

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

Section 1: Overview

Date: November 17, 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 Based on recent distribution patterns over the past decade and limited detection data, Delta Smelt are unlikely to be prevalent within the South Delta. Within the projected OMR Index limits there is low risk of entrainment. While a storm system is expected in the beginning of this week, 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. For this season, no Longfin Smelt have been reported in this survey, and those that have been detected in November by other surveys (FMWT, Bay Study, and EDSM) were collected in Suisun Bay, Suisun Marsh and farther downstream. The ITP Effects Analysis identifies early to mid-December as the time when Longfin Smelt are expected to migrate upstream into the Delta. 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: No change
 - Longfin Smelt: No change
- Reporting Old and Middle River Index (OMRI) (*Number and range of OMRI bins will vary based on anticipated hydrology and operations*)
 - OMRI is projected to be between -2000 cfs and -5500 cfs. It is unlikely for OMR to reach -5500 cfs unless salinity in the system is reduced substantially
 - OMRI (Low Export Scenario OMRI = -2000 cfs)
 - Delta Smelt: Low Risk
 - Longfin Smelt: Low Risk
 - OMRI (High Export Scenario OMRI = -5500 cfs)
 - Delta Smelt: Low Risk
 - Longfin Smelt: Low Risk

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, which begins 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 gates Closed on 11/16/2020 and will remain closed over the upcoming weekend. There is potential for another cycle of weekend openings following the Thanksgiving Holiday.
 - Grantline Canal agricultural barrier was breached on 11/11/2020. The OMRI equation was adjusted accordingly to accommodate the change in barrier status.
- Controlling Factors: Delta outflow and water quality
- Water Temperature:
 - CCF = 13.28°C (*Condition of Approval 8.8: Daily average temperature at CCF exceeds 25°C for 3 consecutive days*)
 - 3 Station Average = 13.11°C
- Tidal Cycle: Entering a period of reduced tidal movement following last week's astronomical high tide. Smaller tides may reduce the amount of outflow needed to maintain water quality.
- 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: No export or salvage outages reported
 - CVP: No export or salvage outages reported
- Exports
 - CCF: Currently 1000 cfs, increasing to 2000 cfs
 - CVP: 1800 cfs
 - Barker Slough: Not reported. Will begin reporting when Barker Slough Condition of Approval go into effect January 15th.
- Meteorological Forecast: The storm system arriving this week is not expected to substantially alter hydrology.
- Storm Event Projection: Precipitation is forecast for today and tomorrow across Northern California. However, most runoff is expected to be absorbed prior to entering Delta tributaries.

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

- DCC Gates position: Closed
- Sacramento River flow at Freeport: 8000 cfs
- San Joaquin River flow at Vernalis: 900 cfs
- Qwest: Not reported
- Old River at Bacon Island Turbidity: Not reported
- Freeport Turbidity (3-day average): 2.23 FNU
- Expected changes in South Delta Exports:
 - CCF: increasing from 1000 cfs to 2000 cfs.
 - Tracy: 800 – 2,750 cfs

Table 1: Comparison of OMR and OMR Index (data reported on [SacPAS website](#), accessed Nov 17, 2020)

Date	Averaging Period	USGS gauges (cfs)	Index
11/17/20	Daily	Not Reported	-2500
NA	5-day	Not Reported	Not Reported
NA	14-day	Not Reported	Not Reported
11/17/2020	Daily	Not Reported	Not Reported
11/14/2020	5-day	-3020 cfs	-2260
11/14/2020	14-day	-2240 cfs	-1920

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 = 1249 for week of Nov 9th – 13th. One Delta Smelt (57mm) was collected in Montezuma Slough on November 9th. Prior to that, the last Delta Smelt detection occurred on Sept 23rd in Suisun Marsh.
- Delta Smelt LCM discussion. Not Discussed.
- Biological Conditions: None reported.
- % in Delta zones: SMT did not discuss distribution in terms of percentage in Delta zones.
- Other Surveys: Other than EDSM, no Delta Smelt detections were reported in recent sampling including Bay Study, and Fall Midwater Trawl.
- Salvage: No Delta Smelt have been detected at either salvage facility this season.

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

- FMWT Index: FMWT Index has not been calculated. Preliminary November FMWT catch reported 7 Longfin Smelt, 3 were collected in Suisun Bay and 4 were collected in San Pablo Bay. November FMWT survey is scheduled to be completed today (11/17/20). Sampling will resume in December.
- Bay Study: During November sampling, 42 Longfin Smelt were collected. One was collected in the Carquinez Strait. The rest were collected in San Pablo and San Francisco Bays.
- Other Surveys: EDSM reported 1 Longfin Smelt (83mm) collected today in Suisun Slough. This is the farthest upstream detection reported in recent sampling.
- 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: An updated OMR Guidance Document is expected to be finalized on Thursday (11/19/20). Breaching Grantline Canal Agricultural Barrier creates the potential for increased debris loads of aquatic vegetation at the export facilities, however, no increases in debris was reported.

Attachments:

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