

State Water Project Incidental Take Permit Risk Assessment for Delta Smelt and Longfin Smelt

Section 1: Overview

Date: November 3, 2020

Life Stages Present:

Delta Smelt: Adult

Longfin Smelt: Adult

Advice to WOMT:

No advice is warranted for south Delta or Barker Slough operations

Risk Assessment:

Risk of entrainment into the central and south Delta or into the export facilities in the south Delta is low across the range of expected OMR Index levels.

Delta Smelt Detection data is limited. Based on recent distribution patterns over the past decade it is unlikely that Delta Smelt are prevalent in the south Delta. Within the projected OMR Index limits there is low risk of entrainment. First Flush conditions are not anticipated to occur within the next seven days.

Longfin Smelt Evaluation of recent catch does not indicate that Longfin Smelt have entered the central or south Delta. At this time of year, the SMT looks to Chipps Island survey to predict Longfin Smelt movement. No Longfin Smelt have been reported in this survey and the few that have been detected were collected in Suisun Bay and Marsh. See section 4-B below for catch details.

Section 1-A: Sacramento River and Confluence

Risk of entrainment into central Delta and export facilities for Delta smelt and Longfin smelt in Sacramento River (8.1.5.2 C ii, iii, iv)

- Exposure Risk:
 - Delta Smelt: Low
 - Longfin Smelt: Low
- Routing Risk:
 - Delta Smelt: Low
 - Longfin Smelt: Low
- Overall Entrainment Risk
 - Delta Smelt: Low
 - Longfin Smelt: Low

Section 1-B: Central Delta

Risk of entrainment for Delta Smelt and Longfin Smelt in the central Delta

- Exposure Risk:
 - Delta Smelt: Low
 - Longfin Smelt: Low
- Change in exposure from previous week:
 - Delta Smelt: Not Applicable. This is the first risk assessment for WY 2021
 - Longfin Smelt: Not Applicable. This is the first risk assessment for WY 2021
- Reporting OMRI (*Number and range of OMRI bins will vary based on anticipated hydrology and operations*)
 - OMRI (*Steady Export Scenario*) OMRI is projected to remain near -1100 cfs for the near future.
 - Delta Smelt: Low Risk
 - Longfin Smelt: Low Risk
 - ~~OMRI (*Moderate Export Scenario*)~~
 - ~~Delta Smelt~~
 - ~~Longfin Smelt~~
 - ~~OMRI (*High Export Scenario*)~~
 - ~~Delta Smelt~~
 - ~~Longfin Smelt~~

Section 2: Basis for Advice

The 2020 [Incidental Take Permit for Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta 2081-2019-066-00](#) (ITP) states that advice to Water Operations Management Team (WOMT) shall be based the following Conditions of Approval:

List relevant Condition of Approval number and title based on species/life stage, time of year, etc.

8.1.5.2 Smelt Monitoring Team Risk Assessment

Discussion of Conditions of approval

Provide sentence or two addressing criteria for each Condition of Approval listed in “Basis for Advice” section. Refer to data below where appropriate.

Only Condition of Approval 8.1.5.2 is in effect prior to the onset of OMR management December 1st. SMT will conduct weekly risk assessments as described in the ITP and will communicate risk to WOMT however, no hard triggers will be considered until on or after December 1st.

Section 3: Hydrology and Operations

Assessment of hydrologic, operational, and meteorological information. 8.1.5.2 A.

Section 3-A: Water operations conditions. 8.1.5.2.A. i

- Antecedent Actions: (e.g. DCC gate closure and actions such as integrated early winter pulse protection, etc.)
 - DCC will open weekends and close weekdays
- Controlling Factors: Delta outflow and water quality
- Water Temperature:
 - CCF = 16.4°C (Condition of Approval 8.8: Daily average temperature at CCF exceeds 25°C?)
 - 3 Station Average = 16.65°C
- Tidal Cycle: Not expected to negatively impact water quality, however DCC gate operations increase uncertainty
- Turbidity: Not relevant prior to December 1st.
 - 8.3.1 Turbidity at FPT Dec 1 to Jan 31
 - 8.5.1 Turbidity at OBI Feb 1 to April 1
- Salinity: X2 is upstream of Collinsville
- Hydrologic Footprint:
 - No PTM models were run this week

Section 3-B: Water operations outlook. 8.1.5.2.A. ii

- Outages
 - SWP: Currently not exporting for maintenance. Expected to increase to 500 cfs Thursday and Friday
 - CVP: None
- Exports
 - CCF: Expected to increase to 500 cfs Thursday and Friday. SWP exports are projected to be between 500 and 1000 cfs after Friday
 - CVP: 1800 cfs
 - Barker Slough: Not reported
- Meteorological Forecast: Forecast for Antioch is clear and sunny with winds less than 8 mph. No substantial precipitation was reported.
- Storm Event Projection: None reported

Section 3-C: Projected conditions. 8.1.5.2.A. iii

- DCC Gates position: Closed during weekdays. Open on weekends
- Sacramento River flow at Freeport: 7000 cfs
- San Joaquin River flow at Vernalis: 2000 cfs
- Qwest: Not reported
- Old River at Bacon Island Turbidity: Not reported
- Freeport Turbidity: 2.1 FNU
- Expected changes in South Delta Exports:
 - CCF: increasing from 0 at end of week. Projected range will be from 500 to 1000 cfs after Friday.
 - Tracy: None reported

Table 1: Comparison of OMR and OMR Index

| Date | Averaging Period | USGS gauges (cfs) | Index |
|---------|------------------|-------------------|--------------|
| 11/3/20 | Daily | Not Reported | -1100 |
| | 5-day | Not Reported | Not Reported |
| | 14-day | Not Reported | Not Reported |
| | Daily | | |
| | 5-day | | |
| | 14-day | | |

Section 4: Distribution and Biology.

8.1.5.2.B. Assessment of biological information for Delta Smelt and Longfin Smelt

Section 4-A: Delta Smelt population status 8.1.5.2.B. i

- EDSM Abundance Estimate = 2490 for week of Sept 21st – 24th. Last Delta Smelt detection occurred on Sept 23rd in Suisun Marsh. No DS have been detected since.
- Delta Smelt LCM discussion. Not Discussed
- Biological Conditions: None reported
- % in Delta zones: SMT discussed difficulty estimating distribution given lack of detections. Potential to use published relationship with X2 to estimate distribution. SMT will likely need to rely more on published relationships and conceptual models to estimate distribution given paucity of distributional data.
- Other Surveys: No Delta Smelt detections were reported in recent sampling including Bay Study, Fall Midwater Trawl and recent EDSM sampling.
- Salvage: No Delta Smelt have been detected at either salvage facility

Section 4-B: Longfin Smelt population status 8.1.5.2.B. ii.

- FMWT Index: Not reported. Preliminary FMWT catch did not report any Longfin Smelt.
- Bay Study: During October sampling, 1 Juvenile (58mm) and 1 adult (105mm) were collected in Suisun Bay. Six more juveniles were collected downstream of Carquinez Strait.
- Other Surveys: EDSM reported 1 juvenile (62mm) in grizzly Bay and one adult (101mm) in Suisun Bay during sampling conducted Oct 12th through 16th.
- Salvage: No Longfin Smelt have been detected at either salvage facility

Section 4-C: Additional data sources to assess sensitivity to entrainment Delta. 8.1.5.2.C & D. i

Notes: The SMT conducted thorough discussion regarding logistics, group expectations and the overall process during the first meeting of water year 2021. The OMR guidance document and agenda are being updated and are expected to be finalized by November 19th. The objectives of the SMT are to assess impacts of operations to Delta Smelt and provide information to WOMT to reduce impacts. From the ITP perspective the SMT will need to bin risk of entrainment in the central and south Delta as well as entrainment into the south Delta export facilities for Delta Smelt and Longfin Smelt. The SMT will also assess the impacts of Barker Slough operations on Delta Smelt and Longfin Smelt. At by the end of each call, clear advice to WOMT or a description of any disagreements should be drafted. This advice or description should be consistent with discussion during the SMT call. SMT members should expect to see the following weekly: Operations Outlook, USBR Assessment, Meeting Notes, ITP Risk Assessment for Delta Smelt and Longfin Smelt.

Smelt Larval Survey is scheduled to start December 7th and will sample central and south Delta stations. The full compliment of stations will be sampled beginning in January. 20-mm Survey is scheduled to begin mid-March. Fall Midwater Trawl and Bays Study are sampling as scheduled. EDSM is conducting Phase 3 sampling through December. Phase 3 does not cover the south Delta.

Attachments:

Insert catch reports, PTM results, Salvage tables, etc.