

PARTICIPANTS

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

ACTION ITEMS

- DWR to conduct a PTM run for base case and -4,000 cfs OMR hydrology scenarios with injection points at Stations 809, 815, and 901.
- CDFW and USBR to request the State and Federal Projects begin larval Longfin Smelt (LFS) sampling at the export facilities in two weeks.

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. Those measures with yellow background are those that are in effect but not triggered; in green are triggered measures; in yellow are measures not yet in effect; in grey are measures that are no longer relevant. 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 | 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 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 | No |

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

| OMR Management Measures | Requirement | Time Frame | Trigger | Triggered? |
|--|---|---|--|--|
| | | | 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 (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. | No |
| Larval and Juvenile Delta Smelt | 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 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 delta smelt are within the entrainment zone of the pumps based on real-time sampling of spawning adults or young of year life stages | No |

ITP 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 Delta Smelt and Longfin Smelt 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 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 | Dec 1 to Jan 31 | Three day running average daily flows at Freeport greater than, or equal to, 25,000 cfs, AND Three day running average of daily | No |

| Condition of Approval | Requirement | Time Frame | Trigger | Triggered? |
|--|--|---|--|--|
| | 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. | | 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 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 28 th | Salvage threshold is three Longfin Smelt for WY 2021. | No |
| 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, 2/2) |
| 8.4.3 High flow offramp | 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 | No |

| Condition of Approval | Requirement | Time Frame | Trigger | Triggered? |
|--|--|--|---|------------|
| for Longfin Smelt | | | 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. | |
| 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 end of OMR management or until CDFW is in agreement that the action may be ended or modified. | Turbidity at OBI > 12 FNU | No |
| 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. | Nov 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 |

| Condition of Approval | Requirement | Time Frame | Trigger | 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 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, 2/2/21) |

Current Operations & Outlook

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

- USBR CVO reported that the current precipitation – which is sagging north to south and a more subdued event than last week—is the last in the short-term forecast. There is less confidence in forecasts more than two weeks out.
- 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. There is the potential to integrate an instability flow (over two days, 200-950 cfs) in February, ideally coinciding with a storm, but plans have not been confirmed.
- They are working on resolving D-1641 requirements. Chipps and Collinsville water quality requirements will be in effect.
- Jones Pumping Plant exports are currently at 1,650 cfs; they anticipate increasing exports to 1,900 cfs later this week while closely watching for any risk of formation of a turbidity bridge. Clifton Court exports are currently 1,500 cfs, will increase to 2,000 cfs tomorrow, and then will reduce as federal exports increase to keep total exports below 3,900 cfs.
- 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 peaked two days ago from last week’s storm and will decrease through tomorrow, see a small increase from the precipitation forecasted for early this week, and then continue their downward trend; San Joaquin flows peaked two days ago and will continue to reduce.
- DWR reported that Delta outflows peaked at just over 30,000 cfs and will drop to 15,000 cfs over the next two days.
- The OMR index is currently around -2,500 cfs and is anticipated to be closer to -2,000 cfs for the next couple days.
- X2 is still upstream of the confluence and has not reached Antioch but is moving closer to Collinsville. With current projected operations, salinity levels will be close to meeting the one-day water quality D-

1641 standard at Collinsville between Feb 1-14, but it depends on how the tides affect conditions. DWR shared that their modeling shows less than 10 percent chance of meeting that salinity condition; the increased exports did not have a significant impact on whether the requirement could be met. There is a letter drafted to send to the Board requesting a waiver for that requirement. The Eight River Index (8RI) is anticipated to be 700 TAF, which is between 900 TAF and 650 TAF, in the range of discretion for the Board to determine whether the salinity requirement at Collinsville must be met. The E:I ratio will not require Chipps days for February, but it looks likely some will be accrued in March.

- USFWS asked whether, given that the official 8RI should come out around February 8th, DWR and USBR's operations are focused on balancing between keeping OMR around -2,500 cfs and meeting other water quality needs. DWR clarified that they are mostly focused on avoiding creation of a turbidity bridge; as turbidity drops off, that might change.

Review of Environmental Conditions and Survey Updates

CDFW shared survey updates.

- Smelt Larva Survey (SLS) 2 (sampled January 25th to 26th) sampled 23 of 35 stations, including all stations near the confluence and upstream. 21 stations have been fully processed. They have detected 178 larval longfin smelt (LFS) (6-10mm).
 - South and Central Delta (full processed): 35 LFS
 - Northern Delta (partially processed): 3 LFS, 2 at 716 (Barker Slough trigger station) and 1 at 711
 - Lower Sacramento River (partially processed): 140 LFS
- Spring Kodiak Trawl (SKT) survey 2 started yesterday (February 1st) and will sample through Thursday. This morning (February 2nd), one longfin was detected at Station 501 in Suisun Bay (78 mm).
- SLS 3 is scheduled to start next Monday, February 8th.

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

- One Delta Smelt (47 mm) was detected last week (January 26th) in the upper Sacramento Deep Water Shipping Channel. The resulting abundance estimate was 1,746.
- No LFS were detected last week. Today (February 2) four (57-83 mm, no expression) were detected in Grizzly Bay, and three (74-81 mm, no expression) were caught at a site near the mouth of Suisun Slough.
- This week EDSM crews are sampling Monday through Thursday (February 1 – 4); there is also an EDSM crew assisting with Fish Culture and Conservation Laboratory (FCCL) Broodstock Collection.
- No additional LFS have been detected by the Chipps Island Trawl; the last LFS detection there was on January 25.

USBR shared water quality data (three-station average daily water temperature as of February 1st was 10.24°C; turbidity at Old River at Bacon Island (OBI) was 5.10 FNU and is currently 4.70) and the seven-day weather forecast for Antioch (60 percent chance of rain today with winds from the W and WSW below 13 mph, 20 percent chance of rain tomorrow; clear and sunny for the rest of the week). X2 is >82 km, with estimated X2 for the Sacramento River at 88.7 km and the San Joaquin River at 91.5 km.

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

SMT members discussed whether there is evidence to suggest that Delta Smelt are still present in Suisun Marsh at this point in the season.

- USBR noted that the last time a Delta Smelt was detected in Suisun Marsh was on November 9th and asked whether the SMT thinks that detection should inform their conclusions about the presence of Delta Smelt in the area.
- CDFW observed that given the size of Suisun Marsh, the lack of detections does not mean Delta Smelt are not present. The November detection does not really tell the group anything. The SMT does not have enough information to say where the Delta Smelt are now.
- USFWS referenced the Hobbs et al. (2019) paper (accessible on [nature.com](https://www.nature.com)) which provided evidence of year-round residence of Delta Smelt in brackish water; the assessment should acknowledge that the example of a brackish water residence life history is one of several life histories observed for this species.
- USBR summarized the group's consensus that Delta Smelt are likely to be present in Suisun Marsh, given that the area is historically a refuge for the species. They have not been detected there in several months, but detections have been sporadic in general and the only places they have been seen is in the Marsh and the Sacramento Deep Water Shipping Channel.

SMT members discussed how turbidity over the past week and upcoming days could be impact Delta Smelt distribution.

- CDFW reminded the group that on Friday NMFS mentioned that turbidity could arrive in the Delta via the east side tributaries and increased outflow from those watersheds from last week's precipitation.
- DWR stated that they have not seen much turbidity coming from the Mokelumne or Calaveras yet; Old River and Highway 4 turbidity measurements remain low. It is unlikely that the turbidity trigger at OBI will be met in the next seven days.
- USFWS reflected on the elevated turbidity over the last week (peak daily average of 14 FNU): high turbidity started in Frank's Tract and radiated outward, reaching Bacon Island and persisting there for some time. If Delta Smelt were residing in the lower Sacramento River and followed that turbidity event, they could now be residing in the OMR corridor, since it is unlikely that they would move back downstream with the receding turbidity. This is a strong argument for the projects to operate to avoid drawing in any extra turbidity. While the forecast, predicted wind speeds, and turbidity signals do not suggest there will be additional turbidity events this week, the SMT has to assume there may have already been changes in Delta Smelt distribution due to last week's turbidity.
- CDFW observed that last year there were turbidity events in Franks Tract; no adults were detected there afterward but there was a larva detected at the salvage facilities; there was an open question of how it got there.

SMT members agreed to request another PTM run and discussed parameters.

- CDFW suggested a base case scenario to reflect current forecasted hydrology and an increased OMR scenario. They noted that last week's conversation suggested that -5,000 OMR is not realistic given proposed operations and asked DWR what high end OMR case could be reasonably anticipated.
- DWR agreed that -5,000 cfs is outside the expected range and suggested using -4,000 cfs, which would also be easier to compare to the base case in terms of making recommendations. The group agreed with that recommendation.
- CDFW suggested using stations 809 and 815 again and asked the group to weigh in on whether to use Station 906, which is outside the OMR corridor, or Station 901, which would probably be more representative of where fish would be at risk.
- Other CDFW staff voiced support for Station 901 given that it is within the zone of influence and two LFS were detected there in the most recent SLS, as compared to one at Station 906.

- DWR agreed and observed that Station 901 will also provide insight into the influence of wind-driven turbidity.

CDFW reported on conditions at Barker Slough: SLS 2 detected two LFS larvae at Station 716, suggesting LFS are still in the area and meeting the hard trigger in Condition of Approval 8.12, which requires the seven-day average exports at Barker Slough to remain below 60 cfs.

SMT members discussed whether they should request the State and Federal facilities initiate larval fish monitoring.

- USFWS states that, based on Friday's presentation by CDFW, it seems like there is a case for expecting that larval LFS are present in the South Delta and therefore, more susceptible to entrainment. Usually, the SMT only requests monitoring starting with Delta Smelt spawning -- March at the earliest, but it would be useful to have an early indicator of whether there will be a large Longfin Smelt salvage event. If the results of the PTM show a large number of particles are entrained, then it is probably a good idea to monitor at the facilities. The SMT could wait to make their decision about monitoring until the PTM results are available.
- CDFW agreed that while more data would be useful, they want to balance that with the amount of effort required to monitor. They suggested informing the projects that the SMT is considering monitoring but is waiting on the PTM run and SLS 3 results to inform its decision. CDFW also acknowledged that it is not clear what a larval detection at the facilities would trigger, in that once the fish pass Bacon Island, they are unlikely to escape the South Delta.
- CDFW noted that, given how positive QWEST has been, it might be a little early to start monitoring but it would be advisable to start monitoring earlier than March.
- USFWS agreed that monitoring would be useful in that, even if there is not a hard trigger, it will inform recommendations the SMT can make.
- USBR reported that they raised the topic with the federal facility manager, and they will need a two-week lead time to train their operators on larval sampling given limited staffing due to COVID.
- Given the lag time, the group agreed to submit their request to the State and Federal facilities for larval monitoring to begin in two weeks. If the PTM run results suggest a different approach, there will still be time to adjust course.

PART 3: Live-edit Assessments

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. Edits included:

- In the section describing forecasted distribution, DWR suggested adding a statement emphasizing that in making risk assessments, the SMT is using turbidity as a surrogate for Delta Smelt presence rather than detections because of the extremely limited detection data.
- In the turbidity section, members SMT added language specifying that first flush conditions did not occur in WY 2021 and that turbidity is decreasing at all central and south Delta stations, though there is still turbidity coming in from the tributaries.
- USBR asked whether Table 8 should include turbidity data points for stations beyond OBI. Even though OBI is the only trigger for OMR flow management, the guidance document states that if average daily

OBI measures 12 FNU or greater, the SMT should look at other stations to confirm it is not a localized turbidity event.

- DWR suggested inserting a screenshot of Bay Delta Live in addition to reporting the exact value at OBI.
- CDFW observed that the DWR Delta Turbidity Conditions report, which will be produced daily while turbidity avoidance is crucial, shows daily turbidity calculations, which is more useful than the single snapshot Bay Delta Live provides.
- The SMT agreed to providing the DWR Delta Turbidity Conditions report as an attachment to the Assessment, or if possible, within 508-requirements, to include it within the Assessment.

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 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?

- The response to the first question was modified to state that first flush conditions were not met between December 1 and January 31.
- The response to question two was modified to state that Delta Smelt were not detected in the South Delta between December 1 and January 31.
- For questions four, five, and six, the SMT specified that average daily turbidity at OBI is currently below 12 FNU, OMR is anticipated to remain between -2,000 cfs and -3,000 cfs for the next seven days, and no turbidity bridge avoidance measures have been taken.

USBR reviewed updates to the Executive Summary:

- The SMT agreed to remove repetitive language in the third sentence.
- USBR asked SMT members whether the statement, *“The likelihood of Delta Smelt adult entrainment is slightly elevated relative to the previous seven days due to seasonal timing,”* remains appropriate week after week.
 - CDFW stated that, as the season proceeds without a first flush event, the likelihood of Delta Smelt moving and spawning without that signal increases. Therefore, risk of entrainment increases on a weekly basis. In addition, the recent turbidity event means Delta Smelt could have moved into the OMR corridor.
 - USFWS agreed that the risk will increase throughout the season. They suggested that the seven-day language could be eliminated and replaced with language stating that based on their life history pattern, risk of entrainment increases throughout the season.
 - USBR suggested keeping the seven-day interval because that is the interval in which the SMT makes recommendations.

No non-consensus issues were identified.

ITP Longfin Smelt Risk Assessment

CDFW will update the Barker Slough section to report that Condition of Approval 8.12 is still in effect based on the two larvae collected at Station 716 by SLS 2. DWR reported that the seven-day average ending February 1 was 33 cfs, so they are already below the 60 cfs threshold imposed by the condition.

CDFW recapped the group's discussion regarding Condition of Approval 8.4.2 at Friday's meeting: the SMT determined that operations were sufficiently protective given how positive QWEST was supposed to be. CDFW asked how the group should adjust their risk assessment as QWEST becomes less positive and approaches zero over the next seven days.

- DWR clarified that QWEST was over +11,000 cfs for the past four days and is anticipated to be between zero and +7,000 cfs for the next five to six days, ending close to zero.
- DWR asked whether the risk of entrainment will be a cause for concern this week or starting next week.
- CDFW reminded the group that the Friday conversation concluded that a very positive QWEST is mitigating effects of a high OMR and that OMR is more positive than in the high entrainment years they examined.
- CDFW does not believe there is debate over the high export scenario risk assessment for LFS in the South Delta: at -4,000 cfs OMR, risk to LFS would be high. Given the change in QWEST, CDFW does not believe the lower export scenario (-2,500 cfs) remains low risk, but it is hard to assess without PTM results.
- DWR suggested stating that risk at -2,500 cfs is moderate as QWEST become more negative.

CDFW asked whether current operations are sufficiently protective or whether the SMT needs to make a recommendation.

- CDFW does not feel there is enough data to support a recommendation as extreme as -1,250 cfs OMR; for this week, hydrology will be protective enough given that the seven-day average is projected to be less than -2,500 cfs.
- SMT members agreed to characterize conditions as follows, *"OMRI is approx. -1800 cfs and is projected to reach -2500 cfs and stabilize over the next several days."*
- DWR reported the average QWEST between January 1 and February 2nd as +1,300 cfs.
 - CDFW observed that the mean QWEST for a low salvage year was substantially more positive than that, which supports a moderate risk bin.
- SMT members agreed that no advice is warranted at this time and that the PTM run will inform further advice.

SMT members agreed that the risk bins for LFS in the Sacramento River remains the same; there is moderate risk of adults moving into the San Joaquin River from the confluence of their own volition.

CDFW provided a recap of the SMT's advice to WOMT: COA 8.4.2 was triggered on January 26; on January 29, the SMT determined that advice was not warranted. On February 2, the SMT changed the risk of entrainment to fish in the Central and South Delta at current operations from low to moderate based on decreasing QWEST. The SMT determined that no advice was warranted based on projected operations and hydrology.

Additional Considerations/Discussion

Agencies reported no items for elevation to WOMT.