

PARTICIPANTS

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

ACTION ITEMS

- SMT members to respond to the Doodle Poll from CDFW staff by COB today (January 26th) to assist with scheduling a PTM tutorial.
- CDFW to ask management for advice on which data to use for considering the turbidity bridge avoidance trigger and how to communicate SMT recommendations developed outside of standing SMT meetings to WOMT.
- DWR operations to share an update on hydrologic conditions with SMT members on Friday morning (January 29th).
- CDFW to share updated catch data from SLS 2 with SMT members.
- CDFW to compare 2020 and 2021 SLS data to support discussion of Longfin Smelt distribution at the next SMT meeting.

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:

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 cfs	December 1 st to January 31 st	(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 NTU ¹ ; or (3) Real-time monitoring indicates a	No

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

OMR Management Measures	Requirement	Time Frame	Trigger	Triggered?
			high risk of migration and dispersal into areas at high risk of future entrainment or a spent delta smelt 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 (for salmon)

CDFW reported on the ITP Conditions of Approval that are currently in effect and whether they have been triggered:

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
8.1.5.2 (Smelt Monitoring Team Risk Assessment)	Outlines contents for weekly risk assessments of Delta Smelt and Longfin Smelt required under 8.1.5 and 8.1.1	November 1 st through June 30 th or until off-ramped by 8.8		Yes
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 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.	December 1 st to January 31 st	Three 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 Smelt Monitoring Team determines that real-time monitoring of abiotic and biotic factors indicates a high risk of Delta Smelt migration and dispersal into areas at high risk of future entrainment.	No
8.3.3 (Adult Longfin Smelt Entrainment Protection)	After December 1 st , 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	Dec 1 through February 28 th	Salvage threshold is three Longfin Smelt for WY 2021.	No

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
	initiate OMR Management if: Cumulative expanded salvage, December 1 st through February 28 th , exceeds most recent FMWT Index divided by 10, or SMT determines that there is a high risk of entrainment.			
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 1 st through June 30 th or until the temperature offramp occurs	(1) Longfin Smelt larvae or juveniles are found in four or more of the 12 SLS or 20 mm stations in the central or south Delta, or (2) Longfin Smelt 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.	Yes (1/26/21)
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)	Maintain daily average turbidity in Old River at Bacon Island (OBI) at a	After the first flush or	Turbidity at OBI >12 FNU.	No

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
Bridge Avoidance)	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.	February 1 st until end of OMR management or until CDFW is in agreement that the action may be ended or modified.		
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 Delta Smelt 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.	November 1 st through June 30 th or until off-ramped by 8.8	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 threshold for this year is one.	No
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 th through March 31 st in dry and critical water years for Longfin Smelt, and from March 1 st through June 30 th for Delta Smelt.	Larval Smelt are detected at SLS Station 716 during the period identified for each species, and/or when recommended by the SMT.	Yes, for Longfin Smelt (1/19/21)

Current Operations & Outlook

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

- USBR CVO stated that releases from Whiskeytown Dam on Clear Creek are currently 215 cfs. The upcoming storm may provide an opportunity to decrease releases to 200 cfs, but given this is a colder storm, it may not produce as much precipitation or runoff.
- Releases on the Sacramento River from Keswick Dam are currently at minimum flows of 3,250 cfs; they do not anticipate changes.
- American River releases from Nimbus Dam are at 950 cfs. Discussions are ongoing regarding a potential reduction to the minimum of 850 cfs.
- Releases from Goodwin Dam on the Stanislaus River are currently at 200 cfs. No modifications are anticipated through the end of the month, but instability flows may begin February 1st.
- Jones Pumping Plant exports are currently at 1,650 cfs; exports could increase to up to 3,600 cfs if wetter forecast scenarios materialize.
- The Delta Cross-channel Gates are currently closed and are not expected to open for any water quality requirements this week; construction activities on the gates remain ongoing. DCC gates will remain closed until mid-May per the PA and D-1641 criteria.
- Feather River releases are at 1,250 cfs with no anticipated changes.
- Freeport flows are currently at 7,000 cfs and will begin to increase over the weekend; flows could reach as high as 20,000 cfs, but peak flows of 15,000 cfs are more likely.
- Flows at Vernalis are currently around 900 cfs and will likely increase over the weekend in response to the upcoming storm event, possibly up to 3,000 cfs.
- DWR reported that Delta outflows will start to increase tomorrow (January 27th) in response to precipitation in the Delta, with peak outflows potentially reaching 30,000 cfs over the weekend after the arrival of upstream inflows.
- There are no anticipated changes in Delta exports through the weekend; water quality needs to improve before exports can increase.
- The OMR index is currently around -2,600 cfs and will remain near this level until the Delta freshens up this weekend or early next week. The storm event could result in the OMR index approaching -5,000 cfs, but E:I ratio is more likely to be the controlling factor in the Delta, particularly going into February.
- Overall, there is a high level of uncertainty in Delta hydrology over the coming week.
- QWEST was slightly negative (-1,000 to -400 cfs) over the last few days and is near zero today (January 26th). Once precipitation from the storm event arrives, QWEST will trend positive, possibly as high as +9,000 cfs.

Review of Environmental Conditions and Survey Updates

CDFW shared survey updates.

- Smelt Larva Survey (SLS) 1 (sampled January 11th to 13th) processing is complete. CDFW shared the results with SMT members via email yesterday. They detected 122 Longfin Smelt larvae.
- SLS 2 started yesterday (January 25th). Sampling is scheduled to run through Wednesday, but will likely be extended through Thursday as weather conditions will probably prevent crews from going on the water tomorrow (January 27th). Five stations have been processed so far:
 - Station 809: 22 Longfin Smelt larvae detected (6 to 8 mm).
 - Station 901: 2 Longfin Smelt larvae detected (7 mm).

- Station 812: 8 Longfin Smelt larvae detected (fork lengths not yet available).
- Station 815: 2 Longfin Smelt larvae detected (fork lengths not yet available).
- Station 902: zero Longfin Smelt larvae detected.
- These detections trigger Condition of Approval 8.4.2 (Larval and Juvenile Longfin Smelt Entrainment Protection).
- Spring Kodiak Trawl (SKT) 2 is scheduled to start next Monday (February 1st).

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

- Zero Delta Smelt were detected last week, so there was no abundance estimate generated. Two EDSM teams were sampling last week.
- One Delta Smelt (47 mm) was detected today (January 26th) in the upper Sacramento Deep Water Shipping Channel. Turbidity was 32.8 NTU. The fish was not checked for expression given its size (<50 mm). It was in good condition so was released alive after measurement, per permit conditions.
- A third EDSM crew was assisting with Fish Culture and Conservation Laboratory (FCCL) Broodstock Collection last week. One Delta Smelt was collected on 1/21/21 in the Sacramento Deep Water Shipping Channel.
- Three EDSM crews are sampling this week. Today, there is sampling in the Lower San Joaquin River and Sacramento Deep Water Shipping Channel stratas. A fourth crew will continue to assist with the FCCL Broodstock Collection.
- Three Longfin Smelt were detected last week:
 - One on January 20th in the Lower Sacramento River, 71 mm, expressing eggs.
 - Two on January 21st in Suisun Marsh, 77 and 88 mm, no expression.
- Ten Longfin Smelt (65 to 105 mm) were detected by the Chipps Island Trawl between January 20th and 25th. Six fish were transferred to FCCL for broodstock. These fish were not checked for expression.

CDFW provided a salvage update (January 18th to January 22nd).

- No salvage of Delta Smelt, Longfin Smelt, or any listed species.
- There were no power outages or stoppage in pumping or salvage counts during this period.

USBR shared water quality data (three-station average daily water temperature as of January 25th was 10.15°C; three-day average flow at Freeport was 7,303 cfs; turbidity at Freeport was 3.93 FNU; turbidity at OBI was 3.13 FNU on January 25th and 2.5 FNU as of this morning) and the seven-day weather forecast for Antioch (rainy with SE winds up to 46 mph for the next 48 hours and one to two inches of precipitation; the chance of precipitation decreases later in the week, with a chance of rain remaining through Monday (February 1st). X2 is >82 km, with estimated X2 for the Sacramento River at 95.2 km and the San Joaquin River at 97.0 km.

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

SMT members discussed what conditions might require an additional meeting of the SMT.

- DWR stated that first flush is unlikely to occur prior to February 1st.
- CDFW noted that it will be important to monitor turbidity.
- USBR pointed out that if turbidity bridge avoidance begins on February 1st, it is unclear if the data that informs this trigger (i.e., daily average turbidity at OBI) comes from January 31st or February 1st.
 - CDFW suggested using the data from February 1st but will ask their management for input.

- USFWS agreed with the suggestion to use data from February 1st and noted that federal guidance does not require SMT members to meet if the turbidity bridge avoidance trigger is met, as operations expectations are explicitly described in the Proposed Action.
- CDFW confirmed that ITP language also contains operational guidance and does not require SMT members to meet.
- USBR will also ask for guidance from their management on which data to use.

SMT members discussed Longfin Smelt distribution in the context of the results from the January 5th particle tracking model (PTM) run.

- CDFW observed that recent detections from SLS are in line with the model predictions for the base case of an OMR of -2,500 to -2,700 cfs. The -5,000 cfs scenario shows particles injected south of Franks Tract being entrained at a higher rate.
- CDFW asked SMT members if the risk assessment for Longfin Smelt should be updated given the uncertainty around potential changes in OMR values over the coming week.
- DWR commented that the current risk assessment is probably still representative. Although the turbidity field will increase, in-Delta precipitation will also increase QWEST, which may help reduce the risk of entrainment. If OMR values approach -5,000 cfs, it would be beneficial request a new PTM run.
- CDFW agreed that uncertainty would be reduced by next week and that additional SLS distribution data would also be available. They cautioned against entraining fish into an area where it would be difficult for them to move out of if risk increased.

SMT members discussed when to request another PTM run.

- CDFW noted that the January 5th run base case captured current operations and hydrology until today, however the scenario with an OMR index of -5,000 cfs would not reflect hydrologic conditions going forward.
- DWR noted that there is currently a high level of uncertainty (e.g., the magnitude of the storm, E:I ratio for February, X2, salinity) which means many scenarios would be required for the PTM run. By early next week, uncertainty will be reduced and operational controls for early February will be understood.
 - CDFW agreed that requesting the PTM run early next week made sense.
- DWR asked if the potential range of OMR values would be more certain by Friday.
 - DWR indicated conditions would still be uncertain on Friday, particularly regarding turbidity (i.e., will turbidity be wind-driven or derived from Sacramento River inflows).
- DWR agreed to share an update on hydrologic conditions with SMT members on Friday morning (January 29th).

PART 3: Live-edit Assessments

ITP Longfin Smelt Risk Assessment

SMT members discussed which OMR bins to include in the risk assessment.

- CDFW suggested retaining the bin with an OMR value of -2,500 cfs from the previous week's assessment.
- USFWS suggested using -5,000 cfs as the higher export scenario bin to be consistent with the upper range of OMR identified in the outlook.
 - CDFW agreed, and recommended including a caveat that conditions are uncertain.

USFWS asked if data from previous years could be used to inform the risk assessment. SMT members agreed this would be helpful.

- DWR noted that OMR values were much more negative in December 2019 than December 2020. OMR was operated to -5,000 cfs in January 2020 but closer to -2500 in January 2021. They observed that more negative OMR values earlier in the season often entrains adults, which leads to spawning in the OMR corridor.
- CDFW shared SLS 1 and 2 detection data from 2020 for comparison with 2021 detection data:
 - 2020 SLS 1: 7 Longfin Smelt in the south and central Delta.
 - 2020 SLS 2: 4 Longfin Smelt in the south and central Delta.
 - 2021 SLS 2: 34 Longfin Smelt in the south and central Delta so far.
 - CDFW will prepare a comparison of 2020 and 2021 SLS data to support discussion of Longfin Smelt distribution at the next week's SMT meeting.

CDFW suggested the group indicate that risk is high for Longfin Smelt at an OMR index of -5,000 cfs; there is not sufficient data to make a more specific assessment.

- USFWS agreed that an OMR of -5,000 cfs was not sufficiently protective. They also noted that a significant amount of the precipitation from the storm event could end up in storage rather than being released downstream given many reservoirs are <50% full.

SMT members discussed if the risk of entrainment for Longfin Smelt was still low for an OMR value of -2,500 cfs.

- DWR suggested that the January 5th PTM run results represent a worst-case scenario for entrainment for the coming week, and the projected positive QWEST values from in-Delta precipitation will likely reduce risk. They suggested risk remain low for the -2,500 cfs scenario.
- USFWS asked if it would be appropriate to indicate an intermediate level of entrainment risk for OMR values between -2,500 and -5,000 cfs. They noted high entrainment events have occurred in previous years at OMR values near -5,000 cfs and encouraged SMT members to consider data from prior years.
 - CDFW reiterated that the group does not have enough data to warrant additional bins at this time, but an updated PTM run and more information on the impacts of the storm event should allow the group to go into greater detail next week.

CDFW confirmed that the Longfin Smelt summary will include the following:

- Larval density has increased in the central Delta, catch increased from SLS 1 to SLS 2.
- Uncertain conditions prevent better resolution on OMR index bins.
- Risk of entrainment is high at -5,000 cfs.
- QWEST is expected to be more positive in the coming week due to in-Delta precipitation, therefore the January 5th PTM run is a worst-case scenario. The expected change in hydrology affects how SMT members are interpreting the PTM.
- CDFW will request a new PTM run next week when conditions are more resolved.
- Detection of a ripe adult indicates spawning is ongoing.

CDFW noted that they will carry forward the previous week's advice for Barker Slough until the next SMT meeting, when the full SLS 2 results are available.

- DWR asked if the SMT would need to discuss removing the 60 cfs export limit if no larvae were detected at Station 716.

- CDFW indicated the SMT should discuss Barker Slough operations. The catch distribution at the surrounding stations should also be taken into consideration, as well as the fact that spawning is still ongoing.

There were no items to elevate to WOMT with regards to Longfin Smelt, except ITP COA 8.4.2 being triggered.

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, and QWEST values) due to the upcoming storm event.

The group reviewed the relevant assessment questions: (1) Between December 1 and January 31, has any first flush condition been exceeded? (2) Do Delta Smelt have a high risk of migration and dispersal into areas at high risk of future entrainment? (3) Has a spent female been collected? (4) If OMR of -2,000 cfs does not reduce OBI turbidity below 12 NTU/FNU, what OMR target is deemed protective between -2,000 and -5,000 cfs?

- The response to the first question was modified slightly to acknowledge that precipitation is expected, but first flush conditions are not anticipated to occur before February 1st.
- USFWS recommended citing [Polansky et al. 2017](#) as a reference for the discussion of historical analysis of SKT data in the response to question two.
- The response to questions three and four were updated to acknowledge turbidity bridge avoidance will begin on February 1st.

USBR reviewed updates to the Executive Summary:

- Acknowledgement that precipitation- and wind-driven turbidity could push turbidity in the Delta to OBI by February 1st.
- Updated detection information.

No non-consensus issues were identified.

Additional Considerations/Discussion

DWR asked if SMT members made a recommendation on OMR flow limits in response to the triggering of Condition of Approval 8.4.2.

- CDFW suggested a limit of -2,500 cfs given the high level of uncertainty.
- DWR advised against making a specific OMR recommendation without additional data. If additional data is available on Friday, SMT members could reconsider and coordinate via email or convene another meeting.
- CDFW agreed and will update the ITP risk assessment to note projected operations are expected to be around -2,500 cfs until the weekend, which SMT members consider sufficiently protective. The group will look to the Friday morning update to determine if a flow recommendation is warranted.
- USBR asked how a recommendation would be communicated to WOMT members.
 - CDFW will ask their management for guidance.

Agencies reported no items for elevation to WOMT.