

## PARTICIPANTS

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

## ACTION ITEMS

- CDFW will provide details on two Longfin Smelt caught in the FMWT to the SMT via email.
- DWR will look into the conditions between December 2013 and February 2014, when there was a similar lack of first flush signals, and report back to the group on what that suggests they might see in terms of Delta Smelt movement if current conditions continue.

## MEETING SUMMARY

### Agenda Review, Logistics, & Housekeeping

The facilitator noted that the revised OMR Guidance Document has been completed and shared and the new agenda will be implemented in today's meeting. The most significant change in the agenda is the inclusion of a "structured unstructured" discussion on species status after the operational, survey, and environmental updates.

### PART 1: Updates on Water Operations and Biological Updates

#### Relevant Actions & Triggers

USBR shared the triggers that will lead to the First Flush conditions and subsequent onset of OMR management:

- Running three-day average of daily flows at Freeport >25,000 cfs; and
- Running three-day average of daily turbidity at Freeport  $\geq 50$  NTU<sup>1</sup>; or
- Real-time monitoring indicates a high risk of migration and dispersal into areas at high risk of future entrainment.

CDFW noted that Conditions of Approval 8.3.1 (Integrated Early Winter Pulse Protection) and 8.4.1 (OMR Management for Longfin Smelt) are in effect as of December 1<sup>st</sup>, but none of the triggers have been met.

Condition of Approval 8.1.5.2 remains in effect and requires weekly risk assessments be conducted for Delta Smelt and Longfin Smelt.

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<sup>1</sup> The current instrumentation measures turbidity in FNU's.

## Current Operations & Outlook

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

- Delta water quality is controlling export operations.
- USBR CVO noted that while they would like to make additional cuts to releases on the Sacramento River, they are unlikely to modify releases from Keswick Dam; releases are currently 3,500 cfs, and 3,250 cfs would be the minimum they would reduce to.
- CVO did not anticipate any changes in releases (1,250 cfs) on the American River from Nimbus Dam.
- The Delta Cross-channel Gates are closed and are expected to remain closed until May 20, 2021. CVO reported construction starting yesterday (12/7) on the gates; they will provide any pertinent updates as that proceeds.
- Jones Pumping Plant will likely maintain current exports (around 800 cfs). Clifton Court exports decreased over the past days to 800 cfs in response to water quality concerns in the Delta. Exports are anticipated to remain stable unless water quality conditions improve near the end of the week.
- QWEST values are between -100 and -200 cfs. QWEST values are now negative due to the closure of the Delta Cross-channel Gates and reduced Delta inflows and are expected to remain stable.
- Daily OMR was --1,800 cfs and is closer to --1,500 cfs today; DWR anticipates it will stay in that range for the rest of the week.
- San Luis Reservoir's total storage was 928 TAF on 12/08/2020. The State's share of San Luis storage was 551 TAF, and the CVP's share was 377 TAF total storage

## Review of Environmental Conditions and Survey Updates

CDFW shared survey updates.

- The December FMWT has caught zero Delta Smelt this month and will continue sampling through Friday. Crews have caught two Longfin Smelt – one last week in San Pablo Bay and one this week in Suisun Bay. CDFW will provide their fork lengths via email.
- Bay Study updates are not available yet.
- SLS is scheduled to start next Monday (12/14). The samples they collect should be processed by the end of the week or early the following week.
- All CDFW survey programs have been deemed essential, so they will continue as scheduled despite the COVID spike.

USFWS reported on EDSM.

- Zero Delta Smelt were detected last week (11/30 to 12/4), so there was no abundance estimate generated.
- EDSM will sample Monday through Friday this week; no Delta Smelt have been detected thus far.
- One Longfin Smelt was detected last week in Suisun Marsh (66mm, no expression); none have been detected this week.
- No Delta Smelt or Longfin Smelt were detected last week in the Chipps Island Trawl.
- USFWS confirmed that last week they sampled in all four Delta regions identified in the Assessment.
- EDSM is deemed mission critical so they will continue to sample as scheduled despite changes in COVID regional status.
- USFWS reported that the UC Davis Fish Conservation and Culture Lab'ss Broodstock Collection team has done five collection trips on the lower Sacramento River and have not collected any Delta Smelt. They

aim to collect around 100 Delta Smelt for broodstock, so they will continue collection trips until they get as close to that collection number as possible. Last year, they fell short of their goal, totaling somewhere around 80-90 smelt.

CDFW provided a salvage update (11/30 to 12/6).

- No salvage of Delta Smelt or Longfin Smelt.
- 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 12/7 was 10.57°C; three-day average flow at Freeport was 8,122 cfs; turbidity was 2.65 FNU) and the seven-day weather forecast for Antioch (sunny to partly cloudy with winds 5 to 7 mph and no precipitation in the next seven days).

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

SMT members offered perspectives on a series of questions provided for consideration.

- *What life stages are present?*
  - SMT members agreed that for Delta Smelt subadult to early adult fish are currently present and for Longfin Smelt, age 1 and age 2 fish are present.
- *What distribution data is available? If no data is available, what abiotic factors can predict distribution? What abiotic factors are relevant? Are conditions in Central/South Delta conducive to DS or LFS presence? Have changes in abiotic factors increased or decreased risk of entrainment?*
  - USBR observed that for Delta Smelt available information is similar to last week: there has been one detection of a Delta Smelt in Suisun Marsh, but historical analysis of Delta Smelt's response to X2 suggests that the fish could be distributed further upstream.
  - USBR noted that over the last 24 hours there was a small spike in turbidity in the Delta at Old River at Quimbly near Bethel Island, but it could be an isolated incident. NMFS identified that spike as corresponding to a 25 mph wind event at 2am in that area.
  - USFWS shared the CS2 X2 computation for 12/7: the Sacramento River is 91.2; the San Joaquin River estimate is 94.6 km. Like last week, the SMT needs to make a distinction between field fish data and historical fish distribution trends.
  - CDFW made a series of observations that applied to both species: in a dry period with X2 far upstream, fish associated with brackish water would be expected to be upstream as well. Given that location, those fish would be at risk of entrainment if there was a big precipitation event and exports increased.
  - USBR asked CDFW for literature on the seasonal distribution of Longfin Smelt. For juveniles longfin, CDFW pointed to a Dege & Brown 2004 paper ([https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/california\\_wa/terfix/exhibits/docs/COSJ%20et%20al/part2sur\\_rebuttal/SJC\\_418.pdf](https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_wa/terfix/exhibits/docs/COSJ%20et%20al/part2sur_rebuttal/SJC_418.pdf)). For adults, CDFW advised looking at the documentation included in the ITP effects analysis.
    - USFWS pointed to 2018 analysis (<https://afspubs.onlinelibrary.wiley.com/doi/pdfdirect/10.1002/mcf2.10047>) of relationships between the average habitat salinity component for the dominant pelagic fishes in spring Kodiak trawl surveys and their average X2 position in the upper San Francisco Estuary. The Longfin Smelt analysis in Figure 6 suggests that the higher the X2, the more Longfin Smelt are exposed to higher salinities in the upper estuary.

## PART 3: Live-edit Assessments

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

USBR introduced the reorganized Smelt section of the Assessment. USBR moved the Evaluation Questions to the end of the section and started with supporting information organized in “Population Status,” “Distribution,” and “Abiotic Conditions” sub-sections. Within the “Distribution” sub-section, they added a bullet on historical trends to include the research discussed last week and this week that suggests that Delta Smelt distribution is anticipated to correspond closely with the location X2 which is currently upstream of the Sacramento-San Joaquin confluence. Within “other environmental conditions,” USBR simply reorganized the existing information into bullets.

The SMT provided thoughts on this supporting information:

- USFWS urged caution in terms of deriving conclusions entirely based on EDSM and field surveys, given that in the face of limited abundance, the surveys may not be able to provide consistent evidence of where the fish are located. USFWS observed that the group will need to think carefully about how they weight field distribution data and historical trends going forward. Other abiotic covariates like turbidity should be used to inform their forecasts. In addition, fish may be moving irrespective of X2.
  - The group agreed to add language to the Assessment’s current description of the Forecasted Distribution within the Central Valley and Delta regions, which states *“Delta Smelt distribution is not expected to change in the next seven days since first flush conditions that would trigger migration are not anticipated.”* The additional language states: *“However, predicting the distribution is currently difficult because detection data is limited to one individual and historic patterns may not be representative under low population levels of Delta Smelt.”*
- DWR suggested that it could be useful to look more closely at how Delta Smelt might respond to the lack of a fish flush signal. DWR will look at the conditions between December 2013 and February 2014, when there was a similar lack of signal; they believe there was movement eventually but they are not sure what conditions ultimately caused it.
- The SMT added X2 to the list of abiotic conditions that should be considered by the SMT and LTO management. DWR and USBR discussed how to report X2, i.e., whether to report the exact value generated by the spreadsheet or to report something more general given that the spreadsheet tool has not been validated and is not publicly available. DWR suggested that the Sommer et al. (2011) paper can be cited as a valid consideration with reference to X2.
  - The USBR LTO representative asked why X2 is an abiotic factor that needs consideration. DWR explained that X2 is the distance in kilometers from the Golden Gate Bridge to the point where the salinity on the bottom is about 2 parts per thousand. This is the location where there is a salinity wedge, and within estuaries globally, tends to be an area of high productivity and high turbidity and is an area of preferred habitat. When this area moves upstream of the estuary into channelized habitats, the total area of preferred habitat area grows smaller and much of the water is deeper, which limits its productivity. USFWS added that Jassby et al. 1995 provided the ecological basis for using X2 in the San Francisco Estuary (<http://online.sfsu.edu/modelds/Files/References/JassbyEtAl1995EcoApps.pdf>). Additional research has shown that fish habitat quality is more degraded upstream (high X2) as compared to Suisun Bay (low X2).

- CDFW observed that X2 is technically “undefined” when it is above Collinsville (81 km). The spreadsheet tool is useful in terms of providing an estimate of the magnitude of the distance; i.e., whether it is close to the confluence or far above it. With that in mind, CDFW suggested that the Assessment include language stating that X2 is likely greater than 10 km upstream of the confluence. CDFW voiced support for continuing to use and validate the spreadsheet tool.
- CDFW also noted that CDEC has shown that X2 has been greater than 82 km for more than a month, which means habitat has been shifted upstream for that duration.

Next, the group reviewed the two relevant assessment questions: (1) Between December 1 and January 31, has any first flush condition been exceeded? And (2) Do Delta Smelt have a high risk of migration and dispersal into areas at high risk of future entrainment?

SMT members provided comments on second assessment question:

- Current anticipated OMR range was updated to --1,000 cfs to--3,500 cfs. While operators expect OMR to remain closer to --1,500 cfs, improvements in Delta water quality (reduced salinity/ EC) could enable increased exports which would make OMR more negative, likely in the --2,500 cfs range.
- QWEST is expected to remain stable somewhere close to -180 cfs. QWEST was referenced in this question last week because it was being more negative and therefore, could have impacted entrainment risk. Given its current stability, it does not need to be mentioned.

The group agreed that no changes were needed to the executive summary.

USBR noted that there is now a “Monitoring Teams Summary” that should identify any non-consensus issues from SaMT and SMT. The participating agencies stated that there were not any issues this week that should be identified within the section. USFWS asked what qualified as “consensus.” USBR stated their understanding that any disagreement should be captured, as should the agency or agencies with that concern. Any issues that will be elevated to WOMT should be summarized in this section. USBR noted that if there are issues identified in this section, then it would be expected that SMT members are briefing their WOMT member on that topic prior to the WOMT meeting.

### **ITP Longfin Smelt Risk Assessment**

CDFW stated that they plan to replicate the Delta Smelt executive summary from the Proposed Action Assessment. There were no concerns voiced.

For Longfin Smelt, CDFW identified a change in hydrology last week – a change in QWEST due to closure of the Cross-channel Gates but noted that would be more of a concern for larval fish later in the season. With operations stable, the export scenario unlikely to change, and OMR close to -2,000 cfs, CDFW cannot advise any changes to operations. One adult Longfin was detected on 11/25, and one more recently in Montezuma Slough. There is no information that they are starting to move or are present in the Central or South Delta. With that in mind, CDFW proposed carrying over the assessment for last week that the risk will be low for both species.

- USFWS agreed with CDFW’s assessment of stable hydrology and operations and low risk characterization for both species. DWR also voiced agreement.

CDFW shared that they plan to request particle tracking models from DWR if adult Longfin Smelt are detected in the Central or South Delta or the San Joaquin River.

There were no items to elevate to WOMT with regards to Longfin Smelt.

## **Additional Considerations/Discussion**

There were no additional considerations.