

# Weekly Assessment for Delta Operations on ESA and CESA-listed Osmerids including Current Delta Hydrologic Conditions

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## Executive Summary

- Delta smelt were most recently detected at Suisun Marsh.
- One Delta smelt was salvaged on 3/6/26, expanded salvage is 4 for this water year.
- No longfin smelt salvage has been observed this water year.
- Turbidity in the central/south Delta is low to moderate.

# **1 Current Delta Hydrologic Conditions**

## **1.1 Operational and Regulatory Conditions**

The current controlling factor is OMRI restrictions to no more negative than -5,000 cfs. See most recent weekly outlook for more information.

## **1.2 Current Conditions**

Most recent inflow at Freeport in the Sacramento River and Vernalis in the San Joaquin River is 34,696 and 5,194 cfs respectively. Most recent Jersey Point Flow (JPF) is 4,989 cfs. Most recent 1-day, 5-day, and 14-day OMRI measurements were -4,847, -4,929, and -5,061 cfs, respectively, and most recent export data were 3,551 cfs for Jones Pumping Plant and 1,734 cfs for Henry O. Banks Pumping Plant.

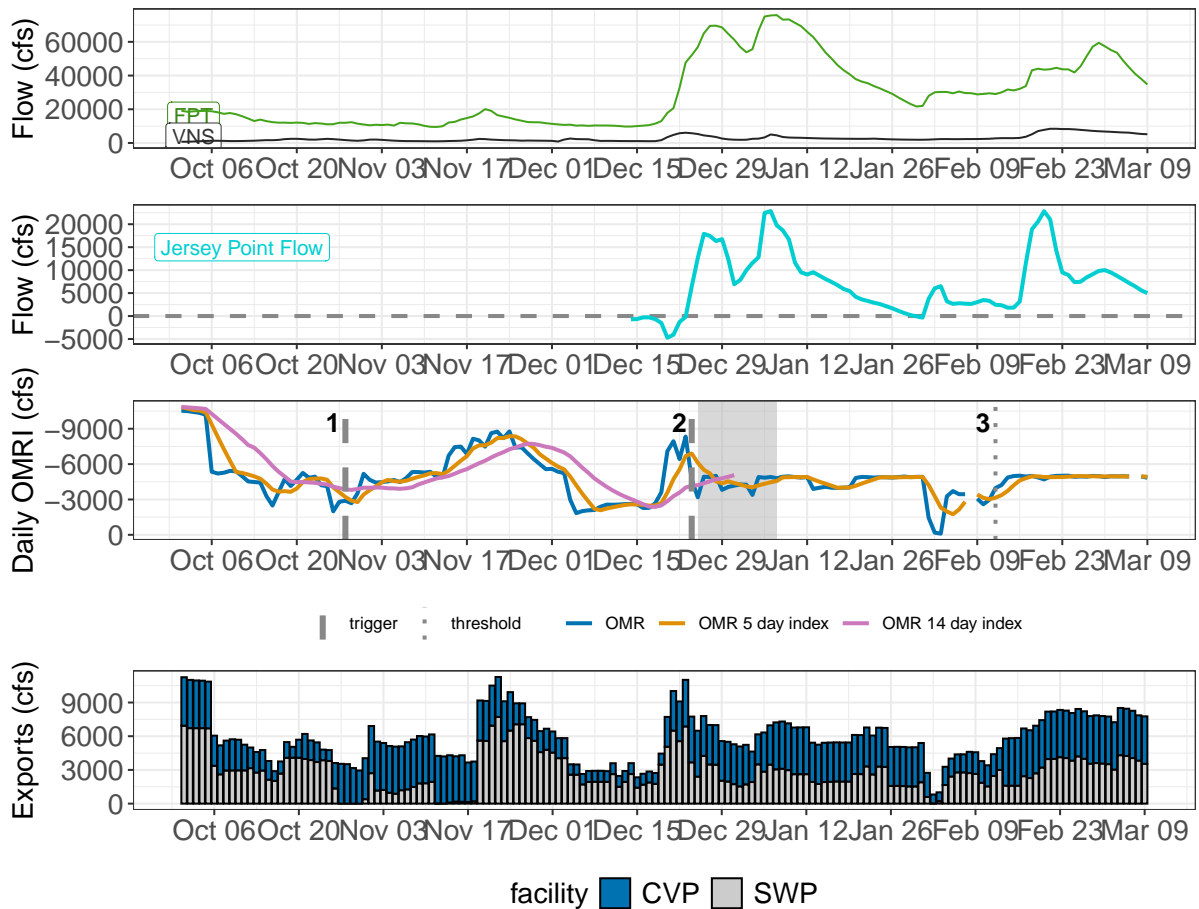


Figure 1: Operations and Action Summary, WY 2026. The numbers and lines in the OMRI plot indicate different triggers and thresholds (see Table 1), with shading representing specific action periods. Dashed and dotted vertical lines represent triggered actions and thresholds, respectively. OMRI data (colored lines) calculated by SacPAS, Freeport (FPT) and Vernalis (VNS) flow data from CDEC, Jersey Point Flow (JPF) from DWR, and CVP (TRP) and SWP (HRO) exports data from CDEC.

Table 1: Summary of Actions and Triggers, WY 2026

Label	Action	Date Triggered	Date Implemented	Number Days Implemented	Regulation
1	DCC Gate Closure	10/28/2025	2025-10-30	Ongoing	DCC gates

Label Action	Date Triggered	Date Implemented	Number Days Implemented	Regulation
2 First Flush	12/24/2025	2025-12-25	14 days	Entrainment Management
3 Offramp temperature threshold	2/12/2026		3 consecutive days	Delta Smelt Adult Entrainment, no action taken WY26

### 1.3 Zone of Influence

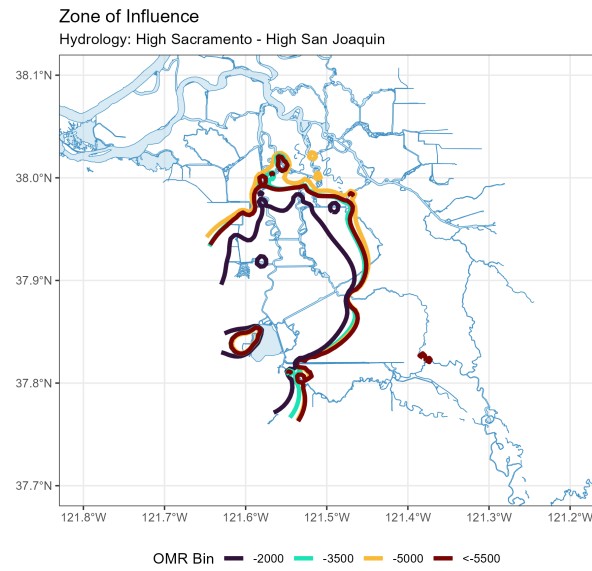
Zone of Influence (ZOI) analysis is discussed in detail in the December 22 assessment. Current conditions were queried from most recent Freeport flow data on the Sacramento River and Vernalis flow data on the San Joaquin river from [SacPAS](#). Forecasted flows were queried from short range deterministic flows provided by the [California Nevada River Forecast Center](#).

Current conditions at Freeport and Vernalis indicate that delta hydrology falls within the ‘hihi’ category. Forecasted conditions averaged across the next 7 days falls within the ‘hihi’ category.

The altered channel length for the current “hihi” hydrology is 99, 100, 119 and 114 kilometers (km) across OMR bins of -2000, -3500, -5000 and <-5500 respectively. The altered channel length for forecasted “hihi” hydrology is 99, 100, 119 and 114 kilometers (km) across OMR bins of -2000, -3500, -5000 and <-5500 respectively.

Change in altered channel length between OMR levels is 15 km for current conditions and 15 km for forecasted conditions indicating that ZOI impacts across OMR scenarios would not change between current and forecasted conditions. Across the nine hydrology bins, changes in altered channel length across OMR scenarios are low (<25th percentile) for both current and forecasted hydrology.

### Current Flow



### Forecasted Flow

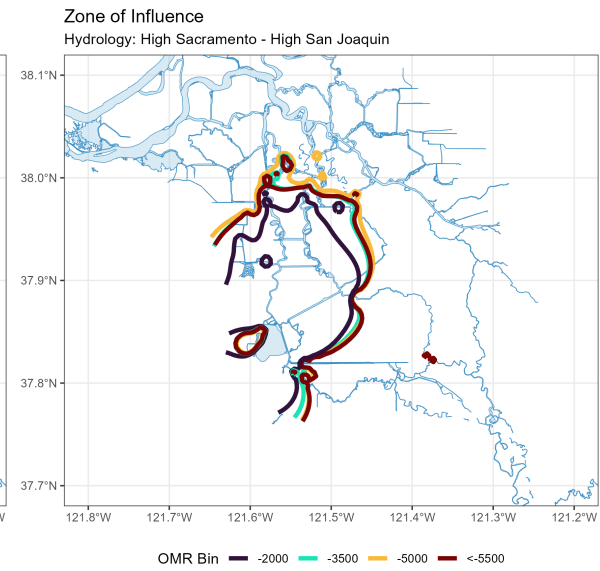


Figure 2: Modeled Zone of Influence at different OMRI scenarios based on current inflow hydrology (left) and forecasted inflow hydrology (right) from the Sacramento River and San Joaquin River

## 2 Weekly Assessment for Delta Operations on ESA and CESA-listed Osmerids

### 2.1 Operational and Regulatory Conditions

- See current Weekly Fish and Water Operations Outlook document.
- Additional information also available on the [SacPAS SMT page](#).

### 2.2 Delta smelt

#### 2.2.1 Biological

- **Delta smelt life stages:** Juvenile, Adult
- **Abundance estimate:** 1487 (95% CL: 118 to 6,560) as of the week of March 2–6, 2026
- **Releases:** A total of 163,349 cultured Delta smelt have been released for WY 2026. The most recent release of 24,606 fish occurred in Sacramento River at Rio Vista on Dec 16, 2025.
- **Delta smelt count:** 42 adult Delta smelt and 30 juvenile Delta smelt have been detected this water year. See Table 2 for recent detections, Figure 3 for spatial distribution, and Figure 4 for temporal distribution.
- **Delta smelt salvage:** 1 Delta smelt has been salvaged, and the cumulative seasonal salvage is 4.

#### Notes

- Since there are few recent detections of Delta smelt, estimation of distribution within the Delta is limited.
- As mentioned in EDSM reporting, fork length ranges reported for Delta smelt and longfin smelt life stages are defined by permit reporting purposes and are not intended to delineate cohorts or distinguish from hatchery or wild origin. See Table 2 caption for fork-length ranges for age groups of Delta smelt.
- See [SacPAS SMT Page](#) for additional details on releases and detection in surveys and salvage.
- Historical salvage trends can be found at: [SacPAS Salvage Timing](#)

Table 2: Delta smelt detections in the last 2 weeks. Fork Length > 58mm = Adult, Fork Length 20-58mm = Juvenile, Fork Length < 20mm = Larva.

Survey	Date	Region	Stratum	Life Stage	Catch
EDSM	2026-02-25	West	Suisun Marsh	Adult	3
EDSM	2026-02-25	West	Suisun Marsh	Juvenile	1
EDSM	2026-03-02	West	Suisun Marsh	Adult	1
EDSM	2026-03-09	West	Suisun Marsh	Adult	1
salvage	2026-03-06	South	NA	Adult	1

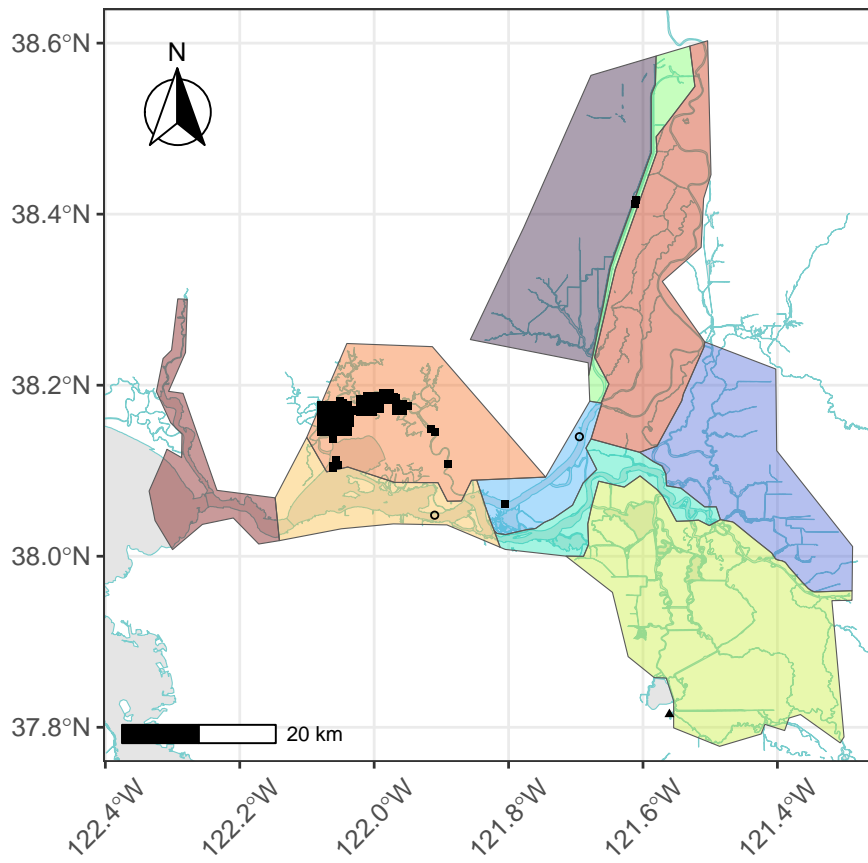
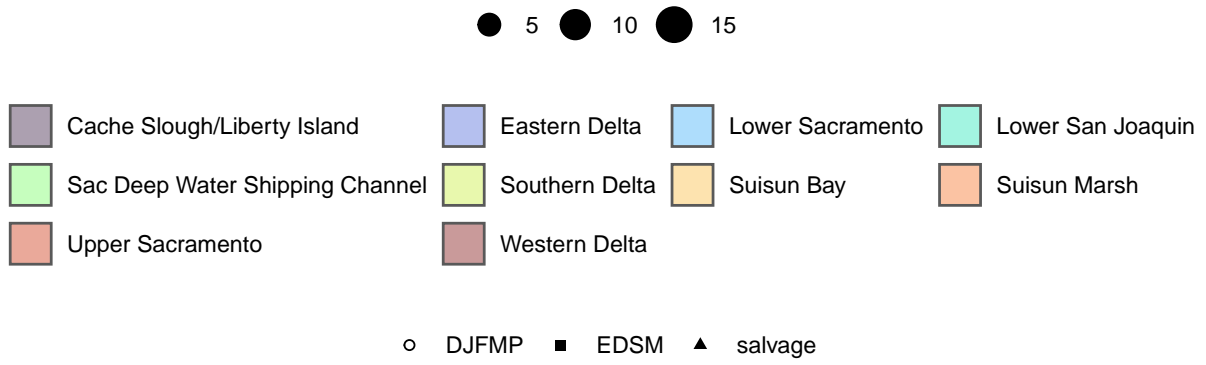


Figure 3: Delta smelt distribution for WY 2026

Table 3: Delta smelt water year totals by life stage

Survey	Region	Life Stage	Total
DJFMP	N/A	Adult	1

Table 3: Delta smelt water year totals by life stage

Survey	Region	Life Stage	Total
DJFMP	North	Juvenile	1
EDSM	North	Adult	2
EDSM	West	Adult	38
EDSM	West	Juvenile	29
salvage	South	Adult	1

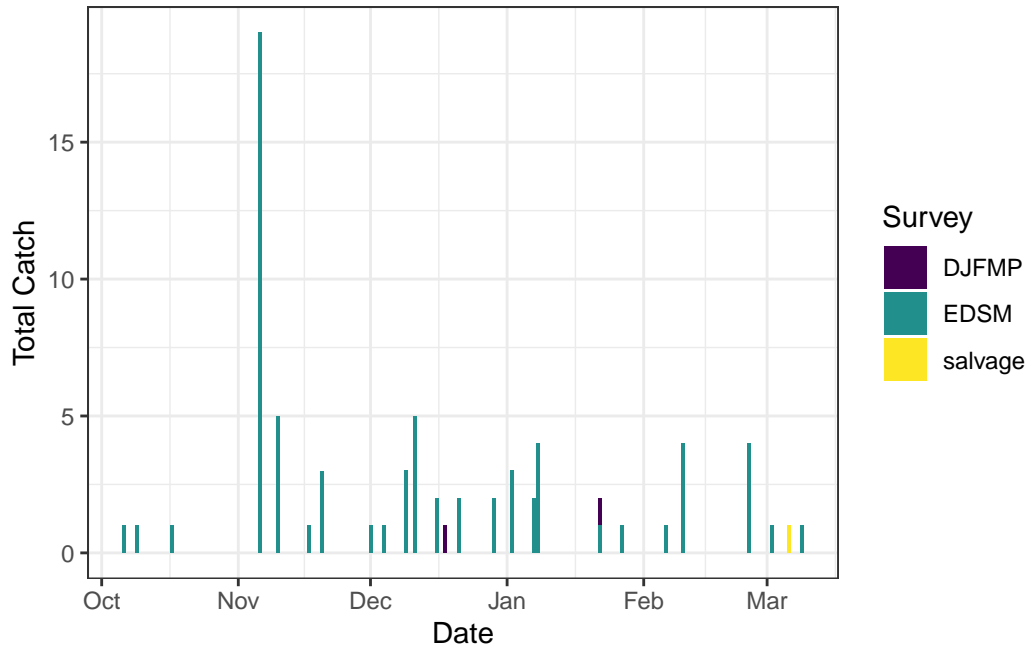


Figure 4: Time series of Delta smelt catch, WY 2026

## 2.2.2 Environmental

### 2.2.2.1 First Flush

- Implemented 12/25/25-01/7/26

## 2.2.3 Real-time Assessment Thresholds

### 2.2.3.1 Adult Delta smelt

- Adult Delta smelt action offramped on 02/12/2026

- No adult Delta smelt action was taken in WY26
- See [Bay-Delta Live](#) for recent Delta-wide turbidity conditions.

### 2.2.3.2 Larval/juvenile Delta smelt

**Threshold:** After the onset of spawning, if  $JPF < 0$  cfs AND turbidity is  $\geq 12$  FNU in the south Delta AND PTM modeling indicates the action would avoid  $\geq 5\%$  entrainment of Delta smelt population after 30 days

- **12-station South Delta Turbidity:** The most recent average turbidity was 12.5 FNU as of Feb 23, 2025

### 2.2.4 Evaluation

#### Delta smelt:

1. After the start of entrainment management, is  $JPF < 0$ , is daily average turbidity 12 FNU in the OMR corridor (stations OBI, HOL, and OSJ)? Has the average water temperature at Jersey Point or Rio Vista not exceeded 53.6°F (12°C) for 3 consecutive days and/or has this action already been taken during WY 2026?

The adult Delta smelt entrainment action is not active and no action was taken in WY26. Temperature at Jersey Point exceeded the threshold on February 12th, 2025. Jersey Point 3-day average temperature was 12.05°C on February 10th, 12.09°C on February 11th, and 12.13°C on February 12th.

2. What is the evidence for the onset of Delta smelt spawning?

Upstream migration for Delta smelt occurs between December and March and in response to “first flush” conditions (Sommer et al., 2011; Grimaldo et al. 2009; 2021). Historically, detections of ripe Delta smelt began in January and peaked in February and March and the majority of Delta Smelt spawning occurs at 11-15 ° C (but can occur from 8-18 ° C) (Damon et al. 2016). Based on [historical monitoring data](#) from the past few years, first detection of larvae in the Central and South Delta has typically occurred by mid to late March. The large majority of Delta smelt recaptures continue to be from Suisun Marsh, close to where supplemental fish were released in the fall.

3. After the onset of spawning, have the following conditions occurred:  $JPF < 0$  cfs, average turbidity is  $\geq 12$  FNU in the south Delta, and PTM modeling indicates the action would avoid  $\geq 5\%$  entrainment of the Delta smelt population at facilities after 30 days?

Although spawning may be occurring,  $JPF$  is above 0 cfs. SLS 5 was on the water last week, and the most recent 12 station average turbidity in the south delta was 12.5 FNU

on 2/23/26. Due to  $JPF > 0$  this week, the conditions required to trigger larval and juvenile Delta smelt entrainment management will not be met.

No Delta smelt larvae have been captured in SLS surveys in WY26 to date. PTM results for this week for neutrally buoyant particles injected at Chipps Island (most recent adult detections used as a proxy for potential larval locations) showed 0% particle entrainment at both facilities for all OMRI levels ( $-6,500$ ,  $-5,000$ ,  $-3,500$ , and  $-2,000$  cfs). These results indicate that if Delta smelt larvae were present, the risk of entrainment is low.

## 2.3 Longfin smelt

### 2.3.1 Biological

- **Longfin smelt life stages:** Juvenile, Larva, Adult
- **Longfin smelt count:** 442 adult, 1022 juvenile, and 4749 larval longfin smelt have been detected this water year. See Table 4 for recent detections, Figure 5 for spatial distribution, and Figure 6 for temporal distribution.
- **Longfin smelt salvage:** 0 longfin smelt have been salvaged, and the cumulative seasonal salvage is 0.

Table 4: Longfin smelt detections in the last 2 weeks. Fork Length  $> 84\text{mm}$  = Adult, Fork Length  $20\text{-}84\text{mm}$  = Juvenile, Fork Length  $< 20\text{mm}$  = Larva.

Survey	Date	Region	Stratum	Life Stage	Catch
DJFMP	2026-02-25	N/A	Chipps Island	Adult	3
DJFMP	2026-02-25	N/A	Chipps Island	Juvenile	1
DJFMP	2026-02-26	N/A	Chipps Island	Adult	1
DJFMP	2026-02-26	N/A	Chipps Island	Juvenile	1
DJFMP	2026-02-27	N/A	Chipps Island	Adult	1
DJFMP	2026-03-02	N/A	Chipps Island	Adult	1
DJFMP	2026-03-03	N/A	Chipps Island	Adult	2
DJFMP	2026-03-03	N/A	Chipps Island	Juvenile	1
DJFMP	2026-03-04	N/A	Chipps Island	Adult	3
DJFMP	2026-03-05	N/A	Chipps Island	Adult	1
DJFMP	2026-03-05	N/A	Chipps Island	Juvenile	1
DJFMP	2026-03-08	N/A	Chipps Island	Adult	5
DJFMP	2026-03-08	N/A	Chipps Island	Juvenile	3
DJFMP	2026-03-09	N/A	Chipps Island	Adult	4
DJFMP	2026-03-09	N/A	Chipps Island	Juvenile	2
DJFMP	2026-03-10	N/A	Chipps Island	Adult	4
DJFMP	2026-03-10	N/A	Chipps Island	Juvenile	3

Table 4: Longfin smelt detections in the last 2 weeks. Fork Length > 84mm = Adult, Fork Length 20-84mm = Juvenile, Fork Length < 20mm = Larva.

Survey	Date	Region	Stratum	Life Stage	Catch
EDSM	2026-02-25	West	Suisun Marsh	Juvenile	3
EDSM	2026-02-26	Far West	Western Delta	Juvenile	2
EDSM	2026-03-03	Far West	Suisun Bay	Juvenile	1
EDSM	2026-03-03	West	Suisun Bay	Juvenile	1
EDSM	2026-03-05	Far West	Western Delta	Adult	2
EDSM	2026-03-05	Far West	Western Delta	Juvenile	3
EDSM	2026-03-09	West	Suisun Marsh	Adult	2
EDSM	2026-03-10	Far West	Western Delta	Juvenile	1
sls	2026-02-25	Far West	Western Delta	NA	254
sls	2026-02-25	West	Suisun Bay	Larva	91

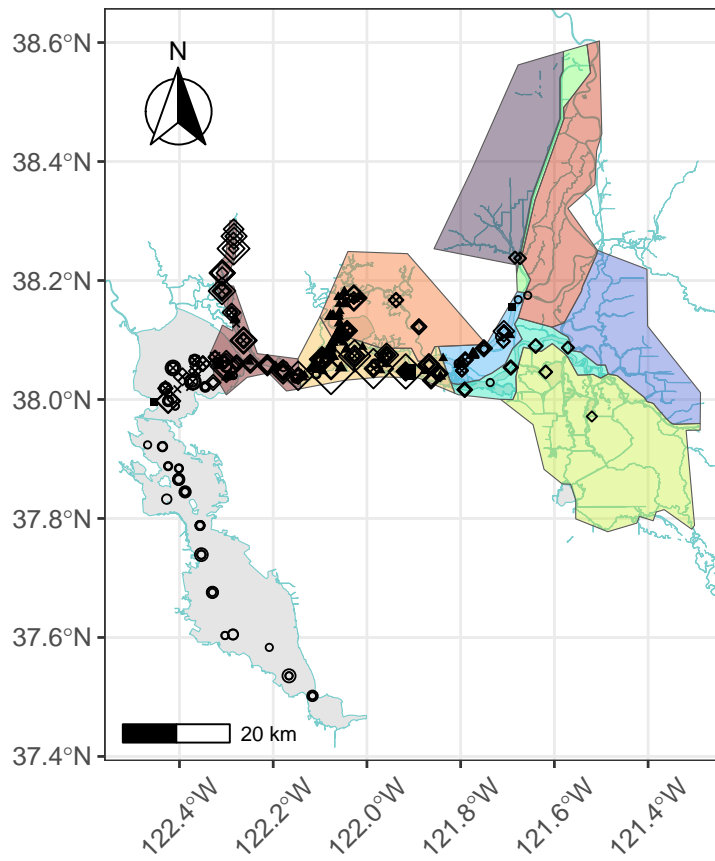
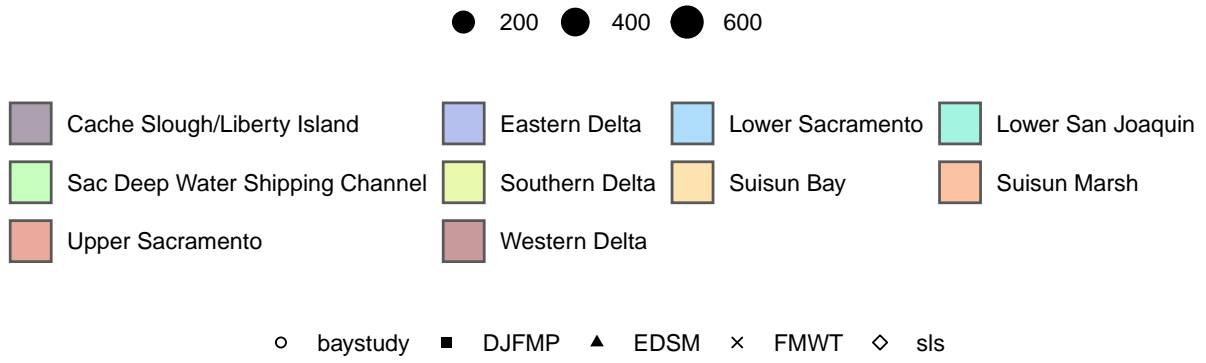


Figure 5: Longfin Smelt Distribution for WY 2026

Table 5: Longfin smelt water year totals by life stage

Survey	Region	Life Stage	Total
DJFMP	Bay	Juvenile	1

Table 5: Longfin smelt water year totals by life stage

Survey	Region	Life Stage	Total
DJFMP	N/A	Adult	268
DJFMP	N/A	Juvenile	30
DJFMP	NA	Adult	1
EDSM	Far West	Adult	23
EDSM	Far West	Juvenile	92
EDSM	North	Juvenile	1
EDSM	West	Adult	82
EDSM	West	Juvenile	200
FMWT	Bay	Adult	1
FMWT	Bay	Juvenile	14
FMWT	Far West	Adult	2
FMWT	Far West	Juvenile	14
FMWT	West	Adult	4
FMWT	West	Juvenile	18
FMWT	NA	Adult	2
FMWT	NA	Juvenile	28
baystudy	Bay	Adult	39
baystudy	Bay	Juvenile	551
baystudy	Far West	Adult	13
baystudy	Far West	Juvenile	56
baystudy	North	Adult	3
baystudy	West	Adult	4
baystudy	West	Juvenile	14
sls	Bay	Larva	209
sls	Far West	Larva	2304
sls	North	Larva	88
sls	South	Larva	49
sls	West	Larva	2026
sls	NA	Juvenile	3
sls	NA	Larva	73

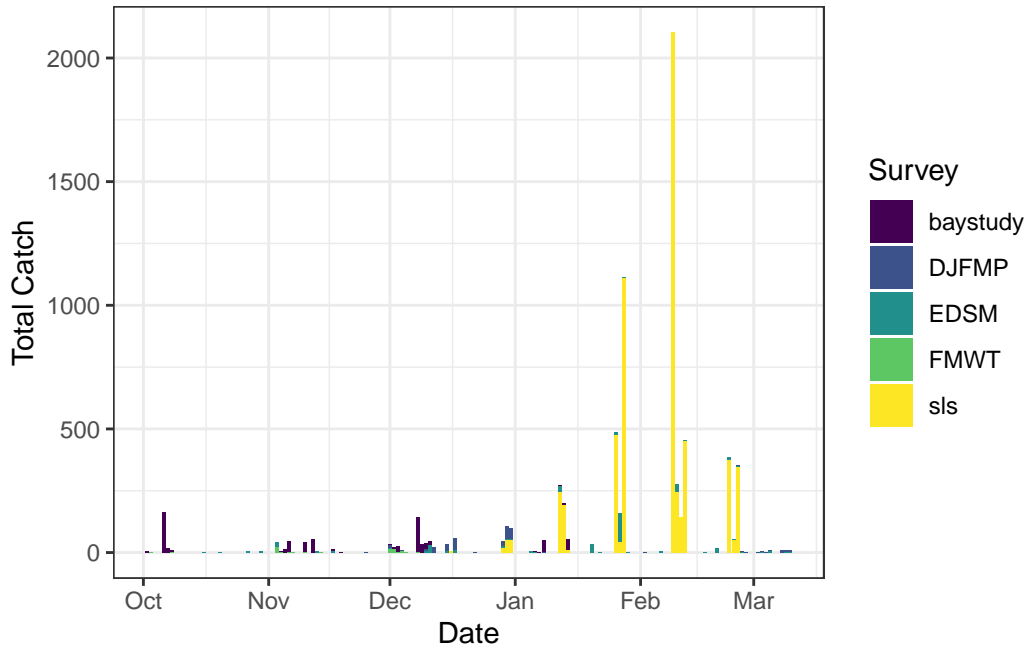


Figure 6: Time series of longfin smelt catch, WY 2026

## 2.3.2 Real-time Assessment Thresholds

### 2.3.2.1 Start of Entrainment Management (Adult Longfin Smelt)

- This action was not taken in WY26

### 2.3.2.2 Adult longfin smelt

- **Threshold:** JPF < 0 cfs, annual loss is on a trajectory to exceed 5% of the adult population abundance, and reduced exports will reduce entrainment in the south Delta
  - Daily average JPF: 4,989 cfs as of Mar 09, 2026
  - Adult abundance (Age 1+ LFS index): 2479.2 fish
    - \* 5% of abundance + 1: 125.0
  - Water year total adult longfin smelt salvage = 0

### 2.3.2.3 Larval/juvenile longfin smelt

- **Threshold:** JPF < 0 cfs AND population model demonstrates need to reduce entrainment to avoid population decline
  - Daily average JPF: 4,989 cfs as of Mar 09, 2026

### 2.3.3 Evaluation

#### Longfin smelt:

1. If  $JPF < 0$ , what is the trajectory of annual loss of adult longfin smelt and is it likely to exceed 5% of the adult population estimate? Is South Delta entrainment expected to decrease due to a reduction in export pumping?

JPF is  $> 0$  cfs and no adult longfin smelt have been detected in salvage, indicating annual loss has not begun to approach the 5% regulatory threshold.

2. For larval and juvenile longfin smelt, if  $JPF < 0$  cfs, do particle tracking models show a moderate to high difference in particle fates across different OMRI scenarios? Does Zone of Influence modeling show moderate to high changes in hydrodynamic footprint across different OMRI scenarios? Are these effects anticipated to cause a population decline?

JPF is currently not less than 0 cfs and is not predicted to drop below 0 cfs this week. Zone of Influence modeling indicates low differences in the hydrodynamic footprint across OMRI scenarios, with no change between current and forecasted conditions. Population-based PTM results, summarized in Appendix A, project low larval entrainment relative to estimated abundance the week ending 03/15/2026. Projected larval entrainment is 0.1% for OMRI of -6,500 cfs, and  $< 0.1\%$  for all other modeled OMRI levels. These projected losses remain below levels suggesting significant population decline.

3. Is there additional information or other analyses that should be considered in this evaluation?

Please see Appendix A for additional information.

### 2.4 End of smelt Entrainment Management

- Not relevant

## References

- Damon, L. J., Slater, S. B., Baxter, R. D., & Fujimura, R. W. (2016). Fecundity and reproductive potential of wild female delta smelt in the upper san francisco estuary, california. *California Fish and Game*, *102*(4), 188–210.
- Grimaldo, L. F., Smith, W. E., & Nobriga, M. L. (2021). Re-examining factors that affect delta smelt (*hypomesus transpacificus*) entrainment at the state water project and central valley project in the sacramento–san joaquin delta. *San Francisco Estuary and Watershed Science*, *19*(1).
- Grimaldo, L. F., Sommer, T., Van Ark, N., Jones, G., Holland, E., Moyle, P. B., Herbold, B., & Smith, P. (2009). Factors affecting fish entrainment into massive water diversions in a tidal freshwater estuary: Can fish losses be managed? *North American Journal of Fisheries Management*, *29*(5), 1253–1270.
- Sommer, T., Mejia, F. H., Nobriga, M. L., Feyrer, F., & Grimaldo, L. (2011). The spawning migration of delta smelt in the upper san francisco estuary. *San Francisco Estuary and Watershed Science*, *9*(2).