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

Last updated: Tuesday, January 27, 2026 at 8 AM

Executive Summary

ESA and CESA-listed Salmonids

- Entrainment management season is **active**.

- Season Loss: **0** (0.00% of threshold) DNA Winter-run, **0** (0.00% of threshold) Hatchery Winter-run, **47** (0.88% of threshold) Natural Steelhead, **153** (2.59% of threshold) Hatchery Steelhead, and **1013** (46.08% of threshold) Spring-run Surrogates.

- Winter-run presence in the Delta is **decreasing** (winding down).

- Steelhead presence in the Delta is **high** (historical peak).

ESA and CESA-listed Osmerids

- Entrainment management is currently active.

- Delta smelt were detected at Chipps Island and the Sacramento Deep Water Ship Channel.

- No Delta smelt or longfin smelt salvage has been observed this water year.

- Turbidity in the central/south Delta is low-moderate.

Current Delta Hydrologic Conditions

Operational and Regulatory Conditions
Entrainment management is the current controlling factor. See most recent weekly outlook for more information.

Current Conditions

Most recent inflow at Freeport in the Sacramento River and Vernalis in the San Joaquin River is 29,181 and 2,148 cfs respectively. Most recent 1-day, 5-day, and 14-day OMRI measurements were -4,880, -4,886, 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.
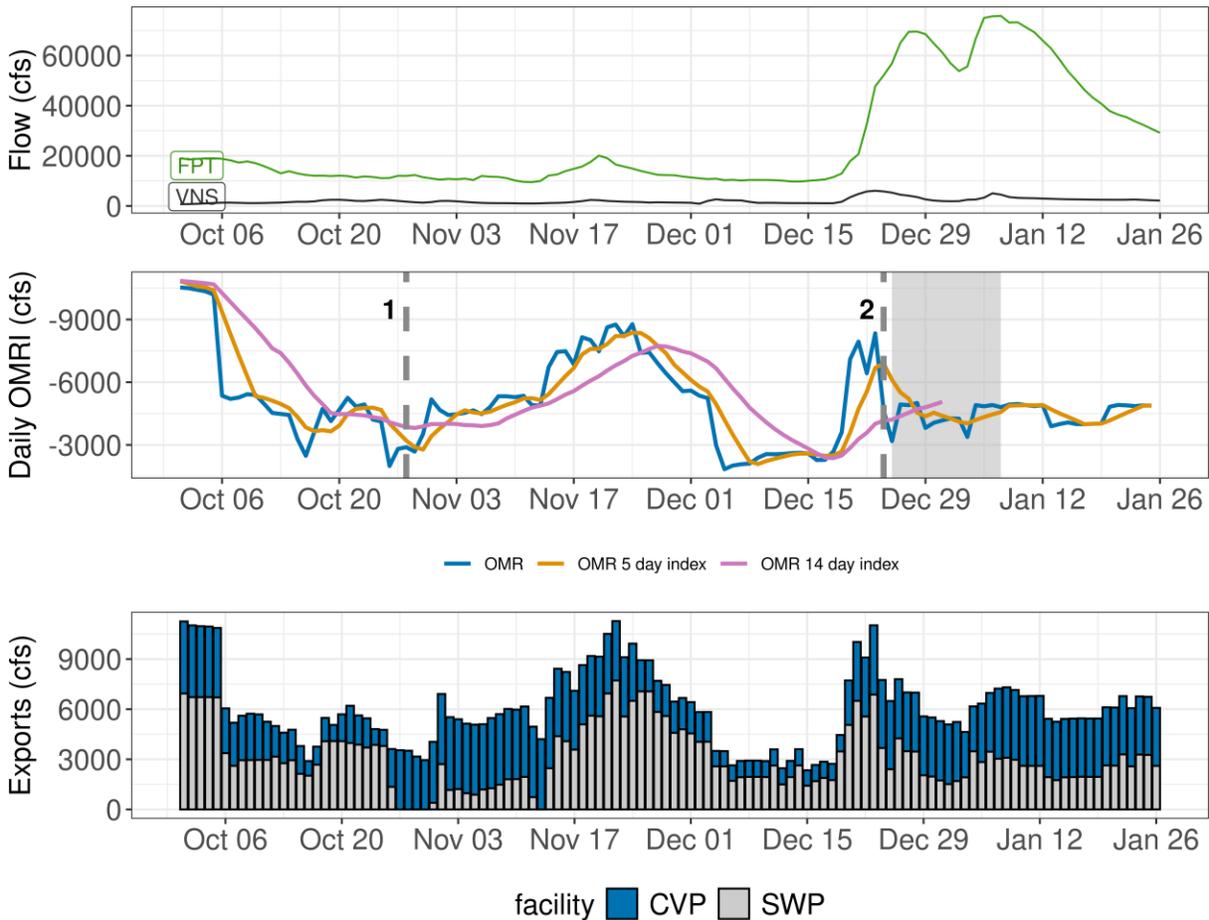

Figure 1: Operations and Action Summary, WY 2026. The numbers and dashed lines in the OMRI plot indicate different triggers (see Table 1), with shading representing specific action periods. OMRI data (colored lines) calculated by SacPAS, Freeport (FPT) and Vernalis (VNS) flow data from CDEC, and CVP (TRP) and SWP (HRO) exports data from CDEC.

Figure 1 depicts three stacked graphs. The first two are line charts depicting flow and daily OMRI in cfs for OMR, and OMR 5- and 14-day indexes. The last chart is a bar graph depicting exports in cfs through the Central Valley Project and State Water Project facilities. The x-axis for all three graphs list October 6 – January 26.

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
2	First Flush	12/24/2025	2025-12-25	14 days	Entrainment Management

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 'himed' category. Forecasted conditions averaged across the next 7 days falls within the 'hilo' category.

The altered channel length for the current "himed" hydrology is 23, 53, 118 and 111 kilometers (km) across OMR bins of -2000, -3500, -5000 and <-5500 respectively. The altered channel length for forecasted "hilo" hydrology is 48, 79 and 74 kilometeres (km) across OMR bins of -3500, -5000 and <-5500 respectively.

Change in altered channel length between OMR levels is 88 km for current conditions and 26 km for forecasted conditions indicating that ZOI impacts across OMR scenarios would decrease between current and forecasted conditions. Across the nine hydrology bins, changes in altered channel length across OMR scenarios are moderate (between 25th and 75th percentiles) and low (<25th percentile) respectively for current and forecasted hydrology.

Current Flow
Zone of Influence
Hydrology: High Sacramento - Medium San Joaquin

Forecasted Flow
Zone of Influence
Hydrology: High Sacramento - Low San Joaquin
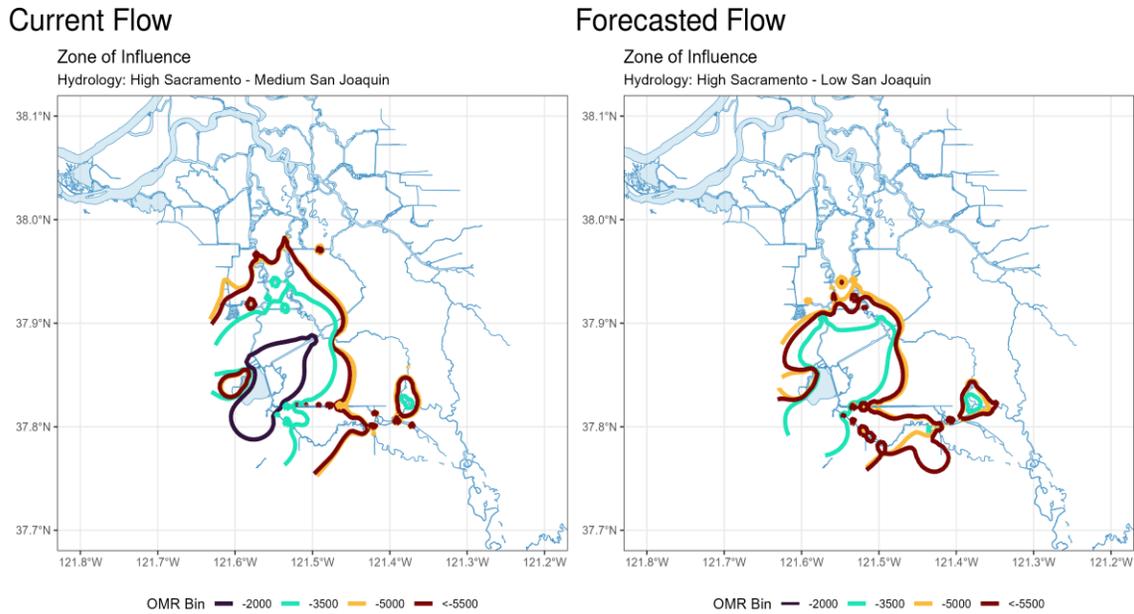
OMR Bin — -2000 — -3500 — -5000 — <-5500

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

Figure 2 contains two maps of current and forecasted flow for the zone of influence. Each map contains lines of different colors depicting OMR Bin -2000, -3500, -500, and less than -5500 modeling scenarios.

Assessment for Delta Operations on Salmonids

For more detailed data on salmonid conditions in the Delta, see corresponding webpage on SacPAS.

Natural Winter-run Chinook

Juvenile Production Estimate
The Juvenile Production Estimate for winter-run is 1,057,452 for the current water year.

Current Status
Delta Entry Timing - Historically, as of Jan 26, 82% of length-at-date (LAD) winter-run have entered the Delta based on Knights Landing RST catch, 2% have exited the Delta based on Chipps Island Trawl Catch, and 2% of DNA confirmed winter-run have been salvaged.

Table 2: Average percent of annual emigrating population for unclipped LAD winter-run captured at monitoring locations and salvaged at Delta facilities for the past 10 years

Species	Red Bluff Diversion Dam	Tisdale RST	Knights Landing RST	Sac Trawl (Sherwood)	Chipps Island Trawl	Salvage
Chinook, LAD Winter-run, Unclipped	99%	87%	82%	44%	2%	20%
Chinook, DNA Winter-run, Unclipped (Water Year)	N/A	N/A	N/A	N/A	N/A	2%

Red Bluff Diversion Dam Passage Estimate - As of Jan 21 estimated passage to date of LAD winter-run at Red Bluff Diversion is approximately 4.17 million fish. Note that outmigration timing overlaps with spring-run migrating fish, and true winter-run abundance likely differs from these estimates.

Delta Monitoring - Total catch of LAD winter run at RSTs at Delta Entry (Tisdale, Knights Landing, Lower Sacramento River) between Jan 12 and Jan 22 is 63 individuals. Total catch at Sacramento Trawl and Beach Seines in the delta between Jan 12 and Jan 23 is 3 individuals. Total catch at Delta Exit at Chipps Island between Jan 20 and Jan 22 is 0 individuals.

Annual Loss
The annual Loss threshold for natural winter-run is 1% of the jpe or 10,575 fish. As of January 26, cumulative loss of genetically confirmed winter-run is 0 or 0.00% of the annual loss threshold. Cumulative loss in the past 7 days has been 0.

WY2026 Natural DNA Winter-run Chinook Loss
Cumulative Loss to date: 0
Cumulative Loss percent of Threshold: 0.00%

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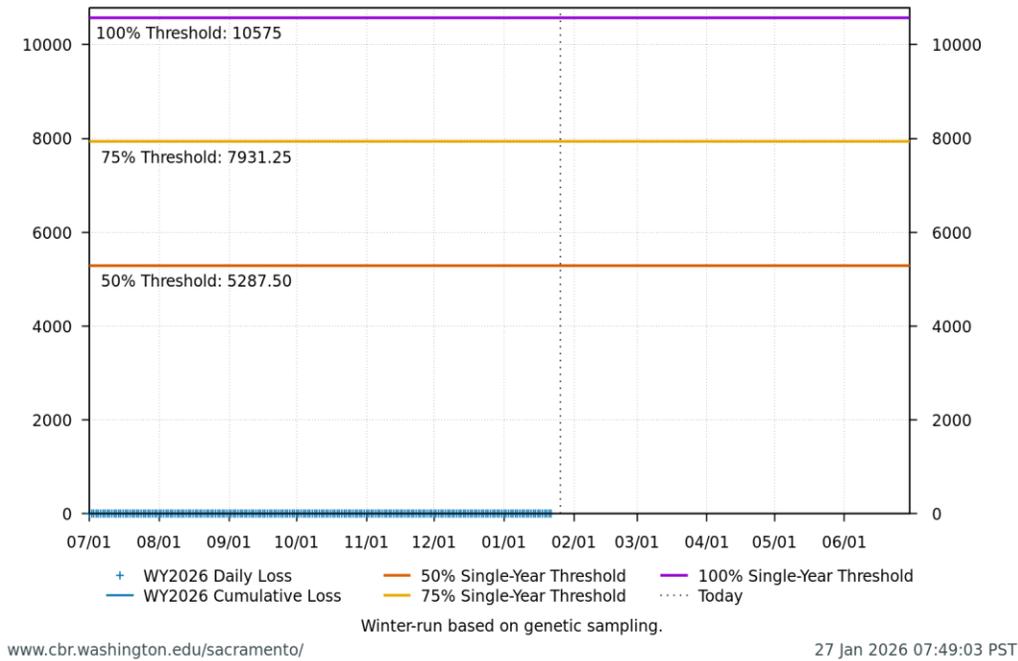
Figure 3: Cumulative loss of natural-origin winter-run for WY 2026. Cumulative loss is based on genetically confirmed winter-run captured in salvage or length-at-date winter-run in which genetic confirmation was unable to be obtained.

Figure 3 displays daily and cumulative winter-run Chinook loss based on genetic sampling for Water Year 2026. Points represent daily estimated loss and the line shows cumulative loss over time, with a vertical dashed line indicating the current date. As of January 27, 2026, cumulative loss to date remains at zero with a cumulative loss percent of threshold at 0.00%.

STARS
The Delta STARS Model is an individual-based simulation model that predicts survival, travel time, and routing of juvenile salmon migrating through the Sacramento–San Joaquin River Delta. This model gives insight into survival and routing patterns of winter-run based on most current conditions.

As of January 25, overall through delta STARS estimated survival probability (with 80% credible intervals) is 0.57 (0.5-0.64) placing it in the 71st percentile of historical STARS survival estimates for the month of January (WYs 2018-2025). STARS estimated routing and survival probabilities (with 80% credible intervals) into the interior delta are 0.12 (0.1-0.14) and 0.27 (0.13-0.42), respectively, corresponding to the 32nd and 69th percentiles of historical January estimates (WYs 2018-2025).

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Figure 4: Estimated overall winter-run survival from Knights Landing to Chipps Island. Black line indicates the current water-year, and other colored lines correspond to past water years.

Figure 4 is a line graph depicting median survival of daily cohorts for all routes combined from Knights Landing to Chipps Island. Survival is shown by water year for 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, and 2026, with different-colored lines from October to August and an 80% confidence interval.

Interior Delta Route-specific Survival Probability: Median survival of daily cohorts using the Interior De[...]
Delta STARS Model -
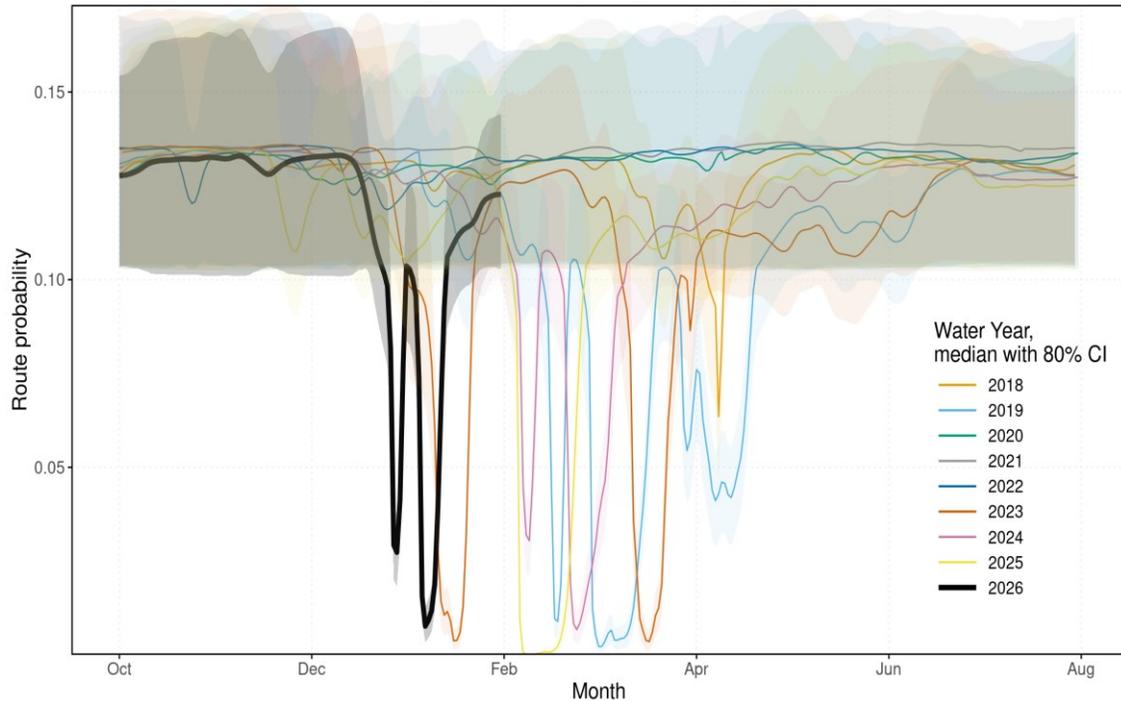Predicted Natural Winter-run Chinook Daily Cohorts Passage, Knights Landing to Chipps Island
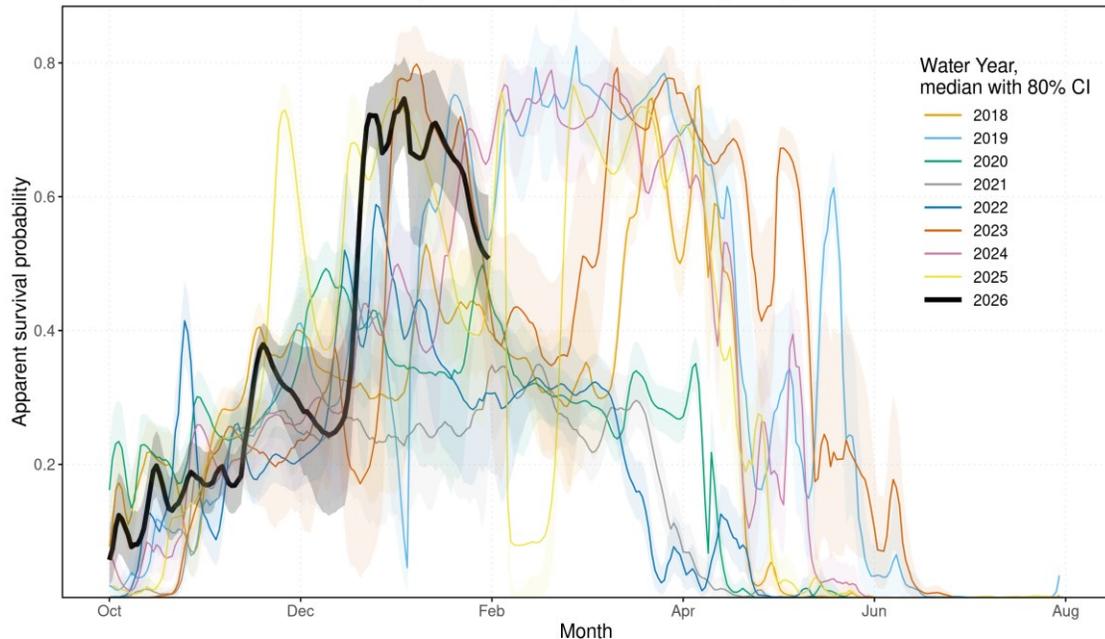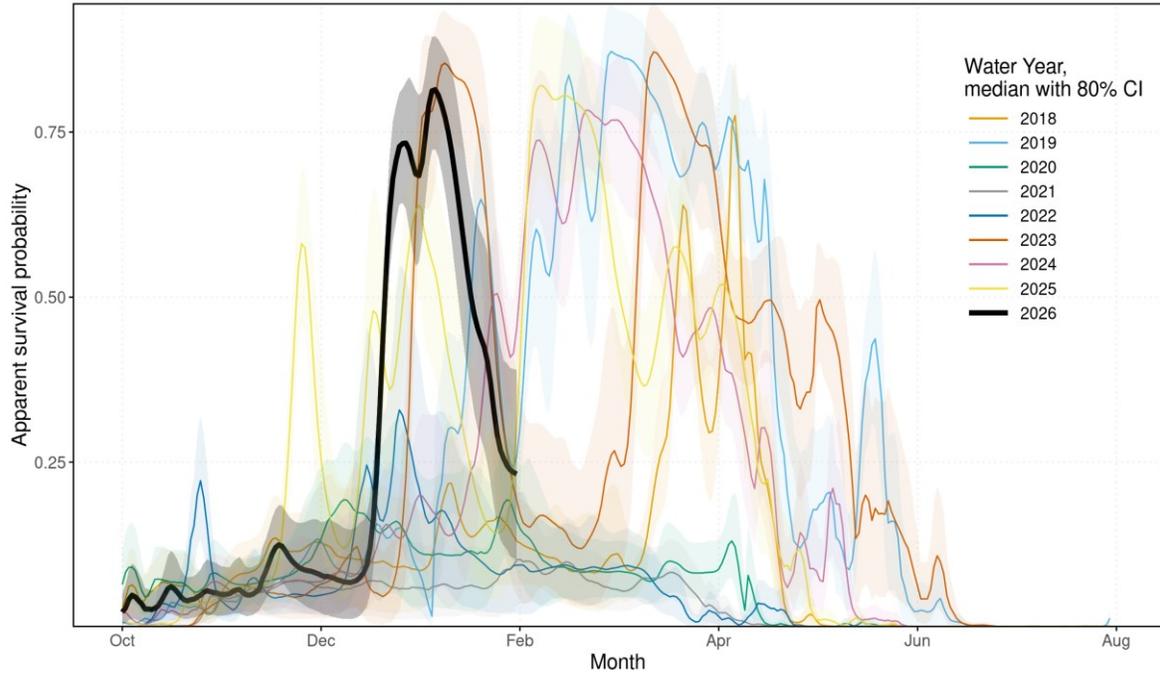
Data source: Delta STARS developed by USGS Quantitative Fisheries Ecology Section and deployed by SacPAS.
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Figure 5: Estimated survival from Knights Landing to Chipps Island of simulated winter-run cohorts that route through the interior Delta. Black line indicates the current water-year, and other colored lines correspond to past water years.

Figure 5 is a line graph depicting median survival of daily cohorts using the Interior Delta routes from Knights Landing to Chipps Island. Survival is shown by water year for 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, and 2026, with different-colored lines from October to August with an 80% confidence interval.

Figure 6: Estimated probability of winter-run routing into the interior Delta. Black line indicates the current water-year, and other colored lines correspond to past water years.

Figure 6 is a line graph depicting survival probability for winter-run Chinook daily cohorts using the Interior Delta routes from Knights Landing to Chipps Island. The survival is shown by water year for 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, and 2026, with different-colored lines from October to August with an 80% confidence interval.

Hatchery Winter-run Chinook

Hatchery Releases
To date, no winter-run Livingstone hatchery releases have occurred in WY 2026.

Juvenile Production Estimate
The Juvenile Production Estimate for hatchery winter-run is 130,096 based on current Livingston Stone production estimates. **Note: Physical releases have not yet occurred in WY 2026.**

Annual Loss
To date, no loss has occurred as no hatchery winter-run have been released.

Natural-origin Central Valley Steelhead

Current Status
Delta Entry Timing - Historically, as of Jan 26, 32% of CCV steelhead have entered the Delta based on Knights Landing RST catch, 4% have exited the Delta based on Chipps Island Trawl Catch, and 9% have been salvaged.

Table 3: Average percent of annual emigrating population for unclipped CCV steelhead captured at monitoring locations and salvaged at Delta facilities for the past 10 years.
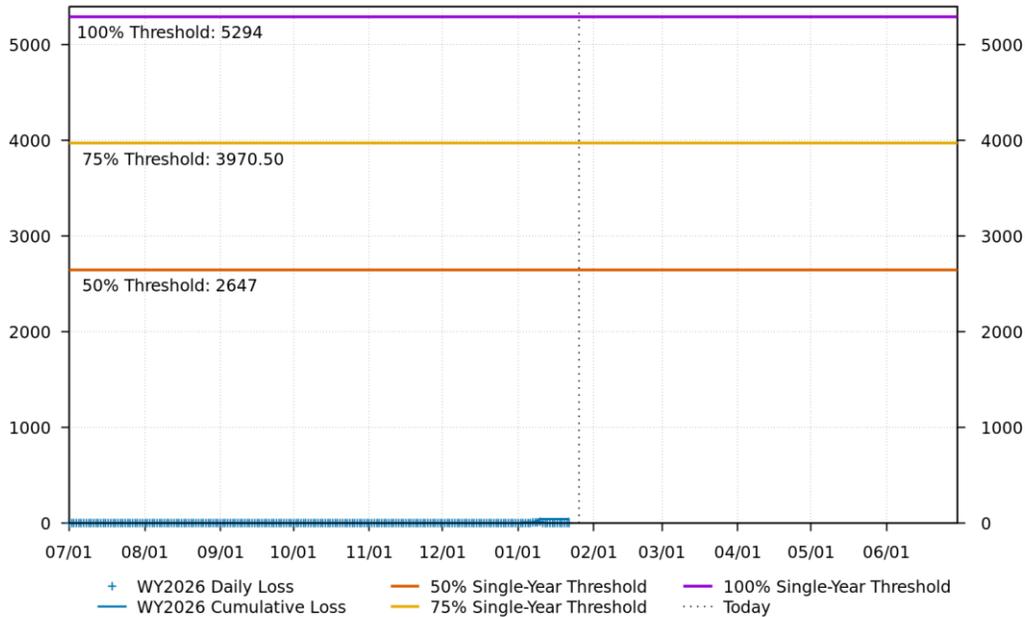
Species	Red Bluff Diversion Dam	Tisdale RST	Knights Landing RST	Sac Trawl (Sherwood)	Chipps Island Trawl	Salvage
Steelhead, Unclipped	1%	21%	32%	3%	4%	9%

Delta Monitoring - Total catch of LAD winter run at RSTs at Delta Entry (Tisdale, Knights Landing, Lower Sacramento River) between Jan 12 and Jan 22 is 3 individuals. Total catch at Sacramento Trawl and Beach Seines in the delta between Jan 12 and Jan 23 is 0 individuals. Total catch at Delta Exit at Chipps Island between Jan 20 and Jan 22 is 0 individuals.

Annual Loss
As of January 26, cumulative loss of unclipped steelhead is 47 or 0.88% of the annual loss threshold. Cumulative loss in the past 7 days has been 5.

WY2026 Natural Steelhead Loss
Cumulative Loss to date: 46.63
Cumulative Loss percent of Threshold: 0.88%

100% Threshold: 5294
75% Threshold: 3970.50
50% Threshold: 2647

Legend:
+ WY2026 Daily Loss
— WY2026 Cumulative Loss
— 50% Single-Year Threshold
— 75% Single-Year Threshold
— 100% Single-Year Threshold
⋯ Today

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Figure 7: Cumulative loss of natural-origin steelhead for WY 2026.

Figure 7 displays daily and cumulative natural steelhead loss based on genetic sampling for Water Year 2026. Points represent daily estimated loss and the line shows cumulative loss over time, with a vertical dashed line indicating the current date. A horizontal line represents the 100% single-year threshold of 5,294 fish. As of January 27, 2026, cumulative loss to date is 46.63 fish, representing 0.88% of the threshold.

Hatchery-origin Central Valley Steelhead

Surrogate Releases
There have been a total of 5 releases totaling 1,373,848 steelhead in Water Year 2026. JPE for the hatchery releases as of today is 591,419 based on estimated survivals using forecasted water year types (see details in table below). The annual loss threshold, equal to 1% of the JPE, is currently 5,914, but is subject to change with additional steelhead releases.

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Table 4: Summary of steelhead hatchery releases in Water Year 2026. JPE calculated using hatchery-specific survival estimates to Delta entry from release location.

Hatchery	Date of Release	Number Released	Estimated Survival	Juvenile Production Estimate
NIM	2025-11-10	233,109	72%	167,838
Coleman	2025-12-15	555,720	38%	211,174
Coleman	2025-12-17	90,019	38%	34,207
FRH	2026-01-06	371,250	36%	133,650
FRH	2026-01-09	123,750	36%	44,550

Table 5: Hatchery-specific survival estimates used for JPE calculations.

Hatchery	Survival Estimate	Source
Coleman NFH	0.205 – 0.433	Sandstrom et al. 2020
Feather River Hatchery	0.09 – 0.45	Kurth 2013
Nimbus Hatchery	0.62 – 0.83	Brodsky et al. 2020
Mokelumne River Hatchery	0.25 – 0.33	Del Real et al. 2012

Total loss of hatchery-origin steelhead is 153 or 2.59% of the annual loss threshold. Note that hatchery origin of salvaged fish can not be determined at this time and salvage is based on the assumption of similar routing and survival probabilities of individual hatchery releases.
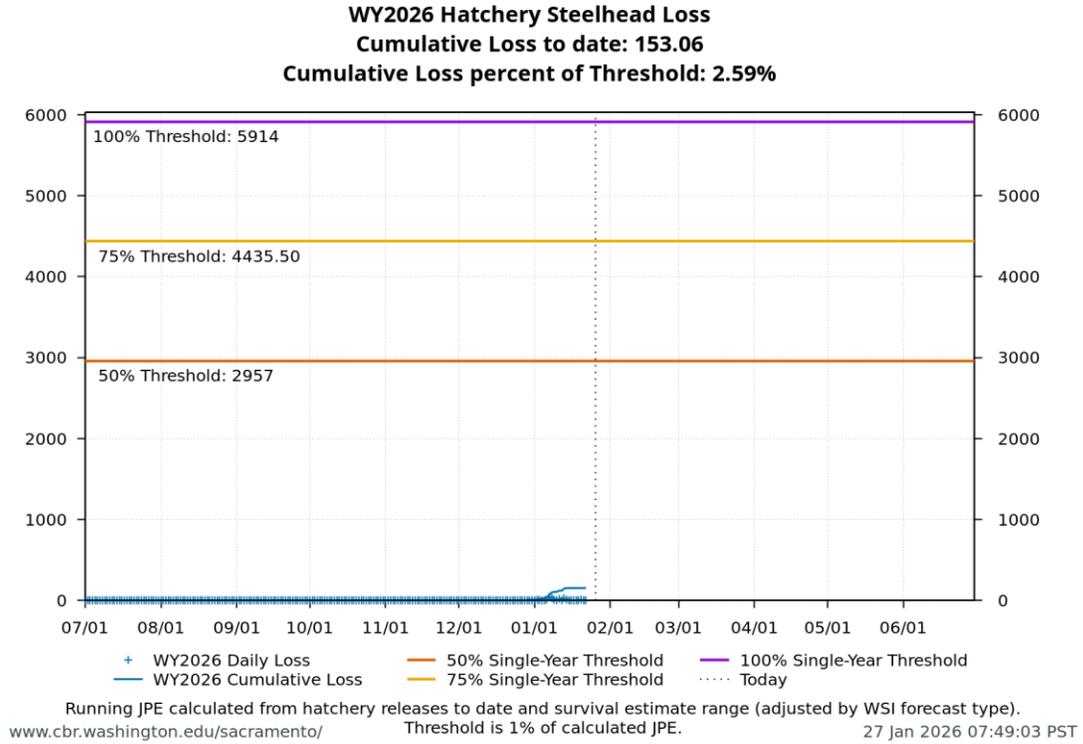
Figure 8: Cumulative loss of hatchery steelhead for WY 2026.

Figure 8 displays daily and cumulative hatchery steelhead loss for Water Year 2026. Points represent daily estimated loss and the line shows cumulative loss over time, with a vertical dashed line indicating the current date. A horizontal line represents the 100% single-year threshold of 5,914 fish. As of January 27, 2026, cumulative loss to date is 153.06 fish, representing 2.59% of the threshold.

Spring-run Chinook

Current Status

Delta Entry Timing - Historically, as of Jan 26, 28% of LAD spring-run have entered the Delta based on Knights Landing RST catch, 0% have exited the Delta based on Chipps Island Trawl Catch, and 0% have been salvaged.

Table 6: Average percent of annual emigrating population for LAD spring-run Chinook salmon captured at monitoring locations and salvaged at Delta facilities for the past 10 years.

Species	Red Bluff Diversion Dam	Tisdale RST	Knights Landing RST	Sac Trawl (Sherwood)	Chipps Island Trawl	Salvage
Chinook, LAD Spring-run, Unclipped	14%	16%	28%	2%	0%	0%

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Red Bluff Diversion Dam Passage Estimate - As of Jan 21 estimated passage to date of LAD spring-run at Red Bluff Diversion is approximately 0.02 million fish. Note that outmigration timing overlaps with winter-run and fall-run outmigration, and true spring-run abundance likely differs from these estimates.

Delta Monitoring - Total catch of LAD winter run at RSTs at Delta Entry (Tisdale, Knights Landing, Lower Sacramento River) between Jan 12 and Jan 22 is 161 individuals. Total catch at Sacramento Trawl and Beach Seines in the delta between Jan 12 and Jan 23 is 0 individuals. Total catch at Delta Exit at Chipps Island between Jan 20 and Jan 22 is 0 individuals.

Spring-run Surrogate Releases

A total of 805,323 spring-run surrogate fish have been released in Water Year 2026, with an estimated Juvenile Production Estimate (JPE) of 219,852 fish entering the Delta. This includes 805,323 Coleman Late-Fall Run Chinook (JPE: 219,852) released from Coleman National Fish Hatchery across 12 coded-wire tag groups. See details in table below.

Table 7: Spring-run Chinook salmon surrogate releases (all Coleman Late-Fall releases, both production and experimental).

| Hatchery	Release Date	Type	# of CWT Fish Released	JPE	Confirmed Loss	CWT Codes
Coleman NFH	2025-11-13	Production	143,346	39,134	8.7	056808, 056809
Coleman NFH	2025-11-17	Experimental	75,119	20,507	0.0	056810
Coleman NFH	2025-12-17	Production	468,876	128,002	747.0	053700, 056806, 056811, 056812, 056814, 056815, 056817
Coleman NFH	2025-12-22	Experimental	60,873	16,618	257.3	056813
Coleman NFH	2026-01-08	Experimental	57,109	15,591	0.0	056816

Annual Loss

The annual loss threshold is 1% of the JPE entering the Delta, which equals 2,199 fish. As of January 26, cumulative loss is 1,013 fish or 46.08% of the annual loss threshold.

Loss Prediction and Trajectories

The following figures display the cumulative loss trajectories relative to historical years ("Spaghetti Plots") and the current loss predictor model outputs for winter-run Chinook salmon and steelhead.

WY2026 Natural LAD Winter-run Chinook Cumulative Loss with Historical Loss
Cumulative Loss to date: 2.88
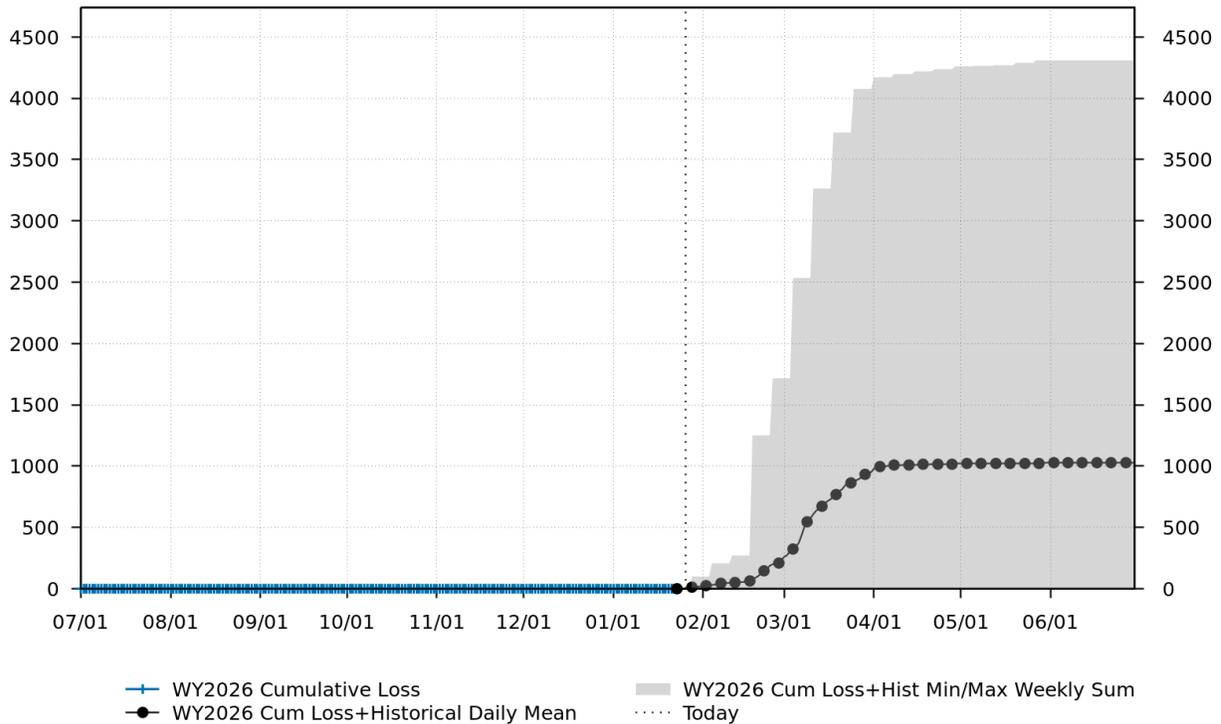
Winter-run based on Length-at-Date Delta Model. Historical Loss calculated for WY2009-2018.
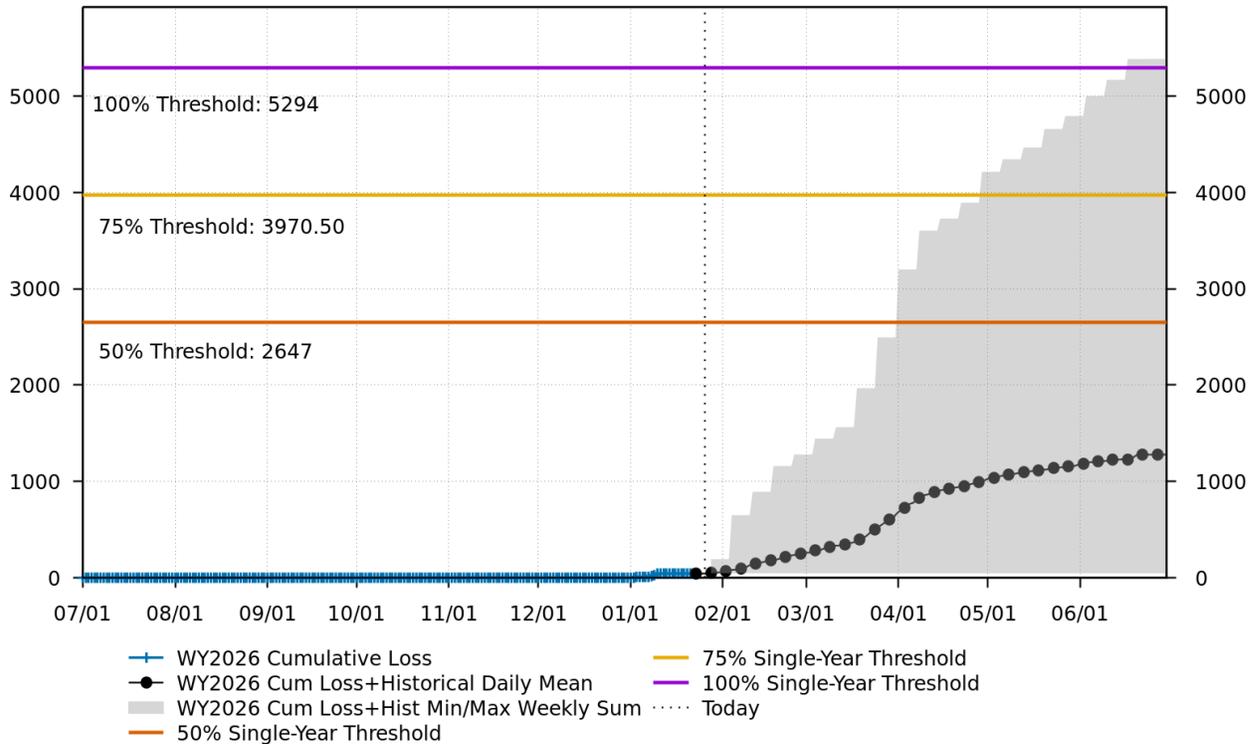
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Figure 9: Natural LAD winter-run Chinook salmon loss cumulative to date with historical years and annual loss threshold.

Figure 9 displays cumulative natural winter-run Chinook loss for Water Year 2026 based on the Length-at-Date (LAD) Delta model. The line shows cumulative loss over time, with a vertical dashed line indicating the current date. Historical cumulative loss is shown for comparison using the historical daily mean and the historical minimum–maximum weekly sum range (WY2009–2018). As of January 27, 2026, cumulative loss to date is 2.88.

WY2026 Natural Steelhead Cumulative Loss with Historical Loss
Cumulative Loss to date: 46.63
Cumulative Loss percent of Threshold: 0.88%

Historical Loss calculated for WY2009-2018.

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Figure 10: Natural Central Valley steelhead loss cumulative to date with historical years and annual loss threshold.

Figure 10 displays cumulative natural steelhead loss for Water Year 2026 compared with historical loss patterns. The line shows cumulative loss over time, with a vertical dashed line indicating the current date. Historical cumulative loss is shown using the historical daily mean and the historical minimum–maximum weekly sum range (WY2009–2018). A horizontal line represents the 100% single-year threshold of 5,294 fish. As of January 27, 2026, cumulative loss to date is 46.63 fish, representing 0.88% of the threshold.
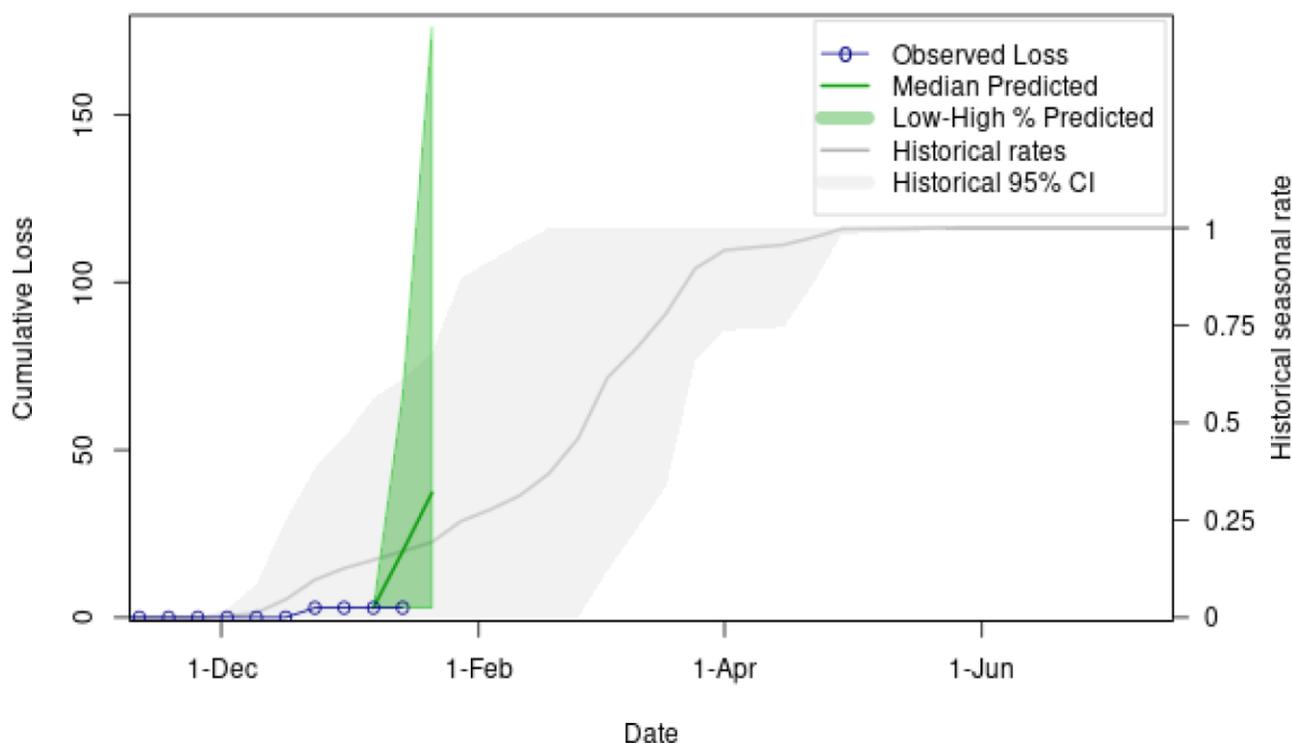
Figure 11: Estimates of winter-run Chinook loss generated by Loss and Salvage Predictor tool.

Figure 11 displays observed cumulative winter-run Chinook loss for Water Year 2026 through January 20, 2026, compared with predicted and historical loss patterns. Points represent observed cumulative loss, while the green line shows the median predicted loss and the shaded green band represents the low–high predicted range. Historical seasonal loss rates and the historical 95% confidence interval are shown in gray for comparison. Observed cumulative loss remains low relative to the predicted and historical ranges during this early portion of the water year.

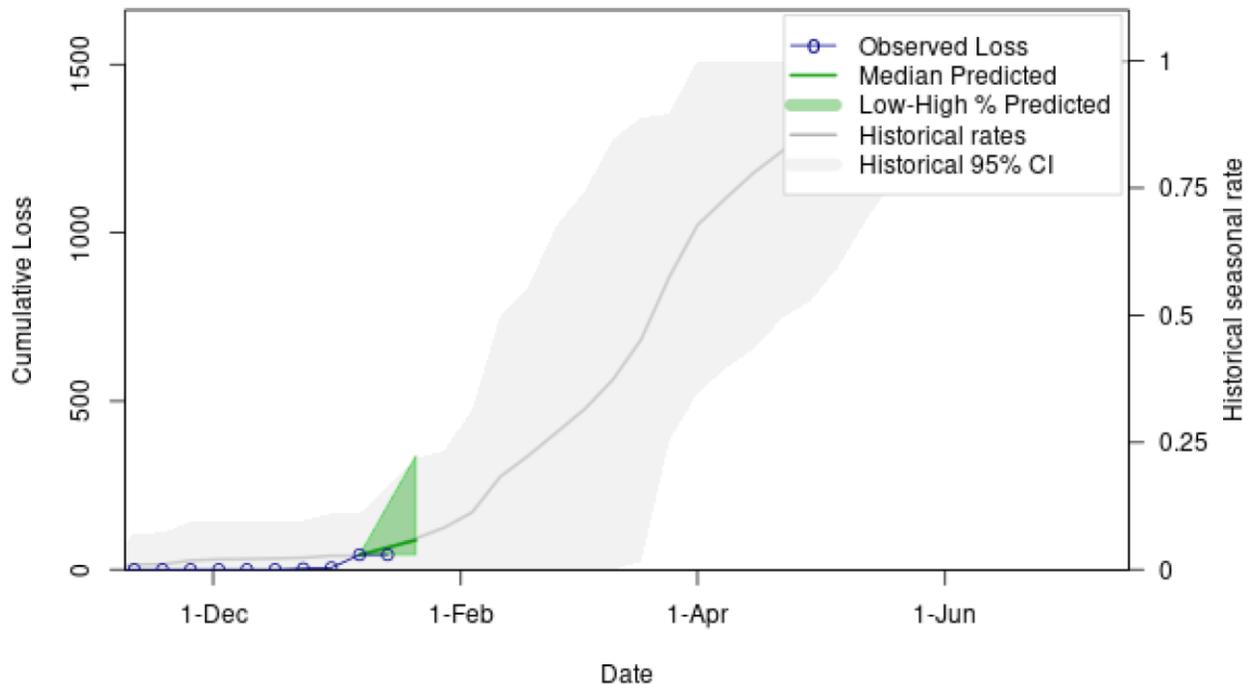**Steelhead Loss 2026-01-20 Water Year: 2026 & WY.week 16**

Figure 12: Estimates of steelhead loss generated by Loss and Salvage Predictor tool.

Figure 12 displays observed cumulative steelhead loss for Water Year 2026 through January 20, 2026, compared with predicted and historical loss patterns. Points represent observed cumulative loss, while the green line shows the median predicted loss and the shaded green band represents the low–high predicted range. Historical seasonal loss rates and the historical 95% confidence interval are shown in gray for comparison. Observed cumulative loss remains within the predicted range and below historical seasonal levels during this early portion of the water year.

Evaluation

1. What is the probability of exceeding natural or hatchery winter-run Chinook salmon loss thresholds in the upcoming week?

    a. **LOW RISK**: Cumulative loss is currently 0% of the threshold. Current trajectory suggests the threshold is unlikely to be exceeded in the upcoming week.

2. What is the probability of spring-run hatchery Chinook salmon loss thresholds in the upcoming week?

    a. **LOW RISK**: Cumulative loss is currently 46.1% of the threshold. Current trajectory suggests the threshold is unlikely to be exceeded in the upcoming week.

3. What is the probability of hatchery steelhead loss thresholds in the upcoming week?

    a. **LOW RISK**: Cumulative loss is currently 2.6% of the threshold. Current trajectory suggests the threshold is unlikely to be exceeded in the upcoming week.

References

Brodsky, Annie, Steven C. Zeug, Jonathan Nelson, John Hannon, Paul J. Anders, and Bradley J. Cavallo. "Does Broodstock Source Affect Post-Release Survival of Steelhead? Implications of Replacing a Non-Native Hatchery Stock for Recovery." Environmental Biology of Fishes 103, no. 5 (2020): 437–53. https://doi.org/10.1007/s10641-020-00951-2.

Del Real, S. Casey, Michelle Workman, and Joseph Merz. "Migration Characteristics of Hatchery and Natural-Origin Oncorhynchus Mykiss from the Lower Mokelumne River, California." Environmental Biology of Fishes 94, no. 2 (2012): 363–75. https://doi.org/10.1007/s10641-011-9967-z.

Kurth, R. 2013. Downstream migration success of Feather River Fish Hatchery steelhead smolts under different release strategies. Presentation at Steelhead Management Meeting, California Department of Fish and Wildlife.

Sandstrom, Philip Thomas, Arnold J. Ammann, Cyril Michel, et al. "Low River Survival of Juvenile Steelhead in the Sacramento River Watershed." Environmental Biology of Fishes 103, no. 5 (2020): 531–41. https://doi.org/10.1007/s10641-020-00954-z.

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

Operational and Regulatory Conditions
- See current Weekly Fish and Water Operations Outlook document.

- Additional information also available on the [SacPAS SMT page](#).

Delta smelt

Biological
- **Delta smelt life stages:** Adult

- **Abundance estimate:** 258 (95% CL: 16 to 1,219) as of the week of January 19–23, 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:** 35 adult Delta smelt and 24 juvenile Delta smelt have been detected this water year. See Table 8 for recent detections, Figure 13 for spatial distribution, and Figure 14 for temporal distribution.

- **Delta smelt salvage:** 0 Delta smelt have been salvaged, and the cumulative seasonal salvage is 0.

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 8 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 8: Delta smelt detections in the last 2 weeks. Fork Length > 58mm = Adult, Fork Length 20-58mm = Juvenile, Fork Length < 20mm = Larva.

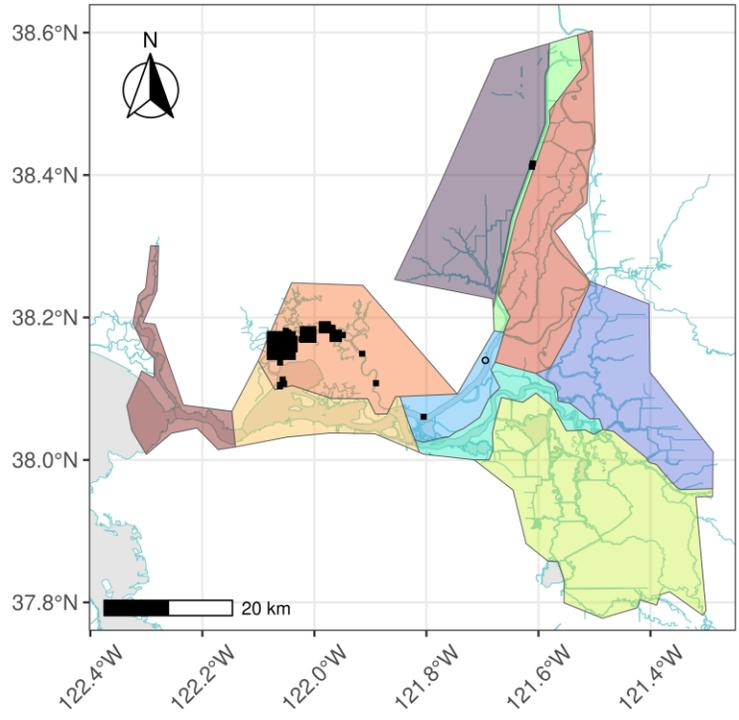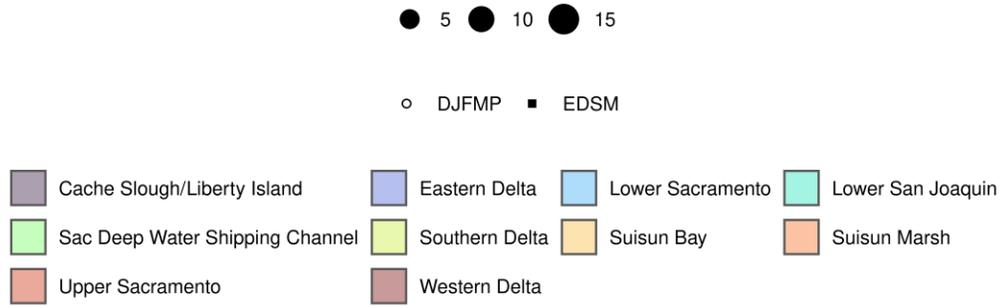| Survey	Date	Region	Stratum	Life Stage	Catch
DJFMP	2026-01-22	N/A	NA	Adult	1
EDSM	2026-01-22	North	Sac Deep Water	Adult	1

Figure 13: Delta smelt distribution for WY 2026

Figure 13 shows monitoring locations across the Sacramento–San Joaquin Delta. Colored polygons represent Delta regions, including Cache Slough/Liberty Island, Eastern Delta, Lower Sacramento, Lower San Joaquin, Sacramento Deep Water Shipping Channel, Southern Delta, Suisun Bay, Suisun Marsh, Upper Sacramento, and Western Delta. Symbols indicate sampling locations for DJFMP and EDSM monitoring programs, with symbol size representing relative sample counts.

Table 9: Delta smelt water year totals by life stage

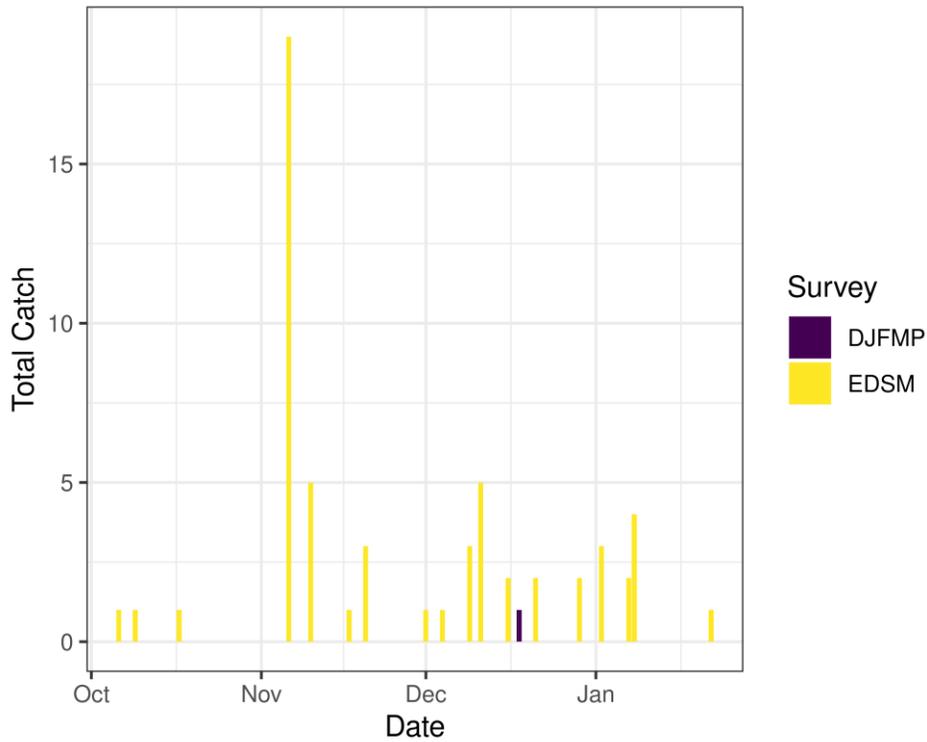| Survey	Region	Life Stage	Total
DJFMP	N/A	Adult	1
DJFMP	North	Juvenile	1
EDSM	North	Adult	2
EDSM	West	Adult	32
EDSM	West	Juvenile	23

Figure 14: Time series of Delta smelt catch, WY 2026

Figure 14 displays total catch observations over time from October through January for two survey programs: DJFMP and EDSM. Bars represent total catch recorded on individual sampling dates, with colors distinguishing the survey type. The figure shows that most detections occurred during EDSM surveys, with relatively few observations from DJFMP sampling.

Environmental
First Flush

- Not relevant

Real-time Assessment Thresholds
Adult Delta smelt

- **Threshold**: If daily average JPF < 0 AND turbidity ≥ 12 FNU at OBI, HOL and OSJ

  - **JPF**: 2,148 cfs as of Jan 25, 2026

  - **OBI Turbidity**: 6.35, 5.97, 5.58 FNU as of Jan 26, 2026

  - **HOL Turbidity**: 6.19, 6.02, 5.51 FNU as of Jan 26, 2026

  - **OSJ Turbidity**: 9.74, 8.43, 7.82 FNU as of Jan 26, 2026

- **Offramp Adult Protections** when RVB or SJJ > 12° C

  - RVB temperature (3-day average): 10.5° C as of Jan 26, 2026
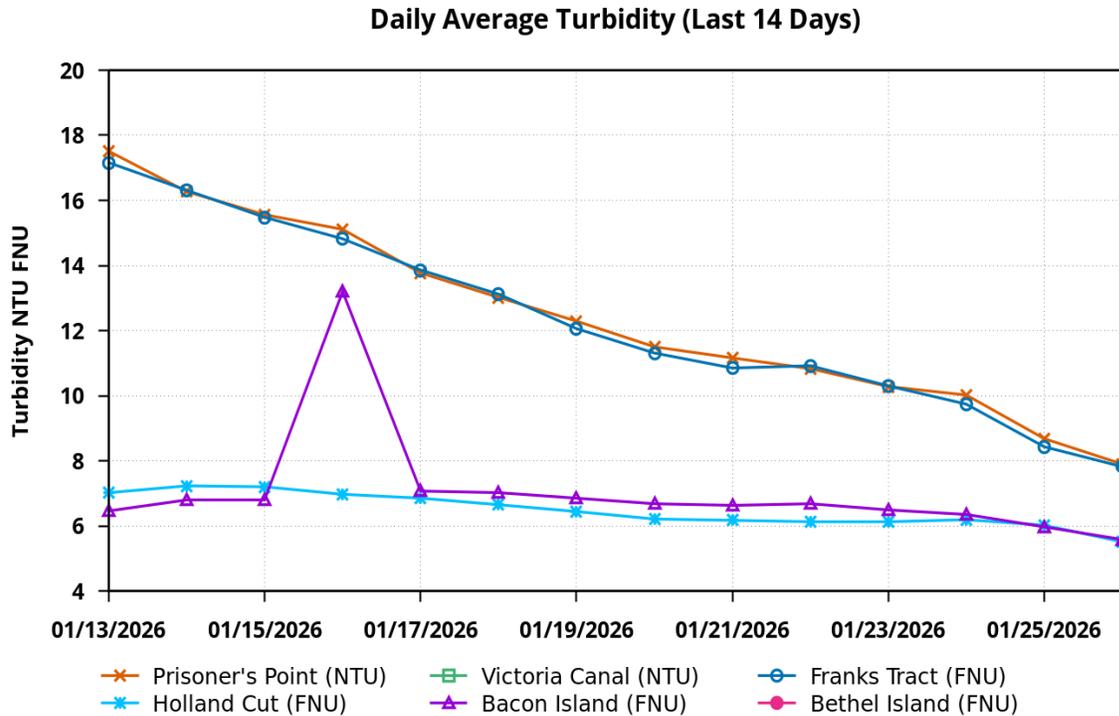
Daily Average Turbidity (Last 14 Days)

Figure 15. Daily Average Turbidity for 01/13/26 – 01/26/26

Figure 15 displays daily average turbidity over the previous 14 days at several monitoring locations, including Prisoner's Point, Holland Cut, Victoria Canal, Bacon Island, Franks Tract, and Bethel Island. Lines represent turbidity measurements in NTU or FNU depending on the monitoring site. The figure shows a general decline in turbidity across most locations over the period, with higher values observed at Prisoner's Point and Franks Tract compared to other sites.

See Bay-Delta Live for recent Delta-wide turbidity conditions.

Larval/juvenile Delta smelt

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

    - **12-station South Delta Turbidity**: The most recent average turbidity was 12.2 FNU as of Jan 13, 2025

Evaluation
Delta smelt

1. After the start of entrainment management, is JPF < 0 and is daily average turbidity ≥ 12 FNU in the OMR corridor (stations OBI, HOL, and OSJ)?

    a. No, these conditions will not be met this week.

2. 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?

    a. Temperature at Rio Vista or Jersey Point has not exceeded the threshold. The Delta smelt adult entrainment management action has not yet been taken in WY 2026.

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

    a. Upstream migration for Delta smelt occurs between September and December and in response to "first flush" conditions (Sommer et al. 2011, Grimaldo et al. 2009). Migration typically ranges one to four weeks after flow and turbidity increases, based on salvage data (Sommer et al. 2011). Historically, detections of ripe Delta smelt began in January and peaked in February and March and the majority of Delta Smelt spawning occurs within a temperature range of 9-18°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. Because first flush conditions were met on December 23, 2025, spawning may begin occurring during the current assessment week, consistent with the typical one- to four-week response window following increased flow and turbidity. Recent captures at Chipps Island and the Sacramento Deep Water Ship Channel are consistent with an upstream spawning migration into tidal freshwater habitats.

4. After the onset of spawning, have the following conditions occurred: ≥ 5% entrainment of the Delta smelt population at facilities after 30 days?

    a. Although spawning may occur during the current assessment period, JPF is above 0 cfs; therefore, the conditions required to evaluate larval and juvenile Delta smelt entrainment management are not met.

Longfin smelt

Biological
- **Longfin smelt life stages**: Larva, Juvenile, Adult, NA

- **Longfin smelt count**: 305 adult, 489 juvenile, and 446 larval longfin smelt have been detected this water year. See Table 10 for recent detections, Figure 15 for spatial distribution, and Figure 16 for temporal distribution.

- **Longfin smelt salvage**: 0 longfin smelt have been salvaged, and the cumulative seasonal salvage is 0.

Table 10: 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	2026-01-20	Far West	Suisun Bay	Adult	4
EDSM	2026-01-20	Far West	Suisun Bay	Juvenile	29
EDSM	2026-01-20	Far West	Suisun Bay	NA	1
EDSM	2026-01-20	West	Lower Sacramento	Adult	1
EDSM	2026-01-22	Far West	Western Delta	Juvenile	1
EDSM	2026-01-26	Far West	Suisun Bay	Adult	4
EDSM	2026-01-26	Far West	Suisun Bay	Juvenile	11
sls	2026-01-14	West	Lower San Joaquin	Larva	2
sls	2026-01-14	West	Suisun Bay	Larva	5
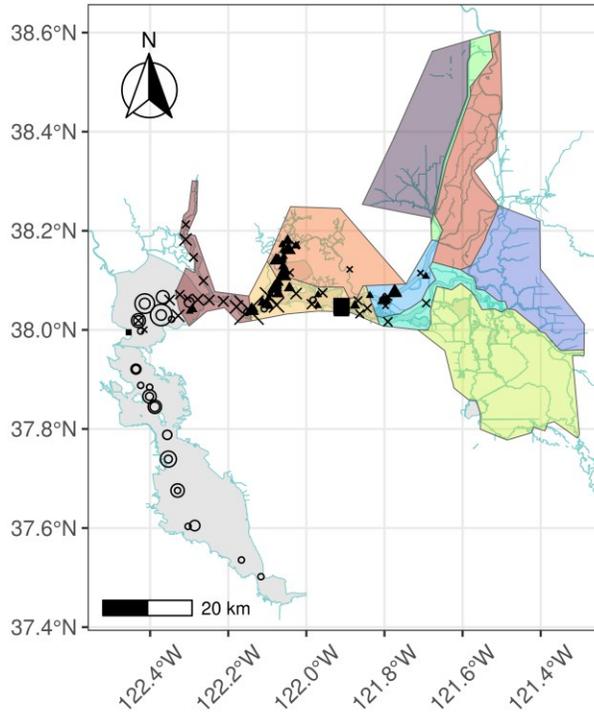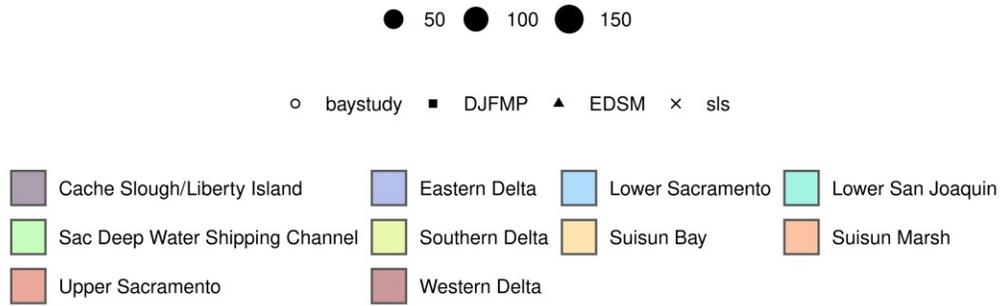
Figure 16: Longfin Smelt Distribution for WY 2026.

Figure 16 shows monitoring locations across the Sacramento–San Joaquin Delta and surrounding areas. Colored polygons represent Delta regions, including Cache Slough/Liberty Island, Eastern Delta, Lower Sacramento, Lower San Joaquin, Sacramento Deep Water Shipping Channel, Southern Delta, Suisun Bay, Suisun Marsh, Upper Sacramento, and Western Delta. Symbols indicate sampling locations from multiple monitoring programs (Bay Study, DJFMP, EDSM, and SLS), with symbol size representing relative sample counts.

Table 11: Longfin smelt water year totals by life stage

| Survey	Region	Life Stage	Total
DJFMP	Bay	Juvenile	1
DJFMP	N/A	Adult	240
DJFMP	N/A	Juvenile	14
EDSM	Far West	Adult	15
EDSM	Far West	Juvenile	56
EDSM	North	Juvenile	1
EDSM	West	Adult	42
EDSM	West	Juvenile	80
baystudy	Bay	Adult	6
baystudy	Bay	Juvenile	320
baystudy	Far West	Adult	2
baystudy	Far West	Juvenile	11
baystudy	West	Juvenile	6
sls	Bay	Larva	9
sls	Far West	Larva	349
sls	North	Larva	2
sls	South	Larva	2
sls	West	Larva	62
sls	NA	Larva	22
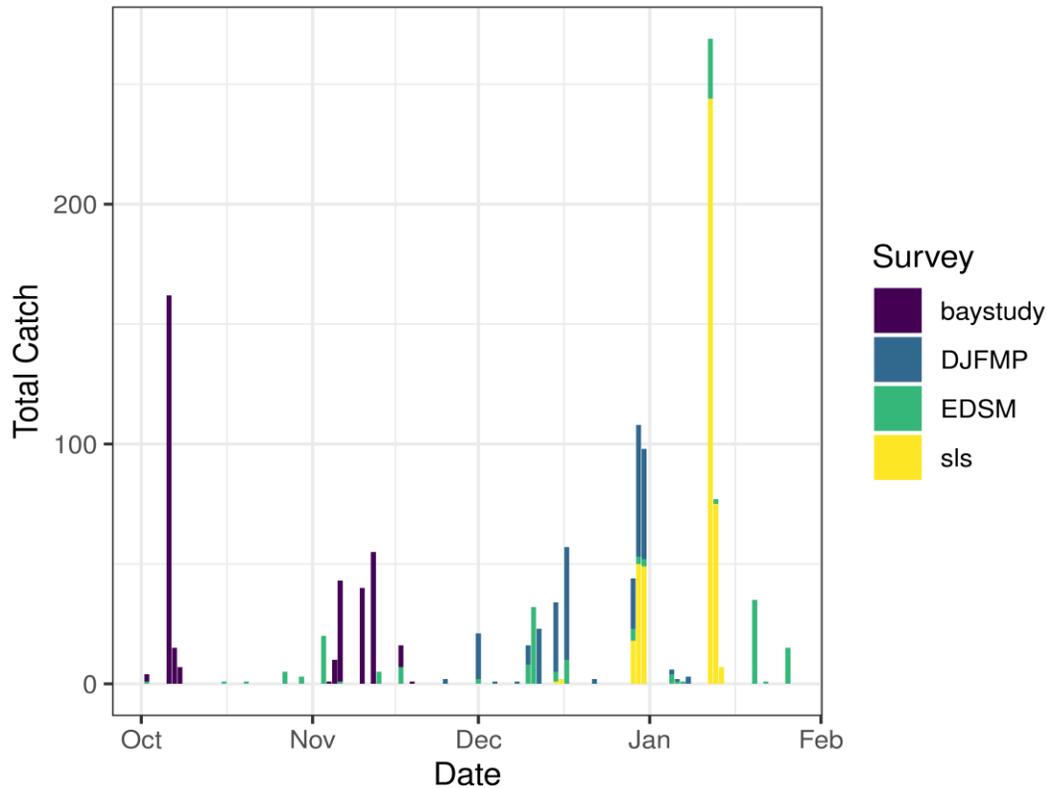
Figure 17: Time series of longfin smelt catch, WY 2026

Figure 17 displays total catch observations over time from October through January for multiple survey programs, including Bay Study, DJFMP, EDSM, and SLS. Bars represent total catch recorded on individual sampling dates, with colors distinguishing the survey type. The figure shows higher catch totals during Bay Study surveys in October and increased observations across DJFMP, EDSM, and SLS surveys in December and January.

Real-time Assessment Thresholds
Start of Entrainment Management (Adult Longfin Smelt)

- Not relevant

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: 2,148 cfs as of Jan 25, 2026

    - Adult abundance (Age 1+ LFS index): 2479.2 fish

        - 5% of abundance + 1: 125.0

- Water year total adult longfin smelt salvage = 0

Larval/juvenile longfin smelt

- Threshold: JPF < 0 cfs AND population model demonstrates need to reduce entrainment to avoid population decline

    - Daily average JPF: 2,148 cfs as of Jan 25, 2026

Longfin Smelt Larval Population and PTM Analysis

The Longfin Smelt (LFS) population particle tracking model developed by Stantec uses Smelt Larval Survey (SLS) data to estimate LFS abundance within defined Delta regions. The Delta was divided into seven polygons based on survey coverage, and regional LFS abundance was estimated using a volumetric expansion approach to represent the population within each polygon. Surface-oriented particles representing larval LFS behavior were injected at representative nodes within each polygon and tracked over the three-week forecast period using DSM2 hydrodynamics to estimate the percentage of particles entrained at the CVP and SWP export facilities under multiple OMR scenarios. Regional entrainment percentages were combined with polygon-specific abundance estimates to generate weekly estimates of the number and proportion of LFS potentially entrained.
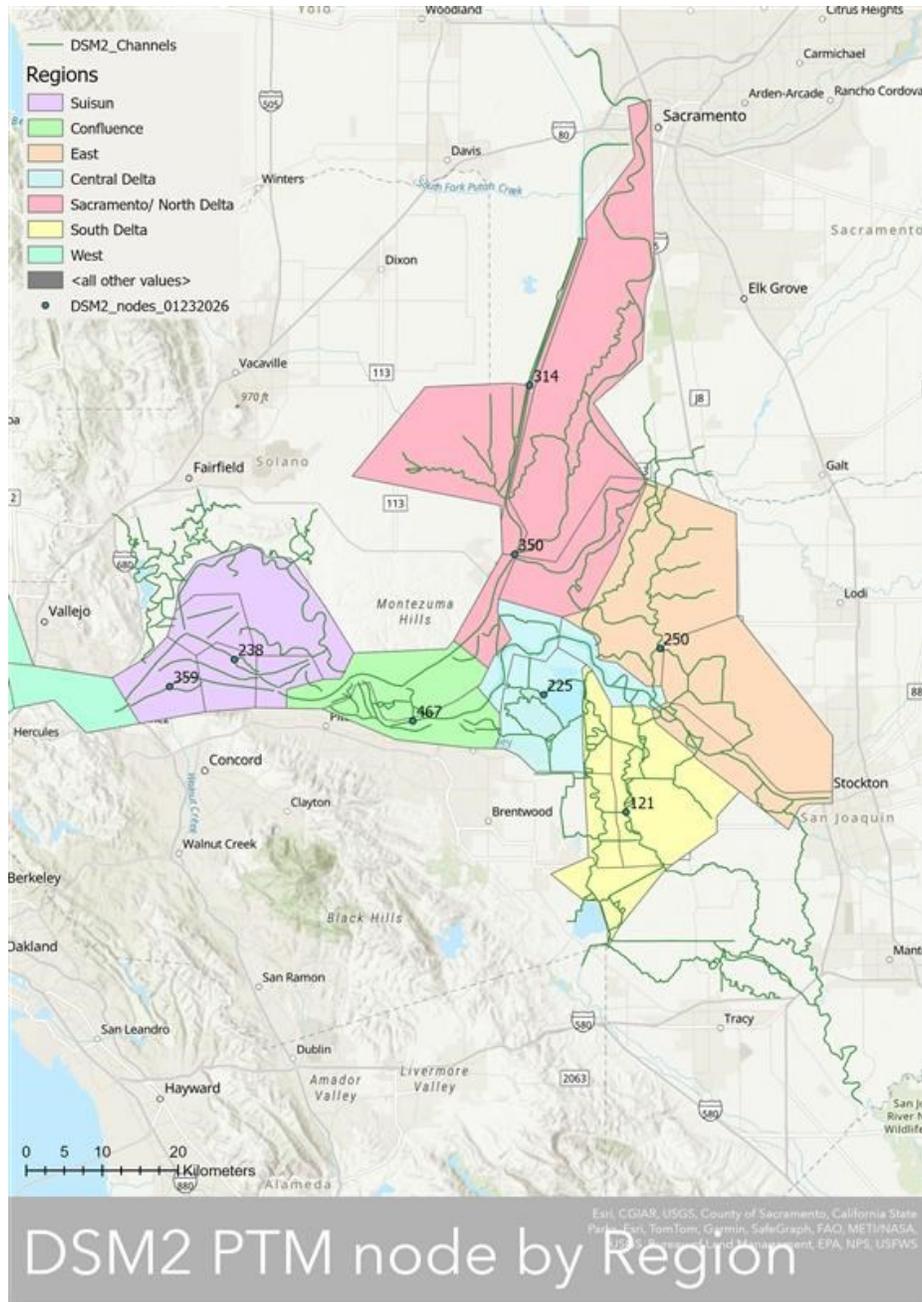
Figure 18: Delta regions and particle injection locations used in the Longfin Smelt (LFS) population particle tracking model (PTM) [Stantec].

Figure 18 shows DSM2 Particle Tracking Model (PTM) nodes and channel network across the Sacramento–San Joaquin Delta. Colored polygons represent model regions, including Suisun, Confluence, East, Central Delta, Sacramento/North Delta, South Delta, and West. The map provides spatial context for PTM node locations and regional groupings used in model analyses.

Table 12: LFS Entrainment Estimate using PTM with Surface Oriented Particles: Week 2 ending 02/02/26

OMR (cfs)	Combined Exports (cfs)	Region Metric	West	Suisun	Confluence	Sacramento/ North Delta	Central Delta	South Delta	East	Total (#)	Total (%)
N/A	N/A	DSM2 Injection Node	359	238	467	350, 314	225	121	250	N/A	N/A
N/A	N/A	LFS Larva Abundance Estimate	1,746,75	4,729,55	850,370	41,500	0	0	0	7,368,185	N/A
6,250	7,599	PTM Entrained (%)	0.0	0.0	0.0	0.3	14.7	93.3	19.4	N/A	N/A
5,000	6,411	PTM Entrained (%)	0.0	0.0	0.1	<0.1	9.0	90.4	9.9	N/A	N/A
3,500	5,023	PTM Entrained (%)	0.0	0.0	0.0	0.1	4.7	80.1	3.8	N/A	N/A
2,000	3,592	PTM Entrained (%)	0.0	0.0	0.0	0.0	0.9	60.4	0.5	N/A	N/A
6,250	7,599	Smelt Larva Entrained (#)	0.0	0.0	0.0	103.8	0.0	0.0	0.0	104	<0.1%
5,000	6,411	Smelt Larva Entrained (#)	0.0	0.0	850.4	20.8	0.0	0.0	0.0	871	<0.1%
3,500	5,023	Smelt Larva Entrained (#)	0.0	0.0	0.0	41.5	0.0	0.0	0.0	42	<0.1%
2,000	3,592	Smelt Larva Entrained (#)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0

Notes:
Values between 0.0 and 0.1 are indicated with <0.1
For locations with multiple DSM2 nodes indicated, the PTM entrained (%) value reflects the average across all nodes

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?

    a. JPF is not < 0 cfs and no adult longfin smelt have been detected in salvage.

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?

    a. JPF is not currently less than 0 cfs; however, it may drop below 0 cfs this weekend. Even if JPF becomes negative, Zone of Influence modeling indicates only moderate changes in hydrodynamic footprint across OMRI scenarios under current conditions, with lower changes under forecasted conditions, and no indication of increasing effects between current and forecasted hydrology. Consistent with this, the Longfin Smelt Larval Population and Particle Tracking Analysis (Table 21) demonstrates very low larval longfin smelt entrainment across all OMRI levels this week (less than 0.1%), so a population-level decline during this assessment period is not expected.

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

    a. Additional information may be discussed if needed at the DAT call.

End of smelt Entrainment Management
- Not relevant

References

Damon, L. J., S. B. Slater, R. D. Baxter, and R. W. Fujimura. 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.

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Sommer, T., F. Mejia, M. Nobriga, and L. Grimaldo. 2011. The Spawning Migration of Delta Smelt in the Upper San Francisco Estuary. San Francisco Estuary and Watershed Science 9(2).