and Cosumnes River are alleviating salinity issues in the southern Delta.
- Delta Cross Channel (DCC) gates closed on Monday, November 28<sup>th</sup> and will remain closed for the season. The possibility of opening the gates to mitigate salinity in the Delta is decreasing with recent stormwater inflow.
- DWR reported that Feather River releases are 950 cfs.
- As of December 12<sup>th</sup>, Sacramento River flows at Freeport were 7,000 and 18,000 cfs with storm runoff.
- San Joaquin River flows at Vernalis were around 1,300 cfs as of December 12<sup>th</sup>.
- State facility exports are 1,000 cfs with significant range in allotments reaching up to 6,680 cfs.
- Delta outflows ranges from 3,000 to 25,000 cfs.
- As of December 12<sup>th</sup>, QWEST was a little over 8,000 cfs.
- Rio Vista flows are fluctuating between 6,000 and 15,000 cfs.
- Spring tide effects are increasing with neap occurring this week and spring tides will arrive next week.
- Controlling factor is water quality, it has improved such that exports can increase, however any increase in exports may be short-lived to protect water quality in the system.
- The OMRI expected this week is approximately -1,100 to -8,500 cfs.

- December 10<sup>th</sup> OMR at USGS gauge:
  - Daily: -2,300 cfs
  - Five-Day: -1,600 cfs
  - 14-Day: Data Missing
- December 10<sup>th</sup> OMRI:
  - Daily: -1,200 cfs
  - Five-Day: -1,100 cfs
  - 14-Day: -1,200 cfs
- December 12<sup>th</sup> OMRI:
  - Daily: -1,100 cfs
  - Five-Day: -1,100 cfs
  - 14-Day: -1,200 cfs

No updates were made to the survey table.

## Review of Environmental Conditions and Survey Updates

CDFW delivered catch updates on relevant surveys to the SMT.

SLS was on water from December 5<sup>th</sup> to the 7<sup>th</sup> with all stations sampled.

- One LFS larva was detected at station 707 with a fork length of 6 mm.
  - No yolk sac was present.

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

- EDSM sampled Monday through Friday the week of December 5<sup>th</sup>, completing 31 sites with weather complicating operations and preventing sampling at five of the planned 36 sites. At least three sites were completed in each stratum including the south Delta.
  - DS: Zero
  - LFS: 70 in Suisun Marsh stratum (63 to 110 mm).
    - Eight LFS adults were transferred to the Fish Conservation and Culture Laboratory (FCCL) for broodstock.
- The week of December 5<sup>th</sup> Chipps Island crews completed all 30 scheduled tows.
  - DS: Zero
  - LFS: Two (61 and 81 mm)
- This week Chipps Island will sample Monday, Tuesday, and Thursday.
- The DS abundance estimate for the week of December 5<sup>th</sup> was zero due to no detections.
  - The last non-zero abundance estimate is from the week of November 7<sup>th</sup> at 1,240.
- USFWS clarified the LFS broodstock selection process noting that adult fish must generally be in good health and >84 mm. For DSM broodstock collection, fish must be in good health and collected from water equal to or below 17° C. The fall/early winter is the ideal time to collect fish for FCCL as long as the facility has capacity.

CDFW provided a salvage update (December 5<sup>th</sup> to December 11<sup>th</sup>).

- No DS or LFS have been detected at either facility this WY.
  - During periods when facilities do not export there is no fish salvage sampling, which is standard procedure.

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

CDFW suggested that risk for DS, including the experimentally released DS, may increase with the more negative OMR Index. However, with the lack of detections and low turbidity, there is no evidence to indicate elevated risk at this time.

CDFW requested a Particle Tracking Model (PTM) to better understand the potential zone of entrainment at the upper range of anticipated OMR Index values (-8,500 cfs) as well as at -5,000 cfs, i.e., the most negative allowable OMR Index under OMR management. OMR management has not yet on-ramped but has the potential to on-ramp this month.

- DWR noted that a PTM run would not be beneficial at this point given:
  - The current OMR Index (more negative than -5,000 cfs) will not likely be sustained for more than a few days making PTM invalid by next week.
  - A PTM is not a reliable indicator of adult LFS or DS movement.
  - There is no significant precipitation forecasted in the next 10-day timeframe, and a significant potential increase in exports could return the OMR Index to more negative than -5,000 cfs.
  - A PTM run using current hydrology would not be valid for making OMR recommendations by the time OMR management on-ramps, as DSM2 hydrologic forecasts are most accurate for the first six days.
  - DWR proposed holding off on a PTM run until conditions stabilize and OMR management on-ramps.
- CDFW suggested a PTM run would be valuable given:
  - Clarify whether an OMR Index more negative than -5,000 cfs would potentially increase the zone of entrainment and put LFS or DS at greater risk. This may be helpful in order to better inform the possible on-ramping of OMR management via COA 8.3.3.
  - PTM can be a useful tool for evaluating larval entrainment risk. We have detected a larva indicating that spawning and hatching have begun. The spawning migration is ongoing, and with the recent increase in inflows there's potential that adults may move into areas with higher risk of entrainment. The presence of an adult can indicate the presence of larvae, and in case an adult LFS is detected in the next couple of weeks in the lower San Joaquin River or Central or South Delta, a PTM run could help inform if there's a difference in entrainment risk at OMRI of -5,000 cfs and the -8,500 cfs planned later this week.
  - A PTM run takes a couple of days to get the results, then the SMT must discuss the results, and if a recommendation is made then it takes a few days for the recommendation to get implemented if it's accepted. With the holidays approaching, people will be taking time off, which may increase the time required for each of these steps. Having PTM run information sooner could help the SMT avoid an off-cycle meeting during the holidays to discuss risk.
  - USFWS indicated that the distribution of X2 only moved slightly downstream compared to the previous week but X2 is still > 90 km. An OMR more negative than -5,000 cfs has the potential to increase entrainment risk for both DS and LFS.
- CDFW referenced language in the ITP from COA 8.4.1 stating that after LFS spawning has been observed, then 8.4.2 immediately on-ramps. CDFW believes this bypasses the January 1<sup>st</sup> on-ramp date in COA 8.4.2.
  - DWR agreed to work with their legal department and CDFW to assess if this interpretation is correct and if the COA is actionable before January 1<sup>st</sup>.



DWR agreed to track environmental and hydrologic conditions and notify the SMT of significant changes.

CDFW requested a PTM run be completed at the earliest juncture possible once conditions stabilize, and if it looks like OMR Index may become more negative than -5,000 cfs again this month.

No actions or conditions of approval were triggered this week and the SMT did not make any recommendations.

### **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 two was modified to note possible DS movement or migration into areas of greater entrainment risk due to more negative OMR Index values.

The DS executive summary was edited to acknowledge the possibility of increased entrainment risk given more negative OMR Index values and the recent DS experimental release.

#### **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: Notes the increased risk associated with a more negative OMR Index.
  - LFS larvae and Juvenile – Exposure Risk: Amended to Low given the detection of a LFS larva by SLS 12.
  - LFS sub-adult and adults – Routing Risk: Acknowledges that spawning has started.
- 1-B
  - LFS larvae – Exposure Risk: Added larvae and noted no detections in the central Delta in field surveys.

Change in exposure from last week

- DS: reiterates possible increase in risk given additional exports.
- LFS addresses the start of spawning and the larval detection by SLS 12. Increased exports also possibly increase entrainment risk to LFS.

Executive Summary

- DS executive summary highlights the possibility of increased risk with higher exports.
- LFS executive summary notes the start of spawning and the larval detection by SLS 12 resulting in the off-ramp of ITP COA 8.4.1.

## Part 4: Additional Considerations/Discussion

Agencies reported no items for elevation to WOMT.