

PARTICIPANTS

- California Department of Fish and Wildlife (CDFW)
- California Department of Water Resources (DWR)
- National Marine Fisheries Service (NMFS)
- State Water Resources Control Board (SWRCB)
- U.S. Bureau of Reclamation (USBR)
- U.S. Fish and Wildlife Service (USFWS)
- Kearns & West (KW)

ACTION ITEMS

- CDFW and USFWS to share survey frequency information with USBR.
 - USBR will update the Delta Smelt (DS) detection table in the Assessment to include survey frequency.
- USBR to inquire about the status and timing of turbidity reports this season.
- USFWS will share their writeup on reduced trawl time.
- KW to circulate SMT roster and post-season action items for SMT review.

MEETING SUMMARY

PART 1: Updates on Water Operations and Biological Updates

Relevant Actions & Triggers

USBR reported on anticipated Old and Middle River (OMR) management measures. At this point there are no controlling actions set for the region. The first one will be the Integrated Early Winter Pulse Protection action, and this cannot be initiated until December 1, 2021. CDFW reported on the Incidental Take Permit (ITP) Conditions of Approval that are currently in effect and whether they have been triggered. CDFW noted that starting December 1, 2021 Conditions of Approval 8.3.1 (Integrated Early Winter Pulse Protection) and 8.3.3 (Adult Longfin Smelt Entrainment Protection) can be considered. 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 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 has been collected in monitoring surveys.	Not active
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 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 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	Not active

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

OMR Management Measures	Requirement	Time Frame	Trigger	Triggered?
End of OMR Management	OMR criteria may control operations until June 30 (for Delta Smelt 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 reaches 77°F for 3 consecutive days	Not active

IIP Conditions of Approval

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
8.1.5.2 (Smelt Monitoring Team Risk Assessment) Triggered	Outlines contents for weekly risk assessments of Delta Smelt 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		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.	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 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.	Not active

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
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 for WY 2022 is TBD.	Not active
8.4.1 (OMR Management for Adult Longfin Smelt)	The SMT shall conduct weekly risk assessments and decide whether to recommend and OMR flow requirement to minimize entrainment of adult LFS. The SMT may provide advice to restrict south Delta exports for seven consecutive days to achieve a seven day-average OMR index within three risk categories: Low risk: OMR between -4,000 cfs to -5,000 cfs Medium risk: OMR between -2,500 cfs to -4,000 cfs High risk: OMR between -1,250 cfs to -2,500 cfs	Onset of OMR management through Feb 28 th	SMT recommendation based on weekly risk assessment	Not active

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
8.4.2 (Larval and Juvenile Longfin Smelt Entrainment Protection)	If triggered, it will restrict south Delta exports for seven consecutive days in order to maintain a seven-day average OMR index no more negative than -5,000 cfs and convene the SMT to recommend an OMR flow limit between -1,250 and -5,000 cfs.	January 1st through June 30th or until the temperature offramp occurs	(1) Longfin Smelt larvae or juveniles are found in four or more of the 12 Smelt Larval Survey (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	Not active
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.	Not active
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	Not active

Condition of Approval	Requirement	Time Frame	Trigger	Triggered?
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.	Active, not triggered
8.8 (End of OMR Management)	If triggered, OMR Management would be off-ramped for Longfin and Delta Smelt.	From the onset of OMR management through June 30 th	Daily mean water temperature at Clifton Court Forebay 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 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	Not active

Current Operations & Outlook

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

- USBR Central Valley Office (CVO) reported that the most recent storm system for the state brought light rain Monday, November 1st and we will likely see continued light precipitation for the next two days

with the majority of the rain occurring in the north. Shasta basin may see two inches of rain in the next six days. Lesser amounts of rain will fall in the valley floors and the Sierra Nevada Mountains.

- Releases from Whiskeytown Dam on Clear Creek are currently 200 cfs.
- Releases on the Sacramento River from Keswick Dam are currently 4,600 cfs and will ramp down to 4,400 cfs starting November 3rd and decrease to 3,250 cfs on November 13th.
- American River releases from Nimbus Dam are holding at 550 cfs.
- Releases from Goodwin Dam on the Stanislaus River are currently 450 cfs. The Stanislaus River system is in the tail end of a pulse with variability in flows but will reach the base flow of 200 cfs on November 4th.
- Jones Pumping Plant has maximized exports given the October storms, but there has been significant aquatic weed and debris loading on the trash racks which has limited exports. Given recent debris removal from the trash racks, exports are currently at 4,200 cfs.
- The Delta Cross-channel (DCC) gates have been closed since October 25th. Knights Landing Catch Indices and Sacramento Catch Indices for older juvenile Chinook salmon were greater than trigger thresholds on several of the sampling days last week, requiring the DCC gates to be closed. The gates will be considered for reopening when the catch indices have fallen below the trigger thresholds as described in the PA.
- DWR reported that Feather River releases have been decreasing over the last week and are currently at 1,250 cfs. Further decreases will bring that down to 950 cfs which is the minimum instream flow requirement.
- Freeport flows have been decreasing from a peak last week around 38,000 cfs to 13,500 cfs reported on November 1st. Flows are anticipated to stabilize in the 11,000 to 10,000 cfs range.
- San Joaquin River flows at Vernalis were just over 1,500 cfs on November 1st and are anticipated to decrease over the next week as the Stanislaus River pulse reaches its end.
- Clifton Court inflows were 6,680 cfs yesterday and today (11/1 and 11/2/21) with flows decreasing to 1,000 cfs tomorrow and 0 cfs by the end of the day. CCF radial gates will be closed starting Wednesday afternoon (11/3) and will remain closed until late in the afternoon on 11/5 for scheduled maintenance at the SWP facilities and herbicide treatment in CCF for aquatic weeds. Banks Pumping Plant, including the fish facility, will be offline for three days during these activities.
- QWEST peaked at 30,000 cfs last week and is currently near -6,000 to -7,000 cfs. QWEST will become less negative with Banks going offline in the coming days.
- The OMR Index has been around -9,000 cfs for the past several days as exports have increased to capture the storm runoff flows. OMR is expected to become slightly more positive during the SWP facilities shutdown over the next several days.
- Water quality in the Delta has improved recently. X2 pushed down to 77 km after the storm and will be 80 km today. X2 will likely continue to move inland over the upcoming week until there's more significant precipitation. As a result of the recent storm, turbidity at Freeport reached nearly 90 FNU as of October 27th, though values have dropped since then. Turbid conditions did not propagate into the central or south Delta.

Review of Environmental Conditions and Survey Updates

CDFW shared survey updates.

- None of the smelt-centric surveys are actively sampling.
- Smelt Larva Survey (SLS) will begin December 13th this year as a full survey encompassing all stations.

- The Spring Kodiak Trawl (SKT) will begin January 18, 2022.
- The 20-mm Survey will begin March 21, 2022 and will include the Napa River.
- CDFW will also be reporting data from a new Larval Entrainment Pilot Study (LEPS) which will begin no later than January 15, 2022 and conclude no later than March 26, 2022. This survey will be sampling in West Canal near Clifton Court Forebay for five days a week with 15 samples per day.
- LEPS will begin when LFS are observed in the south delta in SLS, or if no LFS are observed, LEPS will begin January 15th.
- Fall Midwater Trawl (FMWT) is still ongoing. The September FMWT detected 1 LFS in Grizzly Bay. The FMWT Index for LFS in September is 1. No update from the October survey yet.
- The October Bay Study detected:
 - 140 Juvenile LFS in the Central Bay
 - Five juvenile LFS in San Pablo Bay

USFWS reported on the EDSM Program.

- EDSM is currently in Phase 3, which began on June 28, 2021.
- Five LFS were detected on November 1st.
- The last DS detection was on August 20, 2021 in the Sacramento Deep Water Ship Channel. No DS have been detected yet in WY22.
- Chipps Island is ongoing.

CDFW provided a salvage update (October 26th to November 1st).

- No DS or LFS were salvaged at either facility.

USBR shared environmental data updates as of November 1st.

- Three-station daily average water temperature: 16.23° C.
- Three-day running average discharge at Freeport: 16,871 cfs.
- Three-day running average turbidity at Freeport: 16.2 FNU.
- QWEST: -6,160 cfs.
- X2: 79 km.
- Weather forecast out of Antioch is mostly cloudy to clear with precipitation mid-week and S by SW winds from five to nine mph.
- Weather forecast out of Stockton is mostly cloudy to clear with precipitation mid-week and west winds between five and nine mph.

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

USBR pointed out that the above average October precipitation was most likely too early in the season to influence DS migration. There is a possibility for redistribution given recent flows, however the last observation of a DS was in the Sacramento Deep Water Ship Channel, indicating some presence there.

CDFW noted that the 3-day turbidity values at Freeport did not reach a level to trigger a first flush even though this is earlier than a first flush could be triggered.

DWR provided an update on plans to experimentally release DS this year given adequate conditions.

- The earliest date for the release of the fish would be December 1, 2021, with a deployment of over 40,000 DS from December to February.

- There has been no official decision if the released fish will be treated differently than salvage or wild fish.
- The released DS will be visibly marked. 5,000 to 6,000 fish will be marked with visual implant elastomers, and the remaining fish will be adipose fin clipped.
- CDFW will release a briefing sheet with photos of what the tags and markings look like and will make sure salvage facility staff knows what to look for if they find a DS.
- USBR noted they anticipate the notification process for DS releases to be similar to the process for salmon releases.

CDFW shared several observations to inform the LFS risk assessment:

- Adults may be staging downstream, but the only presences detected is juveniles in Suisun Marsh, San Pablo Bay, and the Central Bay.
- It is early in the season and there is little reason to expect adults to be present in the central or south Delta.
- Across all scenarios LFS are not at risk of entrainment. CDFW recommended no advice for LFS management.

DWR and CDFW agreed that no advice is needed for LFS.

CDFW provided an update to clarify ITP Condition of Approval 8.3.3 (Adult Longfin Smelt Entrainment Protection; effective December 1st through February 28th):

COA 8.3.3 includes a trigger based on the most recent FMWT index divided by 10. The annual FMWT index is the sum of four monthly FMWT indices, September through December and is typically released in January. COA 8.3.3 goes into effect December 1st, therefore, in practice the threshold is based on the sum of monthly indices available on December 1st divided by ten. However, there is the possibility that the sum of monthly FMWT indices available December 1st or the annual FMWT index may be zero or will round to zero when divided by 10. The annual and monthly FMWT indices reached historic lows following the previous drought and the sum of monthly indices available December 1st, 2015, was zero. Current drought conditions may result in monthly FMWT indices similar to or lower than those calculated during the previous drought. In the event of a FMWT index less than 5, the take threshold shall be 1. This would initiate OMR management if any adult Longfin Smelt were collected from December 1st through February 28th.

CDFW clarified that the last sentence refers to salvage of Longfin Smelt, not collections in monitoring surveys.

PART 3: Live-edit Assessments

ITP Longfin Smelt Risk Assessment

CDFW updated the ITP assessment based on the discussion documented in Part 2 above.

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

USBR reviewed updates to the assessment, which included minor changes to reflect anticipated conditions in the Delta (e.g., OMR Index, turbidity, X2, QWEST), as well as:

- The current life stage for DS is juveniles.
- There is no abundance estimate for WY22 yet, as no DS have been detected so far this season.

The group reviewed the relevant assessment questions.

- Questions 1 through 4 and 9 are not currently applicable.
- Question 5 was updated to reflect the latest turbidity data.

USBR reviewed the Executive Summary.

- The proposed language is a combination of what was written at the end of last season and what was written in the very first assessment from the previous season.
- CDFW noted that OMR should not be referred to as decreasing the potential for entrainment. This language was removed from the summary.
- CDFW pointed out that the SMT does not have any regulator power for first flush measures right now, and recommending adding language noting the relevant regulations go into effect December 1st.
- USFWS requested language referencing a low likelihood of entrainment due to seasonal timing replace “juvenile” with “subadult”.

Additional Considerations/Discussion

CDFW provided updated guidance on ITP Condition of Approval 8.4.2 (Larval and Juvenile LFS Entrainment Protection; active January 1st to June 30th):

COA 8.4.2 covers larval and juvenile Longfin Smelt (LFS) entrainment protection. One of the criteria is “From January 1 through June 30, when a single Smelt Larva Survey (SLS) or 20-mm Survey (20-mm) sampling period exceeds one of the following thresholds: LFS catch per tow exceeds five LFS larvae or juveniles in two or more of the 12 stations in the central Delta and south Delta (Stations 809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918, 919).” Occasionally adverse conditions, such as excessive submerged aquatic vegetation, require survey crews to reduce the tow duration to effectively sample a station. If tow duration is reduced at a station, the catch during that shorter tow shall be expanded to be representative of a standard 10-minute tow to determine if the threshold is exceeded. For example, if three LFS larvae are caught during a five-minute tow the catch will be expanded to six LFS larvae and therefore the threshold will be considered exceeded and the COA triggered. In the case of the 20-mm Survey, which conducts multiple tows at a station, the threshold is considered exceeded if the average of all tows conducted at station, during a single survey, exceeds five LFS larvae.

USFWS will share a statistical analysis of the effects of reduced tow times with the SMT.

SMT members reviewed the current roster.

- NMFS will identify a new representative by January.
- CDFW will add a new member later this season.

USFWS requested SMT members share updates on the status of post-season action items. KW will circulate the actions to the SMT for their review by Monday, November 8.

Agencies reported no items for elevation to WOMT.