

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

## Section 1: Overview

**Date: November 10, 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 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. A Delta Smelt (57mm) was collected by EDSM on November 9, 2020 in Montezuma Slough within the Suisun Marsh stratum. Prior to this, no Delta Smelt had been collected by EDSM since September.

*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 in November were collected in Suisun Bay and San Pablo Bay by FMWT. The ITP Effects Analysis identifies early to mid-December as the time when Longfin Smelt are expected to migrate. 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 OMRI (*Number and range of OMRI bins will vary based on anticipated hydrology and operations*)
  - OMRI is projected to be between -1000 cfs and -2500 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, which begins December 1<sup>st</sup>. 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 1<sup>st</sup>.

### 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 will open weekends and close weekdays through 11/16/20. Reclamation will then assess gate operations through the rest of November.
  - Grantline Canal agricultural barrier will be breached later this week. As a result, the OMR Index will be 500 cfs more positive following the breach of the Grantline Canal agricultural barrier.
- Controlling Factors: Delta outflow and water quality
- Water Temperature:
  - CCF = 14.10°C (*Condition of Approval 8.8: Daily average temperature at CCF exceeds 25°C for 3 consecutive days*)
  - 3 Station Average = 13.69°C
- Tidal Cycle: Astronomical high tide this weekend may affect flow at Freeport and increase variability in OMR.
- Turbidity: Not relevant prior to December 1<sup>st</sup>.
  - 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: None
  - CVP: None
- Exports
  - CCF: Currently 500 cfs, increasing to 1000 cfs tomorrow
  - CVP: Currently 1000 cfs, increasing to 1800 cfs Friday
  - Barker Slough: Not reported. Will begin reporting when Barker Slough Condition of Approval go into effect January 15<sup>th</sup>.
- Meteorological Forecast: Small system will arrive in region at end of week. Not expected to influence hydrology.
- 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 through 11/16/20. Reclamation will evaluate gate operations for the remainder of November.
- Sacramento River flow at Freeport: 8292 cfs and is expected to range from 7000 cfs to 9000 cfs.
- San Joaquin River flow at Vernalis: 700 cfs to 1200 cfs
- Qwest: Not reported
- Old River at Bacon Island Turbidity: Not reported
- Freeport Turbidity (3-day average): 1.97 FNU
- Expected changes in South Delta Exports:
  - CCF: increasing from 500 cfs to 1000 cfs.
  - Tracy: Increasing from 1000 cfs to 1800 cfs Friday

Table 1: Comparison of OMR and OMR Index (data reported on [SacPAS website](#), accessed Nov 10, 2020)

Date	Averaging Period	USGS gauges (cfs)	Index
11/9/20	Daily	Not Reported	-1400
NA	5-day	Not Reported	Not Reported
NA	14-day	Not Reported	Not Reported
11/7/2020	Daily	Not Reported	Not Reported
11/7/2020	5-day	-2040 cfs	-1680
11/7/2020	14-day	-2390 cfs	-1810

## 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 21<sup>st</sup> – 24<sup>th</sup>. One Delta Smelt (57mm) was collected in Montezuma Slough on November 9<sup>th</sup>. Prior to that, the last Delta Smelt detection occurred on Sept 23<sup>rd</sup> 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 but did highlight the limited detections in EDSM and lack of detections in other surveys.
- Other Surveys: Other than EDSM, no Delta Smelt detections were reported in recent sampling including Bay Study, Fall Midwater Trawl.
- 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: 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
- 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 12<sup>th</sup> through 16<sup>th</sup>.
- 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 discussed discrepancies between the OMR Index and OMR calculated using the USGS gauges. The ITP Risk Assessment includes a table to compare these values. Any discrepancies noted warrant further discussion.

There is an effort underway to catalogue all data sources available to the SMT and SaMT.

An excel workbook was circulated among SMT members for estimating X2 when it is upstream of Collinsville by interpolating surface salinity. This method has not been ground truthed, but may prove useful when in determining if X2 is close to Collinsville but beyond the range reported using other methods.

Attachments:

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