



Smelt Monitoring Team Meeting Summary

Tuesday, June 25, 2024

Meeting Objective

- Provide Reclamation with feedback on what worked and what didn't under the current [Guidance Document](#)
- Provide Kearns & West feedback to improve facilitation services next season and beyond
- Identify supportive analyses that could be done over the summer that would support the SMT objectives
- Prepare for fall season: identify presentations and basic logistics for fall in-person kick-off meeting

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 provide feedback to Reclamation about incorporating a communication mechanism from WOMT to the SMT about operations decisions (*see Advice to WOMT section below*).
- **CDFW** to meet with Reclamation following the issuance of the draft Proposed Action and/or ITP to discuss possible changes to the SMT SacPAS page.
- If information about the SMT under the new Proposed Action and ITP is released prior to the commencement of the next SMT season, **K&W** will meet with Reclamation in the off season to consider a revised SMT standing agenda for consideration by Reclamation to include in the new Guidance Document.
- **K&W** to set up a SMT SharePoint prior to the WY2025 season.

- **K&W** will reach out to USFWS prior to the start of the WY25 about whether the Service might present updated information on implications for DS and LFS from Steelhead Protections.
- **K&W** to coordinate with DWR for a location and update the SMT about location and logistics for an in-person meeting to start the WY2025 SMT season.

Advice to WOMT

- SMT requested a mechanism for timely communication from WOMT to SMT regarding advice that SMT has provided advice to WOMT: specifically, whether that advice has been taken (or not), any rationale for that decision, and a time range for relevant decisions. *(Note: this is not formal advice to WOMT but rather requested feedback on improvements that could be made to the future Guidance Document. It is included here because the feedback is directed to WOMT.)*

Announcements

- Due to the End of OMR Management as of 6/14/24, the SMT did not follow the regular agenda. As a result, CDFW and USFWS did not report on Delta Smelt or Longfin Smelt survey detections. CDFW did not report on operational variances. The SMT did not discuss risk to Delta Smelt and Longfin Smelt. The SMT did not live edit the Delta Smelt and Longfin Smelt tables in the Proposed Action Assessment or the ITP Risk Assessment.

Meeting Summary

Part 1: Updates on Water Operations and Biological Conditions Updates

Relevant Actions & Triggers

- CVP and SWP operators are targeting an Old and Middle River Index (OMRI) range of -2,500 cfs to -6,000 cfs.
- Reclamation and DWR proposed joint water project operations be conducted according to D-1641 requirements.

OMR Management Season for smelts has ended for the season based on three consecutive days of daily average temperature at Clifton Court Forebay exceeding 25°C. 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.	Off-ramped. Implemented 1/23/24-2/5/24
OMR Management	Manage to a more positive OMR than -5,000 cfs.	From the onset of OMR management to the end.	N/A	Off-ramped as of 6/14/24
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.	Off-ramped

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

Measures	Requirement	Time Frame	Trigger	Action Status*
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. USFWS Memo/Technical Note 47: When the Secchi depth in the South Delta is less than 1 meter, Reclamation will operate to OMR no more negative than -3,500 cfs. When the Secchi depth in the south Delta is greater than 1 meter, Reclamation and DWR will operate to OMR no more negative than -5,000 cfs.	Active, Not Triggered
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	Active, Triggered on 6/14/24

ITP Conditions of Approval

Approval	Requirement	Time Frame	Trigger	Action Status
8.1.5.2 (Smelt Monitoring Team Risk Assessment)	Outlines contents for weekly risk assessments of DS and Longfin Smelt (LFS) required under 8.1.5 and 8.1.1.	Nov 1 st through June 30 th or until off-ramped by 8.8	N/A	Off-ramped by COA 8.8 on 6/14/24

Approval	Requirement	Time Frame	Trigger	Action Status
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 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.	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.	Off-ramped on 2/5/24
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 (Condition of Approval 8.3) if: Cumulative combined LFS salvage (total estimated LFS counts at the CVP and SWP salvage facilities beginning December 1 through February 28 exceeds the most recent Fall Midwater Trawl (FMWT) LFS index divided by 10, Real-time monitoring of abiotic and biotic factors indicates a high risk of LFS movement into areas at high risk of future entrainment, as determined by DWR and CDFW SMT staff.	Dec 1 through Feb 28 th	Salvage threshold for water year (WY) 2024 is 46.4.	Off-ramped as of 1/1/24 due to initiation of OMR season by COA 8.3.2

Approval	Requirement	Time Frame	Trigger	Action Status
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 th	SMT recommendation based on weekly risk assessment.	Off-ramped as of 12/18/23 due to detection of larval LFS by Smelt Larva Survey (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 1 st through June 30 th or until the temperature offramp 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.	Off-ramped by COA 8.8 on 6/14/24

Approval	Requirement	Time Frame	Trigger	Action Status
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 season	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.	Off-ramped by COA 8.8 on 6/14/24
8.5.1 Turbidity Bridge Avoidance	Maintain daily average turbidity at OBI at a level of less than 12 FNU. If the daily average turbidity at OBI is greater than 12 FNU, 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 FNU.	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	Off-ramped

Approval	Requirement	Time Frame	Trigger	Action Status
8.5.2 (Larval and Juvenile Delta Smelt Protection)	<p>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 WOMET.</p>	Nov 1st through June 30th or until off-ramped by 8.8.	<p>(1) 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 2023 September through December 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>	Off-ramped by COA 8.8 on 6/14/24

Approval	Requirement	Time Frame	Trigger	Action Status
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 30th	Daily mean water temperature at CCF is >25° C for three consecutive days.	Active, Triggered on 6/14/24
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 1st through June 30th for DS	Larval Smelt are detected at SLS Station 716 during the period identified for each species, and/or when recommended by the SMT.	LFS: Off-ramped. DS: Not active due to Above Normal water year type forecast as of 5/14/24.
8.17 (Export Curtailments for Spring Outflow)	Reduce exports from April 1 st to May 31 st each year to achieve the SWP proportional share of export reductions established by the ratio of Vernalis flow to combined CVP and SWP exports, scaled by water year type, to provide incidental spring outflow.	April 1 st through May 31 st	The three-day average Delta outflow is less than 44,500 cfs	Off-ramped. Implemented 4/10/24-5/31/24.

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](#)

Current Operations & Outlook*

- Releases from Whiskeytown Dam on Clear Creek are currently 500 cfs with a range of 175 cfs to 500 cfs for a Spring attraction pulse.
- Releases from Keswick Dam on the Sacramento River are currently 9,000 cfs with a range of 9,000 cfs to 10,000 cfs for the week.
- Releases from Oroville Dam on the Feather River are currently 4,500 cfs with a range of 2,000 cfs to 5,000 cfs for the week.
- Releases from Nimbus Dam on the American River are 3,500 cfs with a range of 3,500 cfs to 4,000 cfs for the week.
- Releases from Goodwin Dam on the Stanislaus River are currently 2,500 cfs with a range of 1,500 cfs to 2,500 cfs for the week.

- Jones Pumping Plant is currently exporting 2,700 cfs with an anticipated range of 2,700 cfs to 4,200 cfs.
- The State facility (SWP) is currently exporting 800 cfs with an anticipated range of 300 cfs to 3,000 cfs.
- Expected Daily OMR Index Values are between –2,500 cfs to –6,000 cfs.
- Sacramento River flows at Freeport range between 13,000 to 16,000 cfs.
- San Joaquin River flows at Vernalis range between 2,000 to 3,500 cfs.
- The Delta Outflow index ranges from 9,000 to 12,000 cfs.
- X2 is 73 km.
- Delta Cross Channel (DCC) gates opened on 6/14/24 and will be tested on 6/21/24.

** Current operations and outlook values accurate as of 6/18/24.*

Review of Environmental Conditions and Survey Updates

Due to the End of OMR Management as of 6/14/24, the SMT did not review Environmental Conditions or Survey Updates. There was no discussion on species status, no live-edit assessments, and no items for elevation to WOMT.

Part 2. End of Season Debrief

OMR Guidance Document Feedback

K&W relayed clarification from Reclamation that the request for SMT feedback on the Guidance Document at this time is what has been working and what has not under the current Guidance Document. K&W opened the discussion to all SMT members.

- K&W shared that the standing SMT agenda in the OMR Guidance Document could be changed to better align with SMT practice. K&W offered that a small group of SMT members could work with K&W in the following weeks to improve the standing agenda which could then be shared with Reclamation for consideration in the new OMR Guidance Document. Given that the role of SMT might change under new regulatory documents, the group decided to revisit the standing agenda once those documents are released. If this occurs before the SMT formally re-commences its regular meetings in November, 2024, K&W will meet with Reclamation in the off season to consider a revised SMT standing agenda.
- USFWS added that they would appreciate an end of year summary synthesizing the season's OMR actions. The summary could include additional information including which actions were controlling and when. DWR shared that the annual OMR seasonal reports are prepared and could satisfy this. DWR elaborated that these reports are prepared after the season ends and are usually published later in the summer. USFWS thanked DWR and suggested including detail about the unusual factors that surrounded this WY controlling actions.

- Reclamation suggested changes to the OMR Guidance Document that clarified communication protocols from the WOMT to the SMT following any WOMT decisions. SMT elaborated on this request. At times during the WY2024 season, the SMT would make recommendations or provide advice to WOMT but there were no regular or formal mechanisms for SMT members to learn about whether WOMT acted on that advice, nor any rationale for action or inaction. Instead, during the WY2024 season, SMT was often confused about which decisions or actions were controlling at any given time.
 - CDFW clarified that, at certain times during the WY2024 season, there was confusion about which actions controlled CVP and SWP operations and the origin of the decision, whether from WOMT or a Director's Decision. For example, this past season there was a Director's Decision for Steelhead which did not have a clear end date which was confusing to SMT members.
- SMT requested a formal mechanism for timely communication from WOMT to SMT for WOMT operations decisions. SMT expressed desired that such communication from WOMT include rationale for taking/not taking SMT advice and a time range for relevant or controlling decisions.

SacPAS SMT Page Changes

Reclamation led the SMT in a review of the SMT webpage on the SacPAS website, soliciting feedback. Specifically, Reclamation asked the SMT whether the SMT SacPAS page was still beneficial and whether specific information could be added to make it more useful, noting that there were requests for certain metrics to be added to the page throughout the season.

- USFWS suggested that the Clifton Court Forebay temperature graph could also include the 3-day moving average, then observed that the 3 consecutive day temperature data is the relevant trigger and is already captured. USFWS also suggested coordination between SacPAS and Bay-Delta Live which host similar information.
- CDFW shared that they would like to speak to Reclamation about possible changes to SacPAS after the new Proposed Action and any associated permits related to Delta Smelt or Longfin Smelt are drafted.

Facilitation Services Feedback

K&W sought feedback from the SMT about any process improvements or general feedback on what could be improved for the WY2025 SMT season.

- K&W asked the SMT whether they felt a SharePoint would be beneficial to collect documentation on SMT presentations, literature, and other information.
 - Reclamation reminded the SMT that there had been a SMT specific SharePoint but that it was not in use due to agency changes with regards to hosting SharePoint sites. K&W would need to host the SharePoint site if the SMT wanted it.
 - K&W asked what kinds of materials the SMT would expect K&W to post to the SharePoint.

- Reclamation suggested that the SharePoint could include relevant literature, the new OMR Guidance Document, a copy of the standing SMT agenda, and SMT presentations but not meeting summaries which are publicly posted.
- CDFW also requested that K&W double check and take more time if needed to make sure agency leads or their alternates are present before formally initiating SMT meetings. K&W agreed.
- K&W asked what else the facilitation team could do to improve the SMT process; no other suggestions were offered.

Capturing Controlling Actions

In response to a previous SMT request, K&W shared a draft document to capture which actions were controlling throughout the season and sought feedback on that draft.

- USFWS liked the document and asked whether the table could be used to track changes in OMRI values from week to week. K&W noted that it could in one of the columns could be used for OMRI ranges, further noting that trigger tracking already occurs in table in the SMT meeting summaries. K&W also suggested that the two tables could be changed or possibly combined.
- CDFW suggested that the first column in the draft document for tracking controlling actions should include the start and end date for a given controlling action. CDFW cautioned against having a single column for documenting OMRI ranges since they are sometimes different and suggested instead to include them in parentheses in the CVP and SWP controlling actions columns.
- Reclamation added that they would appreciate a separate table tracking Smelt-specific triggers for general convenience and because it would be useful when writing the end of season OMR report.
 - CDFW noted that ITP Risk Assessment Section 2 documents actions that are refreshed with weekly monitoring data including DS/LFS detections and environmental conditions. CDFW and Reclamation agreed to talk offline as to whether the CDFW Risk Assessment could support the information desired by Reclamation.

SMT and CASS Coordination and Information Sharing

K&W asked the SMT whether they felt they would benefit from increased coordination with the Culture and Supplementation of Smelt (CASS) working groups about Delta Smelt related information including updates from researchers.

- The SMT did not indicate interest in additional coordination with CASS working groups.

Off-Season Support Analyses

Following suggestions from USFWS about off-season analyses related to Delta and Longfin Smelt, K&W led the SMT in a discussion of potential off-season analyses that might benefit the team.

- K&W reminded the group that there had been interest from USFWS about learning more about the impact of the Steelhead protection actions on DS and LFS as evidenced by this past season.
 - USFWS shared that they consulted internally with one of their scientists about the impact of the Steelhead actions on adult Delta Smelt. Potential impacts for adult DS could be evaluated using a tagging model although the timing of the action could be more relevant to larval-juvenile stages. The latter analysis could take longer as it would require using PTM tracking and the DS life-cycle model. USFWS scientists could consider additional analysis especially for the March-May timeframe to see whether there is a strong case to further this analysis. Preliminary OMR flow data for the average from March to May 2024 suggest this period was in the range of past Dry and Critically Dry years while the forecasted WYT was Above Normal.
 - K&W suggested circling back with USFWS prior to the start of WY2025 about whether they could present updated information on this topic to the SMT.

Hybridization Study

K&W asked the SMT whether the Delta Smelt-Wakasagi hybridization study from USFWS could inform any additional analyses over the summer months.

- The SMT did not seek further information on this topic.

Presentations for the Beginning of WY25

K&W asked the SMT which presentations they would like to see to kick off the WY2025 SMT season.

- CDFW shared that they felt that the refresher presentations from WY2024 would be helpful to have again. They highlighted that a presentation on state regulatory requirements under CESA, ITP COAs, and associated risk assessment tools would be particularly necessary and useful once the new PA and ITP are implemented.
- CDFW also noted their willingness to give a presentation on delta fish salvage facilities again.
- K&W asked Reclamation if they would be ready to share the new OMR Guidance Document and triggers.
 - Reclamation agreed to that presentation when the documentation was ready.
- CDFW added that a presentation would be useful on the SWRCB Water Rights Decision 1641 (D-1641) as it relates to water operations during the OMR management season.

- SWRCB noted that the D-1641 presentation could be combined with the DWR presentation on hydrology calculations.
- K&W noted that they will prepare a list of potential presentations beginning with those mentioned today for the SMT consideration. K&W further elaborated that these presentations would occur early in the season when meetings tend to be shorter and would be scheduled as time allows.

Fall Kickoff Logistics

- K&W confirmed that November 5 would be the in-person kickoff meeting and asked the SMT who might be willing to host it.
 - DWR shared that their office could be a possibility and might be the most convenient.

Next SMT Meeting

This is the final SMT meeting of the WY2024 season. The WY2025 SMT season will begin on November 5, 2024, with an in-person meeting.