



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

Last updated: Monday, April 20, 2026 at 8 AM

Executive Summary

ESA and CESA-listed Salmonids

- Entrainment management season is active.
- Annual Loss: 45 (0.43% of annual loss threshold) natural winter-run, 57.91 (4.45% of annual loss threshold) hatchery winter-run (Sac River), 248 natural steelhead, 1820 (28.73% of annual loss threshold) hatchery steelhead, 1075 (48.90% of annual loss threshold) spring-run surrogate yearlings (Coleman Late-Fall), and 0 (0.00% of annual loss threshold) spring-run surrogate YOY (Feather River Spring-Run).
- Single-year Incidental Take Limit (ITL) Status: 45 (0.76% of 5,922 ITL) natural winter-run; 62 (4.77% of 1,301 ITL) hatchery winter-run (Sac River); 2 (3.85% of 52 ITL) hatchery winter-run (Battle Creek); 248 (4.68% of 5,294 ITL) natural steelhead.
- Spring-run surrogate ITL status (0.5% per release group, BiOp Table 184): YOY - Feather River Hatchery (2026-03-18): 0 (0% of 4,927 ITL); YOY - Feather River Hatchery (2026-03-19): 0 (0% of 5,245 ITL); YOY - Feather River Hatchery (2026-03-23): 0 (0% of 2,441 ITL); Yearling - Coleman NFH (2025-11-13): 9 (1.21% of 717 ITL); Yearling - Coleman NFH (2025-11-17): 0 (0% of 376 ITL); Yearling - Coleman NFH (2025-12-17): 774 (33.02% of 2,344 ITL); Yearling - Coleman NFH (2025-12-22): 257 (84.64% of 304 ITL); Yearling - Coleman NFH (2026-01-08): 35 (12.26% of 286 ITL).
- LAD winter-run presence in the Delta is decreasing based on historical Chipps Island Trawl monitoring.
- Steelhead presence in the Delta is decreasing based on historical Chipps Island Trawl monitoring.

ESA and CESA-listed Osmerids

- Delta smelt were most recently detected at Suisun Marsh.

- No longfin smelt salvage has been observed this water year.
- Turbidity in the central/south Delta is low.

Current Delta Hydrologic Conditions

Operational and Regulatory Conditions

The current controlling factor is D-1641, 1:1 ratio with Vernalis flows. 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 26,508 and NA cfs respectively. Most recent Jersey Point Flow (JPF) is 6,088 cfs. Most recent 1-day, 5-day, and 14-day OMRI measurements were -1,632, -2,180, and -2,777 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.

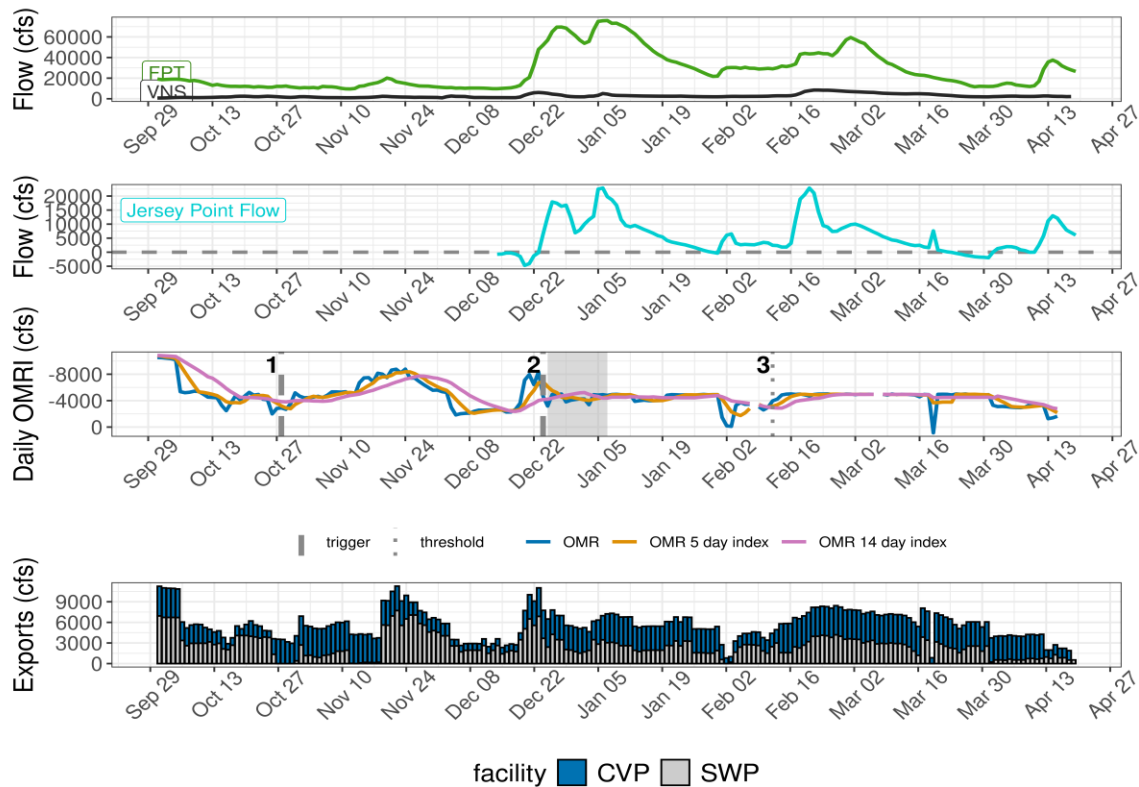


Figure 1: Operations and Action Summary, WY 2026. The numbers and lines in the OMRI plot indicate different triggers and thresholds (see Table 1), with shading representing specific action periods. Dashed and dotted vertical lines represent triggered actions and thresholds, respectively. OMRI data (colored 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.

Figure 1 depicts four stacked graphs summarizing Water Year 2026 operational conditions from October 2025 through early April 2026. The first two graphs are line charts showing flow in cubic feet per second (cfs) at Freeport (FPT), Vernalis (VNS), and Jersey Point Flow (JPF). The third graph is a line chart depicting Daily OMR values in cfs, including the daily OMR, 5-day OMR index, and 14-day OMR index, with shaded action periods and labeled triggers. The final graph is a bar chart showing exports in cfs through the Central Valley Project (CVP) and State Water Project (SWP) facilities. The x-axis for all graphs displays dates from October 2025 through early April 2026.

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
3	Offramp temperature threshold	2/12/2026	N/A	3 consecutive days	Delta Smelt Adult Entrainment, no action taken WY26

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 'himed' 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 "himed" hydrology is 23, 53, 118 and 111 kilometers (km) across OMR bins of -2000, -3500, -5000 and <-5500 respectively.

Change in altered channel length between OMR levels is 88 km for current conditions and 88 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 moderate (between 25th and 75th percentiles) for both current and forecasted hydrology.

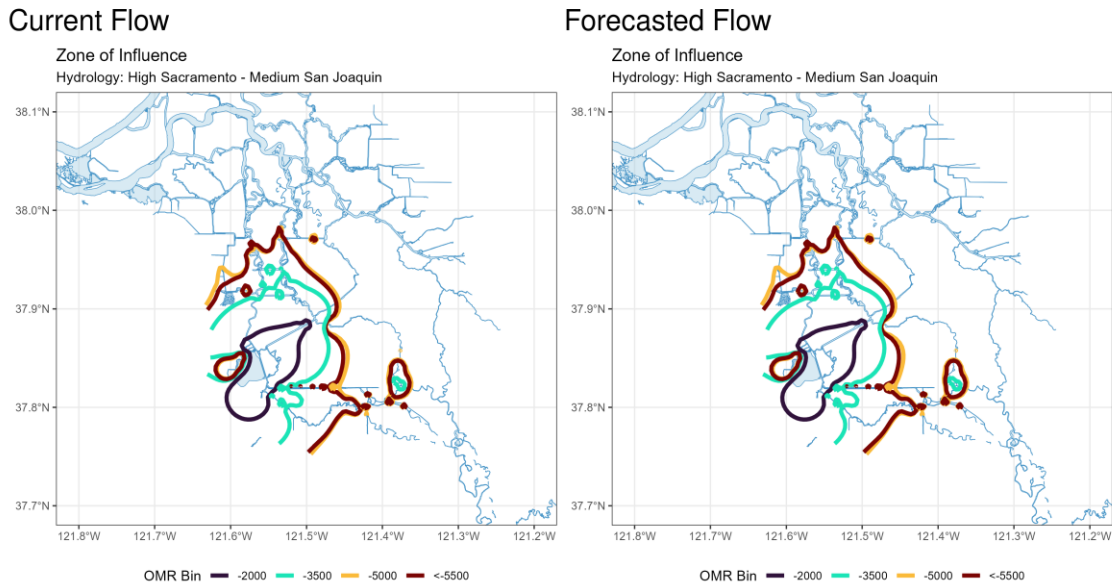


Figure 2: Modeled Zone of Influence at different OMRI scenarios based on current inflow hydrology (left) and forecasted inflow hydrology (right) from the Sacramento River and San Joaquin River

Figure 2 contains two maps of current and forecasted flow for the Zone of Influence in the Sacramento-San Joaquin Delta. Each map contains colored lines depicting OMRI Bin -2,000, -3,500, -5,000, and less than -5,500 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 Apr 19, 95% of length-at-date (LAD) winter-run have entered the Delta based on Knights Landing RST catch, 96% have exited the Delta based on Chipps Island Trawl Catch, and 98% 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)	Chippis Island Trawl	Salvage
Chinook, LAD Winter-run, Unclipped	100%	100%	100%	95%	96%	97%
Chinook, DNA Winter-run, Unclipped (Water Year)	N/A	N/A	N/A	N/A	N/A	98%

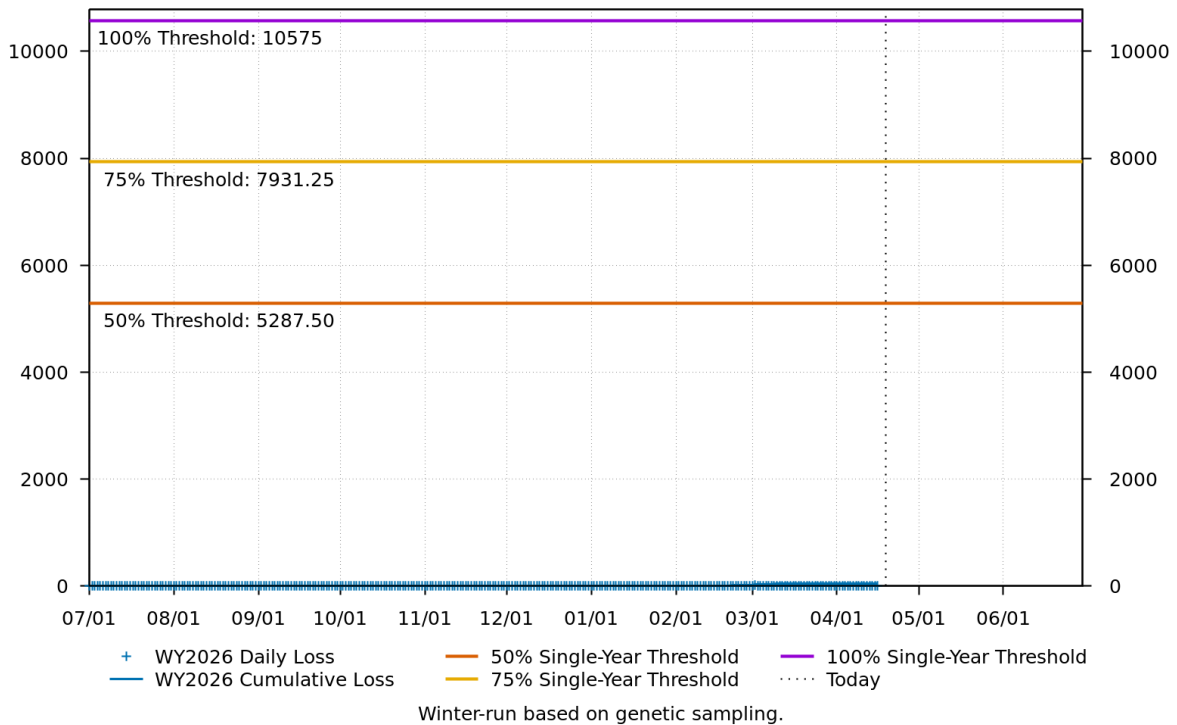
Red Bluff Diversion Dam Passage Estimate - As of Apr 08 estimated passage to date of LAD winter-run at Red Bluff Diversion is approximately 4.17 million fish. Note that outmigration timing overlaps with spring-run migrating fish, and true winter-run abundance likely differs from these estimates.

Delta Monitoring - Total catch of LAD winter-run at RSTs at Delta Entry (Tisdale, Knights Landing, Lower Sacramento River) between Apr 06 and Apr 17 is 0 individuals. Total catch at Sacramento Trawl and Beach Seines in the delta between Apr 06 and Apr 17 is 0 individuals. Total catch at Delta Exit at Chippis Island between Apr 06 and Apr 17 is 4 individuals.

Annual Loss

The annual loss threshold for natural winter-run is 1% of the JPE or 10,575 fish. The single-year incidental take limit (ITL) is 0.56% of the JPE (5,922 fish) or 0.36% on a 3-year rolling average (BiOp Table 184). As of April 19, cumulative loss of genetically confirmed winter-run is 45 or 0.43% 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: 45.42
Cumulative Loss percent of Threshold: 0.43%



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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 is a line graph showing cumulative loss of natural-origin winter-run Chinook for Water Year 2026 from July 2025 through June 2026. The graph displays WY2026 daily loss and cumulative loss relative to the 50%, 75%, and 100% single-year threshold levels. 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.

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 April 18, overall through delta STARS estimated survival probability (with 80% credible intervals) is 0.43 (0.34-0.5) placing it in the 61st percentile of historical STARS survival estimates for the month of April (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 0.21 (0.12-0.31), respectively, corresponding to the 52nd and 58th percentiles of historical April estimates (WYs 2018-2025).

Overall Survival: Median survival of daily cohorts for all routes combined
Delta STARS Model -
Predicted Natural Winter-run Chinook Daily Cohorts Passage, Knights Landing to Chipps Island

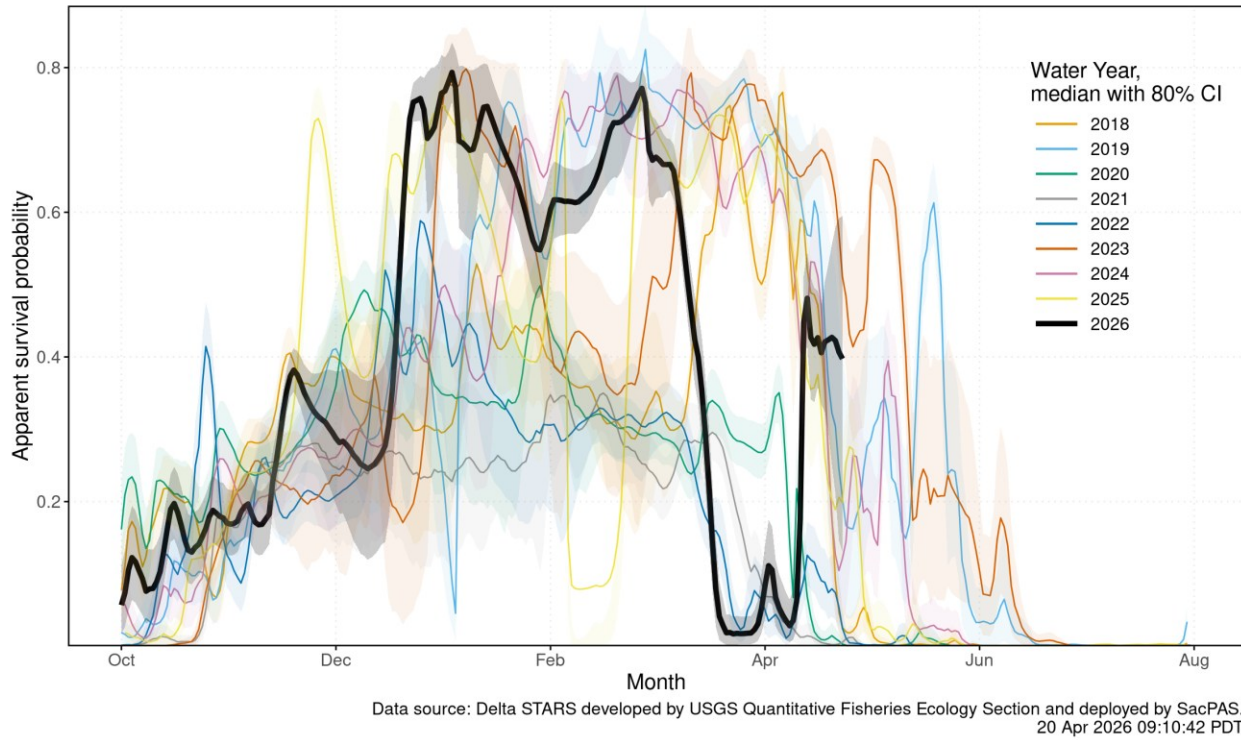


Figure 4: Estimated overall winter-run survival from Knights Landing to Chipps Island. Black line indicates the current water-year, and other colored lines correspond to past water years.

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 Delta STARS Model - Predicted Natural Winter-run Chinook Daily Cohorts Passage, Knights Landing to Chipps Island

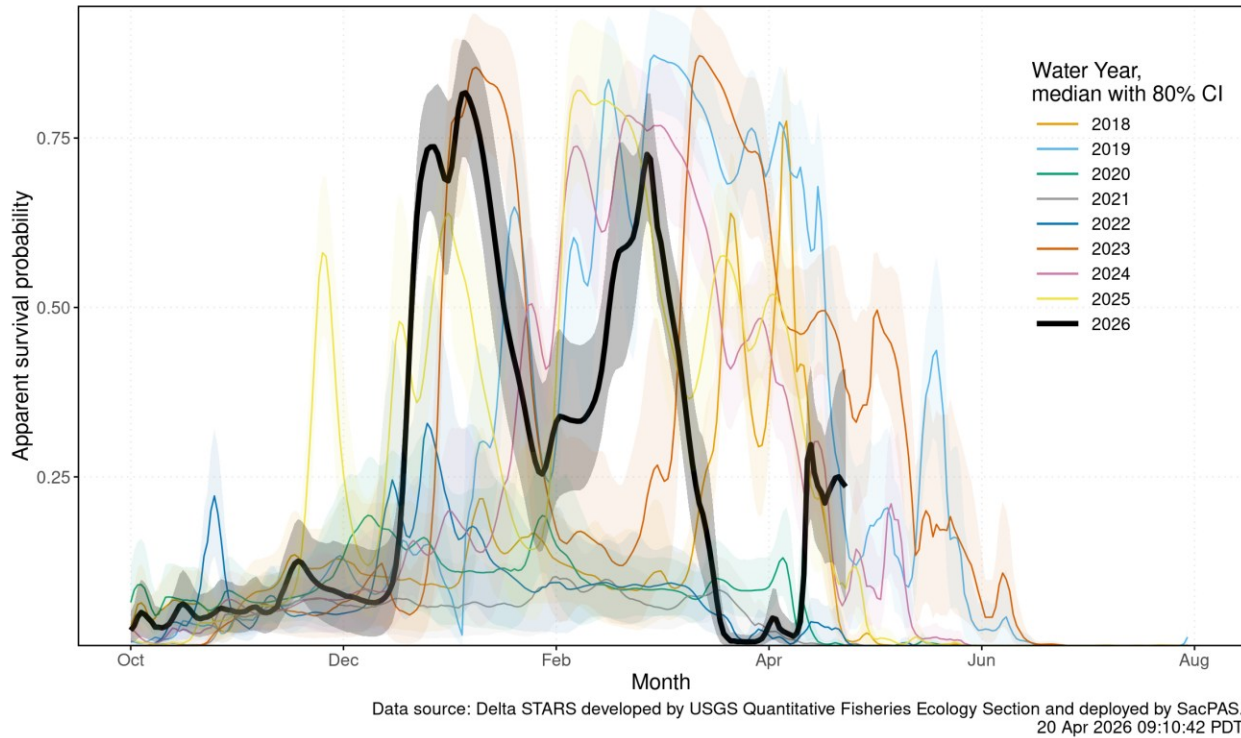


Figure 5: Estimated survival from Knights Landing to Chipps Island of simulated winter-run cohorts that route through the interior Delta. Black line indicates the current water-year, and other colored lines correspond to past water years.

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 and an 80% confidence interval.

Interior Delta Route-specific Probability: Proportion of daily cohorts using the Interior Delta route
Delta STARS Model -
Predicted Natural Winter-run Chinook Daily Cohorts Passage, Knights Landing to Chipps Island

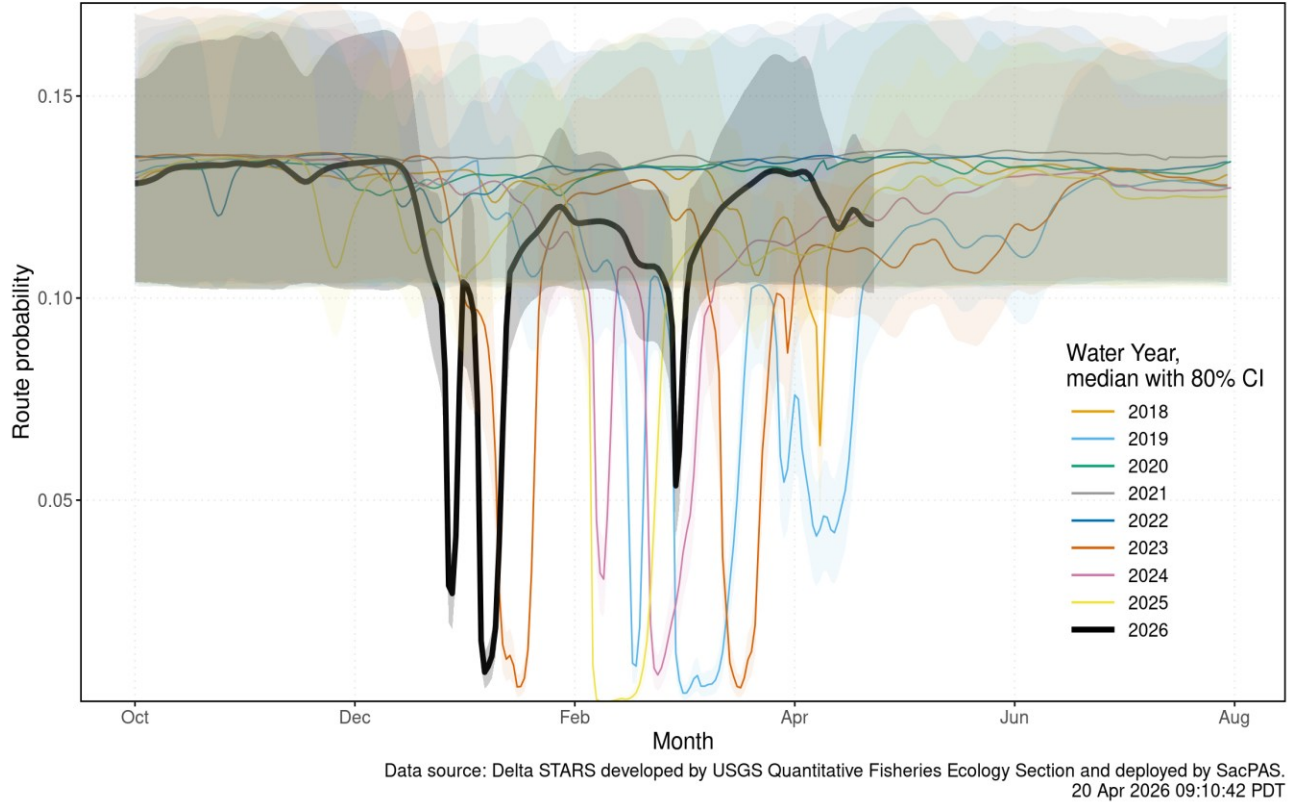


Figure 6: Estimated probability of winter-run routing into the interior Delta. Black line indicates the current water-year, and other colored lines correspond to past water years.

Figure 6 is a line graph depicting the estimated probability of winter-run routing into the Interior Delta. Route probability 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.

Hatchery Winter-run Chinook – Sacramento River

Hatchery Releases

Livingston Stone National Fish Hatchery released a total of 466,344 winter-run Chinook salmon (February 18). All fish were 100% CWT-marked production fish released at the Sacramento River at John F. Reginato River Access. Release details are shown in the table below and available on SacPAS.

Table 3: Livingston Stone NFH winter-run Chinook salmon releases into the Sacramento River in Water Year 2026. Data sourced from SacPAS.

Release Date	Hatchery	Release Site	Release Type	Fish Released	% CWT Marked	CWT Tagcodes
February 18, 2026	Livingston Stone NFH	Sacramento River at John F. Reginato River Access	Production	466,344	100%	053800 056770 056788 056789

Juvenile Production Estimate

The Juvenile Production Estimate for hatchery winter-run (Sacramento River releases) is 130,096 for Livingston Stone releases. The annual loss threshold is 1% of the JPE (1,301 fish), which is the same as the single-year ITL (BiOp Table 184).

Annual Loss

As of April 20, cumulative loss of Livingston Stone hatchery fish (Sacramento River releases) is 57.91 or 4.45% of the annual loss threshold (which equals the single-year ITL). Cumulative loss in the past 7 days has been 0.

Hatchery Winter-run Chinook – Battle Creek

Hatchery Releases

Livingston Stone National Fish Hatchery released a total of 207,067 winter-run Chinook salmon into Battle Creek (February 19). Release details are available on SacPAS.

Table 4: Livingston Stone NFH winter-run Chinook salmon releases into Battle Creek in Water Year 2026. Data sourced from SacPAS.

Release Date	Hatchery	Release Site	Release Type	Fish Released	% CWT Marked	CWT Tagcodes
February 19, 2026	Coleman NFH	North Fork Battle Creek Manton CA	Jumpstart	207,067	100%	056769

Juvenile Production Estimate

The Juvenile Production Estimate for hatchery winter-run released into Battle Creek is 5,186 based on 207,067 fish released. The single-year incidental take limit (ITL) is 1.0% of the JPE (52 fish) or 0.8% on a 3-year rolling average (BiOp Table 184).

Incidental Take

As of April 20, cumulative loss of Livingston Stone hatchery fish (Battle Creek releases) is 2 or 4.47% of the single-year ITL (52 fish). Cumulative loss in the past 7 days has been 0.

Natural-origin Central Valley Steelhead

Current Status

Delta Entry Timing - Historically, as of Apr 19, 67% of CCV steelhead have entered the Delta based on Knights Landing RST catch, 68% have exited the Delta based on Chipps Island Trawl Catch, and 75% have been salvaged.

Table 5: Average percent of annual emigrating population for unclipped CCV steelhead captured at monitoring locations and salvaged at Delta facilities for the past 10 years.

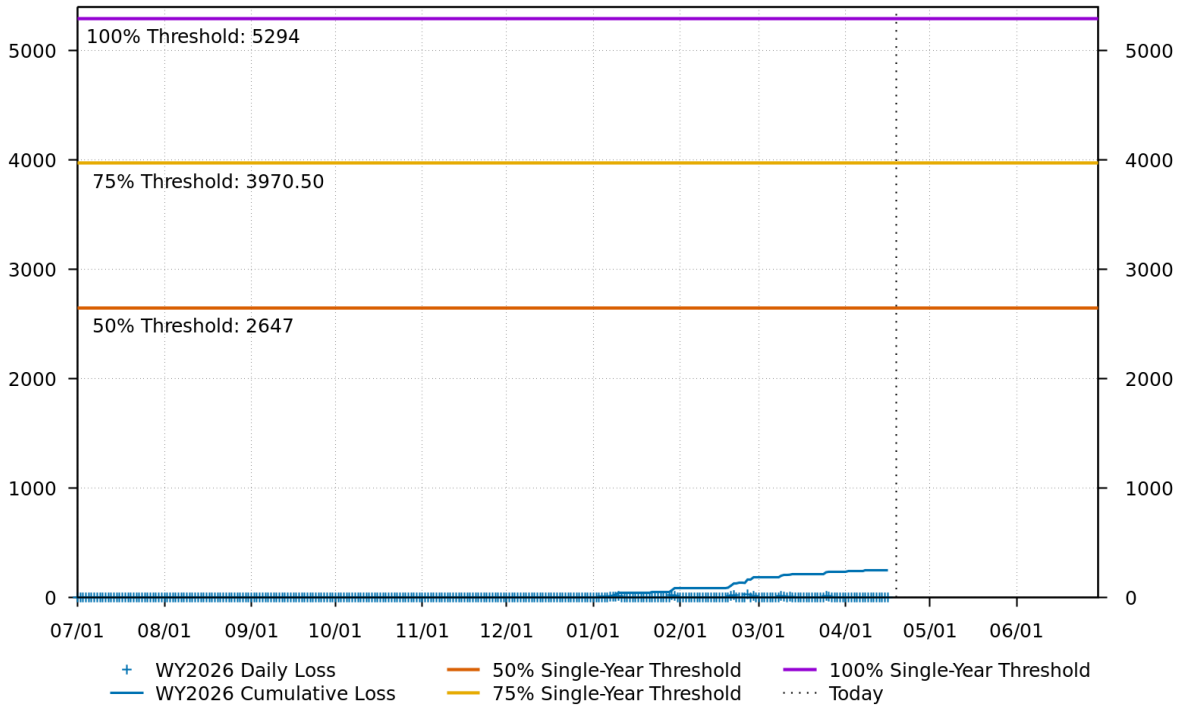
Species	Chipps Island Trawl	Knights Landing RST	Red Bluff Diversion Dam	Sac Trawl (Sherwood)	Salvage	Tisdale RST
Steelhead, Unclipped	68%	66%	7%	67%	75%	62%

Delta Monitoring - Total catch of unclipped steelhead at RSTs at Delta Entry (Tisdale, Knights Landing, Lower Sacramento River) between Apr 06 and Apr 17 is 1 individuals. Total catch at Sacramento Trawl and Beach Seines in the delta between Apr 06 and Apr 17 is 0 individuals. Total catch at Delta Exit at Chipps Island between Apr 06 and Apr 17 is 0 individuals.

Annual Loss

As of April 19, cumulative loss of unclipped steelhead is 248 or 4.69% of the single-year incidental take limit (ITL). There is no annual loss threshold for natural steelhead. The single-year ITL is 5,294 juveniles or 2,319 juveniles as a 3-year rolling average (BiOp Table 184). Cumulative loss in the past 7 days has been 11.

WY2026 Natural Steelhead Loss
Cumulative Loss to date: 248.32
Cumulative Loss percent of Threshold: 4.69%



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Figure 7: Cumulative loss of natural-origin steelhead for WY 2026. The 5,294 line represents the single-year incidental take limit (ITL), not a loss threshold.

Figure 7 is a line graph showing cumulative loss of natural-origin steelhead for Water Year 2026 from July 2025 through June 2026. The graph displays WY2026 daily loss and cumulative loss relative to the 50%, 75%, and 100% single-year incidental take limit levels. The 5,294 line represents the single-year incidental take limit (ITL), not a loss threshold.

Hatchery-origin Central Valley Steelhead

Surrogate Releases

There have been a total of 9 releases totaling 1,535,164 steelhead in Water Year 2026. JPE for the hatchery releases as of today is 633,352 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 6,334, but is subject to change with additional steelhead releases.

Table 6: Summary of steelhead hatchery releases in Water Year 2026. JPE calculated using hatchery-specific survival estimates to Delta entry from release location.

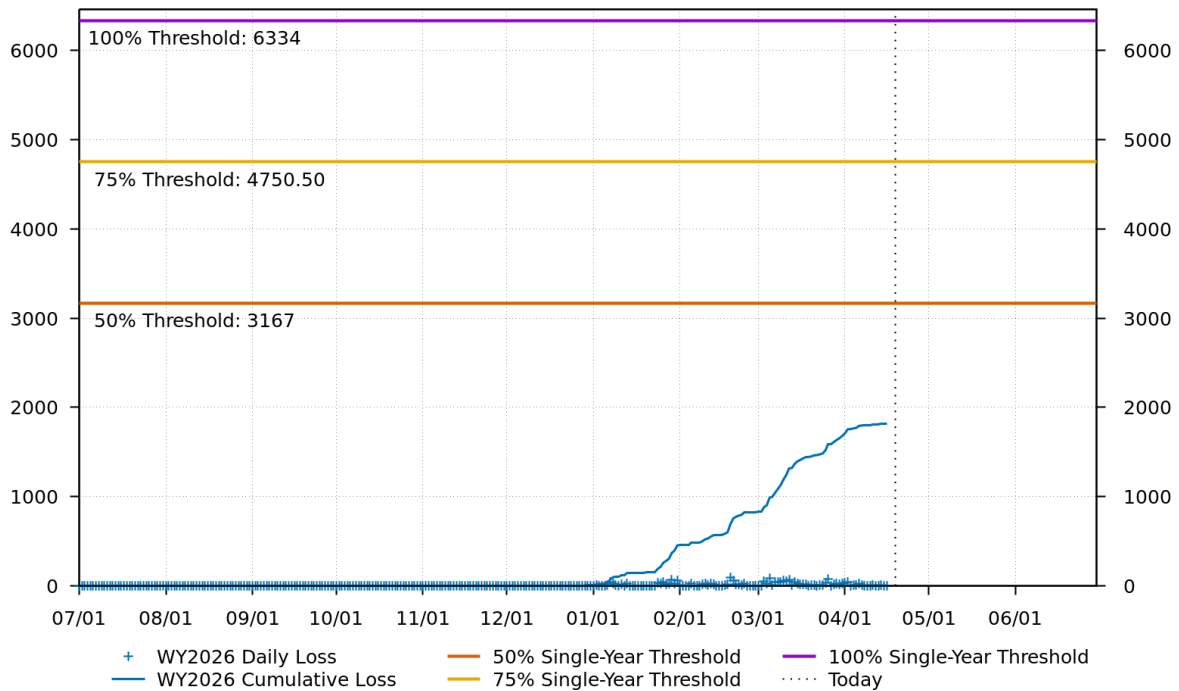
Hatchery	Date of Release	Number Released	Estimated Survival	Juvenile Production Estimate
NIM	2025-11-10	233,109	72%	167,838
Coleman	2025-12-15	555,720	38%	211,174
Coleman	2025-12-17	90,019	38%	34,207
FRH	2026-01-06	376,640	36%	135,590
FRH	2026-01-09	117,715	36%	42,377
MOK	2026-02-17	39,130	25%	9,783
MOK	2026-02-18	39,131	25%	9,783
MOK	2026-03-18	41,550	27%	11,219
MOK	2026-03-19	42,150	27%	11,381

Table 7: 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 1820 or 28.73% of the annual loss threshold. Note that hatchery origin of salvaged fish cannot be determined at this time and salvage is based on the assumption of similar routing and survival probabilities of individual hatchery releases.

WY2026 Hatchery Steelhead Loss
Cumulative Loss to date: 1819.64
Cumulative Loss percent of Threshold: 28.73%



Running JPE calculated from hatchery releases to date and survival estimate range (adjusted by WSI forecast type).
www.cbr.washington.edu/sacramento/ Threshold is 1% of calculated JPE. 20 Apr 2026 07:49:03 PDT

Figure 8: Cumulative loss of hatchery steelhead for WY 2026.

Figure 8 is a line graph showing cumulative loss of hatchery steelhead for Water Year 2026 from July 2025 through June 2026. The graph displays WY2026 daily loss and cumulative loss relative to the 50%, 75%, and 100% single-year threshold levels. Running JPE is calculated from hatchery releases to date and estimated survival estimate range, adjusted by WSI forecast type.

Spring-run Chinook

Current Status

Delta Entry Timing - Historically, as of Apr 19, 80% of LAD spring-run have entered the Delta based on Knights Landing RST catch, 46% have exited the Delta based on Chipps Island Trawl Catch, and 33% have been salvaged.

Table 8: 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	83%	94%	90%	80%	46%	33%

Red Bluff Diversion Dam Passage Estimate - As of Apr 08 estimated passage to date of LAD spring-run at Red Bluff Diversion is approximately 0.72 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 spring-run at RSTs at Delta Entry (Tisdale, Knights Landing, Lower Sacramento River) between Apr 06 and Apr 17 is 19 individuals. Total catch at Sacramento Trawl and Beach Seines in the delta between Apr 06 and Apr 17 is 69 individuals. Total catch at Delta Exit at Chipps Island between Apr 06 and Apr 17 is 213 individuals.

Spring-run Surrogate Releases

A total of 3,327,812 spring-run surrogate fish have been released in Water Year 2026, with an estimated Juvenile Production Estimate (JPE) of 1,130,892 fish entering the Delta. This includes 805,323 Coleman Late-Fall Run Chinook yearlings (JPE: 219,852) released from Coleman National Fish Hatchery across 12 coded-wire tag groups, and 2,522,489 Feather River Hatchery Spring-Run young-of-year (JPE: 911,040) across 7 coded-wire tag groups. See details in table below.

Table 9: Spring-run Chinook salmon surrogate releases: Coleman Late-Fall yearlings and Feather River Spring-Run young-of-year (production and experimental). ITL is 0.5% of each release group (BiOp Table 184).

Hatchery	Release Date	Stock	Life Stage	Type	CWT Released	JPE	ITL (0.5%)	Loss	CWT Codes
Feather River Hatchery	2026-03-18	Spring-Run	YOY	Production	985,324	355,866	4,927	0	063227, 063229
Feather River Hatchery	2026-03-19	Spring-Run	YOY	Production	1,048,948	378,846	5,245	0	063036, 063236, 063239
Feather River Hatchery	2026-03-23	Spring-Run	YOY	Production	488,217	176,328	2,441	0	062858, 063234
Coleman NFH	2025-11-13	Late-Fall	Yearling	Production	143,346	39,134	717	9	056808, 056809
Coleman NFH	2025-11-17	Late-Fall	Yearling	Experimental	75,119	20,507	376	0	056810
Coleman NFH	2025-12-17	Late-Fall	Yearling	Production	468,876	128,002	2,344	774	053700, 056806, 056811, 056812, 056814, 056815, 056817
Coleman NFH	2025-12-22	Late-Fall	Yearling	Experimental	60,873	16,618	304	257	056813
Coleman NFH	2026-01-08	Late-Fall	Yearling	Experimental	57,109	15,591	286	35	056816

Annual Loss

The annual loss threshold (Action 5) is 1% of the JPE entering the Delta, tracked cumulatively but separately for yearlings and young-of-year. Yearling surrogates (Coleman Late-Fall): the threshold is 2,199 fish; as of April 19, cumulative loss is 1,075 fish or 48.90% of the threshold. YOY surrogates (Feather River Spring-Run): the threshold is 9,110 fish; as of April 19, cumulative loss is 0 fish or 0.00% of the threshold. The single-year incidental take limit (ITL) is 0.5% of the estimated number of each surrogate release group (BiOp Table 184). ITL status by release group: YOY - Feather River Hatchery (2026-03-18, Production): 0 loss of 4,927 ITL (0%); YOY - Feather River Hatchery (2026-03-19, Production): 0 loss of 5,245 ITL (0%); YOY - Feather River Hatchery (2026-03-23, Production): 0 loss of 2,441 ITL (0%); Yearling - Coleman NFH (2025-11-13, Production): 9 loss of 717 ITL (1.21%); Yearling - Coleman NFH (2025-11-17, Experimental): 0 loss of 376 ITL (0%); Yearling - Coleman NFH (2025-12-17, Production): 774 loss of 2,344 ITL (33.02%); Yearling - Coleman NFH (2025-12-22, Experimental): 257 loss of 304 ITL (84.64%); Yearling - Coleman NFH (2026-01-08, Experimental): 35 loss of 286 ITL (12.26%)

Loss Prediction and Trajectories

The following figures display the current loss predictor model outputs for winter-run Chinook salmon and steelhead.

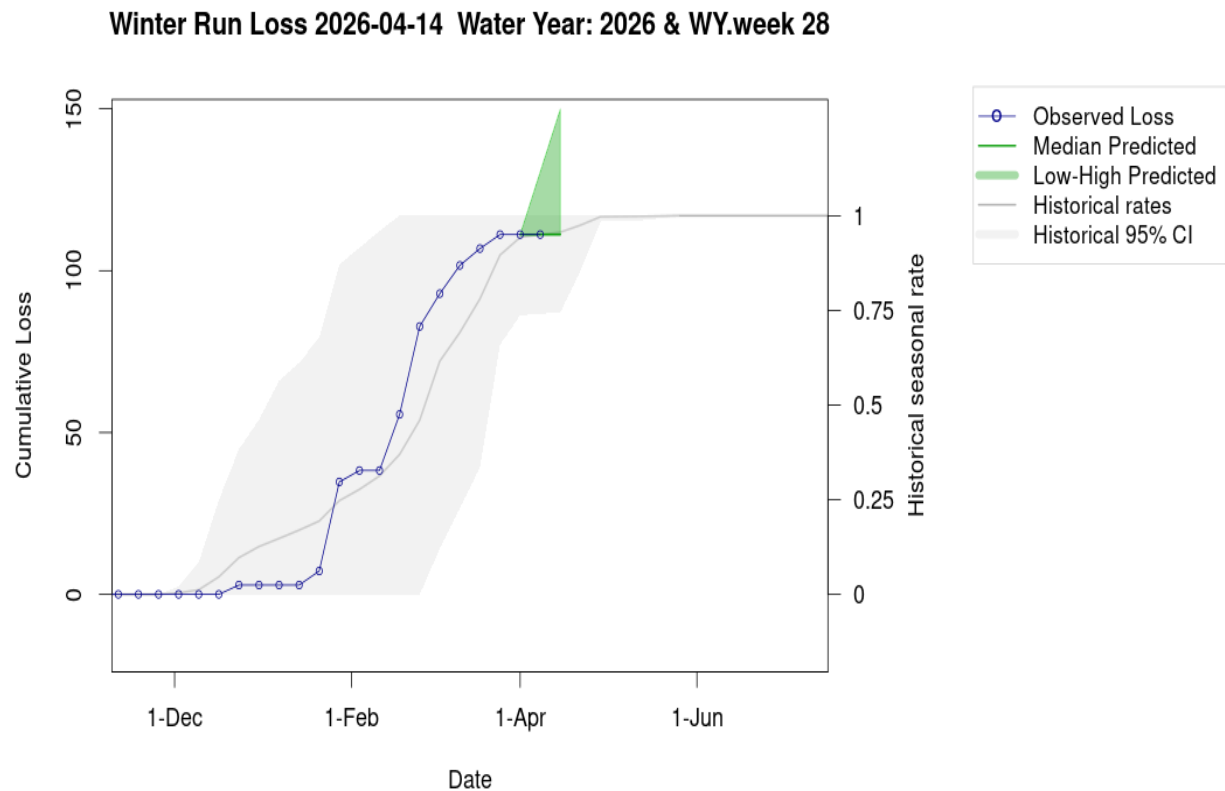


Figure 9: Estimates of winter-run Chinook loss generated by Loss and Salvage Predictor tool.

Figure 9 is a line graph showing cumulative winter-run Chinook loss estimates for Water Year 2026 through Week 28, generated using the Loss and Salvage Predictor tool. Observed cumulative loss (blue) increases steadily from December through April, while the median predicted loss and low-high prediction range (green) project additional loss through mid-April. Historical seasonal loss rates and the associated 95% confidence interval are also displayed in gray for comparison.

Steelhead Loss 2026-04-14 Water Year: 2026 & WY.week 28

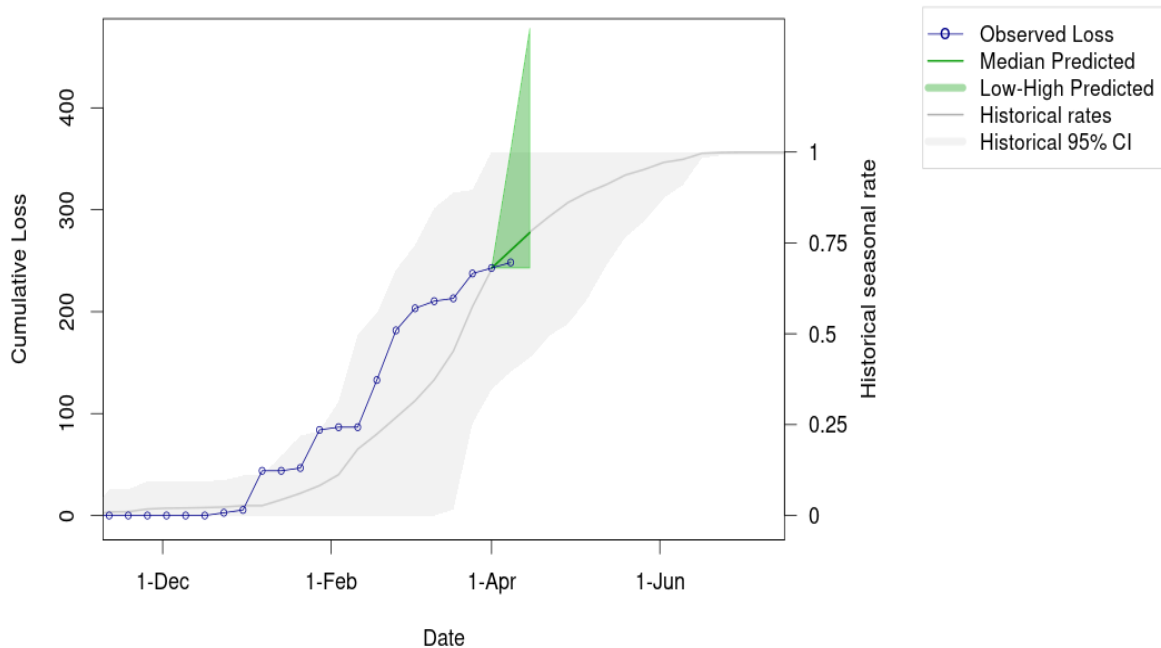


Figure 10: Estimates of steelhead loss generated by Loss and Salvage Predictor tool.

Figure 10 is a line graph showing cumulative steelhead loss estimates for Water Year 2026 through Week 28, generated using the Loss and Salvage Predictor tool. Observed cumulative loss (blue) increases steadily from December through April, while the median predicted loss and low-high prediction range (green) project additional loss through mid-April. Historical seasonal loss rates and the associated 95% confidence interval are also displayed in gray for comparison.

Evaluation

1. What is the probability of exceeding natural or hatchery winter-run Chinook salmon loss thresholds in the upcoming week?
 - a. **LOW RISK:** Natural winter-run cumulative loss is currently 0.43% of the threshold. **LOW RISK:** Hatchery winter-run (Sac River) cumulative loss is currently 4.45% of the threshold. **LOW RISK:** Hatchery winter-run (Battle Creek) cumulative loss is currently 4.47% of the threshold.
2. What is the probability of exceeding spring-run Chinook salmon surrogate loss thresholds (yearling and YOY) in the upcoming week?
 - a. **LOW RISK:** Spring-run surrogate yearlings (Coleman Late-Fall) cumulative loss is currently 48.90% of the threshold. **LOW RISK:** Spring-run surrogate YOY (Feather River Spring-Run) cumulative loss is currently 0.00% of the threshold.

3. What is the probability of exceeding natural or hatchery steelhead loss thresholds in the upcoming week?
 - a. **LOW RISK:** Natural steelhead cumulative loss is currently 4.69% of the threshold. **LOW RISK:** Hatchery steelhead cumulative loss is currently 28.73% of the threshold.

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 detected in surveys:** adult
- **Abundance estimate:** 2034 (95% CL: 162 to 8,959) as of the week of March 23–27, 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:** 44 adult Delta smelt and 30 juvenile Delta smelt have been detected this water year. See Table 10 for recent detections, Figure 11 for spatial distribution, and Figure 12 for temporal distribution.
- **Delta smelt salvage:** 0 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 10 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 10: 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
N/A	N/A	N/A	N/A	N/A	N/A

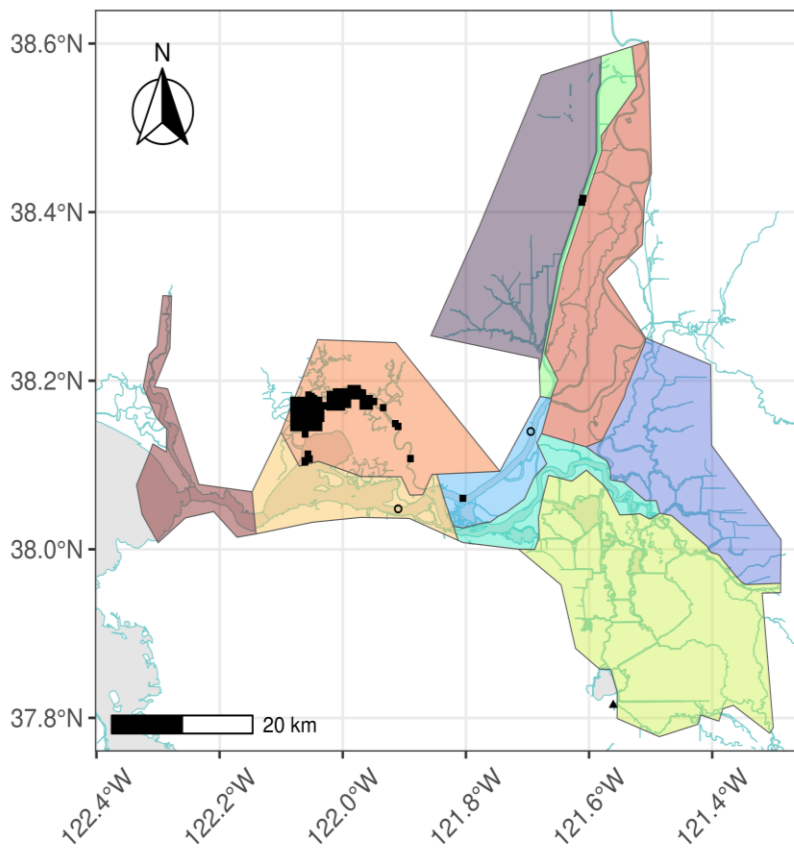
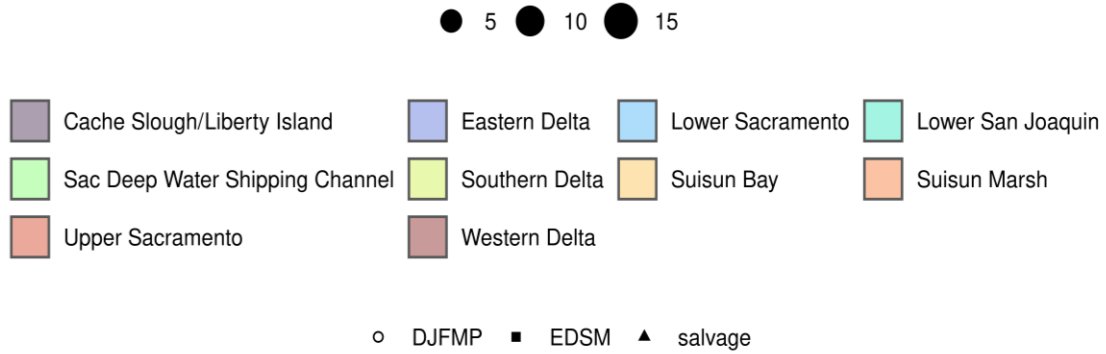


Figure 11: Delta smelt distribution for WY 2026

Figure 11 is a map depicting Delta smelt distribution for Water Year 2026 across regions of the Sacramento-San Joaquin Delta. Different colors represent Delta regions including Cache Slough/Liberty Island, Eastern Delta, Lower Sacramento, Lower San Joaquin, Southern Delta, Suisun Bay, Suisun Marsh, Upper Sacramento, Western Delta, and the Sacramento Deep Water Shipping

Channel. Symbols indicate sampling and salvage locations associated with DJFMP, EDSM, and salvage monitoring programs

Table 11: 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	40
EDSM	West	Juvenile	29
salvage	South	Adult	1

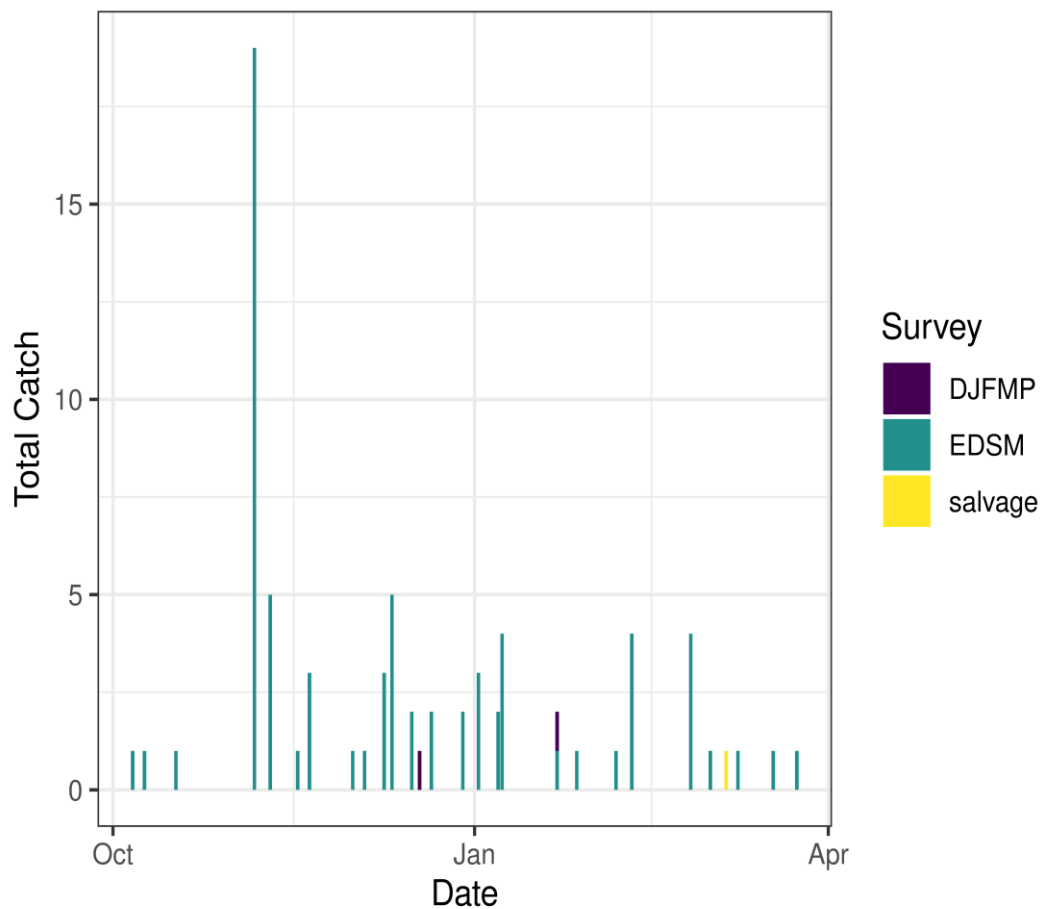


Figure 12: Time series of Delta smelt catch, WY 2026

Figure 12 displays total Delta smelt catch observations over time from October through April for three survey programs: DJFMP, EDSM, and salvage. 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 and salvage sampling.

Environmental

First Flush

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

Real-time Assessment Thresholds

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.

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 $\geq 5\%$ entrainment of Delta smelt population after 30 days
 - 12-station South Delta Turbidity: The most recent average turbidity was 3.4 FNU as of Apr 15, 2026

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?
 - a. 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?
 - a. 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. Spawning is likely completed due to increased water temperatures.

3. After the onset of spawning, have the following conditions occurred: JPF < 0 cfs, average turbidity is ≥ 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?
 - a. JPF is projected to remain positive for the week and the most recent 11-station average turbidity in the South Delta was 3.4 FNU on April 14, 2026 (station 918 could not be sampled due to bridge clearance issues). Because JPF is positive and turbidity conditions remain below the ≥ 12 FNU threshold, the conditions required to initiate the larval and juvenile Delta smelt entrainment action are not met.

Additionally, PTM modeling does not meet the criteria for initiating the action. No Delta smelt larvae have been captured in SLS or 20-mm surveys to date in WY2026. PTM results for this week for neutrally buoyant particles injected at Chipps Island (using the most recent adult detections as a proxy for potential larval locations) showed 0% particle entrainment at both facilities for the OMRI level of -2,000 this week and next week. These results indicate that, if Delta smelt larvae were present, the risk of entrainment would be low.

Longfin smelt

Biological

- **Longfin smelt life stages detected in surveys:** Larva
- **Longfin smelt count:** 475 adult, 1174 juvenile, and 7713 larval longfin smelt have been detected this water year. See Table 12 for recent detections, Figure 13 for spatial distribution, and Figure 14 for temporal distribution.
- **Longfin smelt salvage:** 0 longfin smelt have been salvaged, and the cumulative seasonal salvage is 0.

Table 12: 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
20-mm	2026-04-08	West	Suisun Marsh	Juvenile	14
20-mm	2026-04-08	West	Suisun Marsh	Larva	109
20-mm	2026-04-08	West	Suisun Marsh	NA	3
20mm	2026-04-13	South	NA	Larva	4

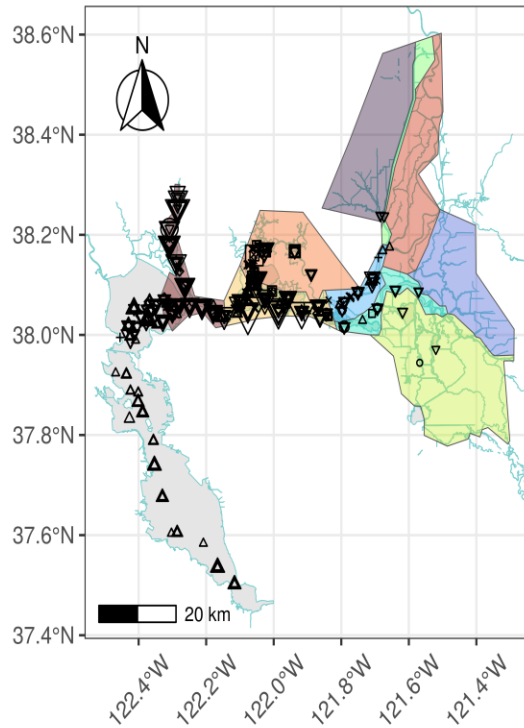
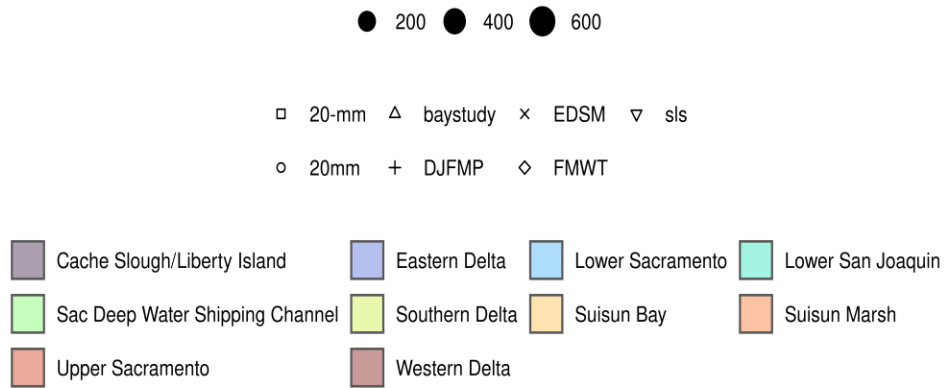


Figure 13: Longfin Smelt Distribution for WY 2026

Figure 13 is a map depicting longfin smelt distribution for Water Year 2026 across regions of the Sacramento-San Joaquin Delta and Suisun Bay. Different colors represent Delta regions including Cache Slough/Liberty Island, Eastern Delta, Lower Sacramento, Lower San Joaquin, Southern Delta, Suisun Bay, Suisun Marsh, Upper Sacramento, Western Delta, and the Sacramento Deep Water Shipping Channel. Symbols indicate detections from multiple monitoring surveys, including 20-mm, Bay Study, DJFMP, EDSM, FMWT, and SLS sampling programs.

Table 13: Longfin smelt water year totals by life stage

Survey	Region	Life Stage	Total
20-mm	North	Larva	1
20-mm	West	Juvenile	40
20-mm	West	Larva	520
20mm	North	Larva	12
20mm	South	Larva	14
20mm	West	Larva	55
DJFMP	Bay	Juvenile	1
DJFMP	N/A	Adult	267
DJFMP	N/A	Juvenile	31
DJFMP	NA	Adult	1
EDSM	Far West	Adult	24
EDSM	Far West	Juvenile	100
EDSM	North	Adult	1
EDSM	North	Juvenile	1
EDSM	West	Adult	83
EDSM	West	Juvenile	204
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	53
baystudy	Bay	Juvenile	624
baystudy	Far West	Adult	27
baystudy	Far West	Juvenile	111
baystudy	North	Adult	3
baystudy	North	Juvenile	1
baystudy	West	Adult	7
baystudy	West	Juvenile	24
sls	Bay	Larva	448
sls	Far West	Larva	4106
sls	North	Larva	91
sls	South	Larva	52
sls	West	Larva	2529
sls	NA	Juvenile	3
sls	NA	Larva	343

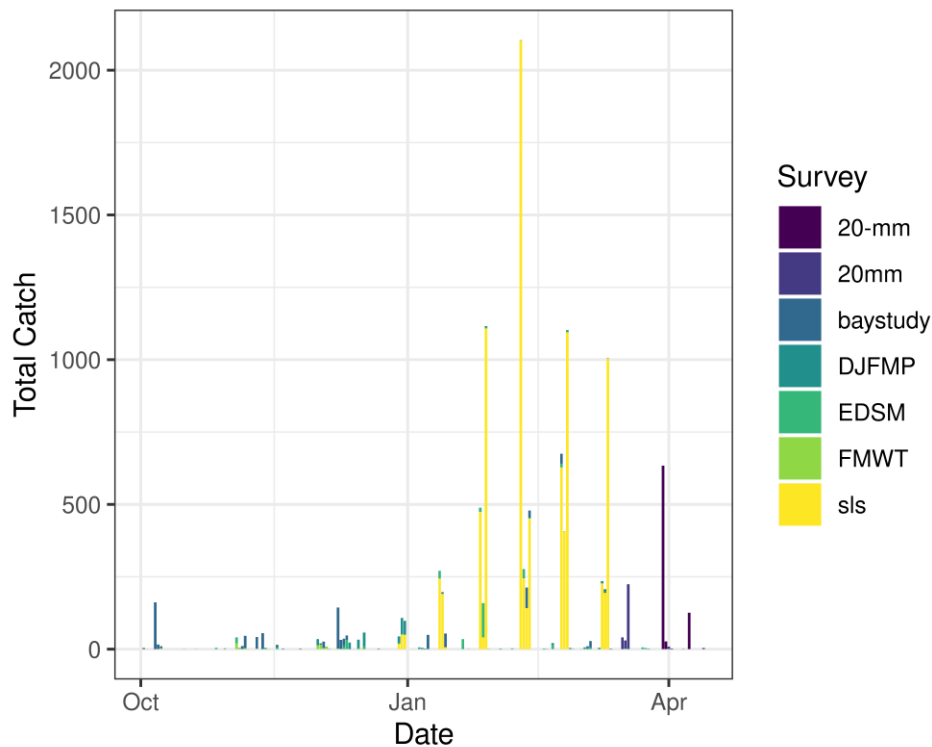


Figure 14: Time series of longfin smelt catch, WY 2026

Figure 14 displays total longfin smelt catch observations over time from October through April across multiple survey programs, including 20-mm, Bay Study, DJFMP, EDSM, FMWT, and SLS. Bars represent total catch recorded on individual sampling dates, with colors distinguishing survey type. The figure shows that the largest catches occurred during SLS surveys in late January through February, while catches from other survey programs were generally lower throughout the period.

Real-time Assessment Thresholds

Start of Entrainment Management (Adult Longfin Smelt)

- This action was not taken in WY26

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: 6,088 cfs as of Apr 19, 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: 6,088 cfs as of Apr 19, 2026

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 projected to remain positive throughout the week and no adult longfin smelt have been detected in salvage this water year.
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 projected to remain positive throughout the week, so the condition of JPF < 0 cfs is not met. Additionally, PTM and Zone of Influence modeling indicate a low risk of entrainment for the larval and juvenile Longfin Smelt population. The Longfin smelt larval population and PTM analysis projects low entrainment relative to estimated abundance for this week. The model shows the estimated entrainment for this week is estimated to be 0% for the OMRI scenario of -2,000 cfs.

Zone of Influence modeling indicates moderate differences in the hydrodynamic footprint across OMRI scenarios; however, the Zone of Influence does not extend into the western or far western regions where most Longfin Smelt larvae and juveniles have been detected. Therefore, these effects are not anticipated to result in a population decline, and the criteria for initiating this action are not met.
3. Is there additional information or other analyses that should be considered in this evaluation?
 - a. Please see Appendix A for additional information.

End of smelt Entrainment Management

- Not relevant

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Appendix A: Delta Real-Time Forecast Summary

Date: 04/20/2026

Forecast Period: 04/14/2026 – 05/04/2026

Forecast Week 1: 04/14/2026 – 04/20/2026

Forecast Week 2: 04/21/2026 – 04/27/2026

Forecast Week 3: 04/28/2026 – 05/04/2026

Index

- Common Assumptions
- Reclamation Forecast Flow and Export Data
- Delta Export Zone of Influence
- PTM (Particle Tracking Model)
 - Neutrally Buoyant Particles (NP)
 - Surface Oriented Particles (PP)
- ECO-PTM (Ecological Particle Tracking Model)
- Longfin Smelt Larval Population and PTM Analysis

Common Assumptions

The model run results cover the period April 14, 2026 through May 04, 2026 and are based on the following assumptions established by DWR:

1. CCFB Gates are operating to Priority 1.
2. The Delta Cross Channel gates are closed.
3. Suisun Marsh Salinity Control flashboards are in. All three gates are in open position from March 2.
4. San Joaquin River flow at Vernalis is at 2406 cfs at the beginning of the forecast period and is estimated to decrease to 600 cfs by the end of the forecast period.
5. San Joaquin River EC at Vernalis is at 341 umhos/cm at the beginning of the forecast period and is estimated to increase to 659 umhos/cm at the end of the forecast period.
6. Sacramento River flow at Freeport is at 38444 cfs at the beginning of the forecast period and is expected to decrease to 18900 cfs by the end of the forecast period.

7. CCFB inflow is at 1193 cfs at the beginning of the forecast period and is expected to decrease to 600 cfs by the end of the forecast period.
8. Export at Jones Pumping Plant is at 1232 cfs at the beginning of the forecast period and is expected to decrease to 900 cfs to the end the forecast period.

As shown in the next section, assumptions 4 and 6 are updated based on Reclamation forecast data, and assumption 8 and exports at Banks Pumping Plant have been modified to include four different forecast scenarios at an Old and Middle River (OMR) index of -6,500 cfs, -5,000 cfs, -3,500 cfs, and -2,000 cfs.

Reclamation Forecast Flow and Export Data

Table 1 Weekly Averaged Forecasted Flow Data and Flow Bins

Forecast Week	Sacramento River at Freeport (cfs)	Sac Flow Bin	San Joaquin River at Vernalis (cfs)	SJR Flow Bin	Delta Inflow Bin
Week 1 04/14/2026 - 04/20/2026	27,661	hi	2,482	med	himed
Week 2 04/21/2026 - 04/27/2026	21,411	med	2,200	med	medmed
Week 3 04/28/2026 - 05/04/2026	18,000	med	2,200	med	medmed

Key: cfs = cubic feet per second, Sac = Sacramento River, SJR = San Joaquin River

Table 2 Weekly Averaged CVP and SWP Exports by OMR Bin

Week	OMR Bin (cfs)	CVP Exports (cfs)	SWP Exports (cfs)	Total Exports (cfs)	CVP Exports (% of total)	SWP Exports (% of total)
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A

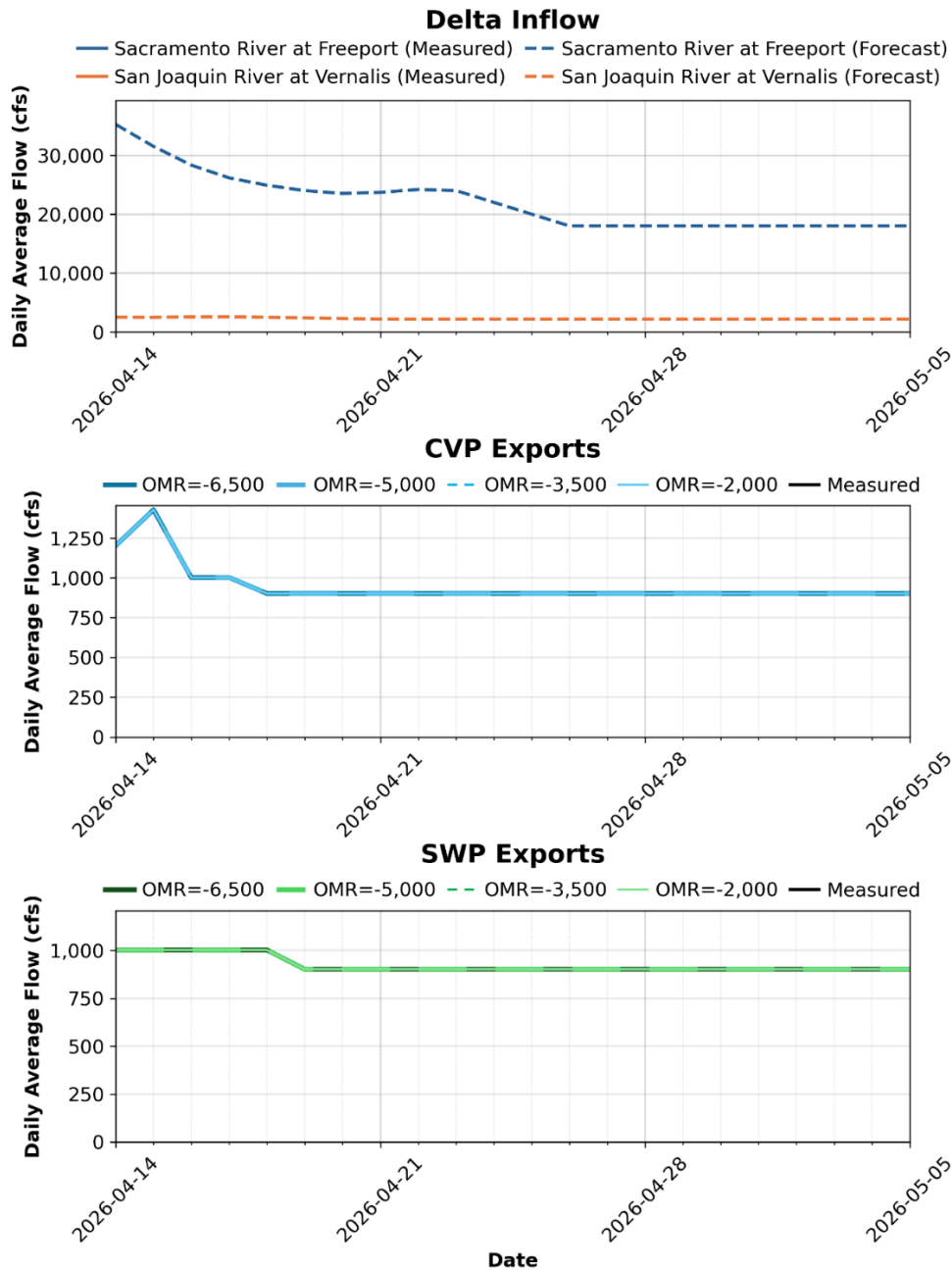
Week	OMR Bin (cfs)	CVP Exports (cfs)	SWP Exports (cfs)	Total Exports (cfs)	CVP Exports (% of total)	SWP Exports (% of total)
Week 1: 04/14/2026 - 04/20/2026	-2,000	1,048	973	2,021	52%	48%
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	902	902	1,804	50%	50%
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	902	902	1,804	50%	50%

Key: cfs = cubic feet per second, CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Notes:

- One pumping unit is currently out of service at Jones Pumping Plant until August 2026. The current maximum pumping rate at Jones Pumping Plant (CVP Exports) is 4,200 cfs.
- Per the State Water Project (SWP) Incidental Take Permit (ITP) 8.12.1, the State is required to curtail exports April 1 through May 31. This change in exports is expected to persist for the two month period unless Vernalis flows change. This is reflected in the forecast SWP exports starting on April 1.
- From April 11 to mid-May CVP exports will be reduced to roughly 900 cfs due to D-1641.

- For this forecast week, only the OMRI -2,000 cfs scenario was performed due to current D-1641 constraints of 1:1 Vernalis flows which are not expected to increase to a level that would allow exports to higher OMRI levels during the forecast period. Because exports are limited by D-1641 and the SWP ITP, only one OMR scenario of -2,000 cfs is analyzed. The actual estimated OMR flow based on projected conditions is around -1,000 cfs.

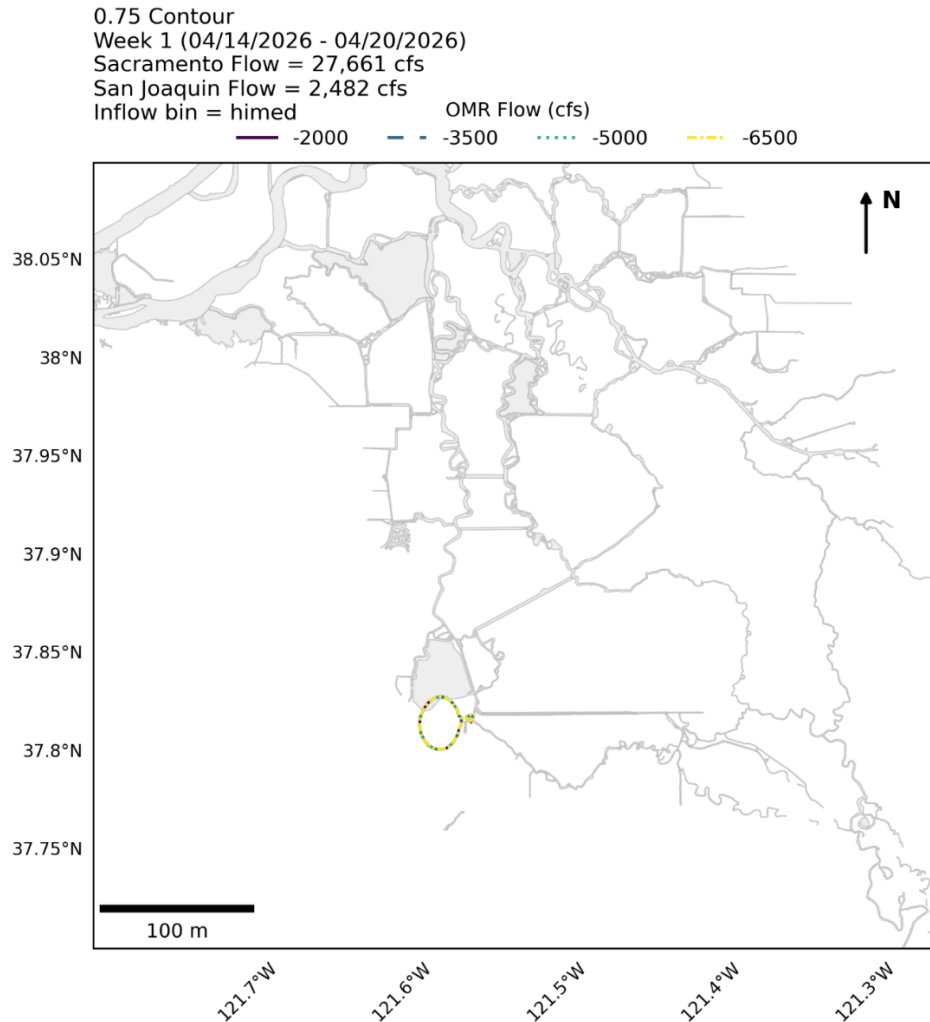


Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Figure 1 Daily Average Flow for Measured and Forecasted Delta Inflow, CVP Exports, and SWP Exports

Figure 1 contains three line graphs depicting daily average flow conditions from mid-April through early May 2026 for Delta inflow, CVP exports, and SWP exports. The top graph shows measured and forecasted Sacramento River at Freeport and San Joaquin River at Vernalis inflows, with Sacramento River flows substantially higher throughout the period. The middle and bottom graphs show modeled and measured export flows for CVP and SWP facilities under OMR scenarios of -6,500, -5,000, -3,500, and -2,000 cfs. Export flows generally decline slightly in mid-April before remaining relatively stable through early May.

Delta Export Zone of Influence



Key: cfs = cubic feet per second, OMR = Old and Middle River

Figure 2 Delta Zone of Influence

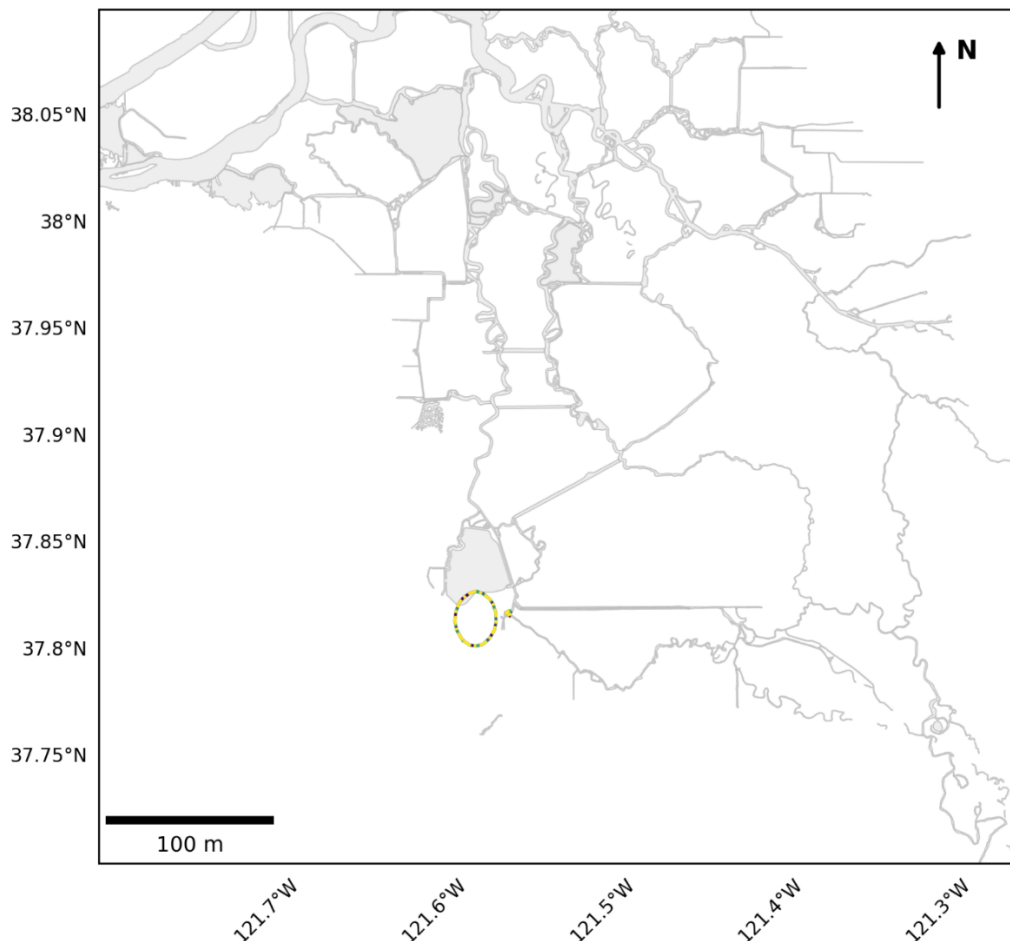
Figure 2 is a map of the Delta showing different zones of influence at OMR flow rates of -2,000, -3,500, -5,000, and -6,500 cfs in different colors and line styles. The map was developed using a 0.75 contour during Week 1 (April 14 – 20, 2026) with Sacramento River flow at 27,661 cfs, San Joaquin River flow at 2,482 cfs, and a himed inflow bin.

Notes:

- Contours indicate the proportional overlap of hourly average velocity Gaussian KDEs for a 1-week period from DSM2 hydro simulations with and without Delta exports active.
- DSM2 nodes that were sufficiently different from neighboring nodes to create isolated contours at several OMR flows were removed (nodes 146, 147, 148, 206, 242, 246, 432, 433, 434).

0.75 Contour
 Week 2 (04/21/2026 - 04/27/2026)
 Sacramento Flow = 21,411 cfs
 San Joaquin Flow = 2,200 cfs
 Inflow bin = medmed

OMR Flow (cfs)
 -2000 -3500 -5000 -6500



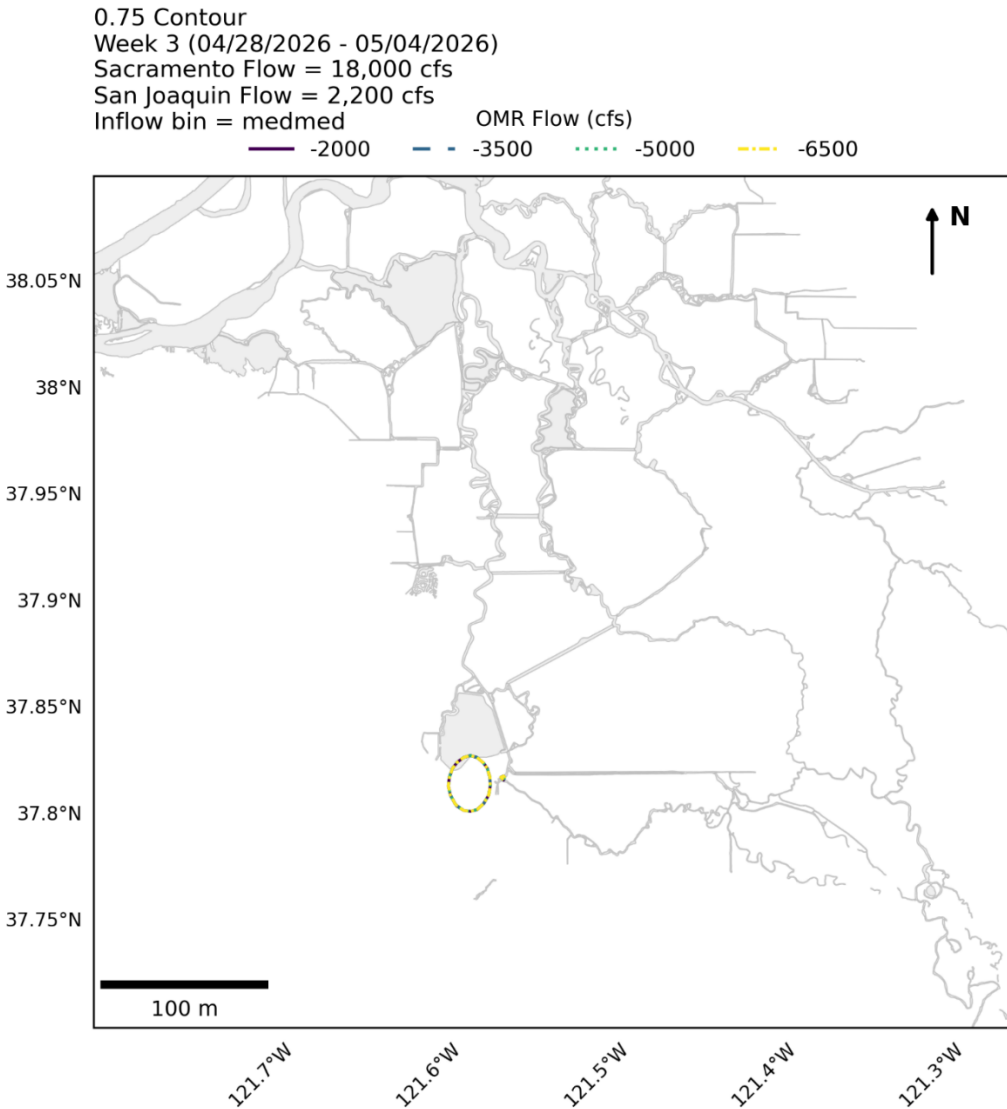
Key: cfs = cubic feet per second, OMR = Old and Middle River

Figure 3 Delta Zone of Influence

Figure 3 is a map of the Delta showing different zones of influence at OMR flow rates of -2,000, -3,500, -5,000, and -6,500 cfs in different colors and line styles. The map was developed using a 0.75 contour during Week 2 (April 21 – 27, 2026) with Sacramento River flow at 21,411 cfs, San Joaquin River flow at 2,200 cfs, and a medmed inflow bin.

Notes:

- Contours indicate the proportional overlap of hourly average velocity Gaussian KDEs for a 1-week period from DSM2 hydro simulations with and without Delta exports active.
- DSM2 nodes that were sufficiently different from neighboring nodes to create isolated contours at several OMR flows were removed (nodes 146, 147, 148, 206, 242, 246, 432, 433, 434).



Key: cfs = cubic feet per second, OMR = Old and Middle River

Figure 4 Delta Zone of Influence

Figure 4 is a map of the Delta showing different zones of influence at OMR flow rates of -2,000, -3,500, -5,000, and -6,500 cfs in different colors and line styles. The map was developed using a 0.75 contour during Week 3 (April 28 – May 4, 2026) with Sacramento River flow at 18,000 cfs, San Joaquin River flow at 2,200 cfs, and a medmed inflow bin.

Notes:

- Contours indicate the proportional overlap of hourly average velocity Gaussian KDEs for a 1-week period from DSM2 hydro simulations with and without Delta exports active.
- DSM2 nodes that were sufficiently different from neighboring nodes to create isolated contours at several OMR flows were removed (nodes 146, 147, 148, 206, 242, 246, 432, 433, 434).

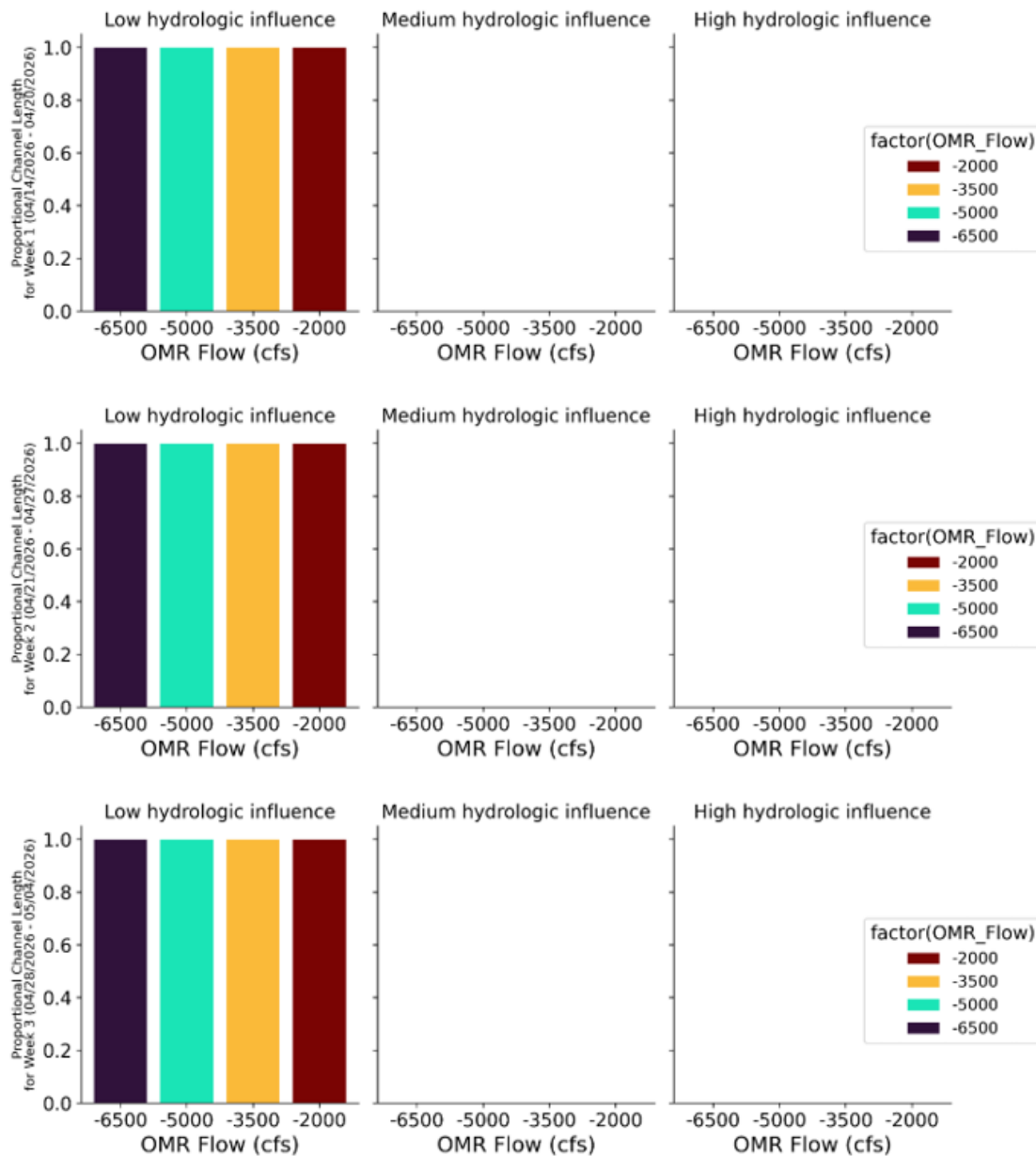
Proportion of DSM2 Channel Length Altered from Pumping

Table 3 Proportion of DSM2 Channel Length with Hydrologic Alteration from Pumping

Weekly Model Run	OMR Bin (cfs)	Sum Channel Length (miles) Low	Channel Length (%) Low	Sum Channel Length (miles) Medium	Channel Length (%) Medium	Sum Channel Length (miles) High	Channel Length (%) High
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	672.1	99.8%	0.7	0.1%	0.9	0.1%
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	672.1	99.8%	0.7	0.1%	0.9	0.1%
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	672.1	99.8%	0.7	0.1%	0.9	0.1%

Key: HA = hydrologic alteration, OMR = Old and Middle River

Notes: Sum channel length includes the length of channels within the Delta that have a calculated hydrologic alteration level falling within each category



Key: cfs = cubic feet per second, OMR = Old and Middle River

Figure 5: Proportional DSM2 Channel Length Altered from Pumping by Hydrologic Influence Category, Weeks 1–3

Figure 5 is a series of bar graphs showing the proportional DSM2 channel length altered from pumping by hydrologic influence category for Weeks 1–3 (April 14 – May 4, 2026). The graphs compare OMR flow scenarios of -2,000, -3,500, -5,000, and -6,500 cfs across low, medium, and high hydrologic influence categories. Results indicate that channel length alteration occurred entirely within the low hydrologic influence category during all three weeks, while medium and high hydrologic influence categories showed no proportional channel length alteration across scenarios.

PTM (Particle Tracking Model) Results

PTM Flux Evaluation Period: 04/14/2026 – 05/04/2026

Particles Injected: 04/14/2026

PTM Injection and Flux Locations

- = Injection Point (DSM2 node)
- ▬ = Flux Location
- ← = Reference Flux Direction

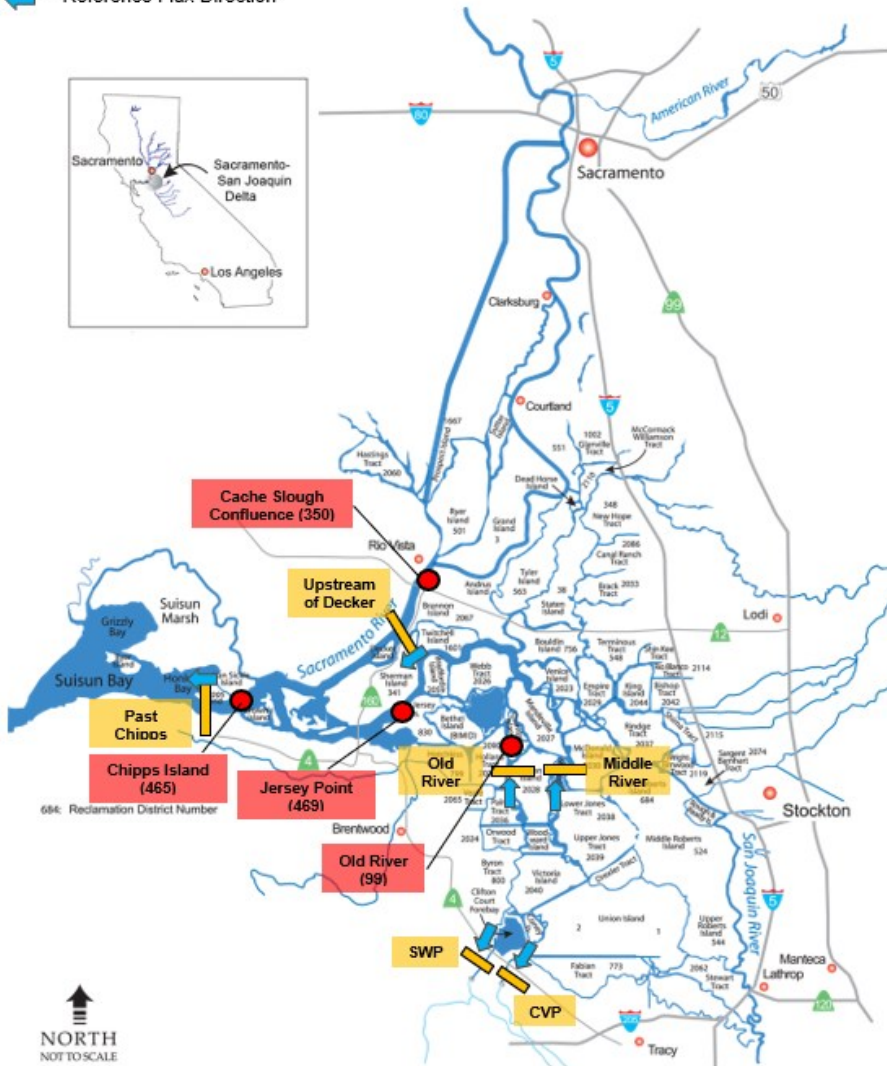


Figure 6 Map of PTM Injection and Flux Locations

Figure 6 is a map of the Sacramento-San Joaquin Delta showing PTM injection points, flux locations, and reference flux directions used in the particle tracking model analysis. Red circles indicate DSM2 injection nodes, yellow bars indicate flux locations, and blue arrows indicate reference flux directions. Key injection and flux locations shown on the map include Cache Slough Confluence (350), Chipps Island (465), Jersey Point (469), Old River (99), Upstream of Decker, Middle River, CVP, and SWP.

Neutrally Buoyant Particles (NP)

Table 4 Neutral Particle Fate (percent flux across boundary) for Particles Injected at Chipps (DSM2 Node 465)

Week	OMR Flow Bin	Past Chipps	Upstream of Decker	Unresolved in Central Delta	Unresolved in OMR corridor	CVP Entrainment	SWP Entrainment
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	98.1	0.0	1.9	0.0	0.0	0.0
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	99.0	0.0	1.0	0.0	0.0	0.0
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	99.2	0.0	0.8	0.0	0.0	0.0

Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Note: values between 0.0 and 0.1 are indicated with <0.1

Table 5 Neutral Particle Fate (percent flux across boundary) for Particles Injected at Cache Slough (DSM2 Node 350)

Week	OMR Flow Bin	Past Chipp s	Upstream of Decker	Unresolved in Central Delta	Unresolved in OMR corridor	CVP Entrainment	SWP Entrainment
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	67.2	87.1	32.8	0.0	0.0	0.0
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	87.9	89.3	12.1	0.0	0.0	0.0
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	94.0	90.2	6.1	0.1	0.0	0.0

Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Note: values between 0.0 and 0.1 are indicated with <0.1

Table 6 Neutral Particle Fate (percent flux across boundary) for Particles Injected at Jersey Point (DSM2 Node 469)

Week	OMR Flow Bin	Past Chipp s	Upstream of Decker	Unresolved in Central Delta	Unresolved in OMR corridor	CVP Entrainment	SWP Entrainment
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	23.5	13.4	76.5	0.0	0.0	0.0
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	75.5	17.4	24.6	0.1	0.0	0.0
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	90.3	18.0	10.1	0.3	0.0	0.0

Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Note: values between 0.0 and 0.1 are indicated with <0.1

Table 7 Neutral Particle Fate (percent flux across boundary) for Particles Injected at Old River (DSM2 Node 99)

Week	OMR Flow Bin	Past Chippis	Upstream of Decker	Unresolved in Central Delta	Unresolved in OMR corridor	CVP Entrainment	SWP Entrainment
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	0.0	3.0	79.5	20.5	0.0	0.0
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	8.9	8.4	68.2	22.8	0.0	0.1
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	24.3	14.2	48.8	25.2	1.2	0.6

Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Note: values between 0.0 and 0.1 are indicated with <0.1

PTM Results for Neutral Particles. OMR Scenario = -2,000. Particles Injected 4/14/2026 at DSM2 Node 465 (Chippis).

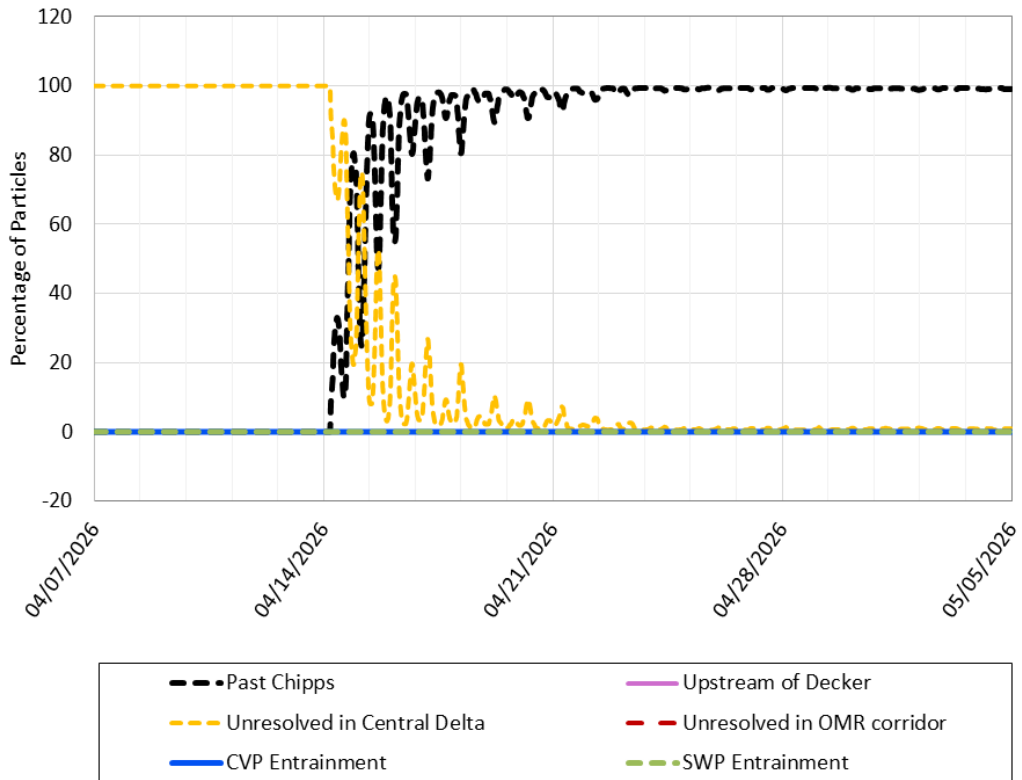


Figure 7 PTM Results for Neutral Particles. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026 at DSM2 Node 465 (Chippis)

Figure 7 is a line graph showing the percentage of neutral particles over time from April 7 to May 5, 2026, injected on April 14, 2026 at DSM2 Node 465 (Chippis) under the OMR scenario of -2,000 cfs. Six flux locations are represented by different colored dashed lines, with Past Chippis (black) rapidly increasing to nearly 100% shortly after injection, while Unresolved in Central Delta (yellow) declines from 100% to near zero over the evaluation period. Other flux locations, including CVP Entrainment, SWP Entrainment, Upstream of Decker, and Unresolved in OMR corridor, remain near zero throughout the period.

PTM Results for Neutral Particles. OMR Scenario = -2,000. Particles Injected 4/14/2026 at DSM2 Node 350 (Cache Slough).

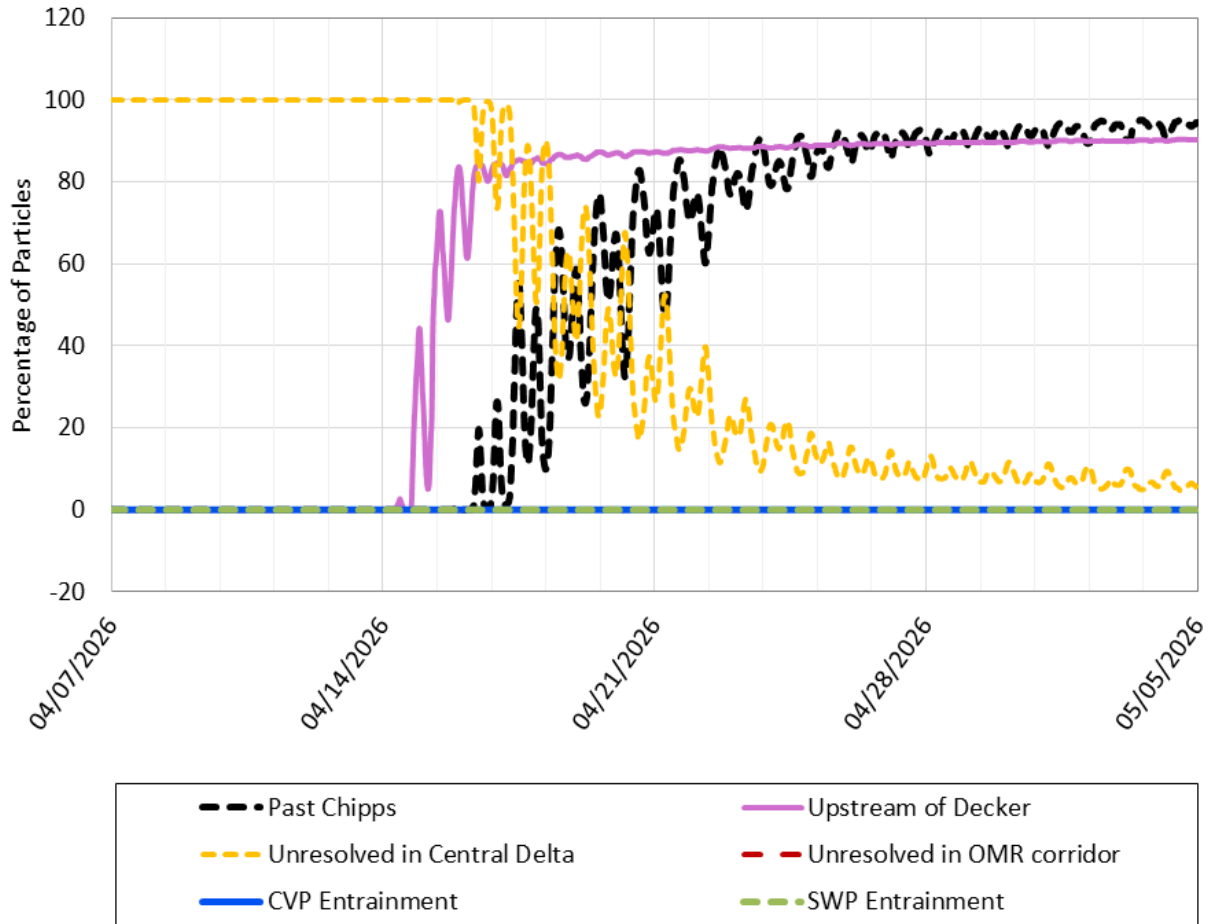


Figure 8 PTM Results for Neutral Particles. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026 at DSM2 Node 350 (Cache Slough)

Figure 8 is a line graph showing the percentage of neutral particles over time from April 7 to May 5, 2026, injected on April 14, 2026 at DSM2 Node 350 (Cache Slough) under the OMR scenario of -2,000 cfs. Six flux locations are represented by different colored dashed lines, with Past Chipps (black) and Upstream of Decker (pink) showing the highest particle percentages across the evaluation period. Upstream of Decker rapidly increases to approximately 85–90% shortly after injection, while Past Chipps gradually rises to roughly 95% by early May. Unresolved in Central Delta (yellow) declines from 100% to low levels over the period, while other flux locations remain near zero throughout the evaluation period.

PTM Results for Neutral Particles. OMR Scenario = -2,000. Particles Injected 4/14/2026 at DSM2 Node 469 (Jersey Point).

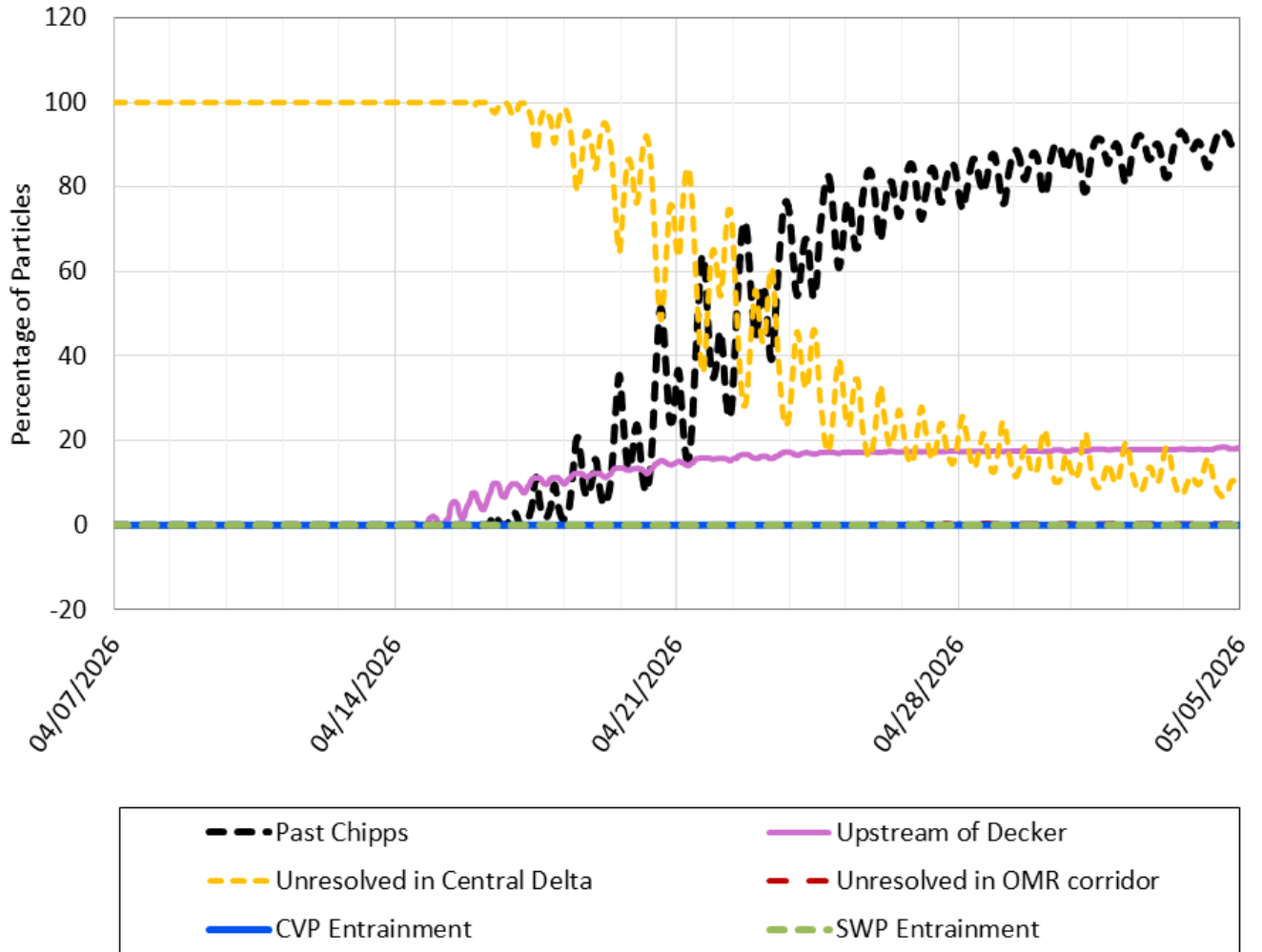


Figure 9 PTM Results for Neutral Particles. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026 at DSM2 Node 469 (Jersey Point)

Figure 9 is a line graph showing the percentage of neutral particles over time from April 7 to May 5, 2026, injected on April 14, 2026 at DSM2 Node 469 (Jersey Point) under the OMR scenario of -2,000 cfs. Six flux locations are represented by different colored dashed lines, with Past Chipps (black) gradually increasing to approximately 90% by early May, while Unresolved in Central Delta (yellow) declines from 100% to roughly 10–15% over the evaluation period. Upstream of Decker (pink) increases gradually to approximately 18% by the end of the period, while other flux locations remain near zero throughout the evaluation period.

PTM Results for Neutral Particles. OMR Scenario = -2,000. Particles Injected 4/14/2026 at DSM2 Node 99 (Old River).

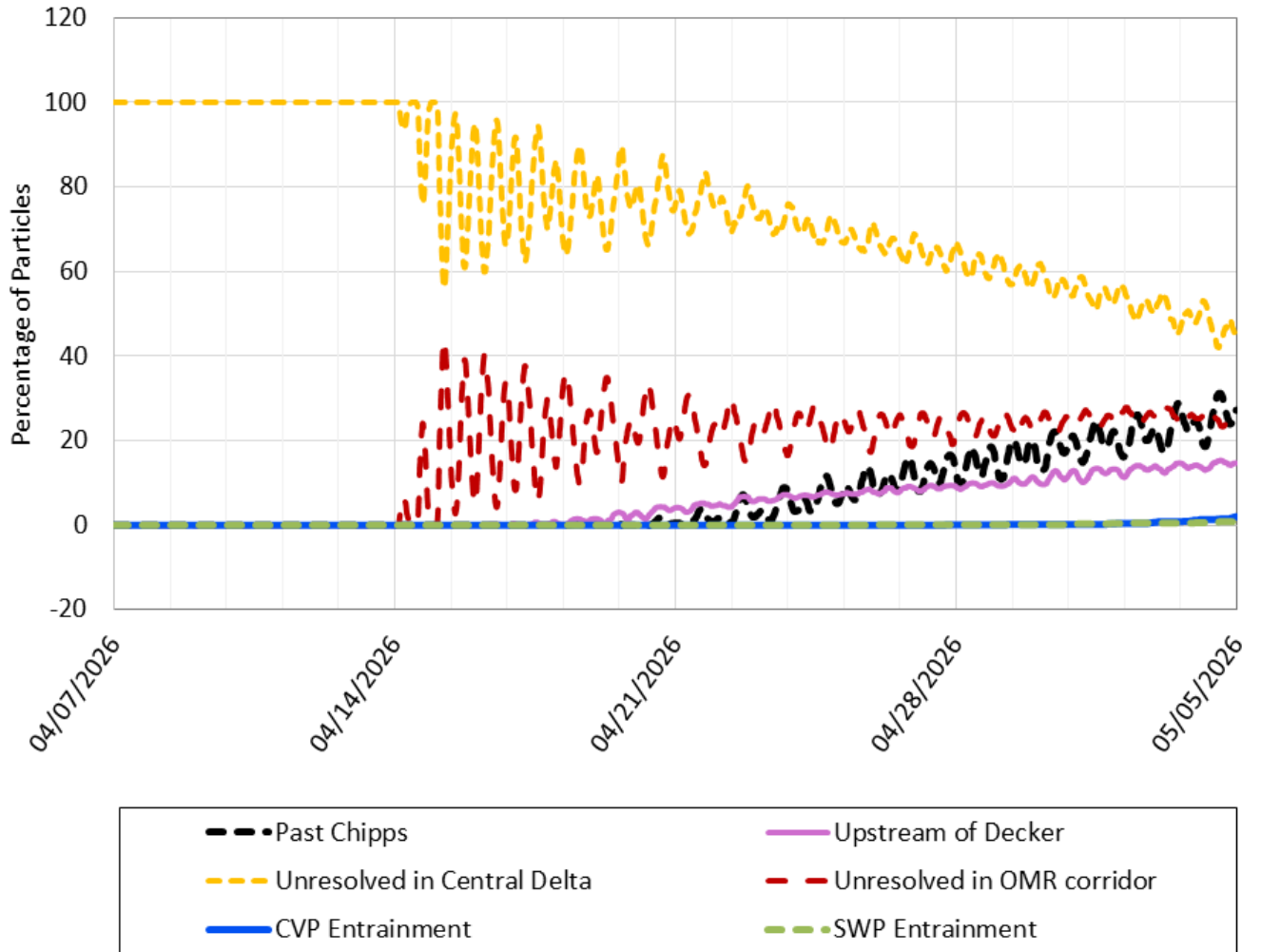


Figure 10 PTM Results for Neutral Particles. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026 at DSM2 Node 99 (Old River)

Figure 10 is a line graph showing the percentage of neutral particles over time from April 7 to May 5, 2026, injected on April 14, 2026 at DSM2 Node 99 (Old River) under the OMR scenario of -2,000 cfs. Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow) remaining the dominant particle percentage throughout the evaluation period, declining from 100% to approximately 45-50% by early May. Unresolved in OMR corridor (red) fluctuates between roughly 15-35%, while Past Chipps (black) and Upstream of Decker (pink) gradually increase over time. CVP Entrainment (blue) and SWP Entrainment (green) remain near zero throughout most of the evaluation period.

Surface Oriented Particles (PP)

Table 8 Surface Oriented Particle Fate (percent flux across boundary) for Particles Injected at Chipps (DSM2 Node 465)

Week	OMR Flow Bin	Past Chipps	Upstream of Decker	Unresolved in Central Delta	Unresolved in OMR corridor	CVP Entrainment	SWP Entrainment
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	98.6	0.0	1.4	0.0	0.0	0.0
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	99.1	0.0	0.9	0.0	0.0	0.0
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	99.4	0.0	0.6	0.0	0.0	0.0

Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Note: values between 0.0 and 0.1 are indicated with <0.1

Table 9 Surface Oriented Particle Fate (percent flux across boundary) for Particles Injected at Cache Slough (DSM2 Node 350)

Week	OMR Flow Bin	Past Chipps	Upstream of Decker	Unresolved in Central Delta	Unresolved in OMR corridor	CVP Entrainment	SWP Entrainment
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	70.0	80.9	30.0	0.0	0.0	0.0
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	90.1	84.2	9.9	0.0	0.0	0.0
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	94.3	85.0	5.7	0.0	0.0	0.0

Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Note: values between 0.0 and 0.1 are indicated with <0.1

Table 10 Surface Oriented Particle Fate (percent flux across boundary) for Particles Injected at Jersey Point (DSM2 Node 469)

Week	OMR Flow Bin	Past Chipps	Upstream of Decker	Unresolved in Central Delta	Unresolved in OMR corridor	CVP Entrainment	SWP Entrainment
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	47.0	13.3	53.1	0.1	0.0	0.0
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	86.7	16.0	13.6	0.3	0.0	0.0
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	94.1	16.6	6.3	0.4	0.0	0.0

Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Note: values between 0.0 and 0.1 are indicated with <0.1

Table 11 Surface Oriented Particle Fate (percent flux across boundary) for Particles Injected at Old River (DSM2 Node 99)

Week	OMR Flow Bin	Past Chipps	Upstream of Decker	Unresolved in Central Delta	Unresolved in OMR corridor	CVP Entrainment	SWP Entrainment
Week 1: 04/14/2026 - 04/20/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 04/14/2026 - 04/20/2026	-2,000	1.4	2.7	71.3	27.2	0	0
Week 2: 04/21/2026 - 04/27/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 04/21/2026 - 04/27/2026	-2,000	16.1	9.1	53.7	29.2	0.7	0.3
Week 3: 04/28/2026 - 05/04/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-5,000	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-3,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 04/28/2026 - 05/04/2026	-2,000	33.3	14.9	34	28	3.3	1.4

Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Note: values between 0.0 and 0.1 are indicated with <0.1

**PTM Results for Surface Oriented Particles. OMR Scenario = -2,000.
 Particles Injected 4/14/2026 at DSM2 Node 465 (Chippis).**

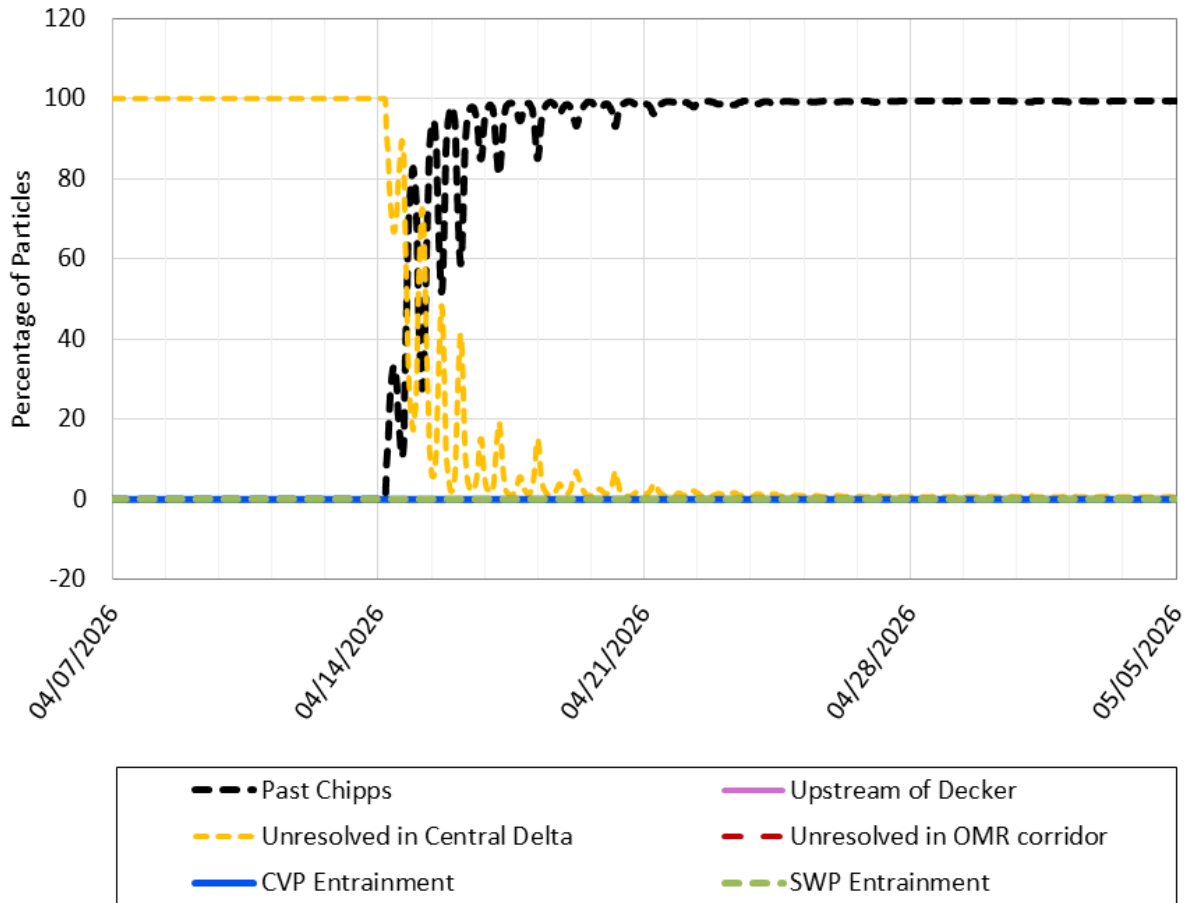


Figure 11 PTM Results for Surface Oriented Particles. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026 at DSM2 Node 465 (Chippis)

Figure 11 is a line graph showing the percentage of surface oriented particles over time from April 7 to May 5, 2026, injected on April 14, 2026 at DSM2 Node 465 (Chippis) under the OMR scenario of -2,000 cfs. Six flux locations are represented by different colored dashed lines, with Past Chippis (black) rapidly increasing to nearly 100% shortly after injection, while Unresolved in Central Delta (yellow) declines from 100% to near zero over the evaluation period. Other flux locations, including CVP Entrainment, SWP Entrainment, Upstream of Decker, and Unresolved in OMR corridor, remain near zero throughout the period.

**PTM Results for Surface Oriented Particles. OMR Scenario = -2,000.
 Particles Injected 4/14/2026 at DSM2 Node 350 (Cache Slough).**

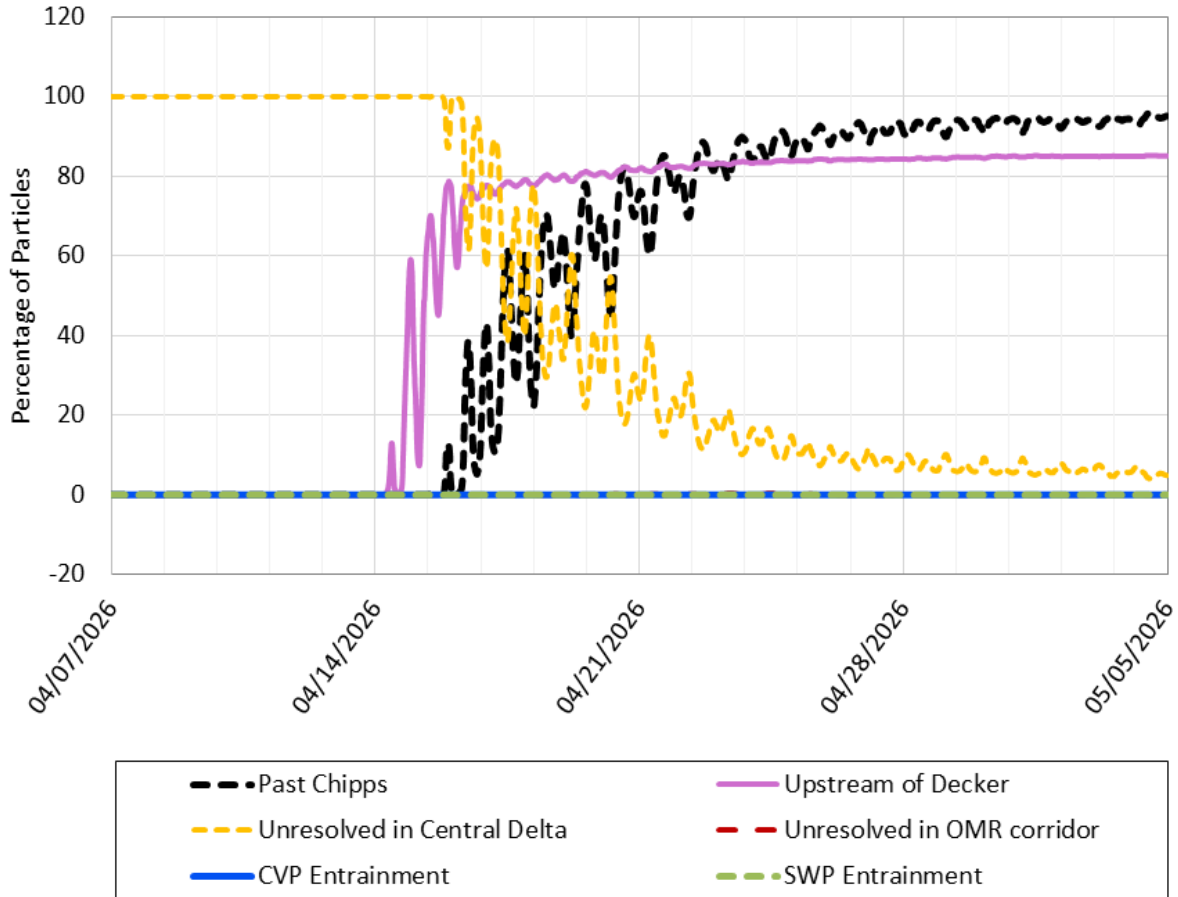


Figure 12 PTM Results for Surface Oriented Particles. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026 at DSM2 Node 350 (Cache Slough)

Figure 12 is a line graph showing the percentage of surface oriented particles over time from April 7 to May 5, 2026, injected on April 14, 2026 at DSM2 Node 350 (Cache Slough) under the OMR scenario of -2,000 cfs. Past Chipps (black) and Upstream of Decker (purple) rapidly increase following injection, with both remaining elevated through the evaluation period. Unresolved in Central Delta (yellow) declines steadily from near 100% shortly after injection to low percentages by early May, while CVP Entrainment, SWP Entrainment, and Unresolved in OMR corridor remain near zero throughout the period.

**PTM Results for Surface Oriented Particles. OMR Scenario = -2,000.
 Particles Injected 4/14/2026 at DSM2 Node 469 (Jersey Point).**

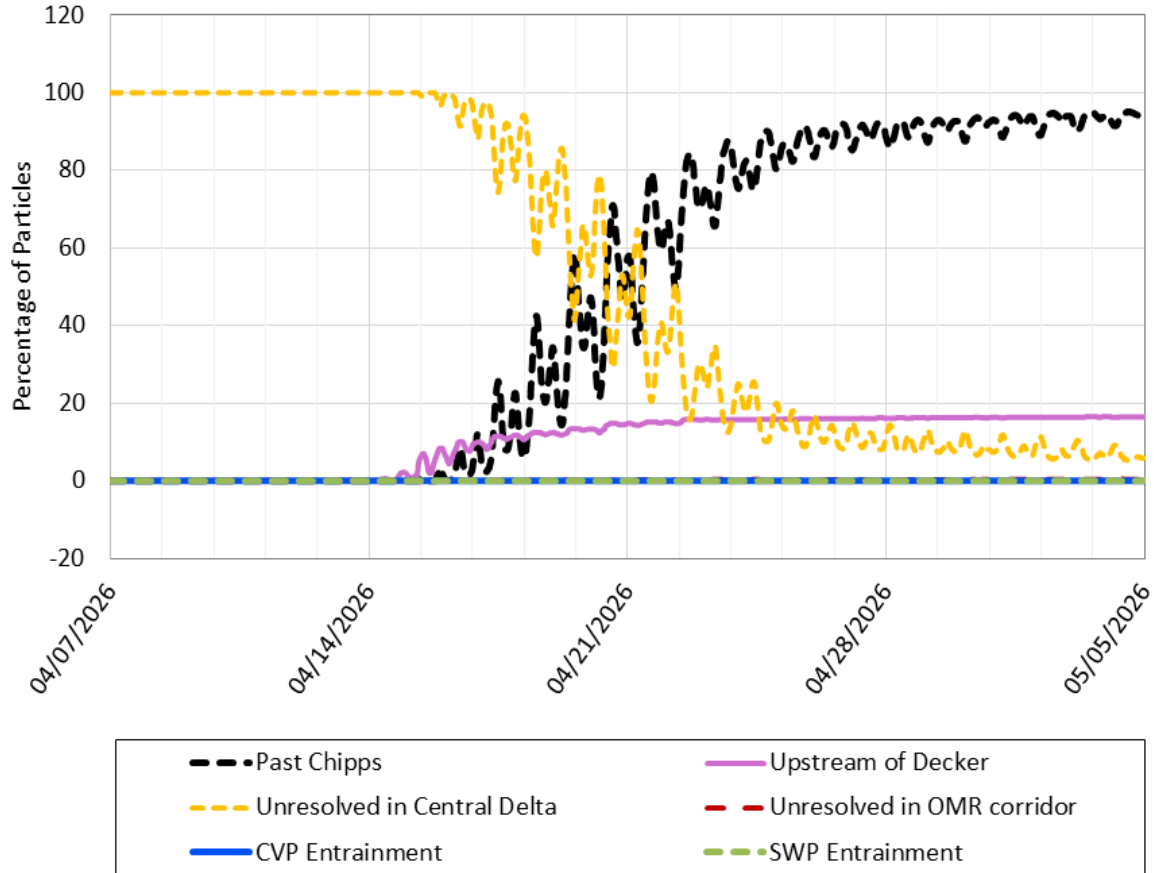


Figure 13 PTM Results for Surface Oriented Particles. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026 at DSM2 Node 469 (Jersey Point)

Figure 13 is a line graph showing the percentage of surface oriented particles over time from April 7 to May 5, 2026, injected on April 14, 2026 at DSM2 Node 469 (Jersey Point) under the OMR scenario of -2,000 cfs. Past Chipps (black) increases steadily following injection and approaches 100% by early May, while Unresolved in Central Delta (yellow) declines from near 100% shortly after injection to low percentages by the end of the evaluation period. Upstream of Decker (purple) shows a gradual increase and stabilizes near 15–20%, while CVP Entrainment, SWP Entrainment, and Unresolved in OMR corridor remain near zero throughout the period.

**PTM Results for Surface Oriented Particles. OMR Scenario = -2,000.
 Particles Injected 4/14/2026 at DSM2 Node 99 (Old River).**

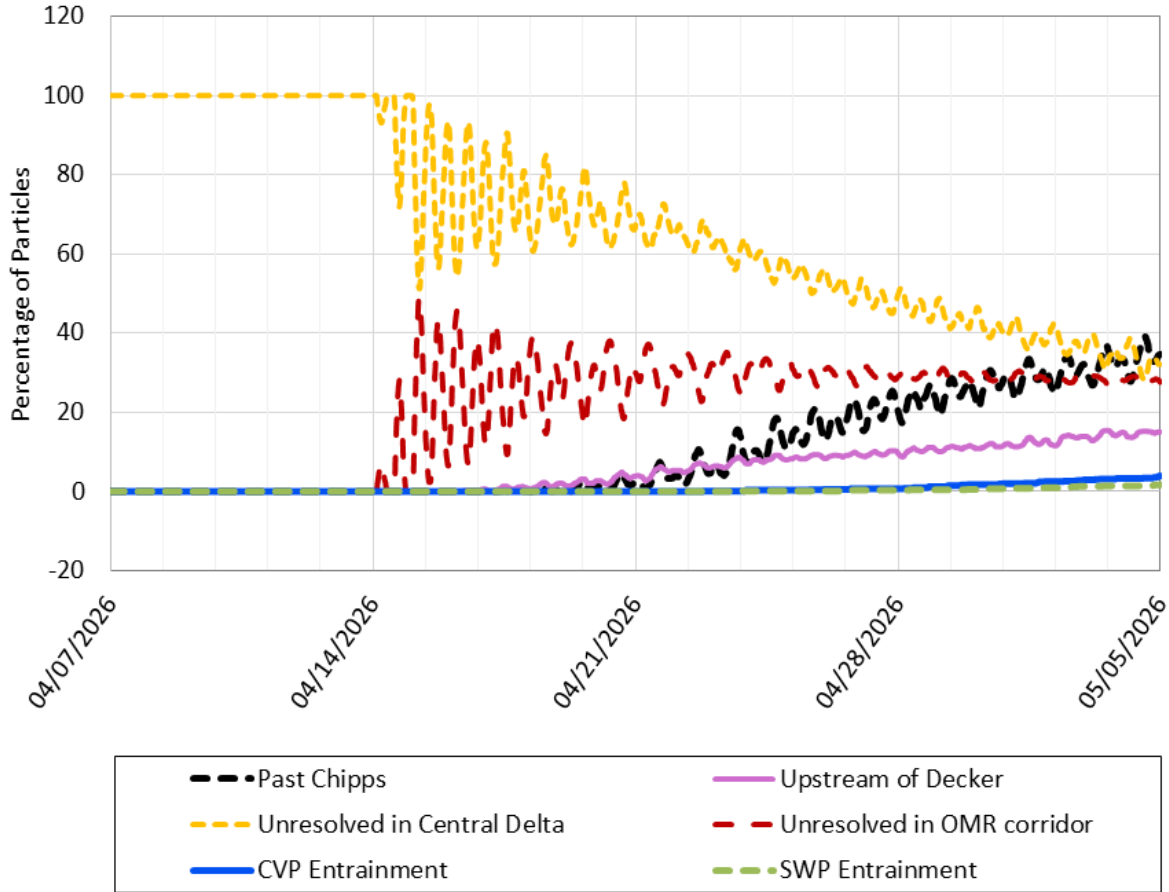


Figure 14 PTM Results for Surface Oriented Particles. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026 at DSM2 Node 99 (Old River)

Figure 14 is a line graph showing the percentage of surface oriented particles over time from April 7 to May 5, 2026, injected on April 14, 2026 at DSM2 Node 99 (Old River) under the OMR scenario of -2,000 cfs. Unresolved in Central Delta (yellow) and Unresolved in OMR corridor (red) show the highest particle percentages throughout the evaluation period, while Past Chipps (black) gradually increases over time. Upstream of Decker (purple) shows a smaller but steady increase, while CVP Entrainment (blue) and SWP Entrainment (green) remain low throughout the period.

ECO-PTM (Ecological Particle Tracking Model)

ECO-PTM Results Evaluation Period: 04/14/2026 – 05/04/2026

Particles Injected: 04/14/2026

Injection Location: Sacramento River at Freeport

Table 12 Salmon Particle Route Ratio After 3 Weeks Ending 05/04/2026

OMR Flow Bin	Sutter Slough Route	Steamboat Slough Route	Sacramento River (SS) Route	Sacramento River (GEO) Route	Georgiana Slough Route
-6,500	N/A	N/A	N/A	N/A	N/A
-5,000	N/A	N/A	N/A	N/A	N/A
-3,500	N/A	N/A	N/A	N/A	N/A
-2,000	0.14	0.20	0.66	0.80	0.20

Key: OMR = Old and Middle River

Notes:

- Salmon particle route ratio for the Sacramento River (SS) Route reflects particles inserted at Freeport that are not routed through either Sutter Slough or Steamboat Slough.
- Salmon particle route ratio for the Sacramento River (GEO) Route reflects particles inserted at Freeport that are not routed through either Sutter Slough, Steamboat Slough, Georgiana Slough, or the Delta Cross Channel (when operational).

Table 13 Salmon Particle Route-Specific Survival After 3 Weeks Ending 05/04/2026

OMR Flow Bin	Sutter Slough Route	Steamboat Slough Route	Sacramento River Route	Georgiana Slough Route	All Routes Combined
-6,500	N/A	N/A	N/A	N/A	N/A
-5,000	N/A	N/A	N/A	N/A	N/A
-3,500	N/A	N/A	N/A	N/A	N/A
-2,000	56%	65%	59%	25%	55%

Key: OMR = Old and Middle River

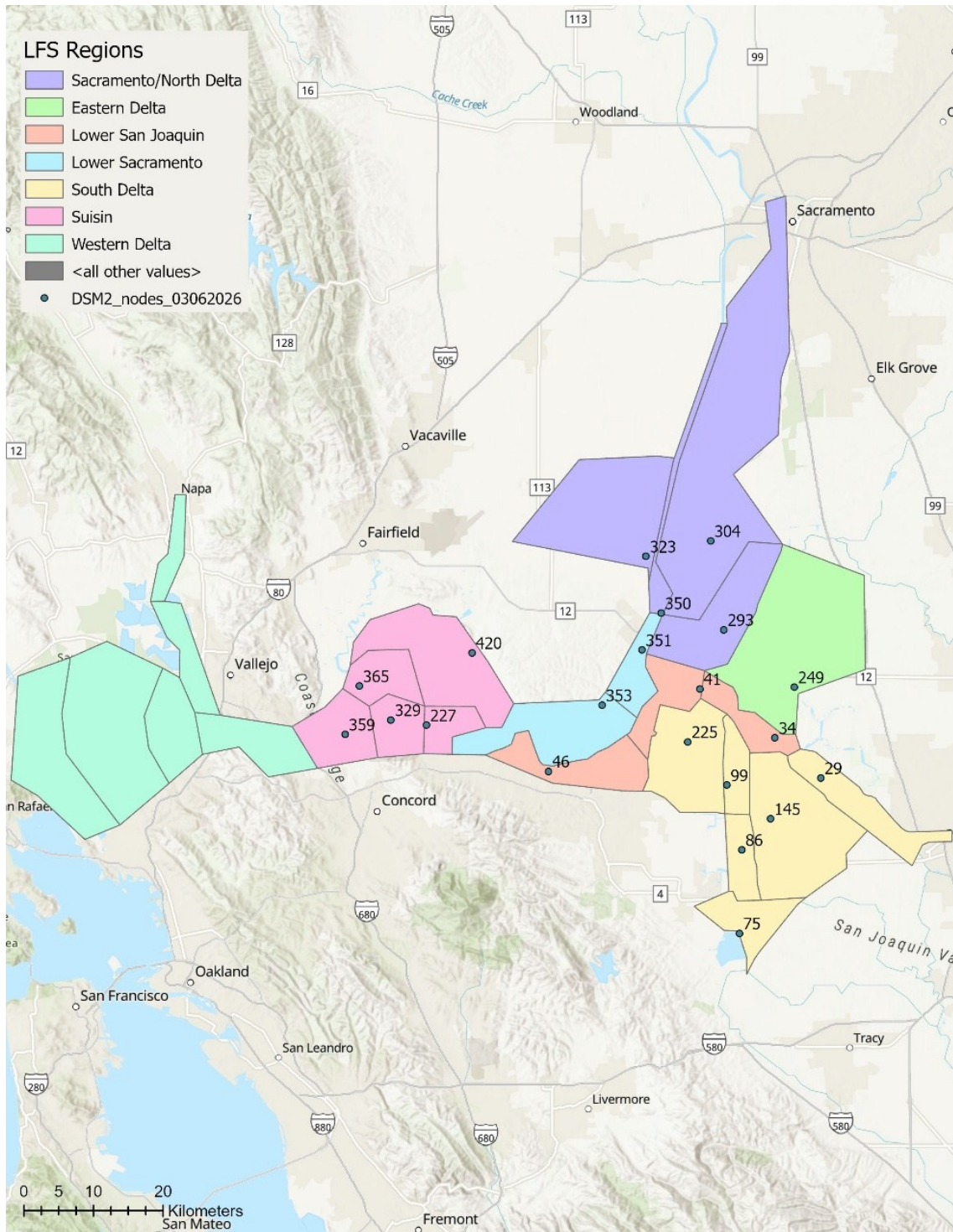


Figure 16 Map of Delta showing Longfin Smelt regions and DSM2 nodes.

Figure 16 is a map of the Sacramento–San Joaquin Delta showing the seven DSM2 PTM regions — Sacramento/North Delta, Eastern Delta, Lower San Joaquin, Lower Sacramento, South Delta, Suisun, and Western Delta — each distinguished by a different color. DSM2 channels and node locations are also displayed, with node numbers labeled throughout the map.

Regional and Delta-wide longfin smelt (LFS) larval population is estimated using SLS survey data from Survey 6 (3/9/2026-3/11/2026) and volumetric expansion methods developed by the Six-Agency Monitoring Survey Design Team. The percent of samples processed as of 04/09/2026 for each survey is shown in Table 14. Results from Survey 6 are used because it has been more than one month since Survey 5 and Survey 6 results are partially processed in Suisun and Western Delta. However, since only partial results are available for Suisun and Western Delta and these regions typically contain a high count of LFS larva, the entrainment analysis may overestimate Delta-wide proportional entrainment.

Table 14 Percent of Smelt Larva Survey Sample Results Processed as of 04/09/2026

SLS Survey Number	Survey Date	Eastern Delta	Lower Sacramento	Lower San Joaquin	Sacramento / North Delta	South Delta	Suisun	Western Delta
1	12/29/2025	100%	100%	100%	100%	100%	100%	100%
2	1/12/2026	100%	100%	100%	100%	100%	100%	100%
3	1/26/2026	100%	100%	100%	100%	100%	100%	100%
4	2/9/2026	100%	100%	100%	100%	100%	100%	100%
5	2/23/2026	100%	100%	100%	100%	100%	100%	92%
6	3/9/2026	100%	71%	86%	67%	100%	78%	28%

Key: SLS = Smelt Larva Survey

The DSM2 node used as an injection point, EDSM subregion, and LFS Region for reporting are shown in Table 15.

Table 15 DSM2 Injection Node, EDSM Subregion, and LFS Region

DSM2 Injection Node	EDSM Subregion	LFS Region
329	East Suisun Bay	Suisun
365	Grizzly Bay	Suisun
227	Honker Bay	Suisun
420	Montezuma Slough	Suisun
359	West Suisun Bay	Suisun
359	Carquinez Strait	Western Delta
359	Upper Napa River	Western Delta
359	Lower Napa River	Western Delta
359	East San Pablo Bay	Western Delta
359	West San Pablo Bay	Western Delta
359	Mid San Pablo Bay	Western Delta
353	Lower Sacramento River	Lower Sacramento
351	Sacramento River near Rio Vista	Lower Sacramento
350	Lower Sacramento River Ship Channel	Sacramento/ North Delta
293	Sacramento River near Ryde	Sacramento/ North Delta
323	Cache Slough and Liberty Island	Sacramento/ North Delta
304	Upper Sacramento River	Sacramento/ North Delta
249	North and South Forks Mokelumne River	East

DSM2 Injection Node	EDSM Subregion	LFS Region
46	Lower San Joaquin River	Lower San Joaquin
41	San Joaquin River at Twitchell Island	Lower San Joaquin
34	San Joaquin River at Prisoners Point	Lower San Joaquin
225	Franks Tract	South Delta
99	Holland Cut	South Delta
86	Old River	South Delta
29	San Joaquin River near Stockton	South Delta
145	Middle River	South Delta
75	Victoria Canal	South Delta

Table 16 LFS Entrainment Estimate using PTM with Surface Oriented Particles: Week 1 ending 04/20/2026

OMR (cfs)	Combined Exports (cfs)	Region Metric	West	Suisun	Sacramento/ North Delta	Lower San Joaquin	Lower Sacramento	South Delta	East	Total (#)	Total (%)
N/A	N/A	LFS Larva Abundance (Survey 6: 3/9/2026)	4,086,949	42,108,829	304,865	3,645,226	3,225,406	0	0	53,371,2750	
-6,500	1,503	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	1,503	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-3,500	1,503	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-2,000	1,503	PTM Entrained (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A
-6,500	1,503	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	1,503	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-3,500	1,503	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-2,000	1,503	LFS Larva Entrained (#)	0	0	0	0	0	0	0	0	0%

Key: cfs = cubic feet per second, LFS = longfin Smelt, OMR = Old and Middle River

Notes:

- Values between 0.0 and 0.1 are indicated with <0.1
- The PTM entrained (%) value reflects the total entrained particles from all subregions within an LFS Region divided by the estimated LFS Region abundance

Table 17 LFS Entrainment Estimate using PTM with Surface Oriented Particles: Week 2 ending 04/27/2026

OMR (cfs)	Combined Exports (cfs)	Region Metric	West	Suisun	Sacramento/ North Delta	Lower San Joaquin	Lower Sacramento	South Delta	East	Total (#)	Total (%)
N/A	N/A	LFS Larva Abundance (Survey 6: 3/9/2026)	4,086,949	42,108,829	304,865	3,645,226	3,225,406	0	0	53,371,275	0
-6,500	1,804	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	1,804	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-3,500	1,804	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-2,000	1,804	PTM Entrained (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A
-6,500	1,804	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	1,804	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-3,500	1,804	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-2,000	1,804	LFS Larva Entrained (#)	0	0	0	0	0	0	0	0	0%

Key: cfs = cubic feet per second, LFS = longfin Smelt, OMR = Old and Middle River

Notes:

- Values between 0.0 and 0.1 are indicated with <0.1
- The PTM entrained (%) value reflects the total entrained particles from all subregions within an LFS Region divided by the estimated LFS Region abundance

Table 18 LFS Entrainment Estimate using PTM with Surface Oriented Particles: Week 3 ending 05/04/2026

OMR (cfs)	Combined Exports (cfs)	Region Metric	West	Suisun	Sacramento/ North Delta	Lower San Joaquin	Lower Sacramento	South Delta	East	Total (#)	Total (%)
N/A	N/A	LFS Larva Abundance (Survey 6: 3/9/2026)	4,086,949	42,108,829	304,865	3,645,226	3,225,406	0	0	53,371,275	0
-6,500	1,804	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	1,804	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-3,500	1,804	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-2,000	1,804	PTM Entrained (%)	0.0	0.0	0.0	<0.1	0.0	0.0	0.0	N/A	N/A
-6,500	1,804	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	1,804	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-3,500	1,804	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-2,000	1,804	LFS Larva Entrained (#)	0	0	0	1,943	0	0	0	1,943	<0.1%

Key: cfs = cubic feet per second, LFS = longfin Smelt, OMR = Old and Middle River

Notes:

- Values between 0.0 and 0.1 are indicated with <0.1
- The PTM entrained (%) value reflects the total entrained particles from all subregions within an LFS Region divided by the estimated LFS Region abundance

**Average PTM Results by Injection Region for Position Oriented Particles
Entrained at CVP and SWP. OMR Scenario = -2,000. Particles Injected
4/14/2026.**

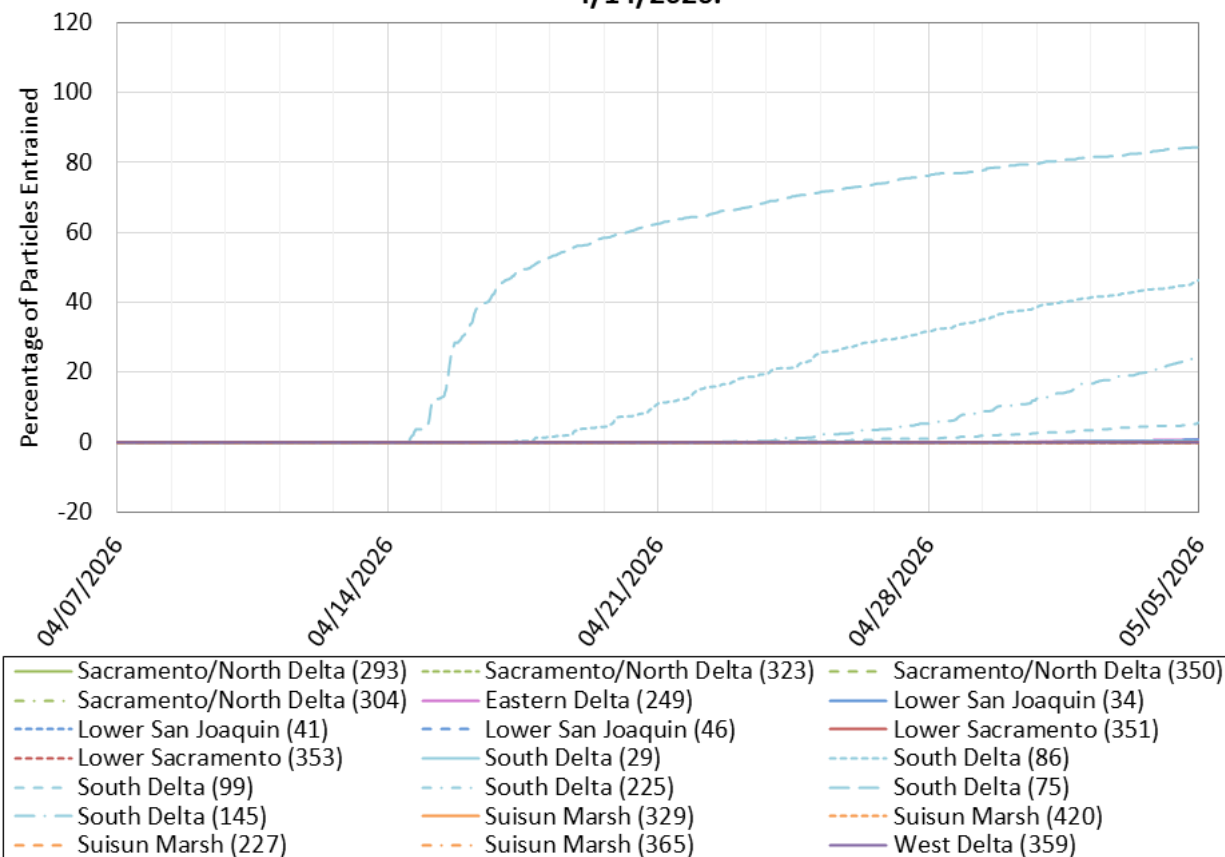


Figure 17 Average PTM Results by Injection Region for Position Oriented Particles Entrained at CVP and SWP. OMR Scenario -2,000 cfs. Particles Injected 04/14/2026

Figure 17 is a line graph showing the average percentage of position oriented particles entrained at CVP and SWP over time from April 7 to May 5, 2026, for particles injected on April 14, 2026, grouped by DSM2 injection regions under the OMR scenario of -2,000 cfs. South Delta regions (light blue) exhibit the highest entrainment, increasing rapidly after injection and reaching approximately 80% by early May. Other regions, including Sacramento/North Delta, Eastern Delta, Lower San Joaquin, Lower Sacramento, Suisun Marsh, and West Delta, remain comparatively low, with minimal entrainment throughout the evaluation period.