BUREAU OF RECLAMATION

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

Last updated: Tuesday, May 26, 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, 58 (4.45% of annual loss threshold) hatchery winter-run (Sac River), 265 natural steelhead, 1898 (29.02% 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; 58 (4.46% of 1,301 ITL) hatchery winter-run (Sac River); 2 (3.85% of 52 ITL) hatchery winter-run (Battle Creek); 265 (5.01% 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.
- Temperature in the south Delta is variable.

Current Delta Hydrologic Conditions

Operational and Regulatory Conditions

The current controlling factor is Delta Water Quality.

Current Conditions

Most recent inflow at Freeport in the Sacramento River and Vernalis in the San Joaquin River is 7,662 and 2,158 cfs respectively. Most recent Jersey Point Flow (JPF) is 1,063 cfs. Most recent 1-day, 5-day, and 14-day OMRI measurements were -1,023, -2,096, and -2,318 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.

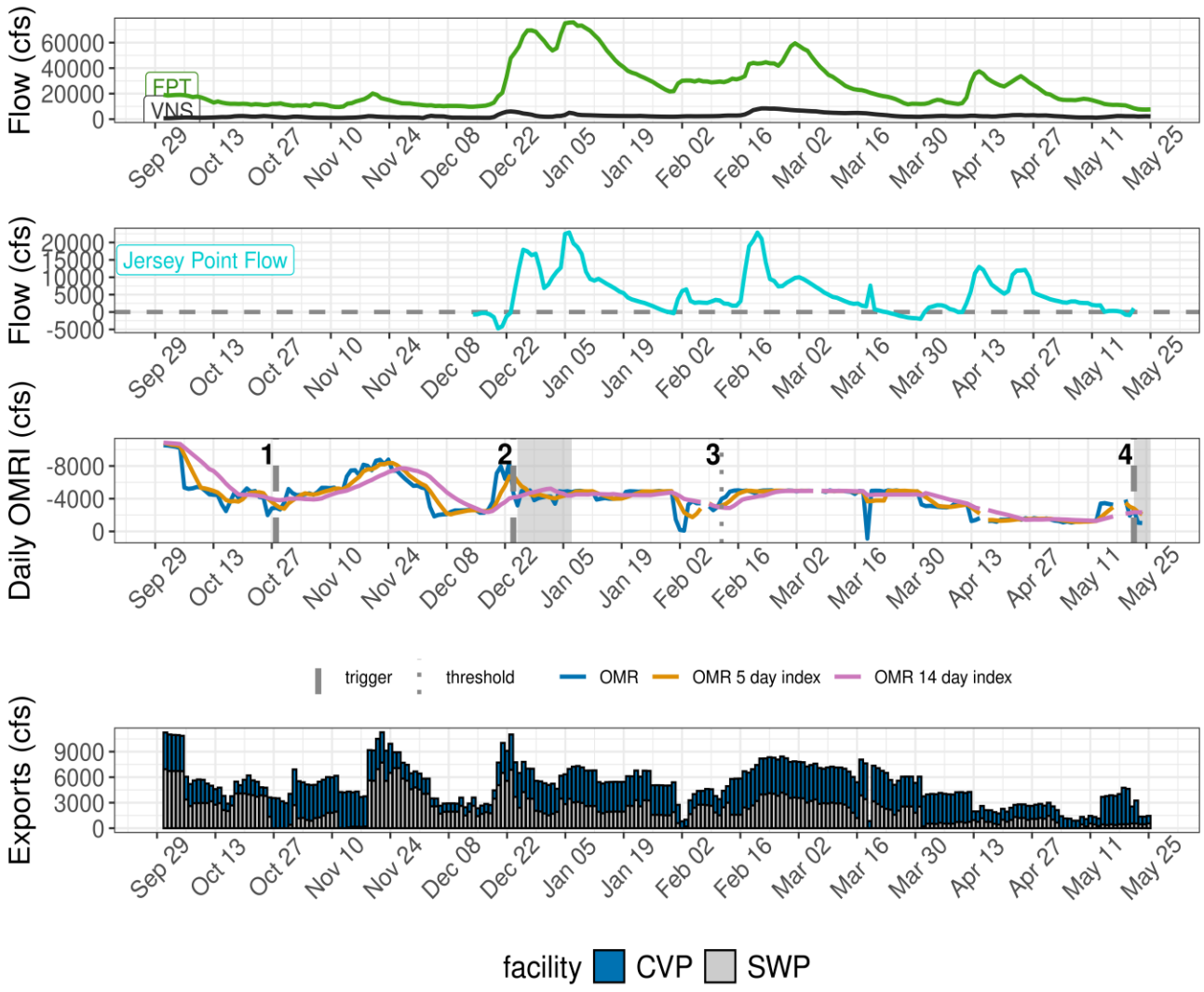

Figure 1: Operations and Action Summary, WY 2026. The numbers and lines in the OMRI plot indicate different triggers and thresholds (see Table 1), with shading representing specific action periods. Dashed and dotted vertical lines represent triggered actions and thresholds, respectively. OMRI data (colored 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 showing key hydrologic and operational conditions in the Sacramento–San Joaquin Delta from September 2025 through May 2026. The first three graphs are line charts depicting Freeport and Vernalis flow, Jersey Point Flow, and daily OMRI values, including OMR, 5-day, and 14-day indices. The OMRI plot includes numbered triggers, thresholds, and shaded action periods corresponding to management actions. The fourth graph is a bar chart depicting exports through the Central Valley Project (CVP) and State Water Project (SWP). The x-axis for all four graphs spans September 2025 through May 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
4	DCC Gate Open	5/22/2026	2026-05-22	variable	DCC gates

1.3 Zone of Influence

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

Current conditions at Freeport and Vernalis indicate that delta hydrology falls within the 'lomed' category. Forecasted conditions averaged across the next 7 days falls within the 'lolo' category.

The altered channel length for the current "lomed" hydrology is 24, 36 and 84 kilometers (km) across OMR bins of -2000, -3500 and -5000 respectively. The altered channel length for forecasted "lolo" hydrology is 16, 34, 104 and 163 kilometers (km) across OMR bins of -2000, -3500, -5000 and <-5500 respectively.

Change in altered channel length between OMR levels is 60 km for current conditions and 147 km for forecasted conditions indicating that ZOI impacts across OMR scenarios would increase 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 high (>75th percentile) respectively for current and forecasted hydrology.

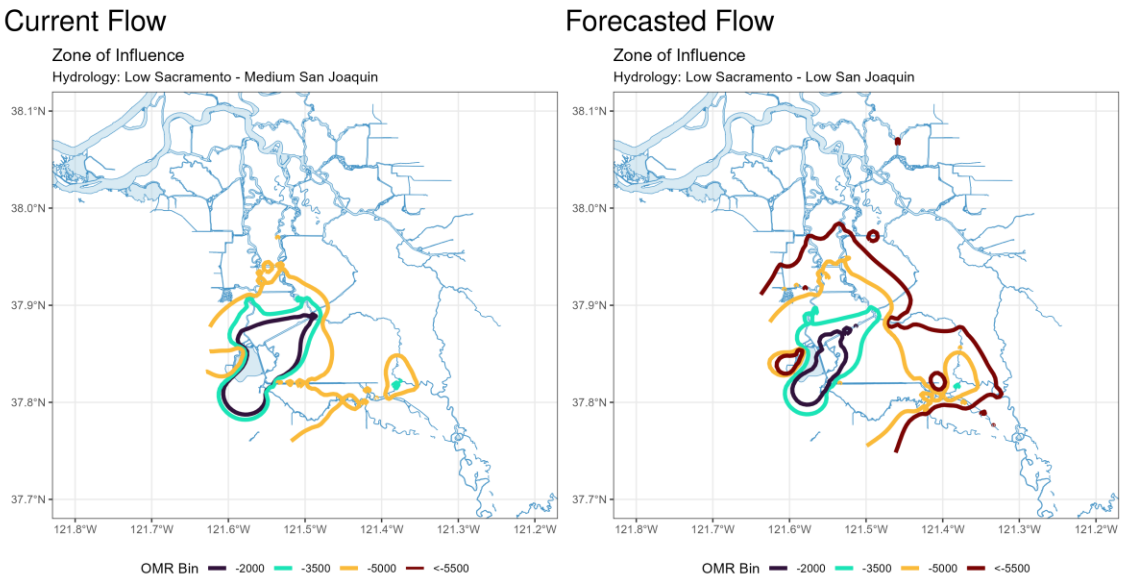

Figure 2: Modeled Zone of Influence at different OMRI scenarios based on current inflow hydrology (left) and forecasted inflow hydrology (right) from the Sacramento River and San Joaquin River

Figure 2 depicts two maps showing the modeled zone of influence for four OMRI scenarios (-2,000, -3,500, -5,000, and <-5,500 cfs) under current inflow hydrology (left) and forecasted inflow hydrology (right). Colored lines represent the extent of the zone of influence within the Sacramento–San Joaquin Delta for each OMRI scenario. The forecasted hydrology scenario shows a larger spatial extent of influence across the Delta compared to the current hydrology scenario.

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 May 25, 100% of length-at-date (LAD) winter-run have entered the Delta based on Knights Landing RST catch, 100% have exited the Delta based on Chipps Island Trawl Catch, and 100% 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	100%	100%	100%	100%	100%	100%
Chinook, DNA Winter-run, Unclipped (Water Year)	N/A	N/A	N/A	N/A	N/A	100%

Red Bluff Diversion Dam Passage Estimate - As of May 20 estimated passage to date of LAD winter-run at Red Bluff Diversion is approximately 4.18 million fish. Note that outmigration timing overlaps with spring-run migrating fish, and true winter-run abundance likely differs from these estimates.

Delta Monitoring - No catch has been reported at Delta Entry RSTs (Tisdale, Knights Landing, Lower Sacramento River) in the past two weeks. Total catch at Sacramento Trawl and Beach Seines in the delta between May 11 and May 22 is 0 individuals. Total catch at Delta Exit at Chipps Island between May 11 and May 22 is 0 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 May 25, 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.

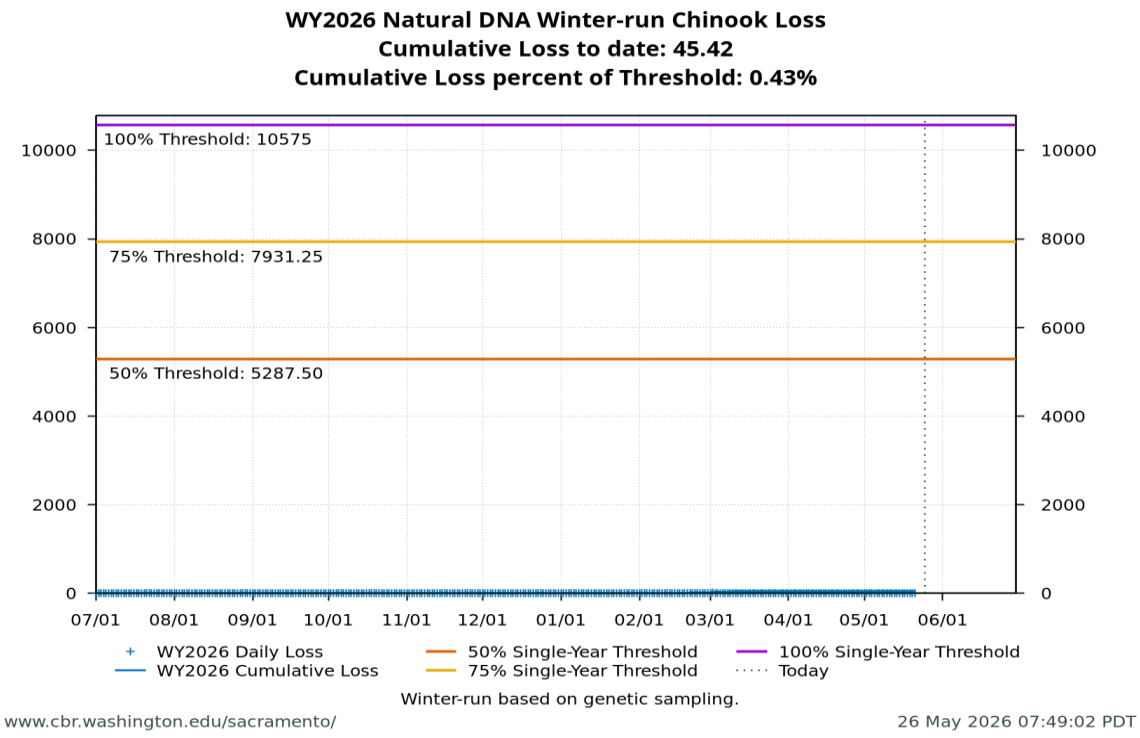

Figure 3: Cumulative loss of natural-origin winter-run for WY 2026. Cumulative loss is based on genetically confirmed winter-run captured in salvage or length-at-date winter-run in which genetic confirmation was unable to be obtained.

Figure 3 depicts cumulative loss of natural-origin winter-run Chinook salmon during Water Year 2026. The graph shows daily loss and cumulative loss from July 2025 through May 2026, along with 50 percent, 75 percent, and 100 percent single-year loss thresholds. As of May 26, 2026, cumulative loss remains well below all threshold levels, representing less than one percent of the annual loss threshold. Cumulative loss is based on genetically confirmed winter-run captured in salvage or length-at-date winter-run for which genetic confirmation was unavailable.

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 May 24, overall through delta STARS estimated survival probability (with 80% credible intervals) is 0 (0-0) placing it in the 33rd percentile of historical STARS survival estimates for the month of May (WYs 2018-2025). STARS estimated routing and survival probabilities (with 80% credible intervals) into the interior delta are 0.13 (0.1-0.17) and 0 (0-0), respectively, corresponding to the 69th and 34th percentiles of historical May estimates (WYs 2018-2025).

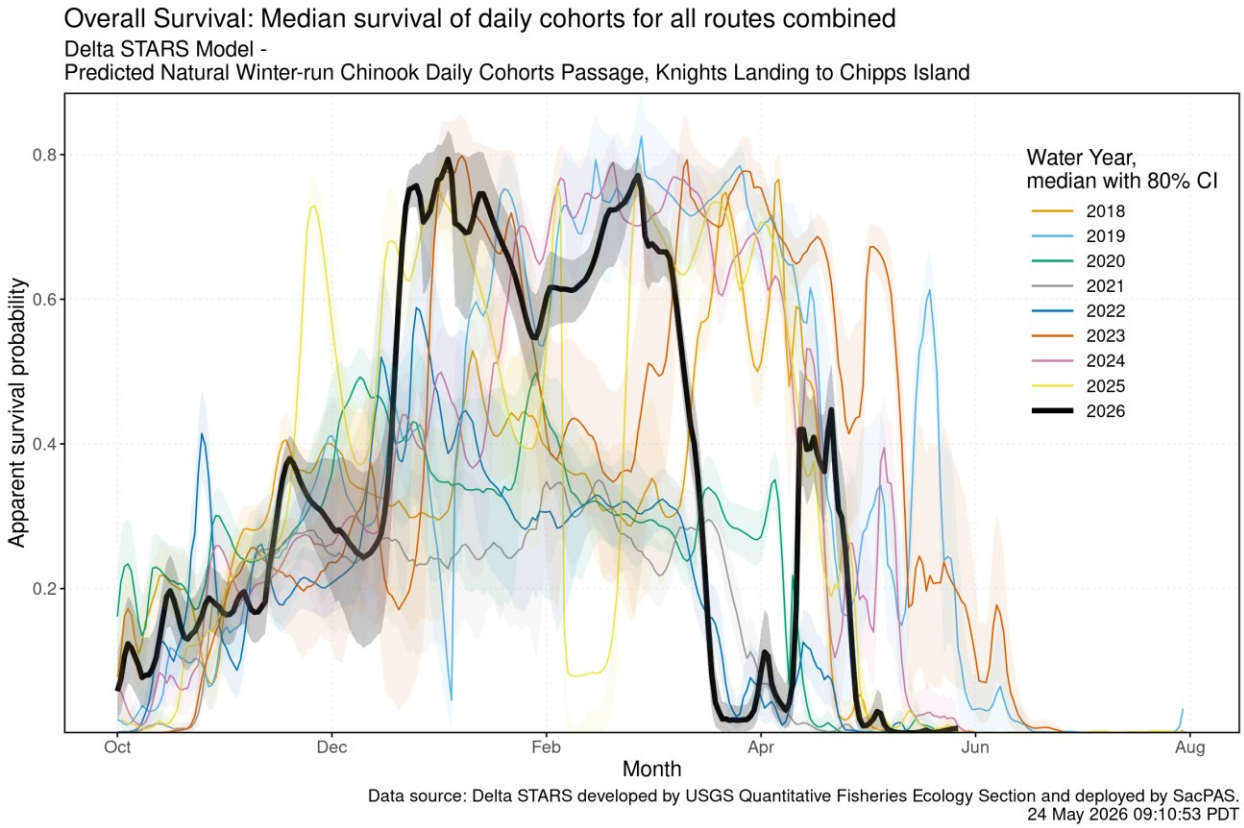

Figure 4: Estimated overall winter-run survival from Knights Landing to Chipps Island. Black line indicates the current water-year, and other colored lines correspond to past water years.

Figure 4 depicts estimated overall survival probability of natural-origin winter-run Chinook salmon daily cohorts migrating from Knights Landing to Chipps Island. Colored lines represent median survival estimates for water years 2018–2026, with shaded bands showing the 80 percent confidence interval. The black line represents Water Year 2026, while the remaining colored lines represent previous water years. Survival probabilities vary throughout the migration season, with the 2026 estimates generally falling within the range observed across recent water years.

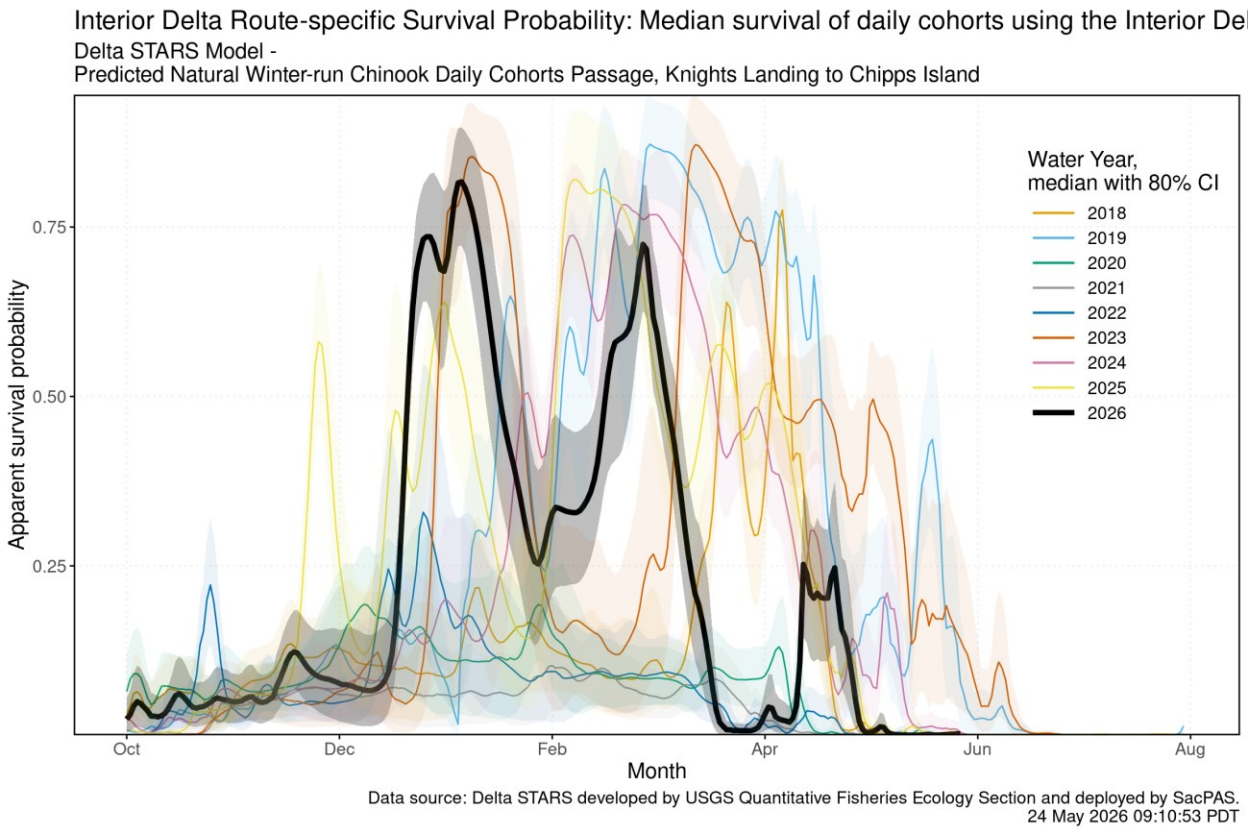

Figure 5: Estimated survival from Knights Landing to Chipps Island of simulated winter-run cohorts that route through the interior Delta. Black line indicates the current water-year, and other colored lines correspond to past water years.

Figure 5 depicts estimated survival probability of natural-origin winter-run Chinook salmon daily cohorts migrating from Knights Landing to Chipps Island through the Interior Delta route. Colored lines represent median survival estimates for water years 2018–2026, with shaded bands showing the 80 percent confidence interval. The black line represents Water Year 2026, while the remaining colored lines represent previous water years. Survival probabilities vary throughout the migration season, with the 2026 estimates generally falling within the range observed across recent water years.

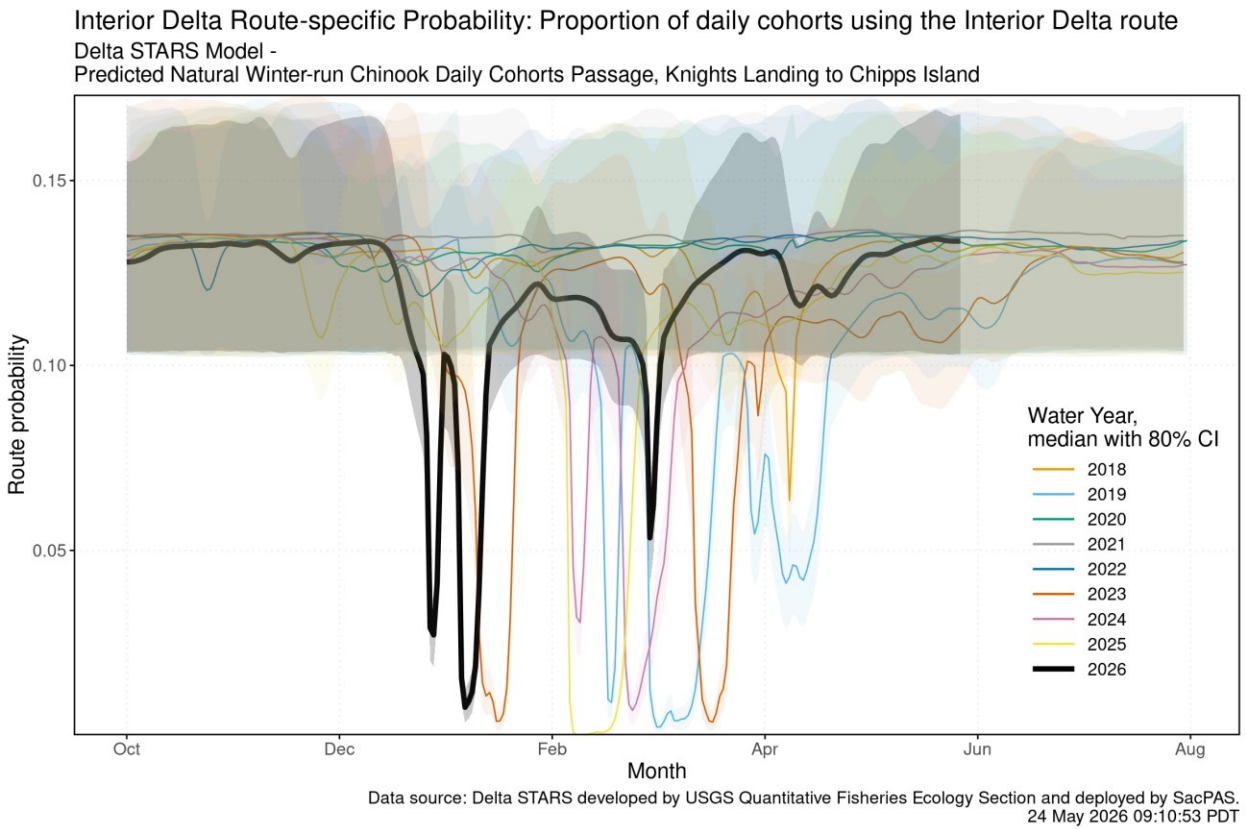

Figure 6: Estimated probability of winter-run routing into the interior Delta. Black line indicates the current water-year, and other colored lines correspond to past water years.

Figure 6 depicts the estimated probability of natural-origin winter-run Chinook salmon daily cohorts routing into the Interior Delta during migration from Knights Landing to Chipps Island. Colored lines represent median route probability estimates for water years 2018–2026, with shaded bands showing the 80 percent confidence interval. The black line represents Water Year 2026, while the remaining colored lines represent previous water years. Route probabilities remain relatively stable throughout much of the migration season, with the 2026 estimates generally falling within the range observed across recent water years.

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 May 26, cumulative loss of Livingston Stone hatchery fish (Sacramento River releases) is 58 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 May 26, 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 May 25, 94% of CCV steelhead have entered the Delta based on Knights Landing RST catch, 91% have exited the Delta based on Chipps Island Trawl Catch, and 96% 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	91%	83%	30%	94%	96%	87%

Delta Monitoring - No catch has been reported at Delta Entry RSTs (Tisdale, Knights Landing, Lower Sacramento River) in the past two weeks. Total catch at Sacramento Trawl and Beach Seines in the delta between May 11 and May 22 is 0 individuals. Total catch at Delta Exit at Chipps Island between May 11 and May 22 is 0 individuals.

Annual Loss

As of May 25, cumulative loss of unclipped steelhead is 265 or 5.00% 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 1.

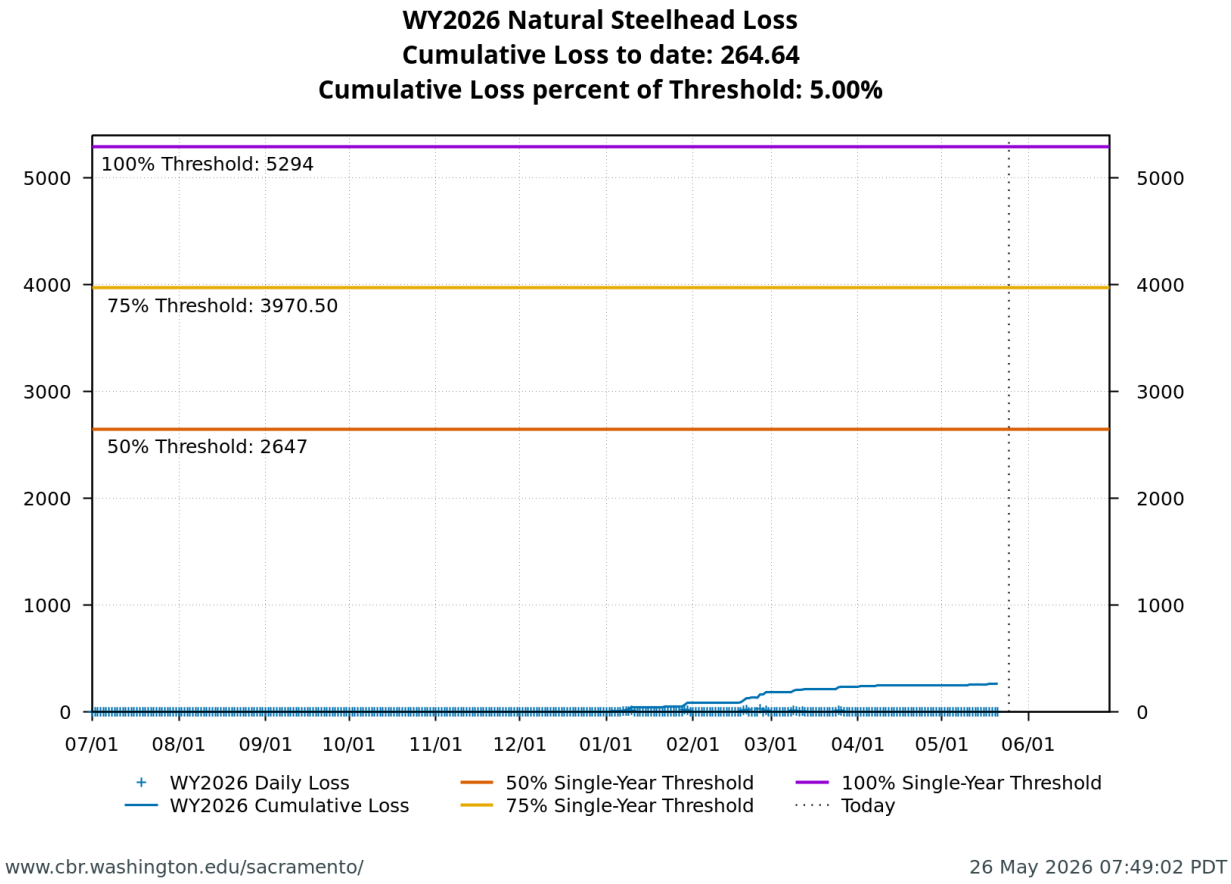

Figure 7: Cumulative loss of natural-origin steelhead for WY 2026. The 5,294 line represents the single-year incidental take limit (ITL), not a loss threshold.

Figure 7 depicts cumulative loss of natural-origin steelhead during Water Year 2026. The graph shows daily loss and cumulative loss from July 2025 through May 2026, along with the 50 percent, 75 percent, and 100 percent levels of the annual incidental take limit (ITL). As of May 26, 2026, cumulative loss remains well below the ITL, representing approximately 5 percent of the annual limit. The 5,294 line represents the single-year incidental take limit, not a loss threshold.

Hatchery-origin Central Valley Steelhead

Surrogate Releases

There have been a total of 10 releases totaling 1,618,274 steelhead in Water Year 2026. JPE for the hatchery releases as of today is 654,130 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 6,541, 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
MOK	2026-04-16	83,110	25%	20,778

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 1898 or 29.02% 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.

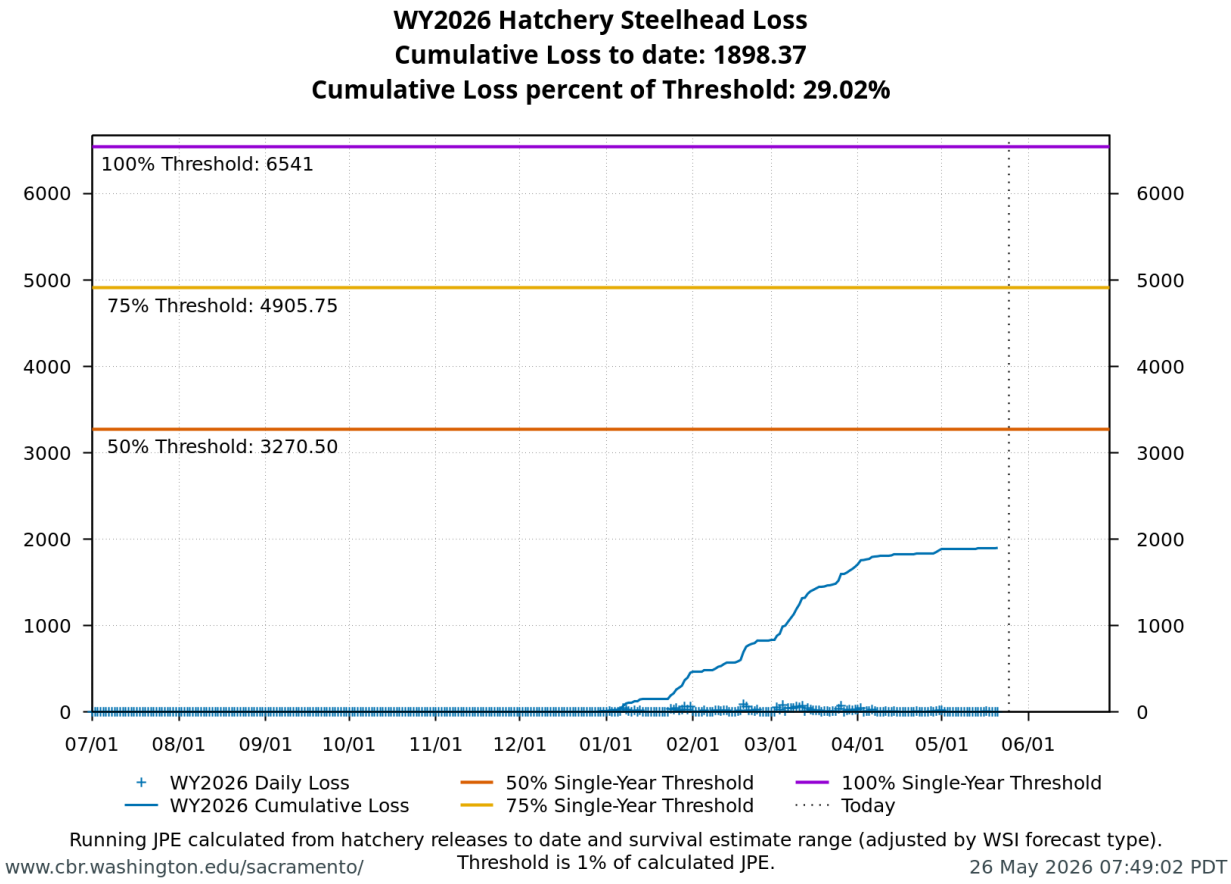

Figure 8: Cumulative loss of hatchery steelhead for WY 2026.

Figure 8 depicts cumulative loss of hatchery steelhead during Water Year 2026. The graph shows daily loss and cumulative loss from July 2025 through May 2026, along with the 50 percent, 75 percent, and 100 percent single-year loss thresholds. As of May 26, 2026, cumulative loss is approximately 1,900 fish, representing about 29 percent of the annual threshold. Daily losses increased notably between January and April, resulting in a steady rise in cumulative loss over the evaluation period.

Spring-run Chinook

Current Status

Delta Entry Timing - Historically, as of May 25, 100% of LAD spring-run have entered the Delta based on Knights Landing RST catch, 100% have exited the Delta based on Chipps Island Trawl Catch, and 95% 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	100%	100%	100%	100%	100%	95%

Red Bluff Diversion Dam Passage Estimate - As of May 20 estimated passage to date of LAD spring-run at Red Bluff Diversion is approximately 0.96 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 - No catch has been reported at Delta Entry RSTs (Tisdale, Knights Landing, Lower Sacramento River) in the past two weeks. Total catch at Sacramento Trawl and Beach Seines in the delta between May 11 and May 22 is 1 individuals. Total catch at Delta Exit at Chipps Island between May 11 and May 22 is 3 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 May 25, 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 May 25, 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.

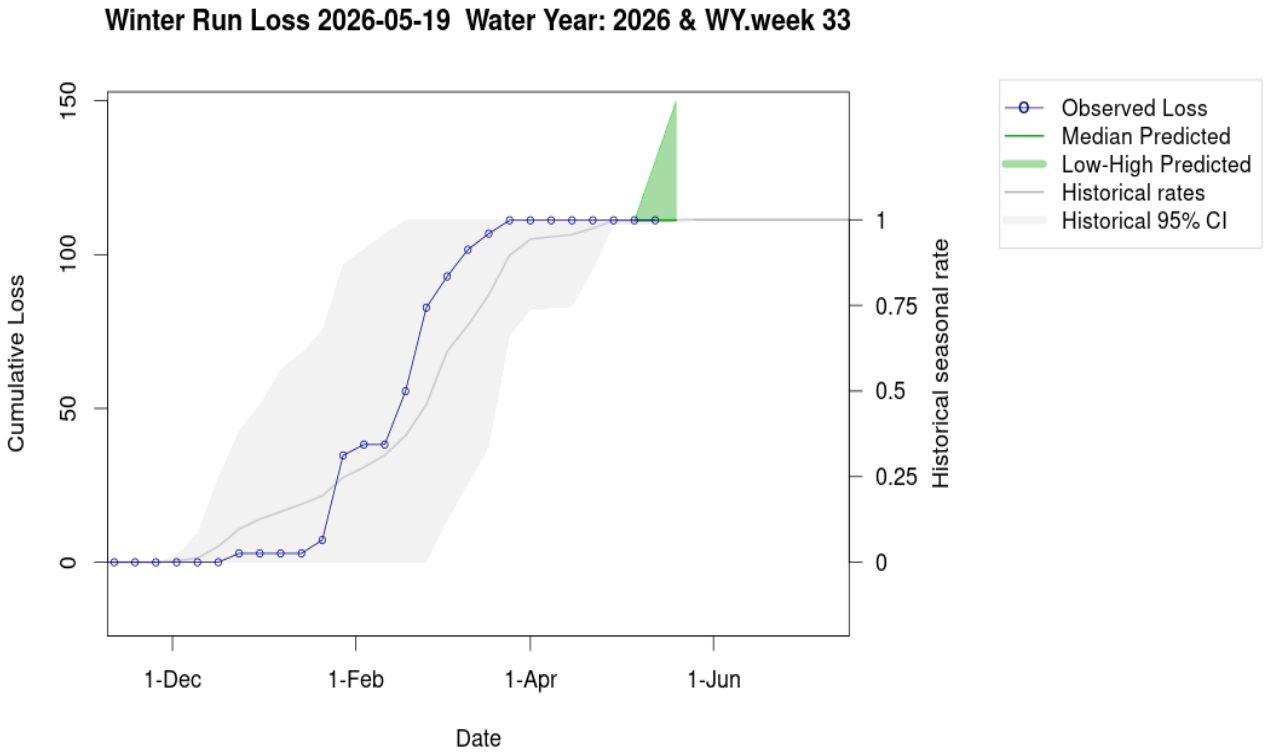

Figure 9: Estimates of winter-run Chinook loss generated by Loss and Salvage Predictor tool.

Figure 9 depicts observed and predicted cumulative winter-run Chinook salmon loss during Water Year 2026. The graph shows cumulative observed loss through May 19, 2026, along with median predicted loss, low-high prediction ranges, historical loss rates, and the historical 95 percent confidence interval. Observed cumulative loss remains within the range of historical variability, while the predictor estimates a modest increase in cumulative loss through the remainder of the evaluation period.

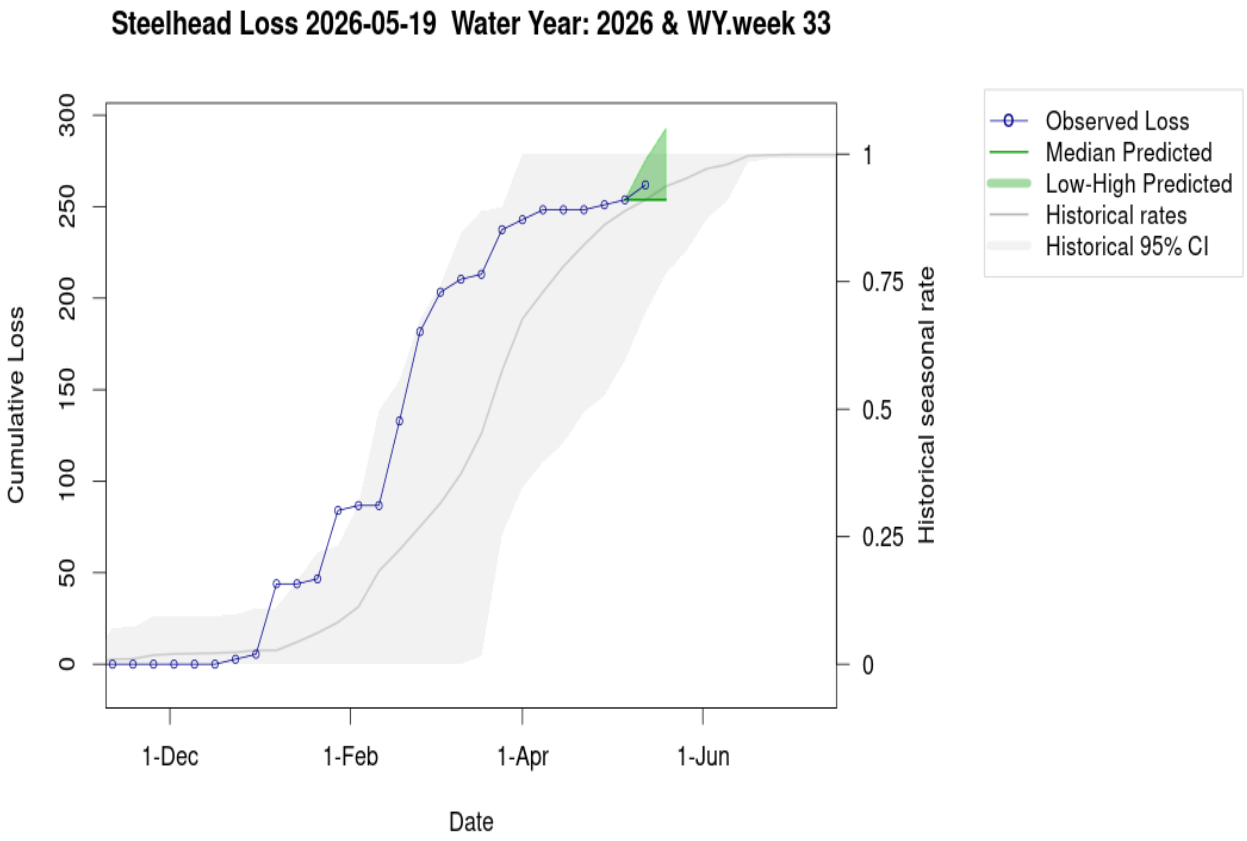

Figure 10: Estimates of steelhead loss generated by Loss and Salvage Predictor tool.

Figure 10 depicts observed and predicted cumulative steelhead loss during Water Year 2026. The graph shows cumulative observed loss through May 19, 2026, along with median predicted loss, low-high prediction ranges, historical loss rates, and the historical 95 percent confidence interval. Observed cumulative loss remains within the range of historical variability, while the predictor estimates a modest increase in cumulative loss through the remainder of the evaluation period.

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 5.00% of the threshold. LOW RISK: Hatchery steelhead cumulative loss is currently 29.02% 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:
- **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:** 1 Delta smelt has been salvaged, and the cumulative seasonal salvage is 4.

Notes

- EDSM is currently in phase 2 (20-mm); detections are marked as *Hypomesus sp.* until genetic verification is returned, which may be 4-6 weeks delay. As a result, 'recent catch' in this assessment may be low until genetic verification has occurred.
- 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
NA	NA	NA	NA	NA	NA

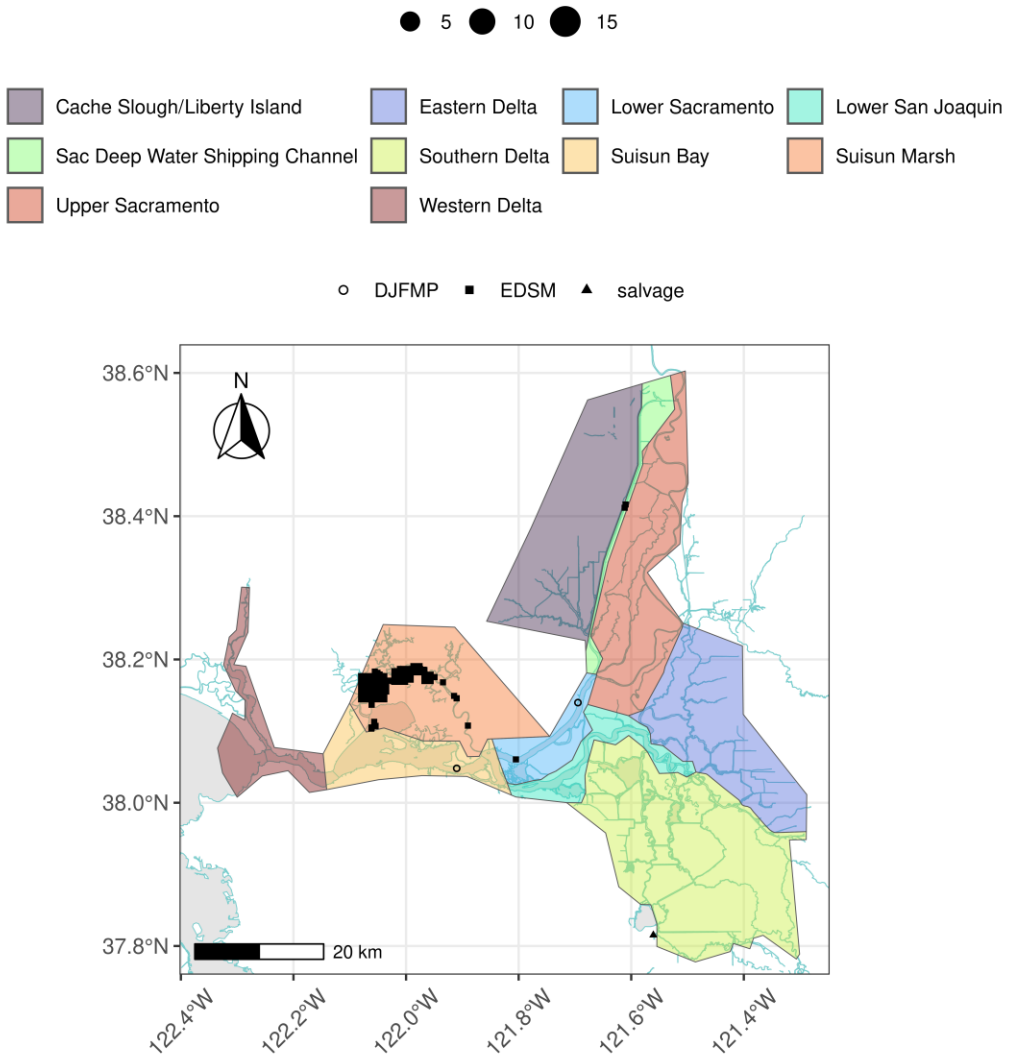

Figure 11: Delta smelt distribution for WY 2026

Figure 11 depicts the distribution of Delta smelt observations across the Sacramento–San Joaquin Delta during Water Year 2026. Colored polygons represent monitoring regions, while symbols indicate detections from the Delta Juvenile Fish Monitoring Program (DJFMP), Enhanced Delta Smelt Monitoring (EDSM), and salvage collections. Symbol size corresponds to the number of observed fish. Most detections are concentrated in the western and northwestern Delta, particularly within Suisun Marsh, Suisun Bay, and adjacent regions.

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

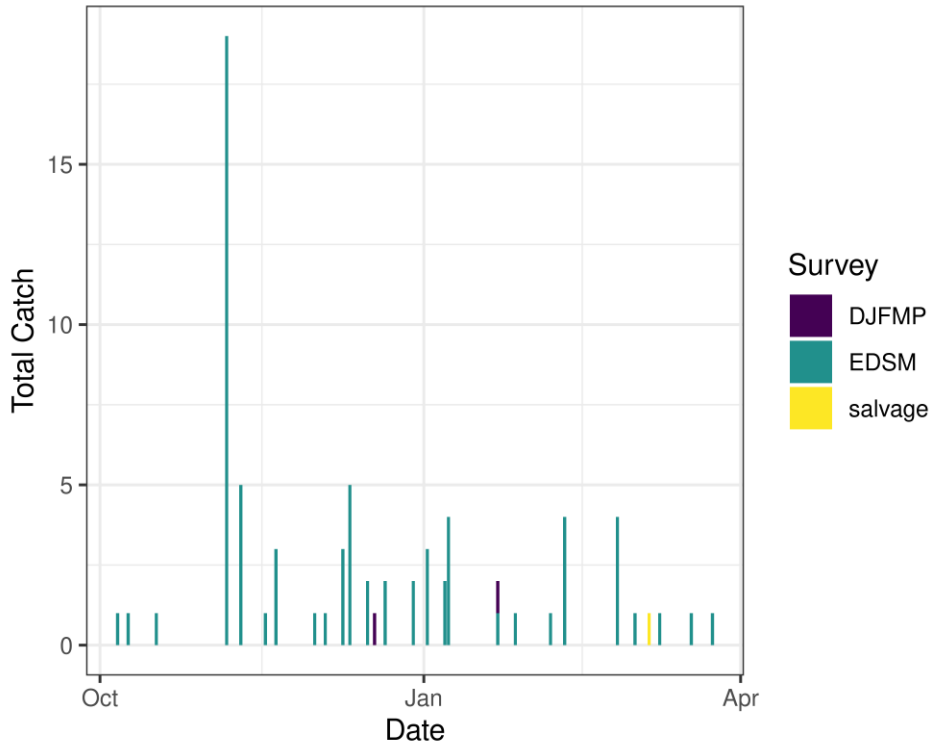

Figure 12: Time series of Delta smelt catch, WY 2026

Figure 12 depicts total Delta smelt catch by survey from October 2025 through March 2026. The bar chart shows catches from the Delta Juvenile Fish Monitoring Program (DJFMP), Enhanced Delta Smelt Monitoring (EDSM), and salvage collections, with colors indicating survey type. Most detections occurred in EDSM surveys, with catches generally low throughout the water year and a single higher catch event occurring in November 2025.

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 ≥ 5% entrainment of Delta smelt population after 30 days
    - 12-station South Delta Turbidity: The most recent average turbidity was 3.6 FNU as of May 13, 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 most 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 ≥ 5% entrainment of the Delta smelt population at facilities after 30 days?

    a. The most recent 11-station average turbidity in the South Delta was 3.6 FNU on May 12, 2026 (station 918 could not be sampled due to bridge clearance issues). JPF will be > 0 cfs for this week. 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 OMRI of -2,000, -3,500, and -5,000 cfs this week and next week. These results indicate that, if Delta smelt larvae were present, the risk of entrainment would be low. No Delta smelt larvae have been captured in SLS or 20-mm surveys to date in WY2026 (pending genetic results from EDSM 20mm survey). Because turbidity conditions remain below the ≥12 FNU threshold and modeling shows a low risk of entrainment, the conditions required to initiate the larval and juvenile Delta smelt entrainment action are not met.

Longfin smelt

Biological

- Longfin smelt life stages detected in surveys:
- **Longfin smelt count:** 475 adult, 1325 juvenile, and 9551 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
NA	NA	NA	NA	NA	NA

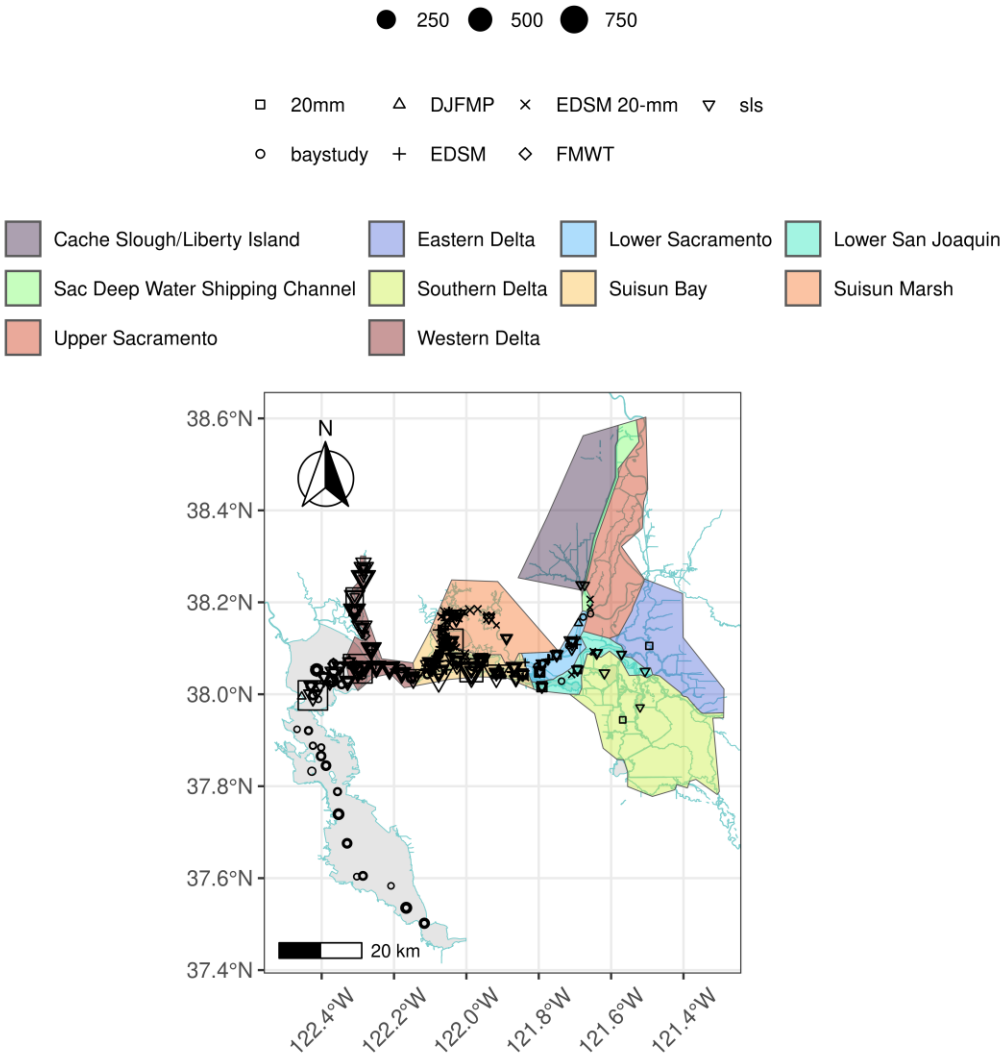

Figure 13: Longfin Smelt Distribution for WY 2026

Figure 13 depicts the distribution of Longfin Smelt observations across the Sacramento–San Joaquin Delta and Suisun Bay during Water Year 2026. Colored polygons represent monitoring regions, while symbols indicate detections from multiple monitoring programs, including the Bay Study, DJFMP, EDSM, Fall Midwater Trawl (FMWT), 20-mm Survey, and Spring Larval Survey (SLS). Symbol size corresponds to the number of observed fish. Longfin Smelt detections are concentrated in Suisun Bay, Suisun Marsh, and western Delta regions, with additional observations extending into the central and northern Delta.

Table 13: Longfin smelt water year totals by life stage

Survey	Region	Life Stage	Total
20mm	Far West	Larva	272
20mm	North	Larva	13
20mm	South	Larva	17
20mm	West	Larva	710
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
EDSM 20-mm	Far West	Juvenile	5
EDSM 20-mm	Far West	Larva	7
EDSM 20-mm	North	Larva	4
EDSM 20-mm	South	Larva	2
EDSM 20-mm	West	Juvenile	146
EDSM 20-mm	West	Larva	737
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	4274
sls	North	Larva	91
sls	South	Larva	54
sls	West	Larva	2531
sls	NA	Juvenile	3

Survey	Region	Life Stage	Total
sls	NA	Larva	391

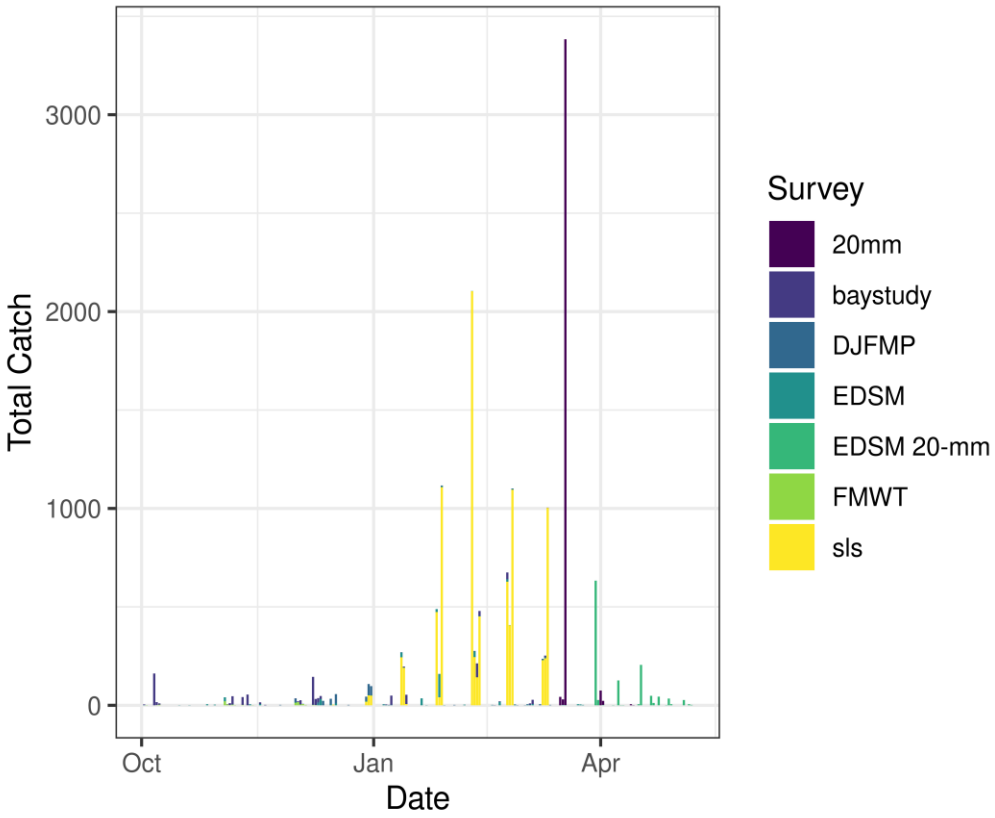

Figure 14: Time series of longfin smelt catch, WY 2026

Figure 14 depicts total Longfin Smelt catch by survey from October 2025 through May 2026. The bar chart shows catches from the 20-mm Survey, Bay Study, DJFMP, EDSM, EDSM 20-mm, Fall Midwater Trawl (FMWT), and Spring Larval Survey (SLS), with colors indicating survey type. Catch levels vary substantially across surveys and sampling periods, with the highest catches occurring during late winter and early spring, particularly in the Bay Study and Spring Larval Survey. The x-axis spans October 2025 through May 2026.

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: 1,063 cfs as of May 21, 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: 1,063 cfs as of May 21, 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 will remain >0 cfs during this week. No adult longfin smelt have been detected in salvage this water year and so conditions are not met for the adult longfin smelt entrainment protection action.
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 will be > 0 cfs this week. However, PTM and Zone of Influence modeling indicate a low risk of entrainment for the larval and juvenile Longfin smelt population. PTM results for surface-oriented particles injected at Chipps Island show 0% entrainment for OMRI of -2,000, -3,500, and -5,000 cfs. PTM results from particles injected at Jersey Point show 0-0.1% entrainment at the projects for this week for OMRI of –2,000, 0.1-0.9% for OMRI of -3,500, and 0.1-1.9% entrainment at OMRI of –5,000 cfs.

Zone of Influence modeling indicates moderate to high differences in the hydrodynamic footprint across OMRI scenarios; however, the Zone of Influence does not extend into the western or far western regions where the majority of Longfin Smelt larvae and juveniles have been detected. Therefore, these effects are not anticipated to result in a population decline.

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

Threshold: CLC ≥ 25° C (77° F) for 3 consecutive days OR June 30

- Clifton Court Temperature: 22.1, 21.8, 21.2° C as of May 25, 2026

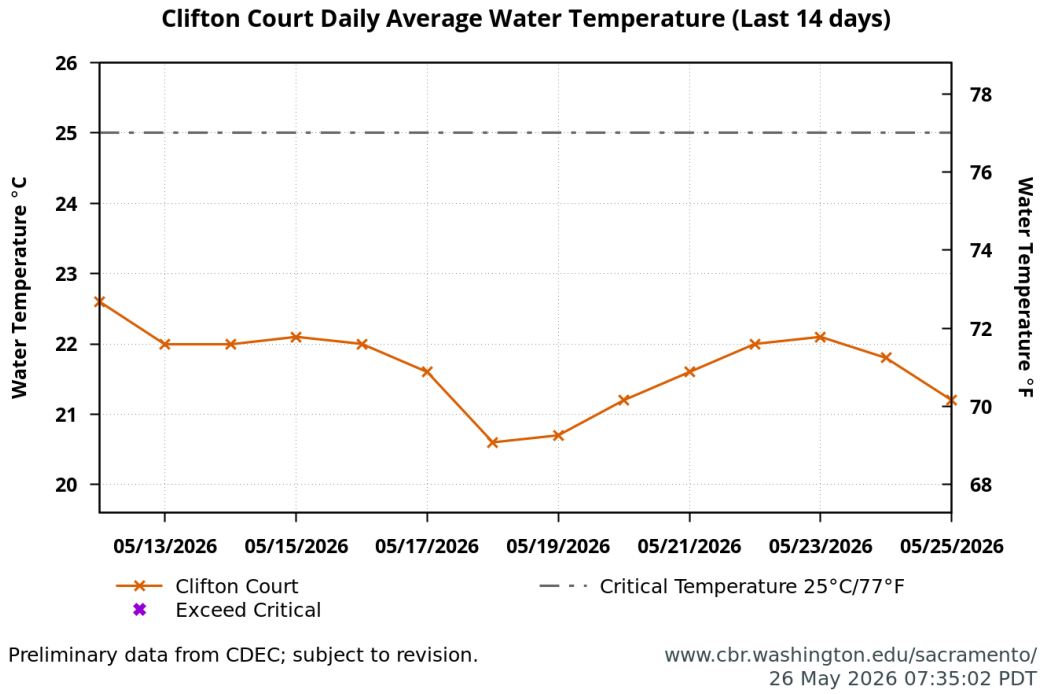

Figure 15: Clifton Court Daily Average Water Temperature (Last 14 Days)

Figure 15 depicts daily average water temperature at Clifton Court Forebay over the previous 14 days. The line graph shows daily water temperature in degrees Celsius and Fahrenheit, with a horizontal reference line indicating the critical temperature threshold of 25°C (77°F). Water temperatures remained below the critical threshold throughout the evaluation period, ranging from approximately 20.6°C to 22.6°C.

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Appendix A. Delta Real-Time Forecast Summary for 05/19/2026

Date Published: 05/22/2026

Forecast Period: 05/19/2026 – 06/09/2026

Forecast Week 1: 05/19/2026 – 05/25/2026

Forecast Week 2: 05/26/2026 –06/01/2026

Forecast Week 3: 06/02/2026 – 06/08/2026

Index

Common Assumptions

The model run results cover the period May 19, 2026 through June 8, 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 currently closed. Starting May 22, they will be open on weekends and closed on weekdays.
3. Suisun Marsh Salinity Control flashboards are in. All three gates are in the open position. On May 18 and 19, they will be closed for maintenance.
4. San Joaquin River flow at Vernalis is at 2327 cfs at the beginning of the forecast period and is estimated to decrease to 1450 cfs by the end of the forecast period.

5. San Joaquin River EC at Vernalis is at 272 umhos/cm at the beginning of the forecast period and is estimated to increase to 402 umhos/cm at the end of the forecast period.
6. Sacramento River flow at Freeport is at 9963 cfs at the beginning of the forecast period and is expected to increase to 10050 cfs by the end of the forecast period.
7. CCFB inflow is at 592 cfs at the beginning of the forecast period and is expected to increase to 1000 cfs by the end of the forecast period.
8. Export at Jones Pumping Plant is at 4296 cfs at the beginning of the forecast period and is expected to decrease to 2500 cfs to the end the forecast period.
9. The Middle River barrier is closed on May 5, and will be in intermediate culvert operation starting June 1.
10. The Old River near Tracy barrier is closed on May 29, and will be in intermediate culvert operation starting June 1.
11. The Grant Line Canal is closed on June 4, and will be in intermediate culvert operation starting June 5.

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: 05/19/2026 - 05/25/2026	11,850	lo	2,367	med	lomed
Week 2: 05/26/2026 - 06/01/2026	12,094	lo	2,200	med	lomed
Week 3: 06/02/2026 - 06/08/2026	12,000	lo	2,200	med	lomed

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

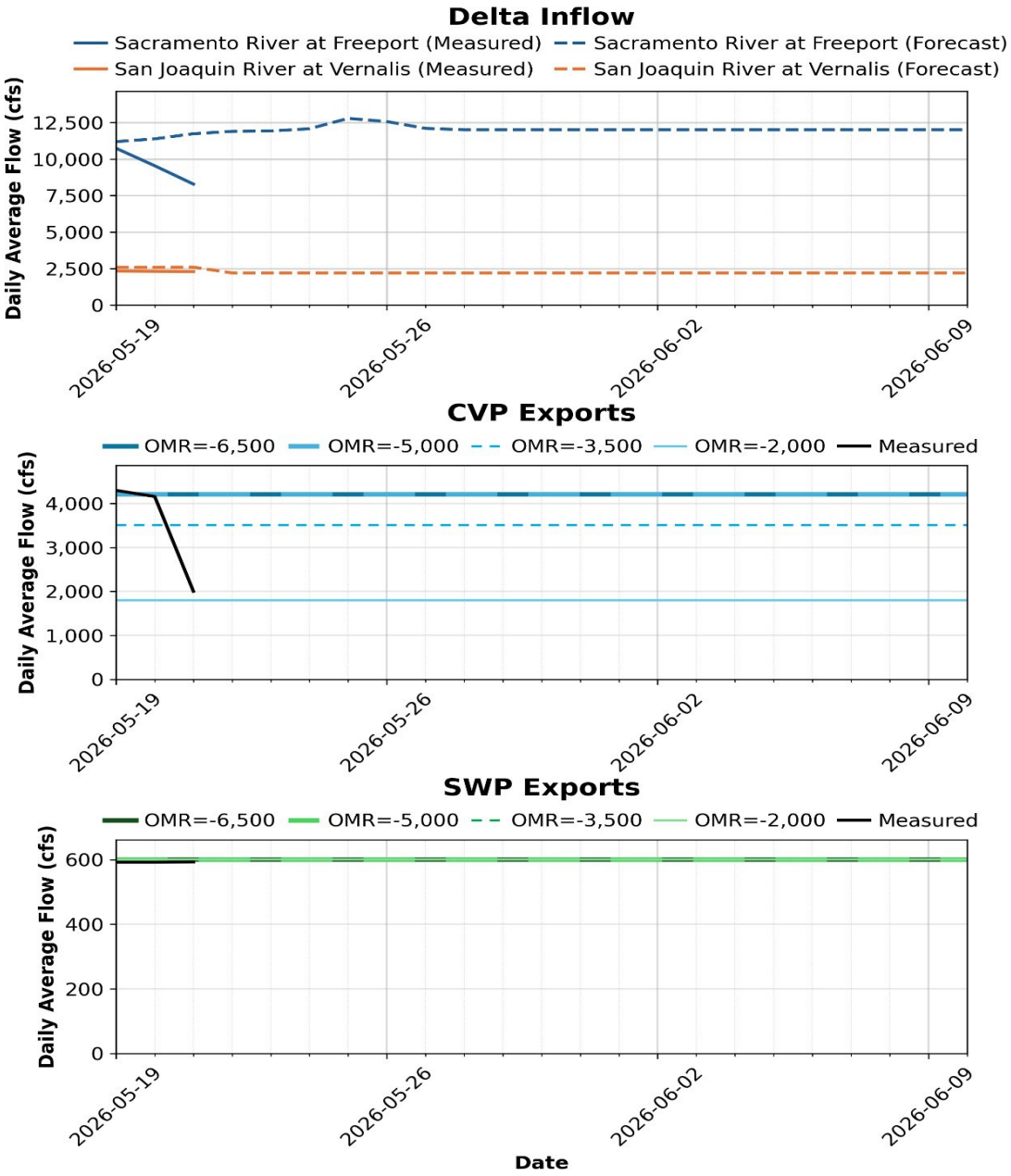
Table 2. Weekly Averaged CVP and SWP Exports by OMR Bin

Week	OMR Bin (cfs)	CVP Exports (cfs)	SWP Exports (cfs)	Total Exports (cfs)	CVP Exports (% of total)	SWP Exports (% of total)
Week 1: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	4,208	601	4,809	88%	12%
Week 1: 05/19/2026 - 05/25/2026	-3,500	3,506	601	4,107	85%	15%
Week 1: 05/19/2026 - 05/25/2026	-2,000	1,803	601	2,404	75%	25%
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	4,208	601	4,809	88%	12%
Week 2: 05/26/2026 - 06/01/2026	-3,500	3,506	601	4,107	85%	15%
Week 2: 05/26/2026 - 06/01/2026	-2,000	1,803	601	2,404	75%	25%
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	4,208	601	4,809	88%	12%
Week 3: 06/02/2026 - 06/08/2026	-3,500	3,506	601	4,107	85%	15%
Week 3: 06/02/2026 - 06/08/2026	-2,000	1,803	601	2,404	75%	25%

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.
- There is still a low probability an OMR of -6,500 cfs would be realized, so that scenario is omitted from this assessment.

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



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 depicts three stacked graphs showing measured and forecasted daily average flows from May 19 to June 9, 2026. The first graph is a line chart showing measured and forecasted inflow at the Sacramento River at Freeport and San Joaquin River at Vernalis. The second graph is a line chart showing measured and scenario-based CVP export flows for four OMR conditions (-6,500, -5,000, -3,500, and -2,000 cfs). The third graph is a line chart showing measured and scenario-based SWP export flows for the same OMR conditions. The x-axis for all three graphs spans May 19 through June 9, 2026.

Delta Export Zone of Influence

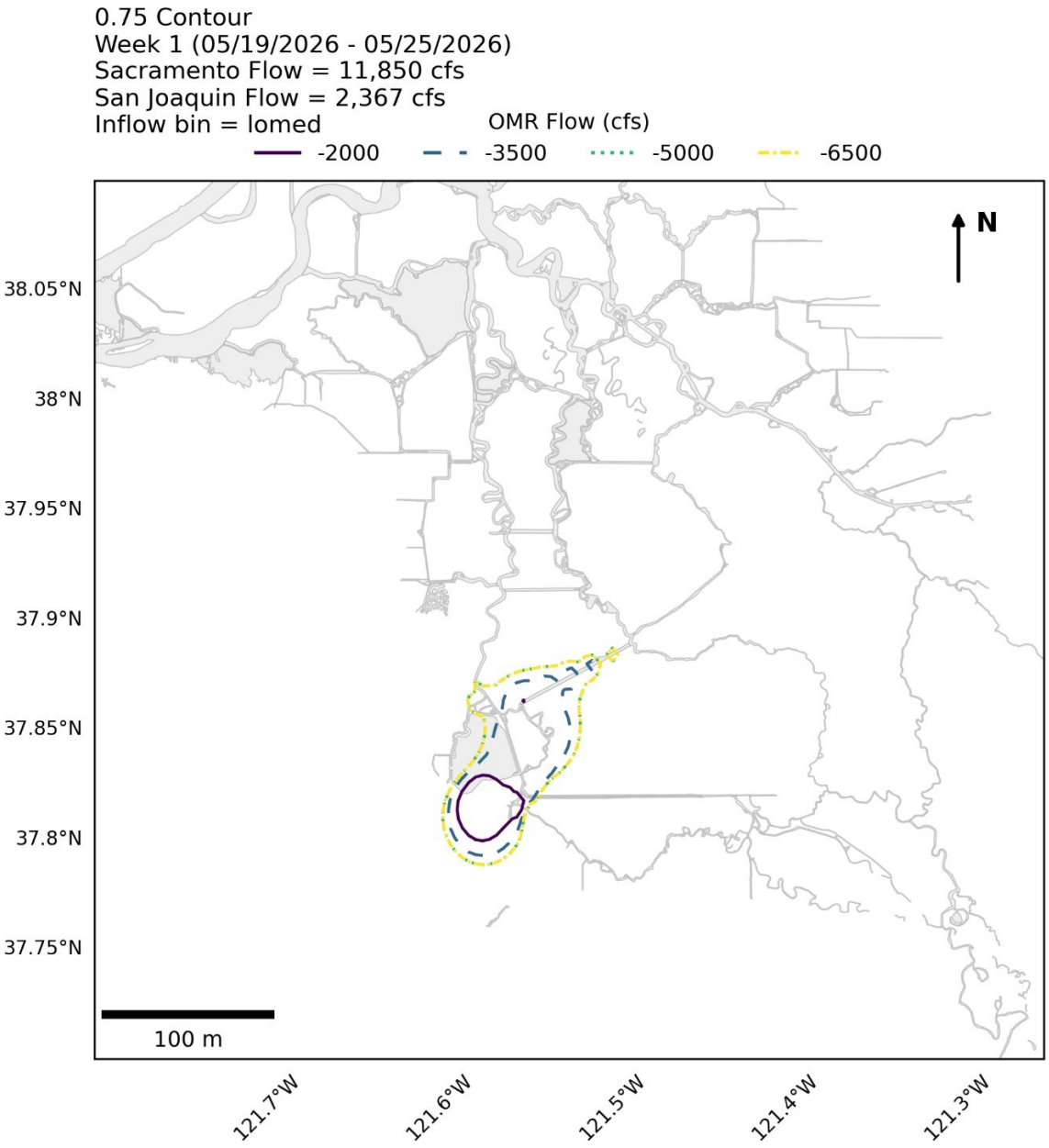


Figure 2: Delta Export Zone of Influence

Figure 2 depicts the modeled Delta export zone of influence under four OMR flow scenarios (-2,000, -3,500, -5,000, and -6,500 cfs) for Week 1 (May 19–25, 2026). The map shows the 0.75 contour extent of the zone of influence within the south Delta under low–medium inflow conditions. Colored contour lines represent the spatial extent of influence for each OMR scenario, with larger areas of influence associated with more negative OMR flows. The map also includes major waterways, a north arrow, and a scale bar for geographic reference.

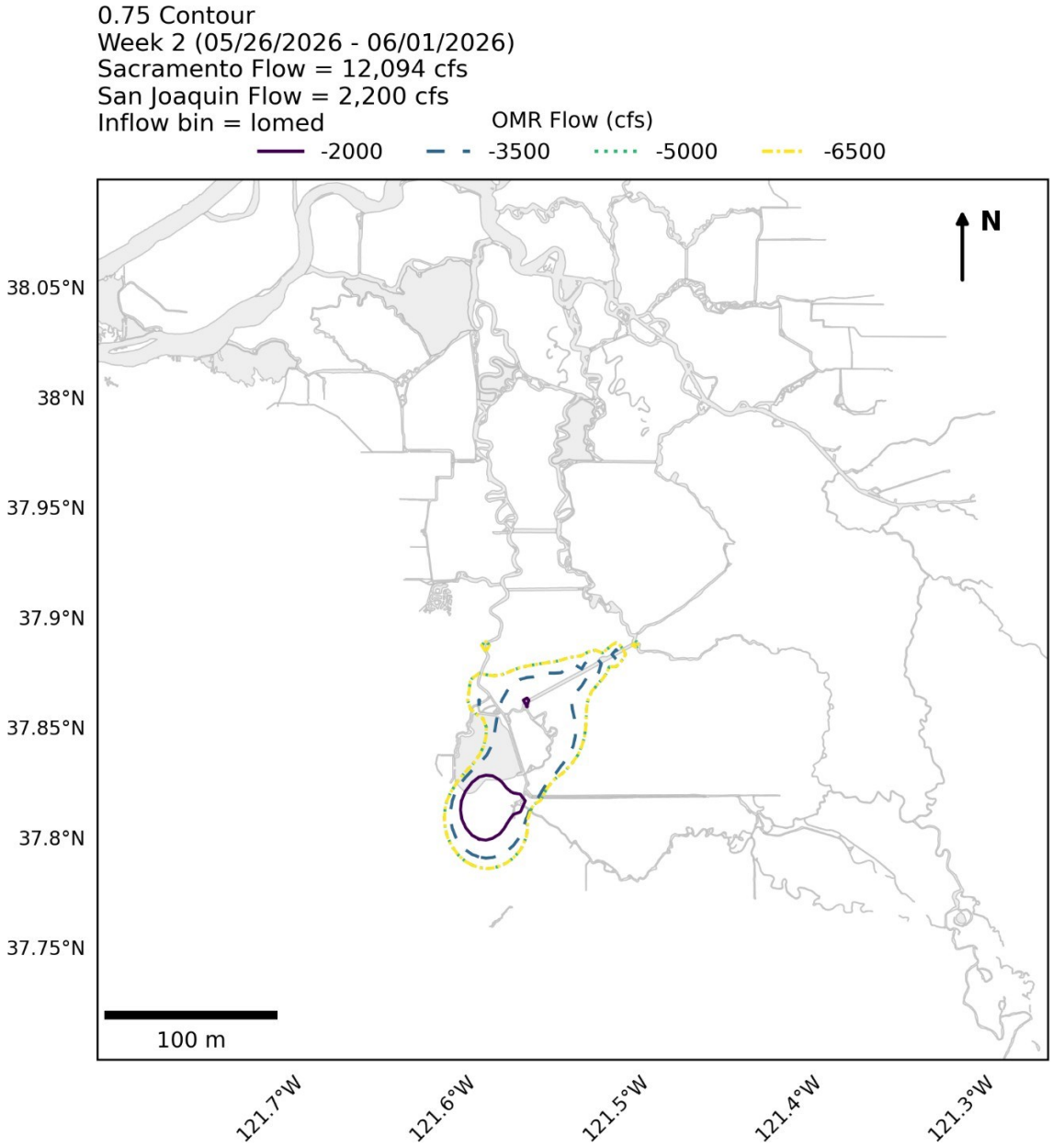


Figure 3: Delta Export Zone of Influence

Figure 3 depicts the modeled Delta export zone of influence under four OMR flow scenarios (-2,000, -3,500, -5,000, and -6,500 cfs) for Week 2 (May 26–June 1, 2026). The map shows the 0.75 contour extent of the zone of influence within the south Delta under low–medium inflow conditions. Colored contour lines represent the spatial extent of influence for each OMR scenario, with larger areas of influence associated with more negative OMR flows. The map also includes major waterways, a north arrow, and a scale bar for geographic reference.

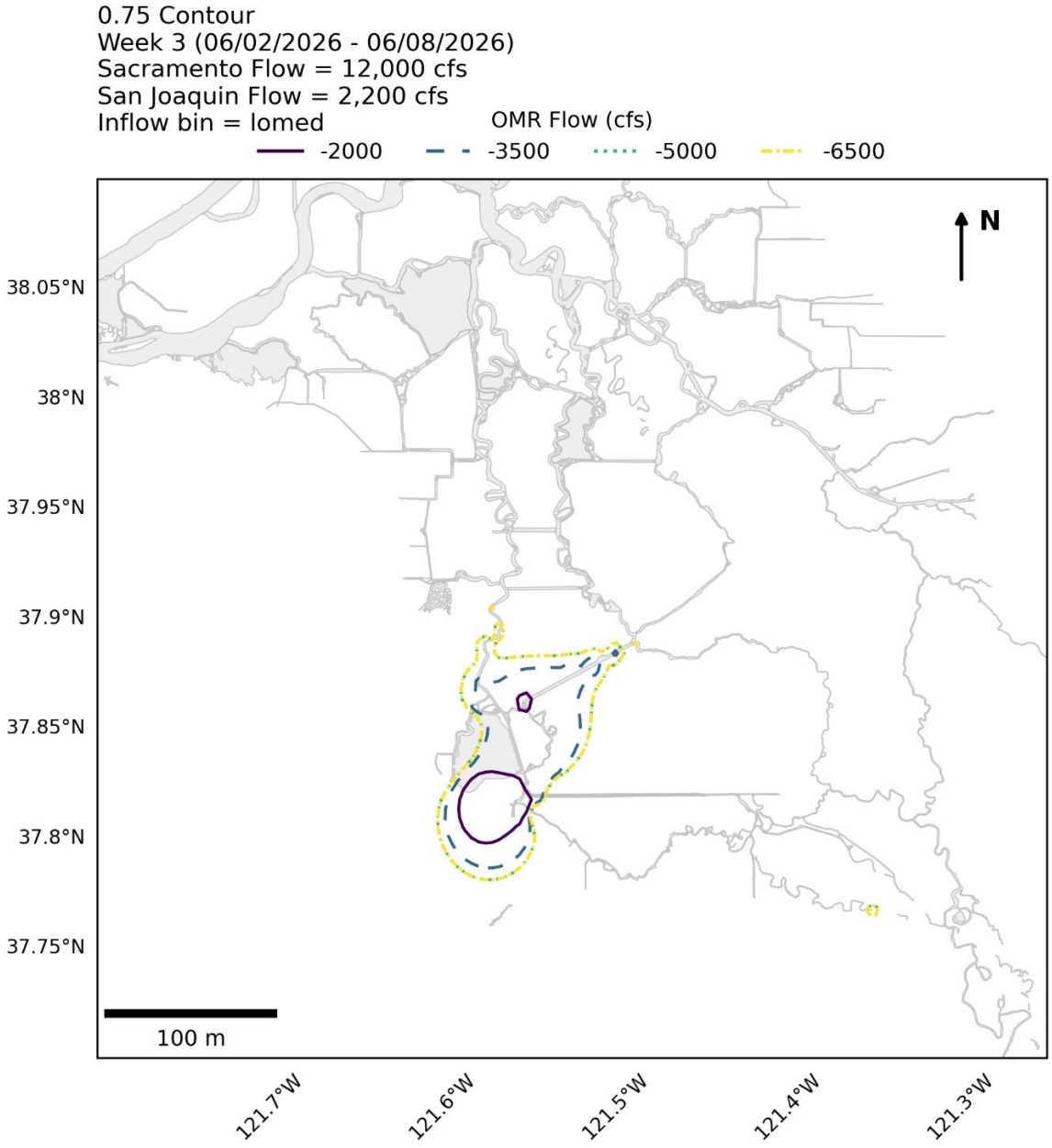


Figure 4: Delta Export Zone of Influence

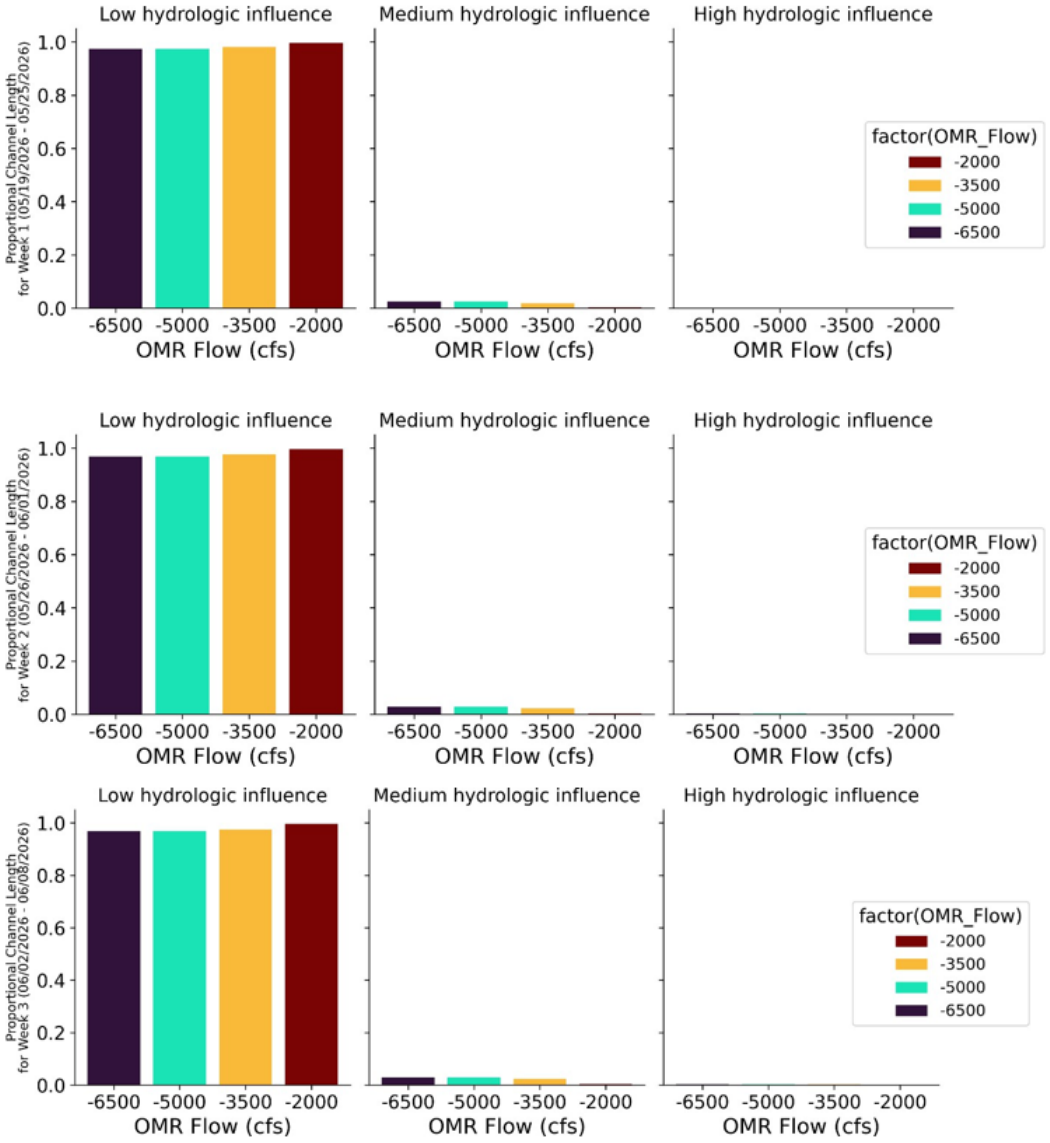
Figure 4 depicts the modeled Delta export zone of influence under four OMR flow scenarios (-2,000, -3,500, -5,000, and -6,500 cfs) for Week 3 (June 2–8, 2026). The map shows the 0.75 contour extent of the zone of influence within the south Delta under low–medium inflow conditions. Colored contour lines represent the spatial extent of influence for each OMR scenario, with larger areas of influence associated with more negative OMR flows. The map also includes major waterways, a north arrow, and a scale bar for geographic reference.

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: 05/05/2026 - 05/11/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/05/2026 - 05/11/2026	-5,000	656.86	97.4%	16.68	2.5%	0.85	0.1%
Week 1: 05/05/2026 - 05/11/2026	-3,500	661.27	98.1%	12.28	1.8%	0.85	0.1%
Week 1: 05/05/2026 - 05/11/2026	-2,000	671.19	99.5%	2.35	0.3%	0.85	0.1%
Week 2: 05/12/2026 - 05/18/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/12/2026 - 05/18/2026	-5,000	653.21	96.9%	19.60	2.9%	1.58	0.2%
Week 2: 05/12/2026 - 05/18/2026	-3,500	659.01	97.7%	14.53	2.2%	0.85	0.1%
Week 2: 05/12/2026 - 05/18/2026	-2,000	671.19	99.5%	2.35	0.3%	0.85	0.1%
Week 3: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 05/19/2026 - 05/25/2026	-5,000	653.21	96.9%	19.60	2.9%	1.58	0.2%
Week 3: 05/19/2026 - 05/25/2026	-3,500	657.17	97.4%	15.64	2.3%	1.58	0.2%
Week 3: 05/19/2026 - 05/25/2026	-2,000	671.19	99.5%	2.35	0.3%	0.85	0.1%

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

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



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

Figure 5. Proportional Channel Length for Weeks 1 to 3

Figure 5 depicts the proportion of total channel length within the modeled Delta export zone of influence across four OMR flow scenarios (-2,000, -3,500, -5,000, and -6,500 cfs) for Weeks 1–3. Bar charts are grouped by hydrologic influence category (low, medium, and high) and show the proportion of channel length associated with each OMR scenario. Across all three weeks, the majority of channel length falls within the low hydrologic influence category, while medium hydrologic influence represents a small proportion and high hydrologic influence is negligible across all scenarios.

PTM (Particle Tracking Model) Results

PTM Flux Evaluation Period: 05/19/2026 – 06/09/2026

Particles Injected: 05/19/2026

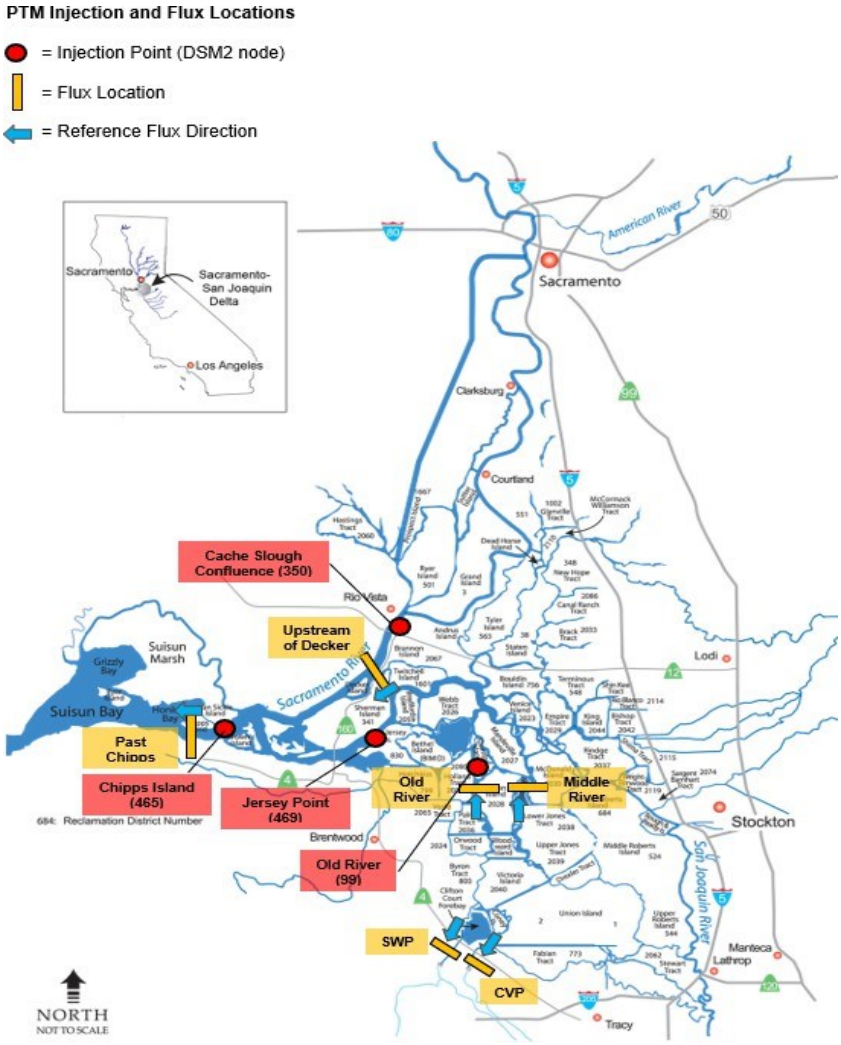


Figure 6. Map of PTM Injection and Flux Locations

Figure 6 is a map of the Sacramento–San Joaquin Delta showing PTM injection locations (DSM2 nodes) and flux locations used in the particle tracking analysis. Injection locations are represented by red circles and include Chipps Island (DSM2 Node 465), Jersey Point (DSM2 Node 469), Old River (DSM2 Node 99), and Cache Slough Confluence (DSM2 Node 350). Flux locations are represented by yellow bars and include Past Chipps, Upstream of Decker, Old River, Middle River, and the CVP and SWP export facilities. Blue arrows indicate the reference direction used for flux calculations.

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: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	61.4	-0.1	38.6	0.0	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-3,500	63.1	-0.1	36.9	0.0	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-2,000	65.7	0.0	34.3	0.0	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	80.1	0.2	20.0	0.1	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-3,500	80.7	0.0	19.3	0.0	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-2,000	85.0	0.2	15.0	0.0	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	84.3	0.8	15.8	0.1	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-3,500	86.6	0.3	13.4	0.0	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-2,000	91.1	0.3	8.9	0.0	0.0	0.0

Note: Values between 0.0 and 0.1 are indicated with <0.1.
Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Table 5. Neutral 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: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	0.4	51.3	99.6	0.0	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-3,500	1.0	54.3	99.1	0.1	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-2,000	0.8	56.3	99.3	0.1	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	22.5	68.5	78.6	0.8	0.2	0.1
Week 2: 05/26/2026 - 06/01/2026	-3,500	27.1	69.6	73.8	0.6	0.2	0.1
Week 2: 05/26/2026 - 06/01/2026	-2,000	33.0	70.6	67.3	0.3	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	39.0	74.5	63.6	1.4	1.1	0.1
Week 3: 06/02/2026 - 06/08/2026	-3,500	44.3	73.8	57.5	0.7	1.0	0.1
Week 3: 06/02/2026 - 06/08/2026	-2,000	53.8	74.5	46.9	0.5	0.2	0.0

Note: Values between 0.0 and 0.1 are indicated with <0.1.
Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Table 6. Neutral 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: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	2.3	12.0	99.0	1.3	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-3,500	2.1	13.1	98.9	1.0	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-2,000	2.8	11.7	97.7	0.5	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	19.9	22.9	83.1	1.3	1.6	0.1
Week 2: 05/26/2026 - 06/01/2026	-3,500	22.3	23.3	80.7	2.0	1.1	0.0
Week 2: 05/26/2026 - 06/01/2026	-2,000	28.4	22.3	72.7	1.1	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	35.1	27.4	70.8	2.5	3.3	0.1
Week 3: 06/02/2026 - 06/08/2026	-3,500	38.0	25.9	67.6	2.6	2.9	0.1
Week 3: 06/02/2026 - 06/08/2026	-2,000	50.3	24.4	52.1	1.5	0.8	0.1

Note: Values between 0.0 and 0.1 are indicated with <0.1.
Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

Table 7. Neutral 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: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	0.0	0.3	23.9	51.1	24.9	0.1
Week 1: 05/19/2026 - 05/25/2026	-3,500	0.0	<0.1	30.9	57.7	11.3	0.1
Week 1: 05/19/2026 - 05/25/2026	-2,000	0.0	0.3	58.4	41.6	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	0.4	2.8	18.7	26.6	53.2	1.1
Week 2: 05/26/2026 - 06/01/2026	-3,500	0.4	2.6	24.3	27.9	46.2	1.2
Week 2: 05/26/2026 - 06/01/2026	-2,000	0.7	5.2	49.1	39.5	10.2	0.5
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	1.3	4.0	14.5	21.9	60.1	2.3
Week 3: 06/02/2026 - 06/08/2026	-3,500	2.4	4.8	18.4	23.8	52.6	2.8
Week 3: 06/02/2026 - 06/08/2026	-2,000	5.8	8.9	38.8	35.4	18.2	1.9

Note: Values between 0.0 and 0.1 are indicated with <0.1.
Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

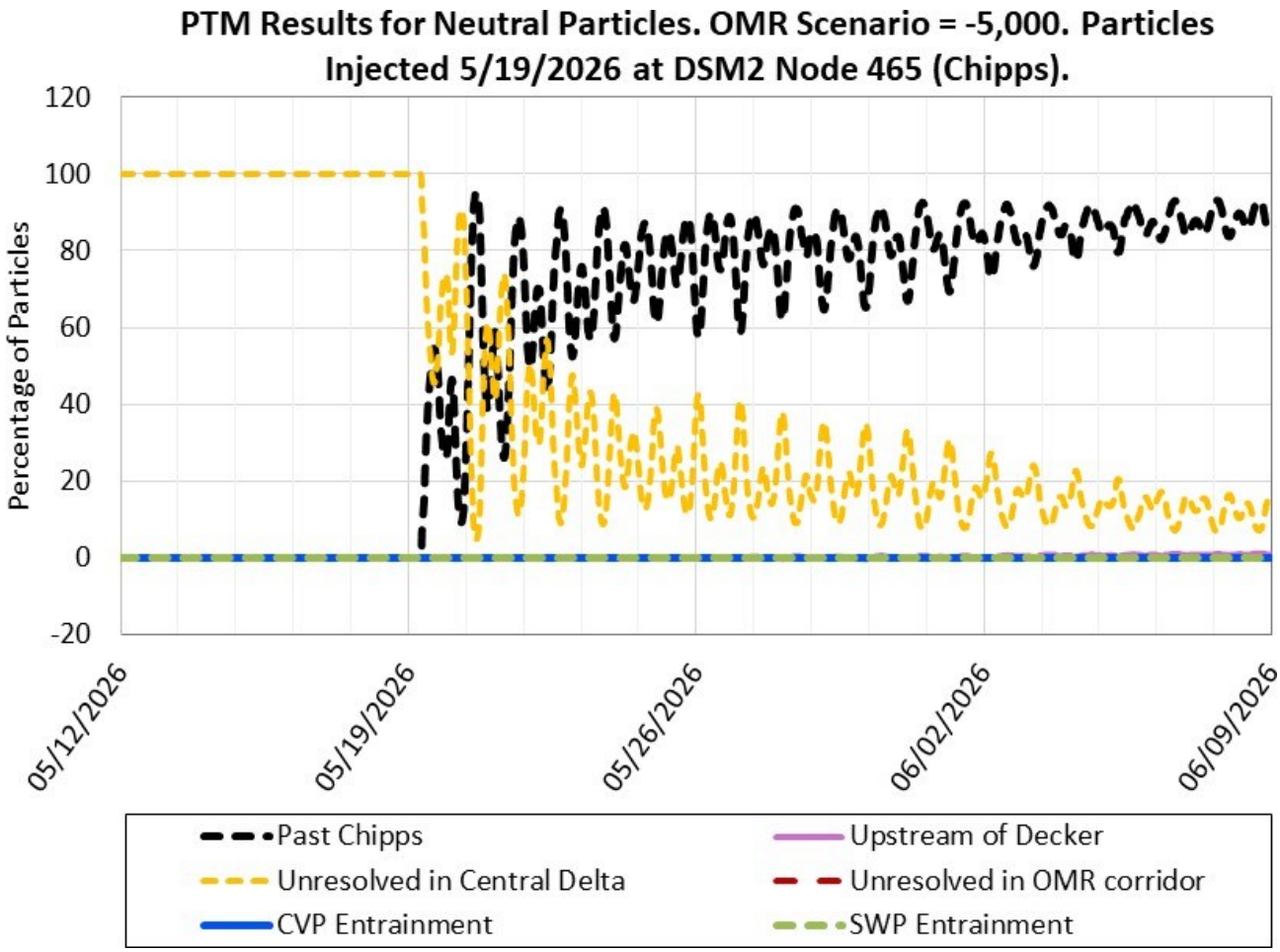


Figure 7: PTM Results for Neutral Particles at Chipps Island, OMR Scenario -5,000

Figure 7 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 465 (Chipps Island). Six flux locations are represented by different colored dashed lines, with Past Chipps (black) and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. Most particles pass Chipps Island shortly after injection, increasing to approximately 90 percent by early June, while the proportion of particles unresolved in the Central Delta declines from 100 percent to approximately 10–20 percent. Particle entrainment at the CVP and SWP export facilities remains negligible throughout the evaluation period.

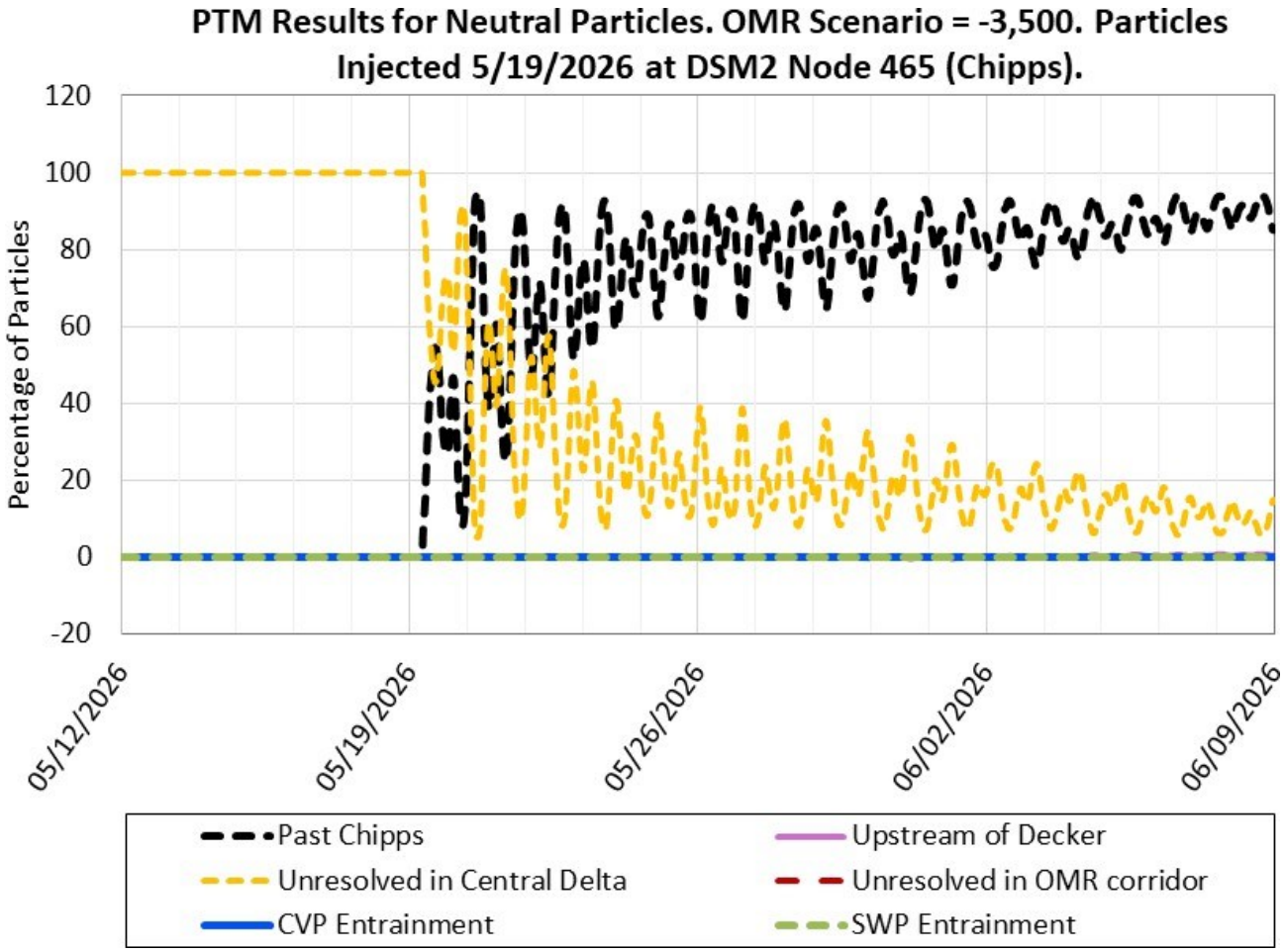


Figure 8: PTM Results for Neutral Particles at Chipps Island, OMR Scenario -3,500

Figure 8 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 465 (Chipps Island). Six flux locations are represented by different colored dashed lines, with Past Chipps (black) and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. Most particles pass Chipps Island shortly after injection, increasing to approximately 90 percent by early June, while the proportion of particles unresolved in the Central Delta declines from 100 percent to approximately 10–20 percent. Particle entrainment at the CVP and SWP export facilities remains negligible throughout the evaluation period.

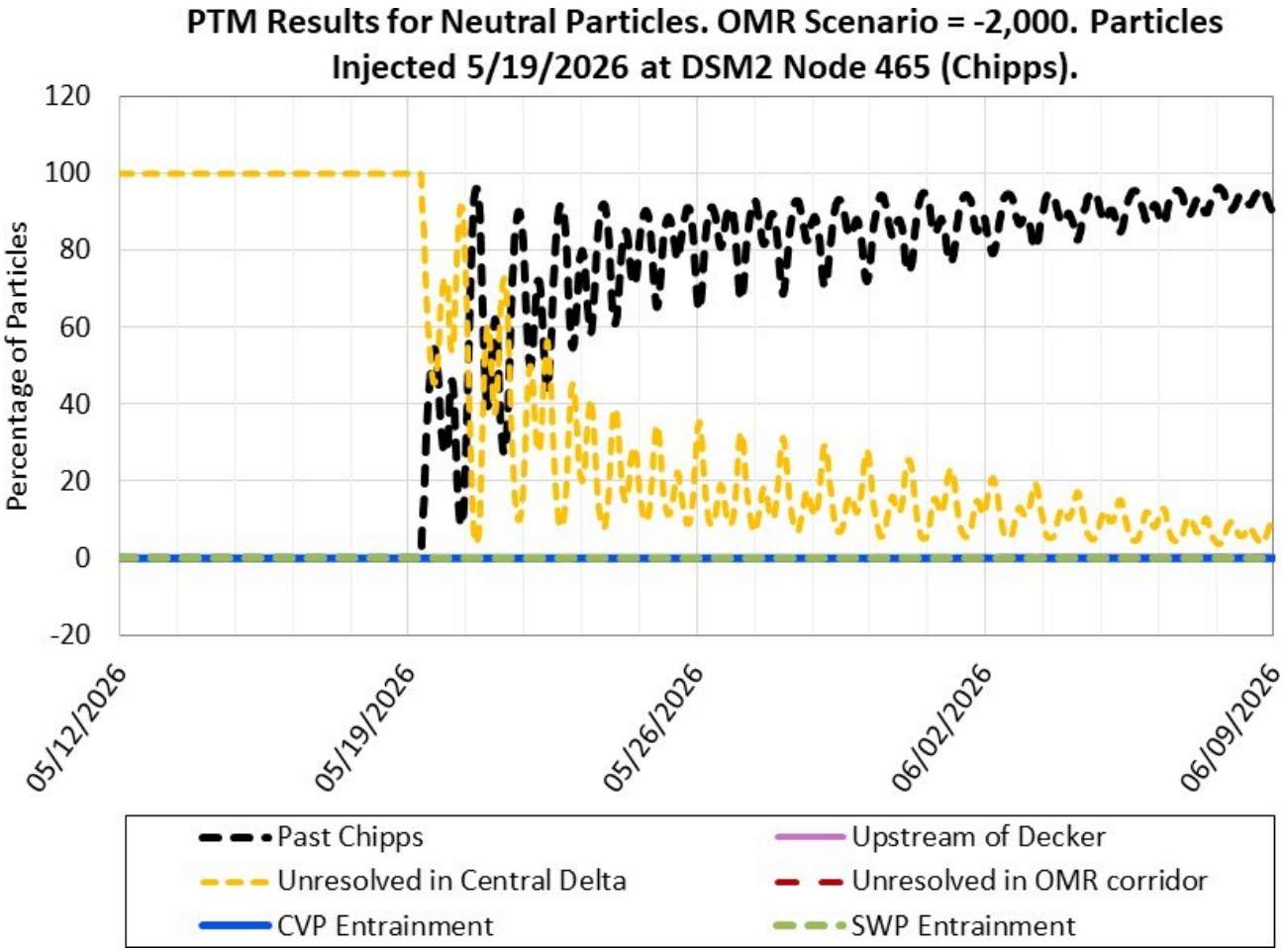


Figure 9: PTM Results for Neutral Particles at Chipps Island, OMR Scenario -2,000

Figure 9 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 465 (Chipps Island). Six flux locations are represented by different colored dashed lines, with Past Chipps (black) and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. Most particles pass Chipps Island shortly after injection, increasing to approximately 95 percent by early June, while the proportion of particles unresolved in the Central Delta declines from 100 percent to less than 10 percent. Particle entrainment at the CVP and SWP export facilities remains negligible throughout the evaluation period.

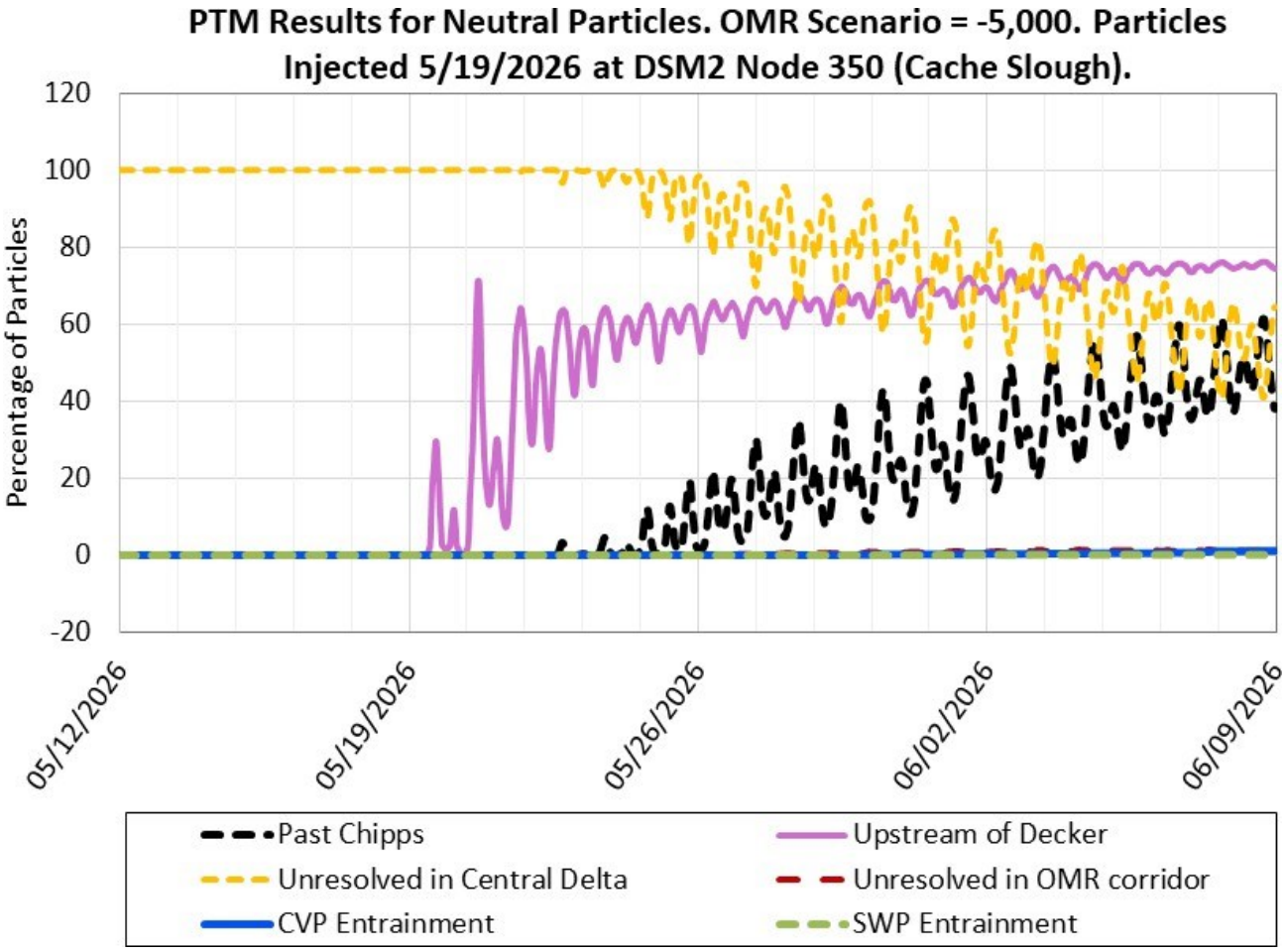


Figure 10: PTM Results for Neutral Particles at Cache Slough Confluence, OMR Scenario -5,000

Figure 10 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 350 (Cache Slough Confluence). Six flux locations are represented by different colored dashed lines, with Upstream of Decker (purple), Unresolved in Central Delta (yellow), and Past Chipps (black) showing the most notable particle percentages across the evaluation period. The proportion of particles upstream of Decker increases rapidly following injection and stabilizes near 75 percent by early June, while the proportion unresolved in the Central Delta declines from 100 percent to approximately 40–50 percent. Passage past Chipps Island gradually increases over time, reaching approximately 60 percent by the end of the evaluation period. Particle entrainment at the CVP and SWP export facilities remains negligible throughout the evaluation period.

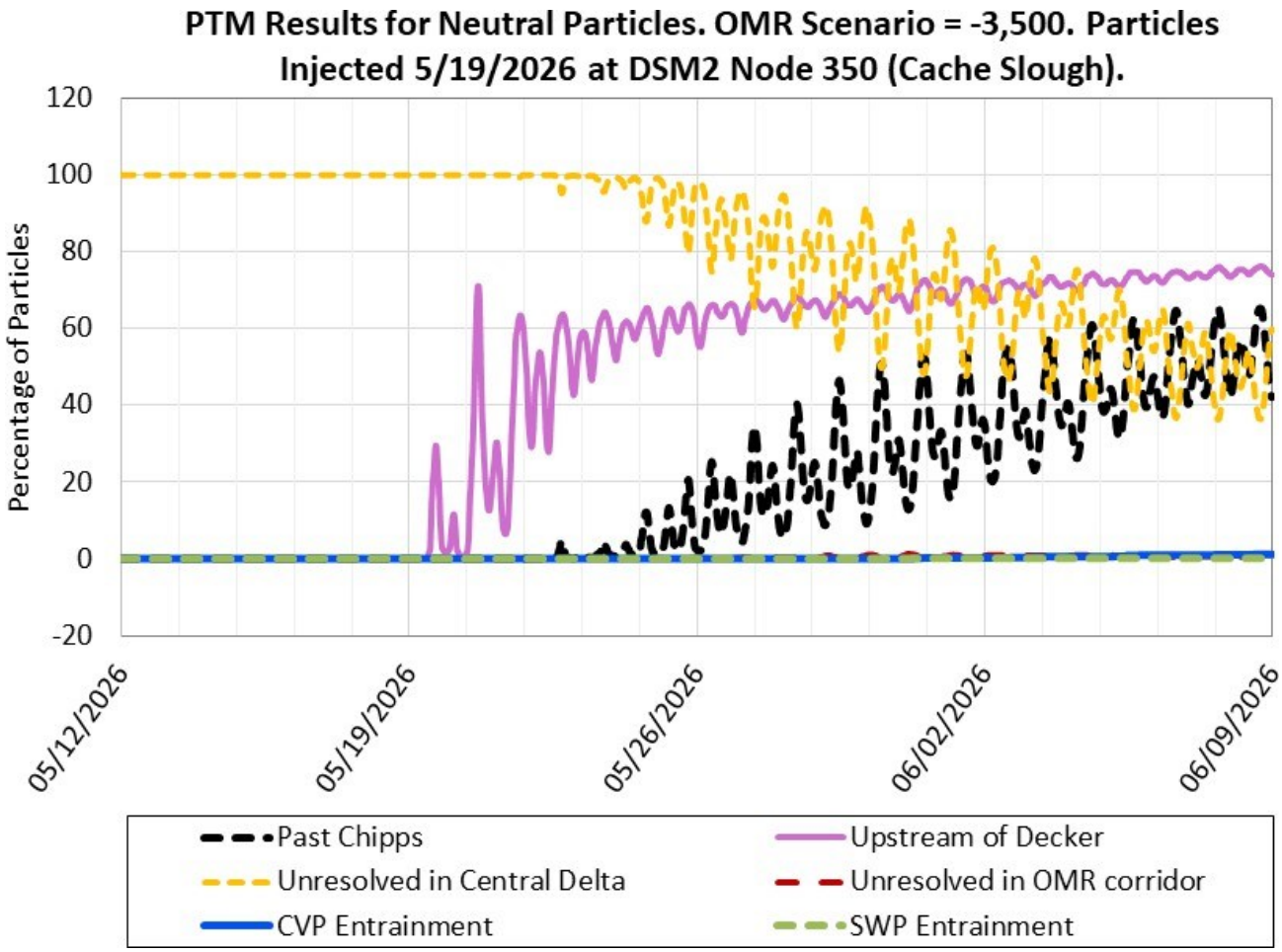


Figure 11: PTM Results for Neutral Particles at Cache Slough Confluence, OMR Scenario -3,500

Figure 11 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 350 (Cache Slough Confluence). Six flux locations are represented by different colored dashed lines, with Upstream of Decker (purple), Unresolved in Central Delta (yellow), and Past Chipps (black) showing the most notable particle percentages across the evaluation period. The proportion of particles upstream of Decker increases rapidly following injection and stabilizes near 75 percent by early June, while the proportion unresolved in the Central Delta declines from 100 percent to approximately 40–50 percent. Passage past Chipps Island gradually increases over time, reaching approximately 60 percent by the end of the evaluation period. Particle entrainment at the CVP and SWP export facilities remains negligible throughout the evaluation period.

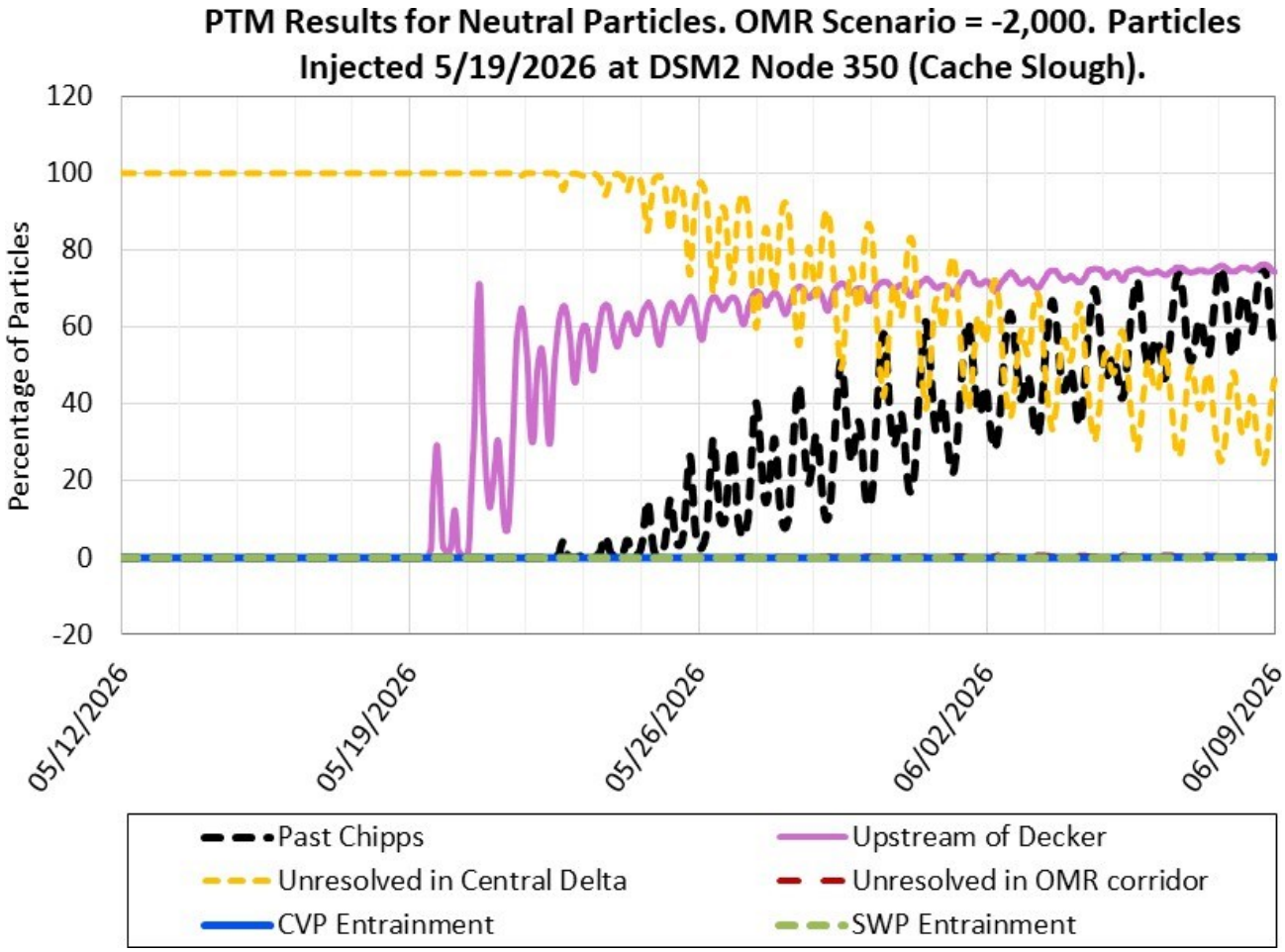


Figure 12: PTM Results for Neutral Particles at Cache Slough Confluence, OMR Scenario -2,000

Figure 12 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 350 (Cache Slough Confluence). Six flux locations are represented by different colored dashed lines, with Upstream of Decker (purple), Unresolved in Central Delta (yellow), and Past Chipps (black) showing the most notable particle percentages across the evaluation period. The proportion of particles upstream of Decker increases rapidly following injection and stabilizes near 75 percent by early June, while the proportion unresolved in the Central Delta declines from 100 percent to approximately 25–40 percent. Passage past Chipps Island gradually increases over time, reaching approximately 70 percent by the end of the evaluation period. Particle entrainment at the CVP and SWP export facilities remains negligible throughout the evaluation period.

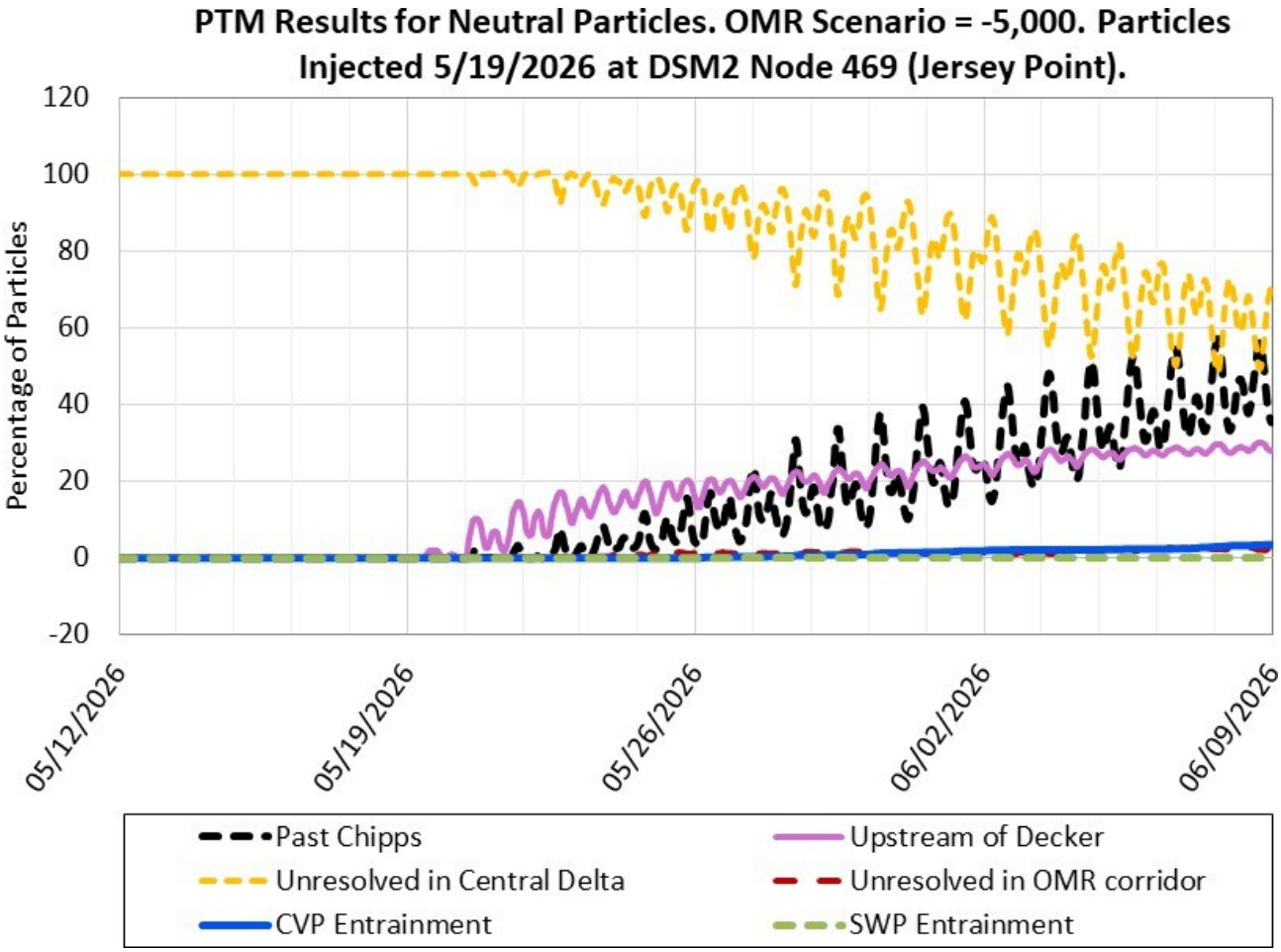


Figure 13: PTM Results for Neutral Particles at Jersey Point, OMR Scenario -5,000

Figure 13 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 469 (Jersey Point). Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow), Past Chipps (black), and Upstream of Decker (purple) showing the most notable particle percentages across the evaluation period. The proportion of particles unresolved in the Central Delta declines gradually from 100 percent to approximately 60–70 percent, while passage past Chipps Island increases steadily to approximately 50–60 percent by the end of the evaluation period. The proportion of particles upstream of Decker increases to approximately 30 percent over the evaluation period. Particle entrainment at the CVP and SWP export facilities remains low, with CVP entrainment reaching approximately 3 percent and SWP entrainment remaining negligible.

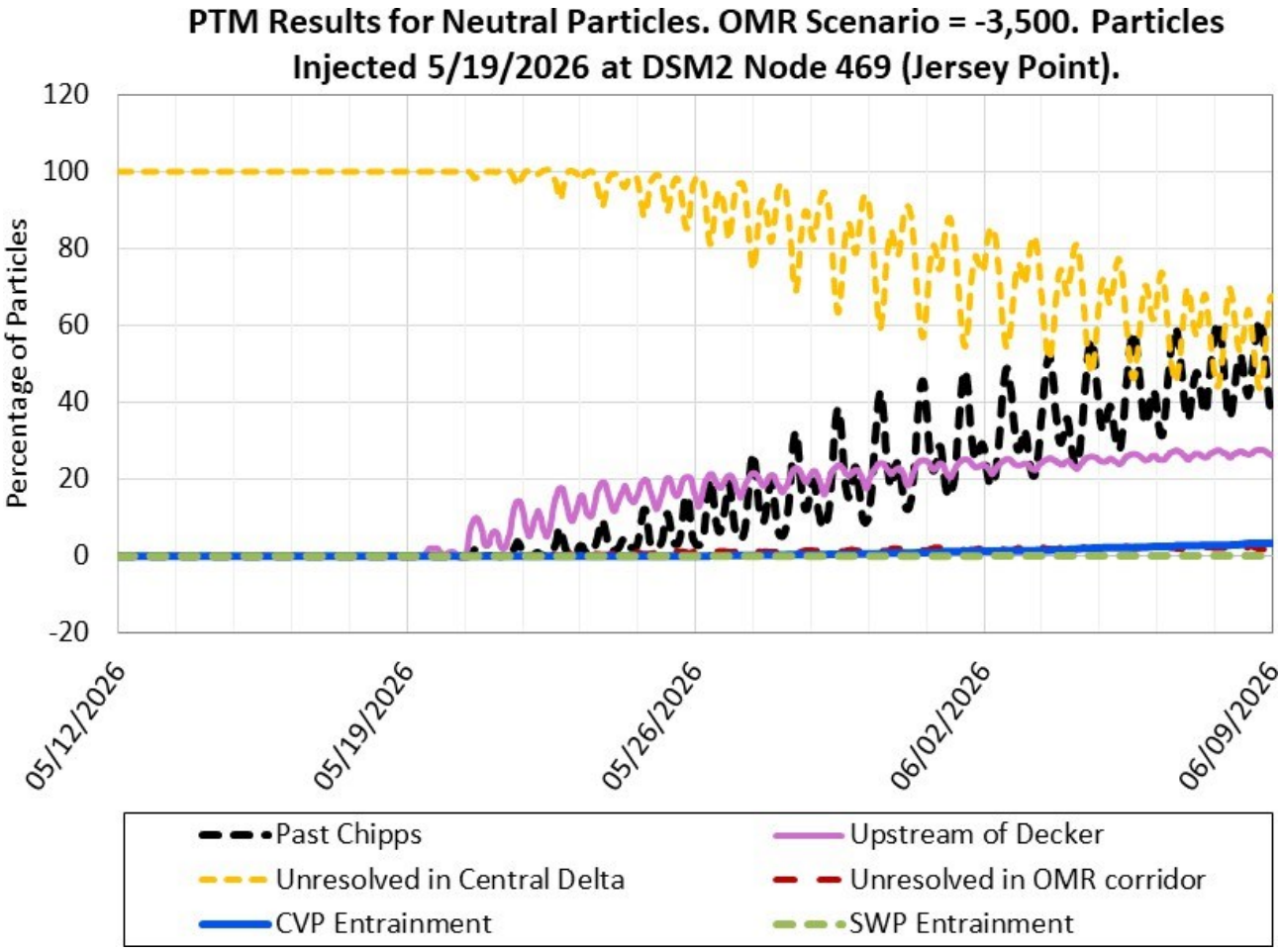


Figure 14: PTM Results for Neutral Particles at Jersey Point, OMR Scenario -3,500

Figure 14 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 469 (Jersey Point). Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow), Past Chipps (black), and Upstream of Decker (purple) showing the most notable particle percentages across the evaluation period. The proportion of particles unresolved in the Central Delta declines gradually from 100 percent to approximately 60–70 percent, while passage past Chipps Island increases steadily to approximately 60 percent by the end of the evaluation period. The proportion of particles upstream of Decker increases to approximately 25–30 percent over the evaluation period. Particle entrainment at the CVP and SWP export facilities remains low, with CVP entrainment reaching approximately 3 percent and SWP entrainment remaining negligible.

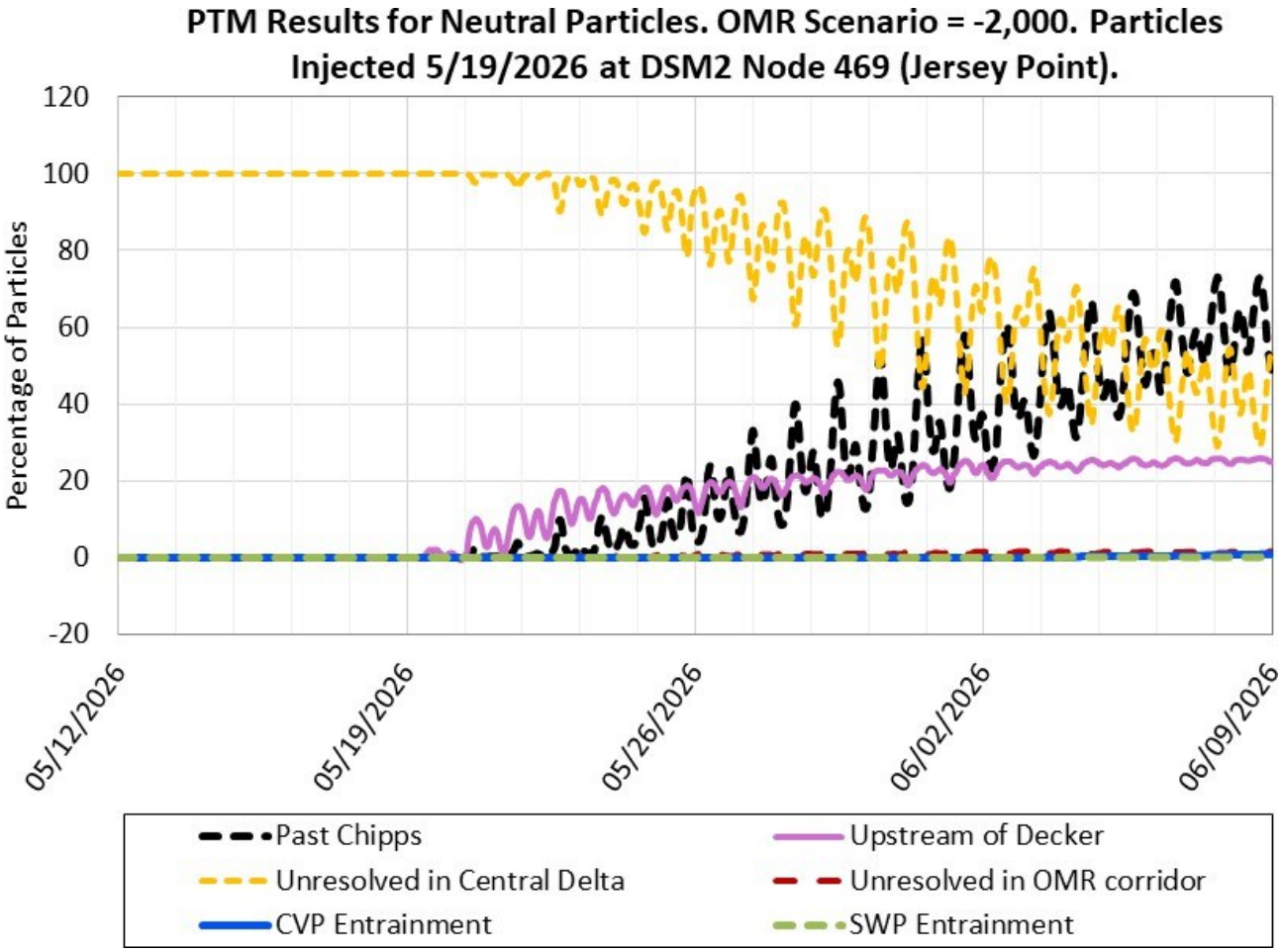


Figure 15: PTM Results for Neutral Particles at Jersey Point, OMR Scenario -2,000

Figure 15 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 469 (Jersey Point). Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow), Past Chipps (black), and Upstream of Decker (purple) showing the most notable particle percentages across the evaluation period. The proportion of particles unresolved in the Central Delta declines gradually from 100 percent to approximately 40–50 percent, while passage past Chipps Island increases steadily to approximately 70 percent by the end of the evaluation period. The proportion of particles upstream of Decker increases to approximately 25 percent over the evaluation period. Particle entrainment at the CVP and SWP export facilities remains low, with CVP entrainment reaching approximately 1–2 percent and SWP entrainment remaining negligible.

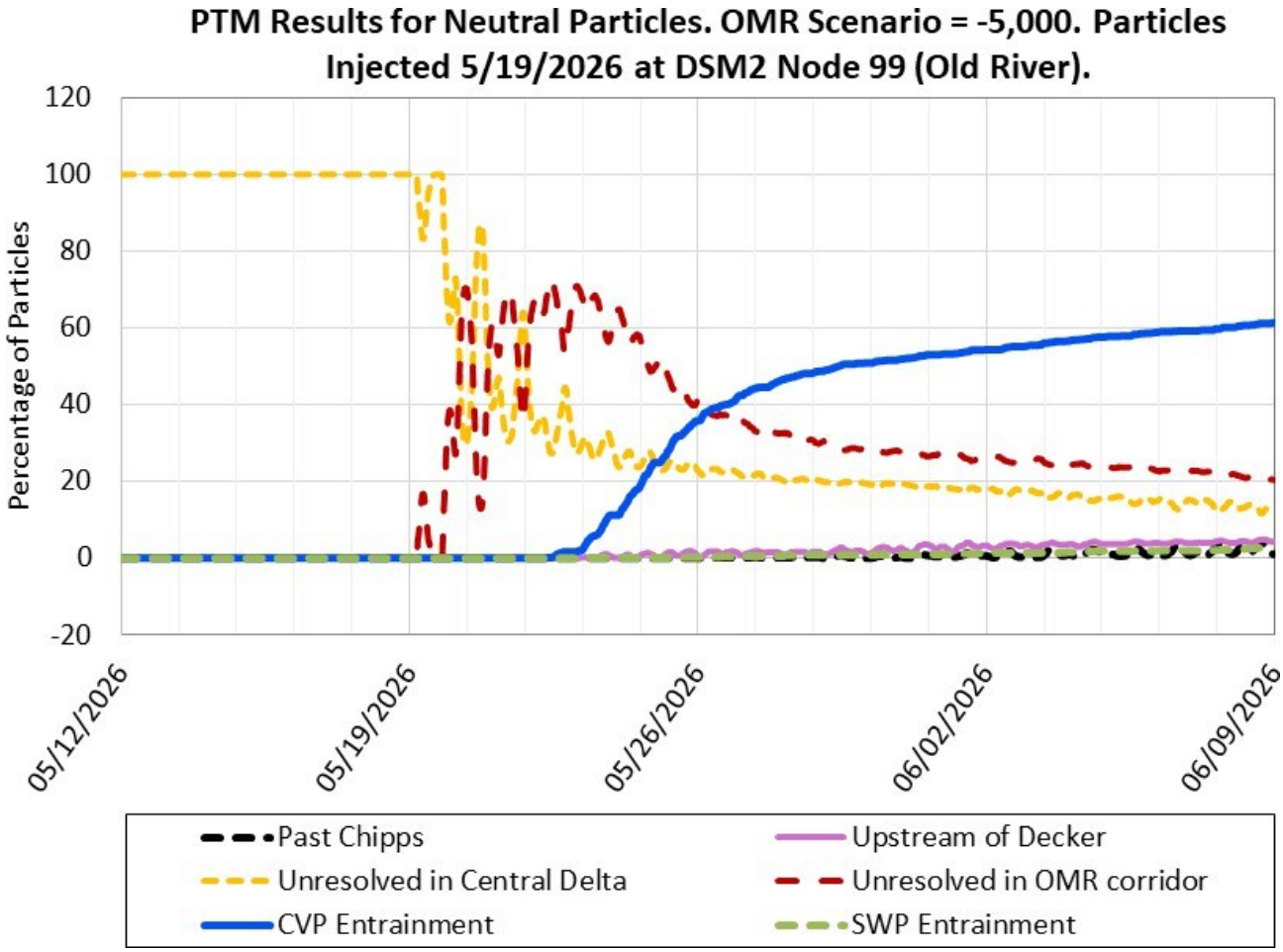


Figure 16: PTM Results for Neutral Particles at Old River, OMR Scenario -5,000

Figure 16 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 99 (Old River). Six flux locations are represented by different colored dashed lines, with CVP Entrainment (blue), Unresolved in OMR Corridor (red), and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. CVP entrainment increases rapidly following injection and becomes the dominant particle fate, reaching approximately 60 percent by the end of the evaluation period. The proportion of particles unresolved in the OMR Corridor peaks near 70 percent before declining to approximately 20 percent, while the proportion unresolved in the Central Delta declines from 100 percent to approximately 10–15 percent. Particle passage past Chipps Island, movement upstream of Decker, and SWP entrainment remain low throughout the evaluation period.

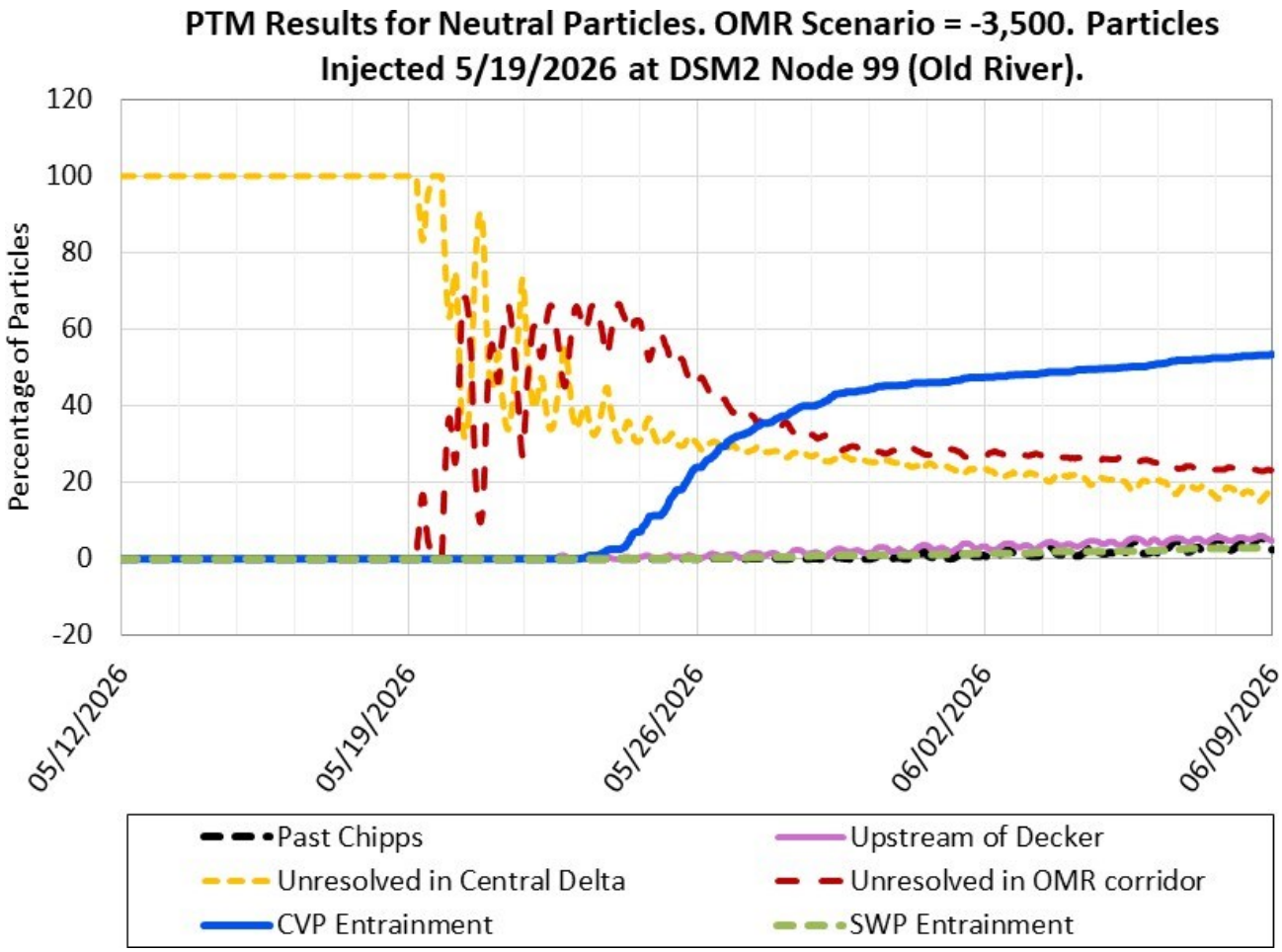


Figure 17: PTM Results for Neutral Particles at Old River, OMR Scenario -3,500

Figure 17 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 99 (Old River). Six flux locations are represented by different colored dashed lines, with CVP Entrainment (blue), Unresolved in OMR Corridor (red), and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. CVP entrainment increases steadily following injection and becomes the dominant particle fate, reaching approximately 50 percent by the end of the evaluation period. The proportion of particles unresolved in the OMR Corridor peaks near 65 percent before declining to approximately 20 percent, while the proportion unresolved in the Central Delta decreases from 100 percent to approximately 15 percent. Particle passage past Chipps Island, movement upstream of Decker, and SWP entrainment remain low throughout the evaluation period.

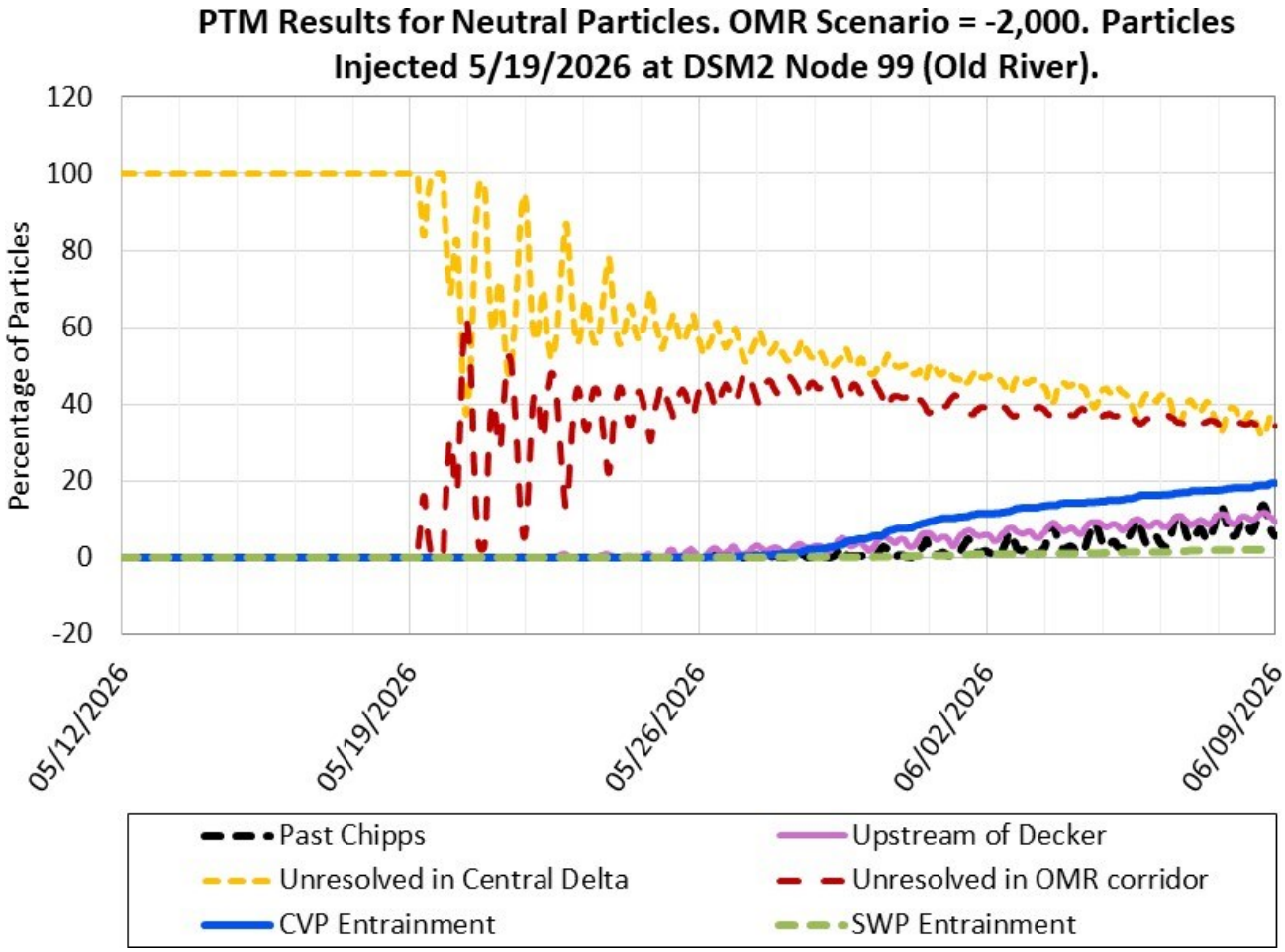


Figure 18: PTM Results for Neutral Particles at Old River, OMR Scenario -2,000

Figure 18 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 99 (Old River). Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow), Unresolved in OMR Corridor (red), and CVP Entrainment (blue) showing the most notable particle percentages across the evaluation period. The proportion of particles unresolved in the Central Delta decreases from 100 percent to approximately 35 percent, while the proportion unresolved in the OMR Corridor increases rapidly following injection and remains near 35 to 45 percent through most of the evaluation period. CVP entrainment increases gradually to approximately 20 percent by the end of the evaluation period. Particle passage past Chipps Island and movement upstream of Decker remain below approximately 15 percent, while SWP entrainment remains minimal throughout 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: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	71.6	-0.3	28.4	0.0	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-3,500	71.9	-0.2	28.1	0.0	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-2,000	75.9	0.0	24.1	0.0	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	88.7	-0.1	11.3	0.0	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-3,500	90.1	0.0	10.0	0.1	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-2,000	93.2	-0.1	6.8	0.0	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	94.9	-0.2	5.1	0.0	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-3,500	95.0	0.1	5.1	0.1	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-2,000	97.1	0.0	2.9	0.0	0.0	0.0

Note: Values between 0.0 and 0.1 are indicated with <0.1.
Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

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: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	4.1	51.1	96.4	0.5	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-3,500	4.9	51.0	95.1	0.0	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-2,000	6.0	54.7	94.0	0.0	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	38.5	64.9	63.5	1.3	0.6	0.1
Week 2: 05/26/2026 - 06/01/2026	-3,500	39.8	67.1	61.3	0.8	0.2	0.1
Week 2: 05/26/2026 - 06/01/2026	-2,000	49.0	67.9	51.5	0.5	0.0	0.0
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	59.1	70.0	45.1	1.5	2.6	0.1
Week 3: 06/02/2026 - 06/08/2026	-3,500	63.5	72.0	38.9	0.9	1.4	0.1
Week 3: 06/02/2026 - 06/08/2026	-2,000	70.9	72.5	30.0	0.8	0.1	0.0

Note: Values between 0.0 and 0.1 are indicated with <0.1.
Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

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: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	5.8	12.2	95.9	1.5	0.2	0.0
Week 1: 05/19/2026 - 05/25/2026	-3,500	7.4	11.2	94.2	1.5	0.0	0.0
Week 1: 05/19/2026 - 05/25/2026	-2,000	8.0	13.0	92.7	0.8	0.0	0.0
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	37.3	22.9	68.1	3.4	1.9	0.1
Week 2: 05/26/2026 - 06/01/2026	-3,500	41.8	21.5	61.6	2.4	0.9	0.1
Week 2: 05/26/2026 - 06/01/2026	-2,000	52.6	22.6	48.7	1.2	0.1	0.0
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	59.3	26.5	49.4	3.6	5.0	0.1
Week 3: 06/02/2026 - 06/08/2026	-3,500	63.5	23.9	42.3	2.5	3.2	0.1
Week 3: 06/02/2026 - 06/08/2026	-2,000	73.3	24.2	29.2	1.8	0.6	0.1

Note: Values between 0.0 and 0.1 are indicated with <0.1.
Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

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: 05/19/2026 - 05/25/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 1: 05/19/2026 - 05/25/2026	-5,000	0.3	0.4	27.6	39.0	32.9	0.2
Week 1: 05/19/2026 - 05/25/2026	-3,500	0.1	0.3	34.0	45.8	20.0	0.1
Week 1: 05/19/2026 - 05/25/2026	-2,000	0.1	0.9	56.9	42.9	0.1	0.0
Week 2: 05/26/2026 - 06/01/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 2: 05/26/2026 - 06/01/2026	-5,000	1.4	2.1	21.1	24.7	51.4	1.4
Week 2: 05/26/2026 - 06/01/2026	-3,500	3.3	4.0	25.8	29.1	40.5	1.4
Week 2: 05/26/2026 - 06/01/2026	-2,000	4.0	5.5	46.6	33.7	14.9	0.9
Week 3: 06/02/2026 - 06/08/2026	-6,500	N/A	N/A	N/A	N/A	N/A	N/A
Week 3: 06/02/2026 - 06/08/2026	-5,000	4.7	4.0	15.4	18.8	58.3	2.8
Week 3: 06/02/2026 - 06/08/2026	-3,500	8.6	6.1	17.3	23.1	48.1	3.0
Week 3: 06/02/2026 - 06/08/2026	-2,000	15.5	7.7	30.9	29.0	22.0	2.6

Note: Values between 0.0 and 0.1 are indicated with <0.1.
Key: CVP = Central Valley Project, OMR = Old and Middle River, SWP = State Water Project

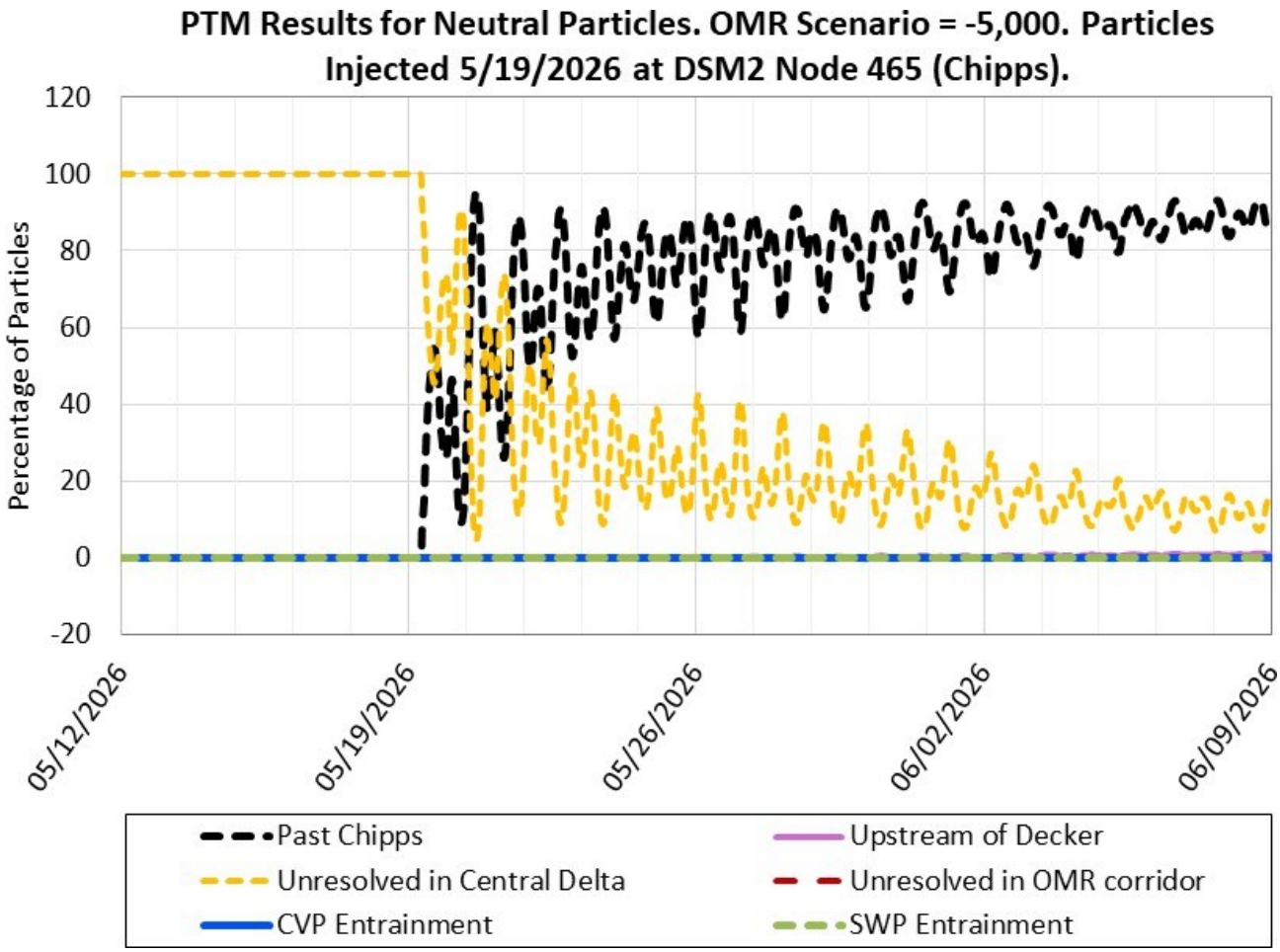


Figure 19: PTM Results for Neutral Particles at Chipps Island, OMR Scenario -5,000

Figure 19 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 465 (Chipps Island). Six flux locations are represented by different colored dashed lines, with Past Chipps (black) and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. Following injection, the proportion of particles passing Chipps Island increases rapidly and remains the dominant particle fate, reaching approximately 90 percent by the end of the evaluation period. The proportion of particles unresolved in the Central Delta declines from 100 percent to approximately 10 percent over the evaluation period. Particle movement upstream of Decker and entrainment at the CVP and SWP facilities remain negligible throughout the evaluation period, with no notable accumulation in the OMR Corridor.

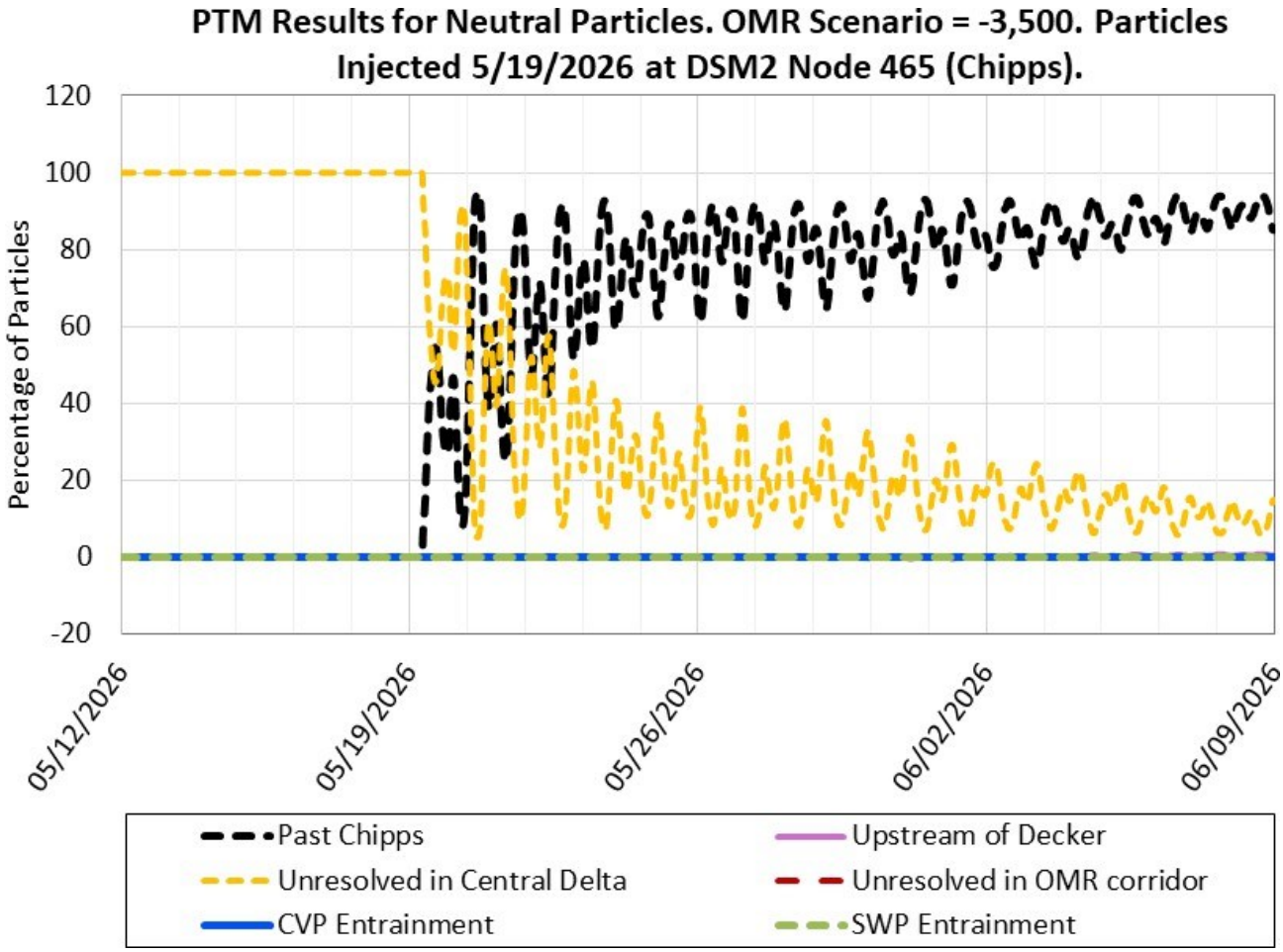


Figure 20: PTM Results for Neutral Particles at Chipps Island, OMR Scenario -3,500

Figure 20 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 465 (Chipps Island). Six flux locations are represented by different colored dashed lines, with Past Chipps (black) and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. Following injection, the proportion of particles passing Chipps Island increases rapidly and remains the dominant particle fate, reaching approximately 90 percent by the end of the evaluation period. The proportion of particles unresolved in the Central Delta declines from 100 percent to approximately 10 percent over the evaluation period. Particle movement upstream of Decker and entrainment at the CVP and SWP facilities remain negligible throughout the evaluation period, with no notable accumulation in the OMR Corridor.

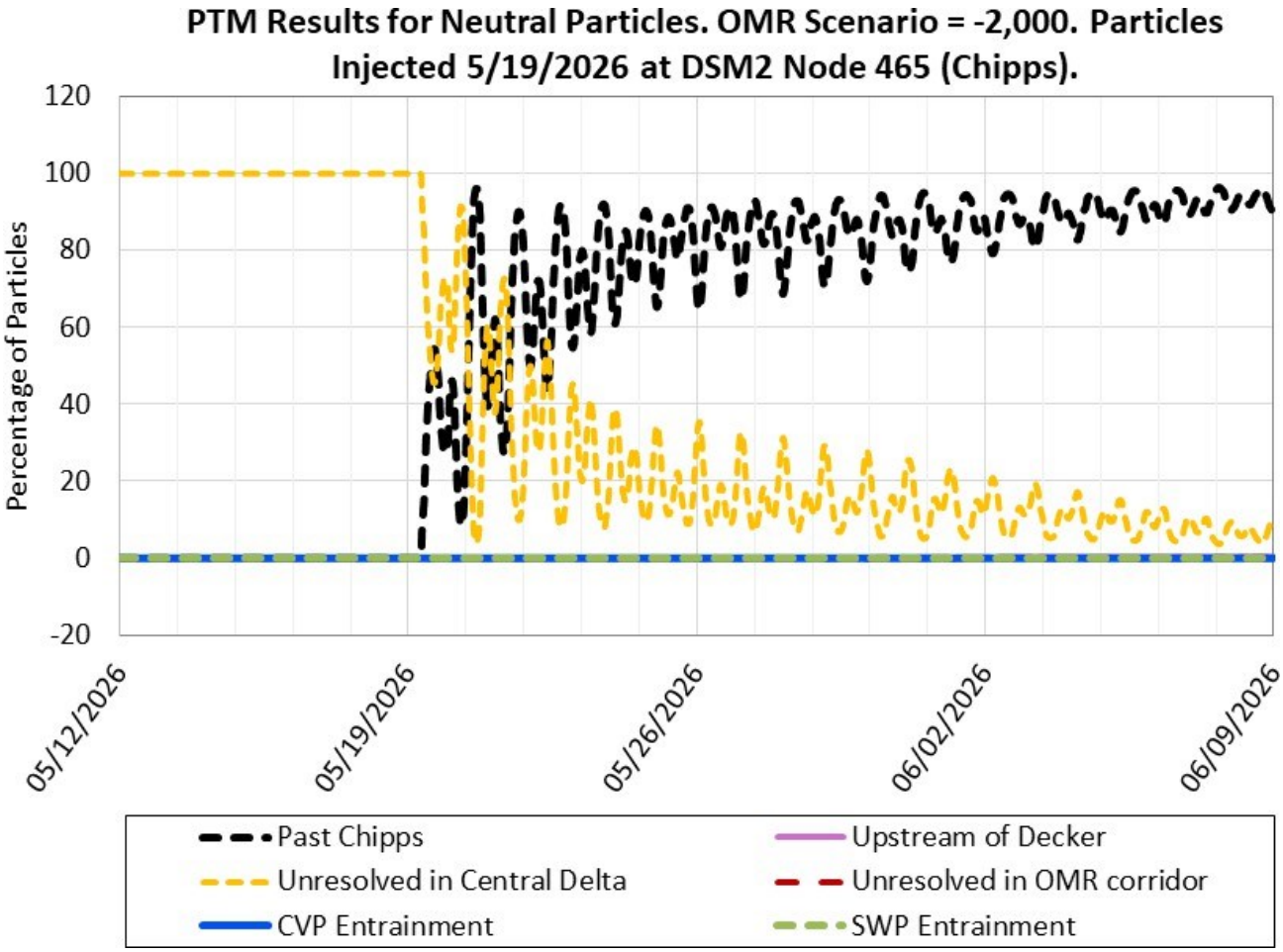


Figure 21: PTM Results for Neutral Particles at Chipps Island, OMR Scenario -2,000

Figure 21 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 465 (Chipps Island). Six flux locations are represented by different colored dashed lines, with Past Chipps (black) and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. Following injection, the proportion of particles passing Chipps Island increases rapidly and remains the dominant particle fate, reaching approximately 95 percent by the end of the evaluation period. The proportion of particles unresolved in the Central Delta declines from 100 percent to less than 10 percent over the evaluation period. Particle movement upstream of Decker and entrainment at the CVP and SWP facilities remain negligible throughout the evaluation period, with no notable accumulation in the OMR Corridor.

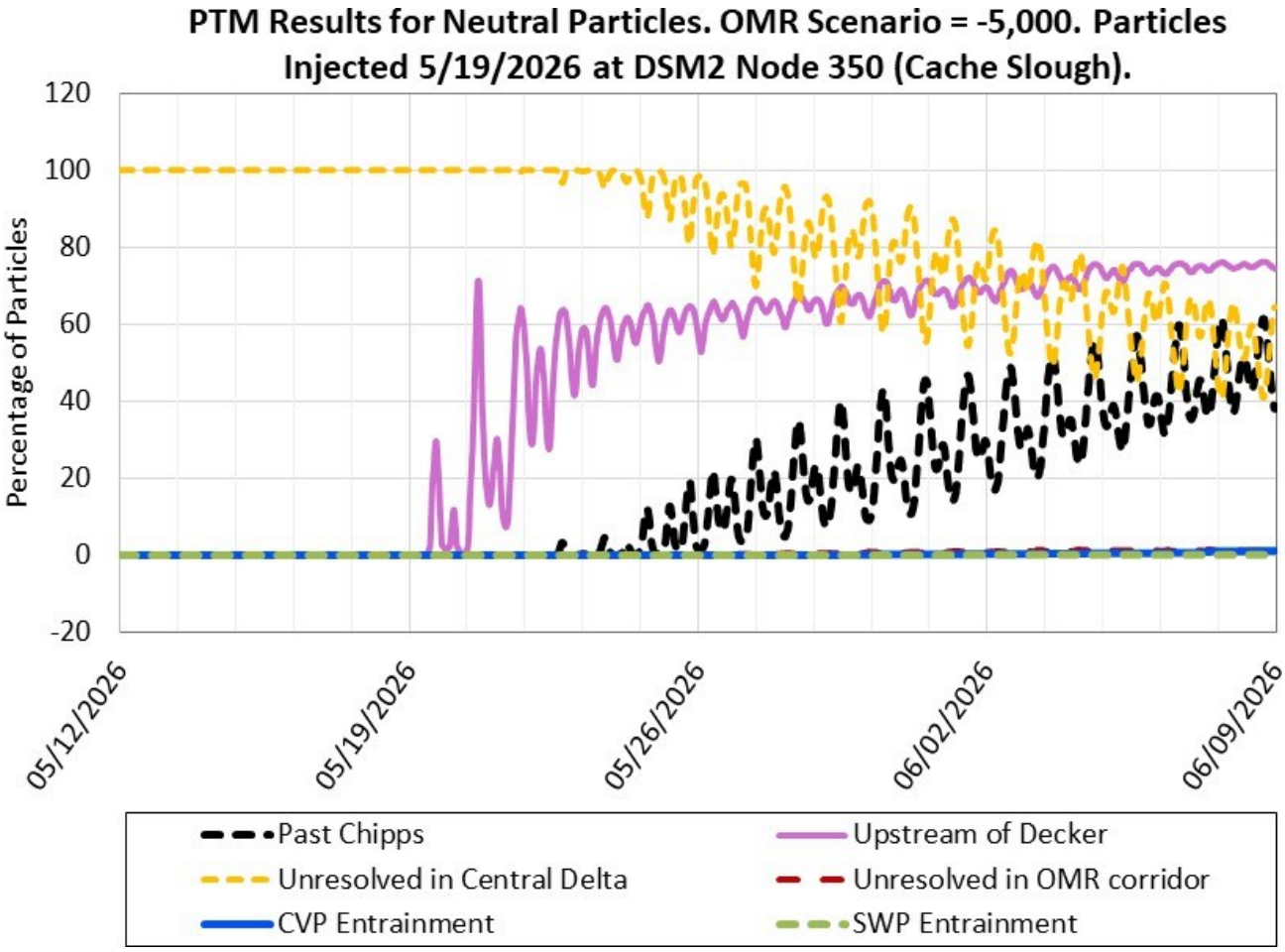


Figure 22: PTM Results for Neutral Particles at Cache Slough, OMR Scenario -5,000

Figure 22 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 350 (Cache Slough). Six flux locations are represented by different colored dashed lines, with Upstream of Decker (purple), Unresolved in Central Delta (yellow), and Past Chipps (black) showing the most notable particle percentages across the evaluation period. Following injection, the proportion of particles moving upstream of Decker increases rapidly and becomes the dominant particle fate, reaching approximately 75 percent by the end of the evaluation period. The proportion of particles unresolved in the Central Delta declines from 100 percent to approximately 45 percent, while the proportion passing Chipps Island increases steadily to approximately 55 percent. Entrainment at the CVP and SWP facilities and accumulation within the OMR Corridor remain negligible throughout the evaluation period.

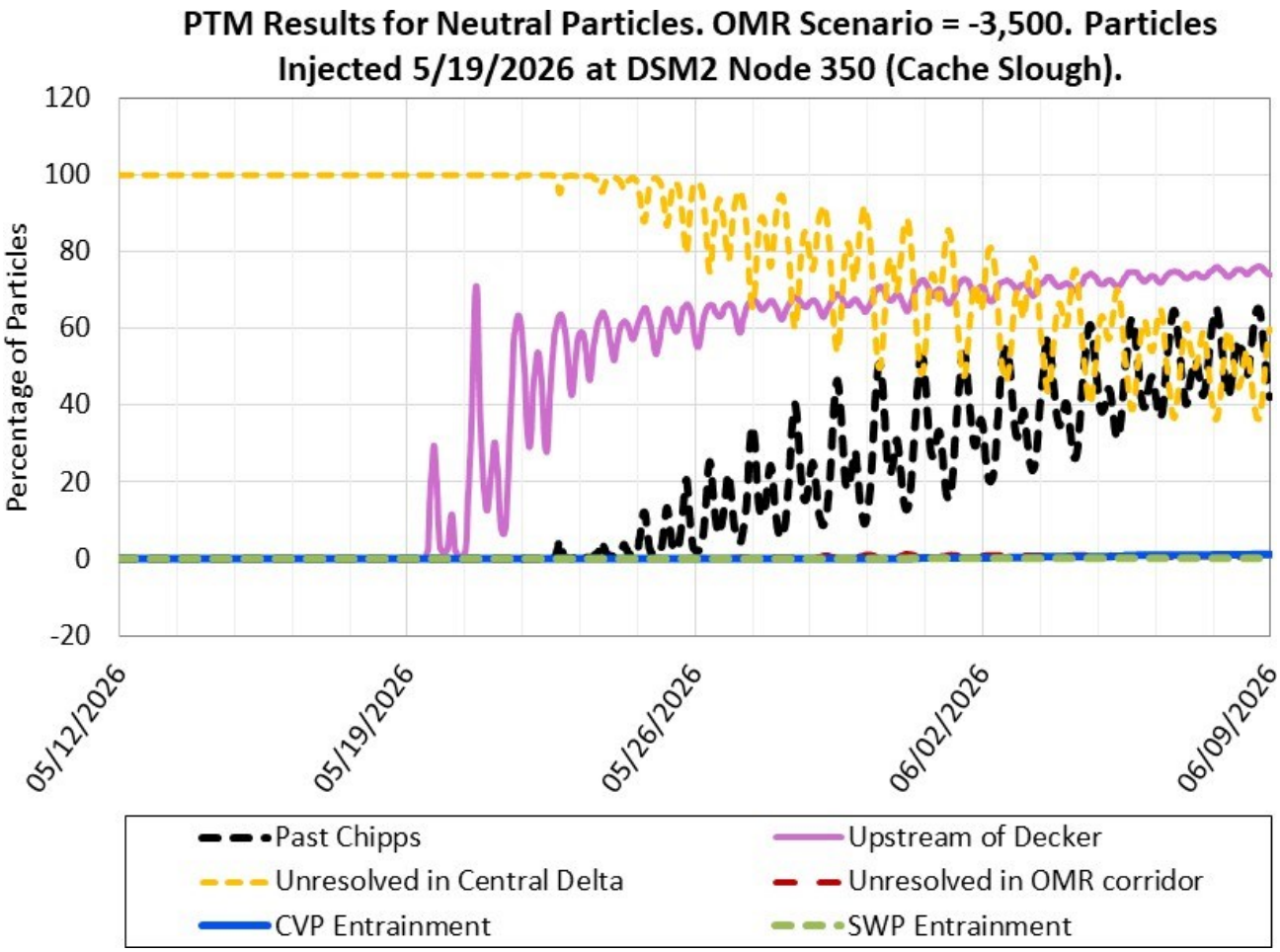


Figure 23: PTM Results for Neutral Particles at Cache Slough, OMR Scenario -3,500

Figure 23 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 350 (Cache Slough). Six flux locations are represented by different colored dashed lines, with Upstream of Decker (purple), Unresolved in Central Delta (yellow), and Past Chipps (black) showing the most notable particle percentages across the evaluation period. Following injection, the proportion of particles moving upstream of Decker increases rapidly and becomes the dominant particle fate, reaching approximately 75 percent by the end of the evaluation period. The proportion of particles unresolved in the Central Delta declines from 100 percent to approximately 40 percent, while the proportion passing Chipps Island increases steadily to approximately 60 percent. Entrainment at the CVP and SWP facilities and accumulation within the OMR Corridor remain negligible throughout the evaluation period.

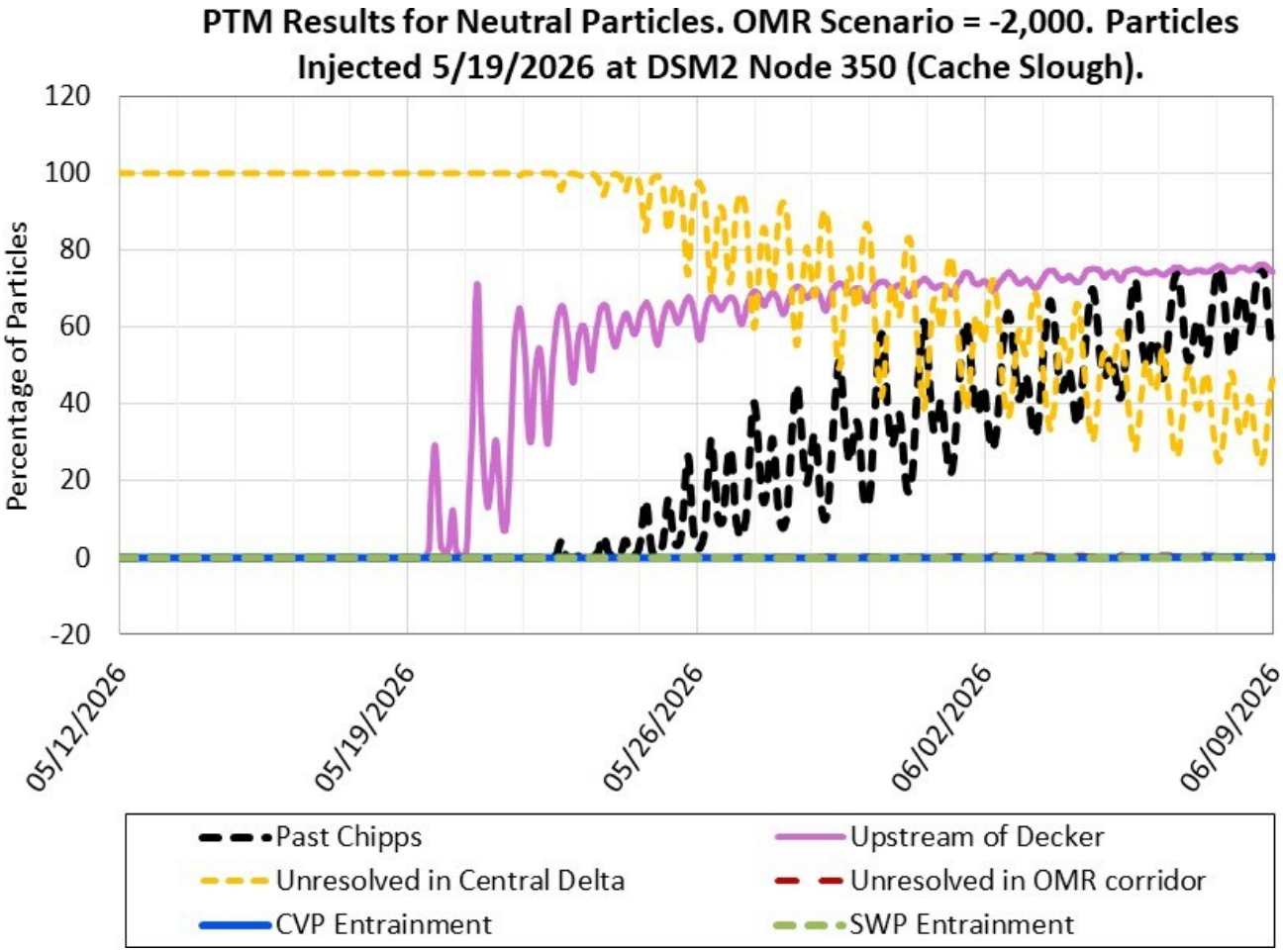


Figure 24: PTM Results for Neutral Particles at Cache Slough, OMR Scenario -2,000

Figure 24 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 350 (Cache Slough). Six flux locations are represented by different colored dashed lines, with Upstream of Decker (purple), Past Chipps (black), and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. Following injection, the proportion of particles moving upstream of Decker increases rapidly and becomes the dominant particle fate, reaching approximately 75 percent by the end of the evaluation period. The proportion of particles unresolved in the Central Delta declines from 100 percent to approximately 30 percent, while the proportion passing Chipps Island increases steadily to approximately 70 percent. Entrainment at the CVP and SWP facilities and accumulation within the OMR Corridor remain negligible throughout the evaluation period.

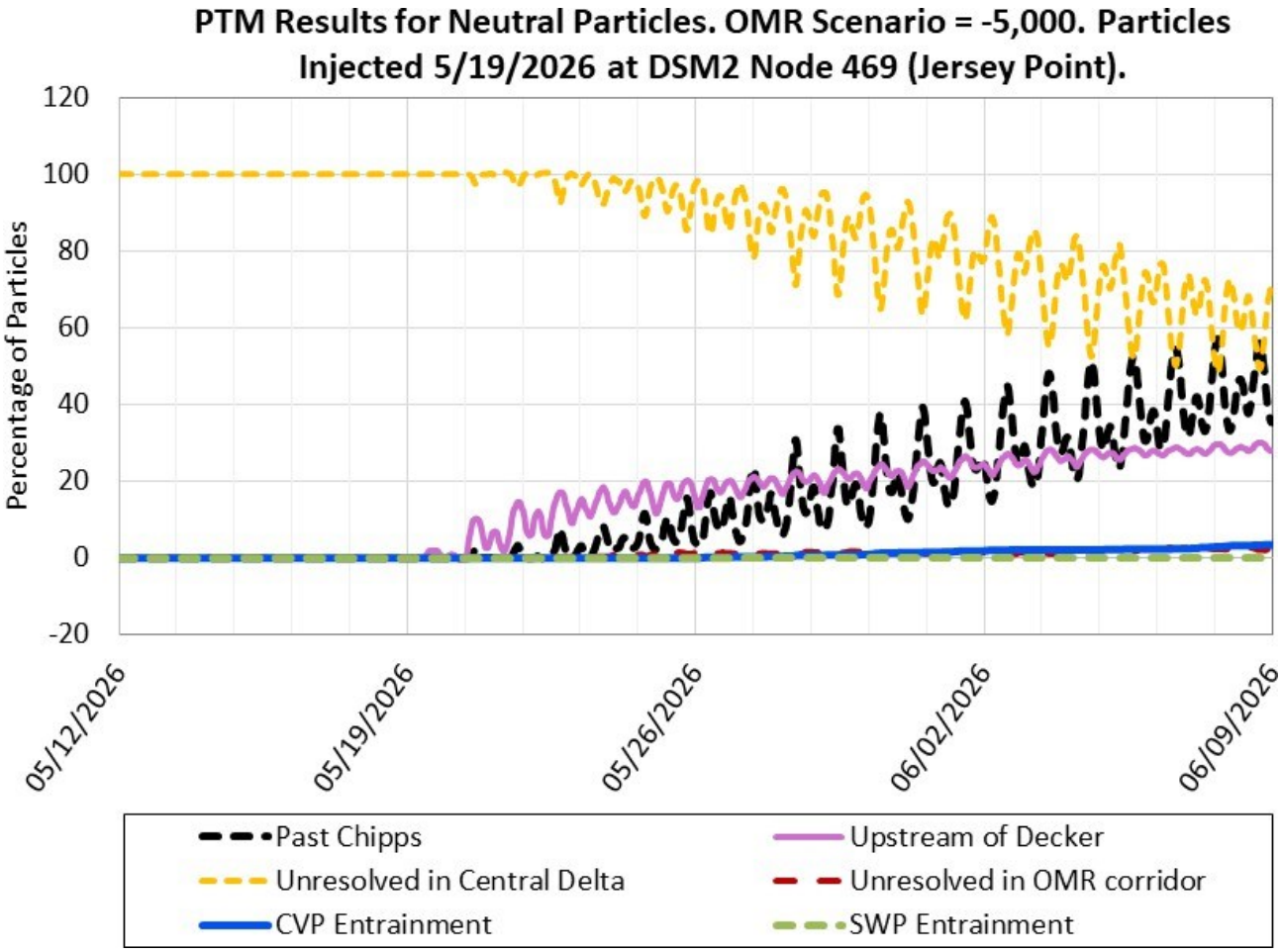


Figure 25: PTM Results for Neutral Particles at Jersey Point, OMR Scenario -5,000

Figure 25 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 469 (Jersey Point). Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow), Past Chipps (black), and Upstream of Decker (purple) showing the most notable particle percentages across the evaluation period. The proportion of particles unresolved in the Central Delta remains the dominant particle fate, declining from 100 percent to approximately 60 percent by the end of the evaluation period. The proportion of particles passing Chipps Island increases steadily to approximately 50 percent, while the proportion moving upstream of Decker increases to approximately 30 percent. Entrainment at the CVP and SWP facilities and accumulation within the OMR Corridor remain minimal throughout the evaluation period.

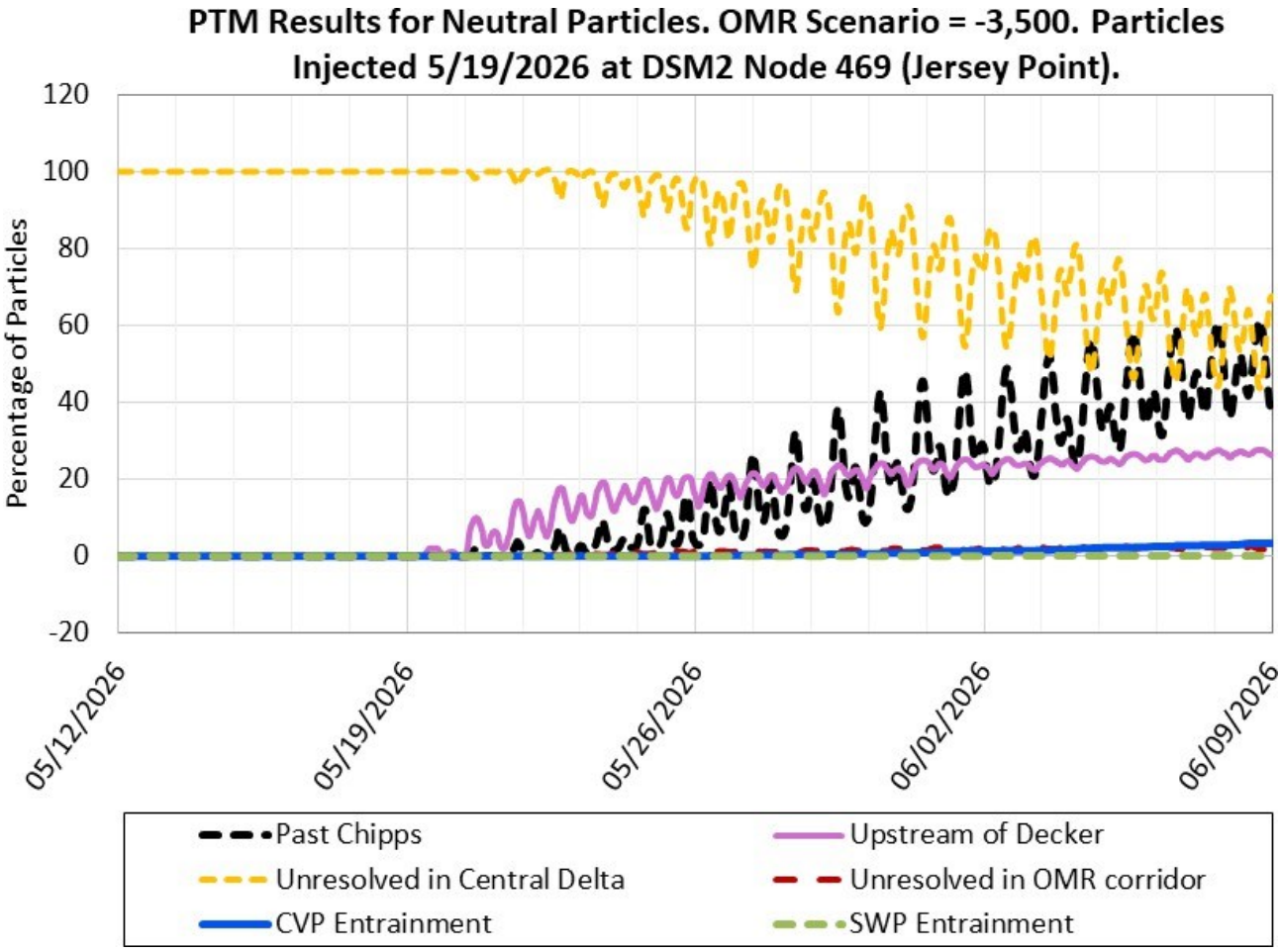


Figure 26: PTM Results for Neutral Particles at Jersey Point, OMR Scenario -3,500

Figure 26 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 469 (Jersey Point). Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow), Past Chipps (black), and Upstream of Decker (purple) showing the most notable particle percentages across the evaluation period. The proportion of particles unresolved in the Central Delta remains the dominant particle fate, declining from 100 percent to approximately 60 percent by the end of the evaluation period. The proportion of particles passing Chipps Island increases steadily to approximately 55 percent, while the proportion moving upstream of Decker increases to approximately 25 percent. Entrainment at the CVP and SWP facilities and accumulation within the OMR Corridor remain minimal throughout the evaluation period.

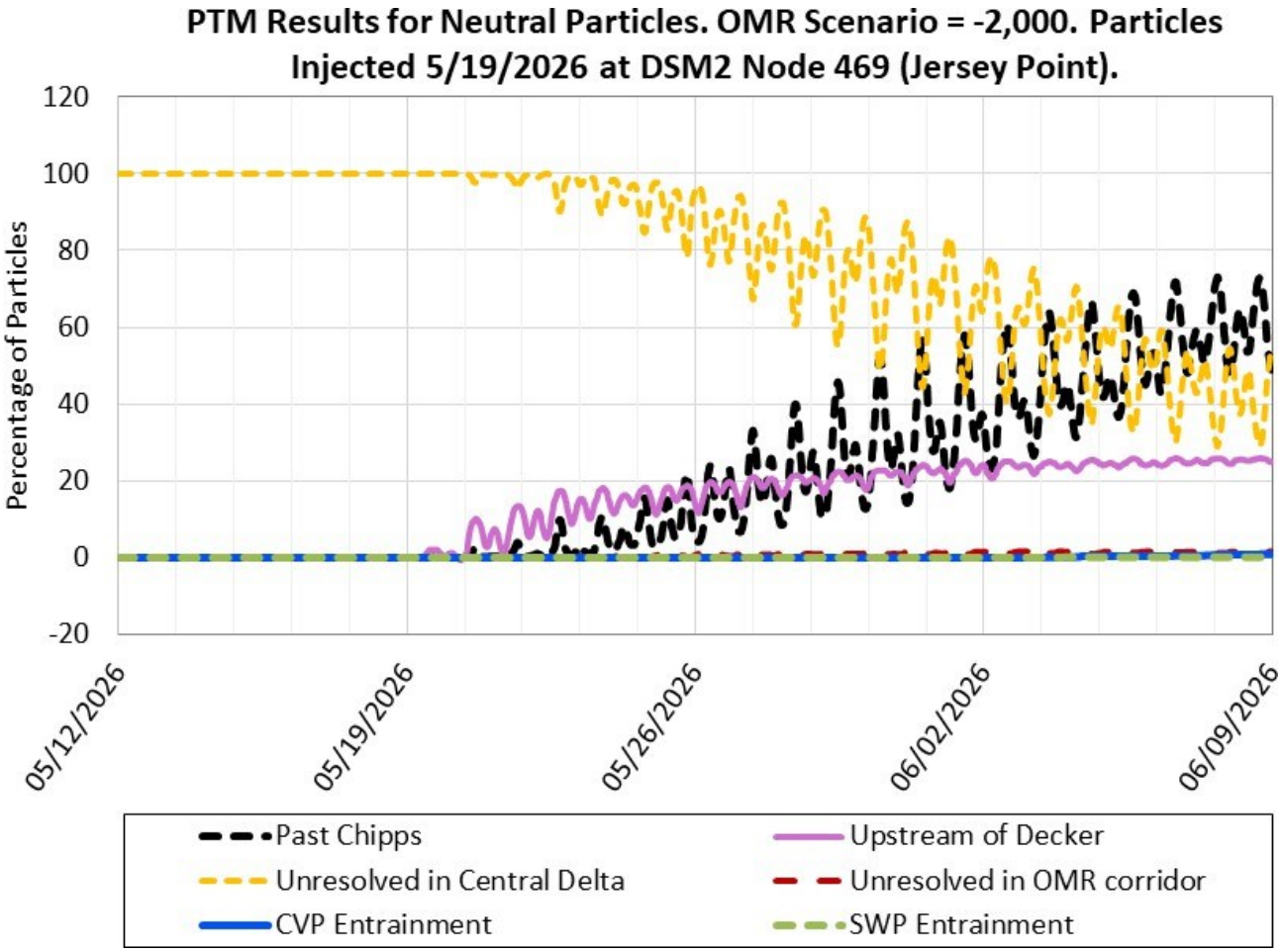


Figure 27: PTM Results for Neutral Particles at Jersey Point, OMR Scenario -2,000

Figure 27 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 469 (Jersey Point). Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow), Past Chipps (black), and Upstream of Decker (purple) showing the most notable particle percentages across the evaluation period. The proportion of particles unresolved in the Central Delta remains the dominant particle fate, declining from 100 percent to approximately 35 percent by the end of the evaluation period. The proportion of particles passing Chipps Island increases steadily to approximately 70 percent, while the proportion moving upstream of Decker increases to approximately 25 percent. Entrainment at the CVP and SWP facilities and accumulation within the OMR Corridor remain minimal throughout the evaluation period.

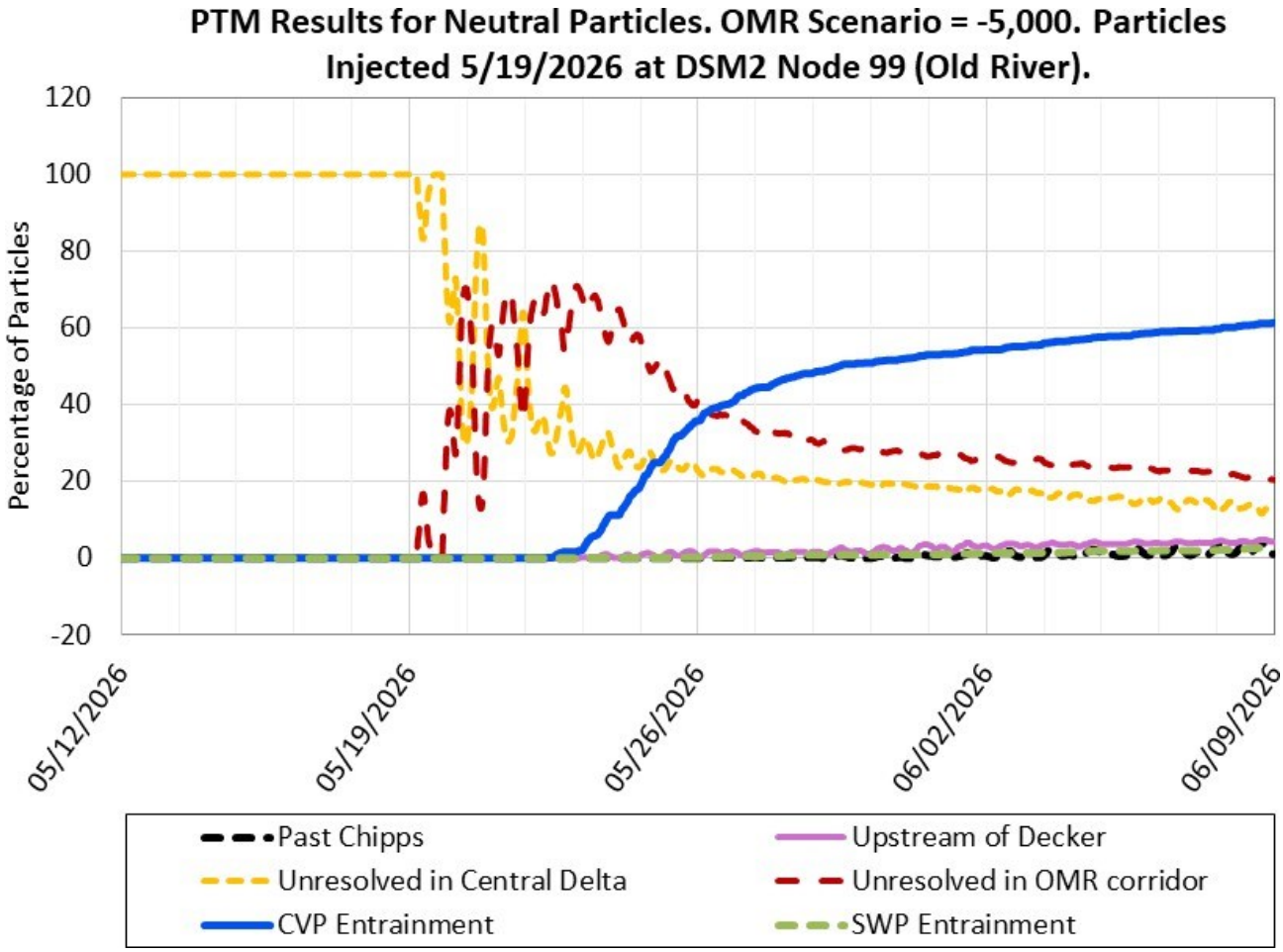


Figure 28: PTM Results for Neutral Particles at Old River, OMR Scenario -5,000

Figure 28 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 99 (Old River). Six flux locations are represented by different colored dashed lines, with CVP Entrainment (blue), Unresolved in OMR Corridor (red), and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. CVP entrainment increases rapidly following injection and becomes the dominant particle fate, reaching approximately 60 percent by the end of the evaluation period. The proportion of particles unresolved in the OMR Corridor peaks near 70 percent before declining to approximately 20 percent, while the proportion unresolved in the Central Delta decreases from 100 percent to approximately 10 percent. Particle passage past Chipps Island, movement upstream of Decker, and SWP entrainment remain low throughout the evaluation period.

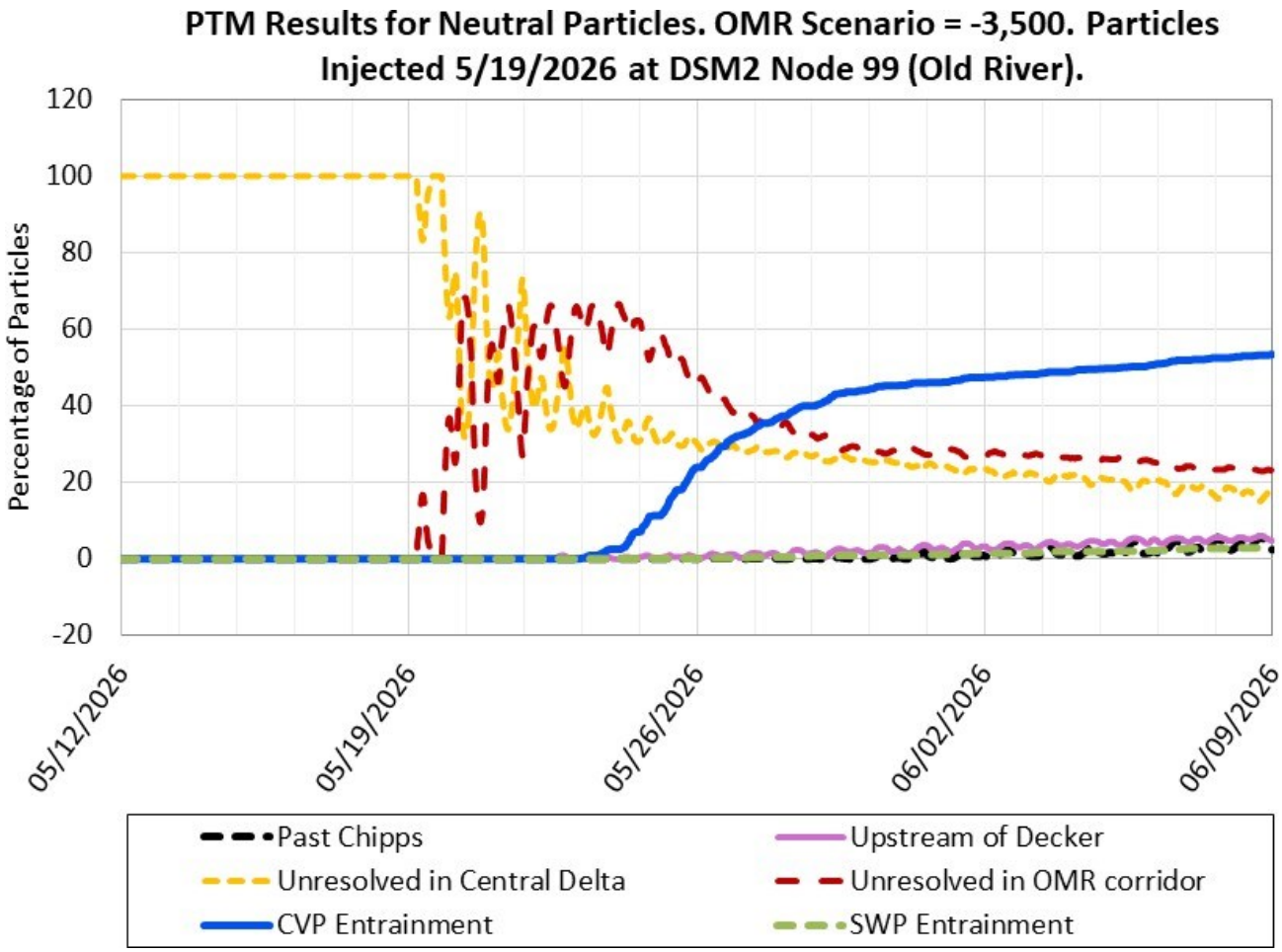


Figure 29: PTM Results for Neutral Particles at Old River, OMR Scenario -3,500

Figure 29 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 99 (Old River). Six flux locations are represented by different colored dashed lines, with CVP Entrainment (blue), Unresolved in OMR Corridor (red), and Unresolved in Central Delta (yellow) showing the most notable particle percentages across the evaluation period. CVP entrainment increases rapidly following injection and becomes the dominant particle fate, reaching approximately 55 percent by the end of the evaluation period. The proportion of particles unresolved in the OMR Corridor peaks near 65 percent before declining to approximately 20 percent, while the proportion unresolved in the Central Delta decreases from 100 percent to approximately 15 percent. Particle passage past Chipps Island, movement upstream of Decker, and SWP entrainment remain low throughout the evaluation period.

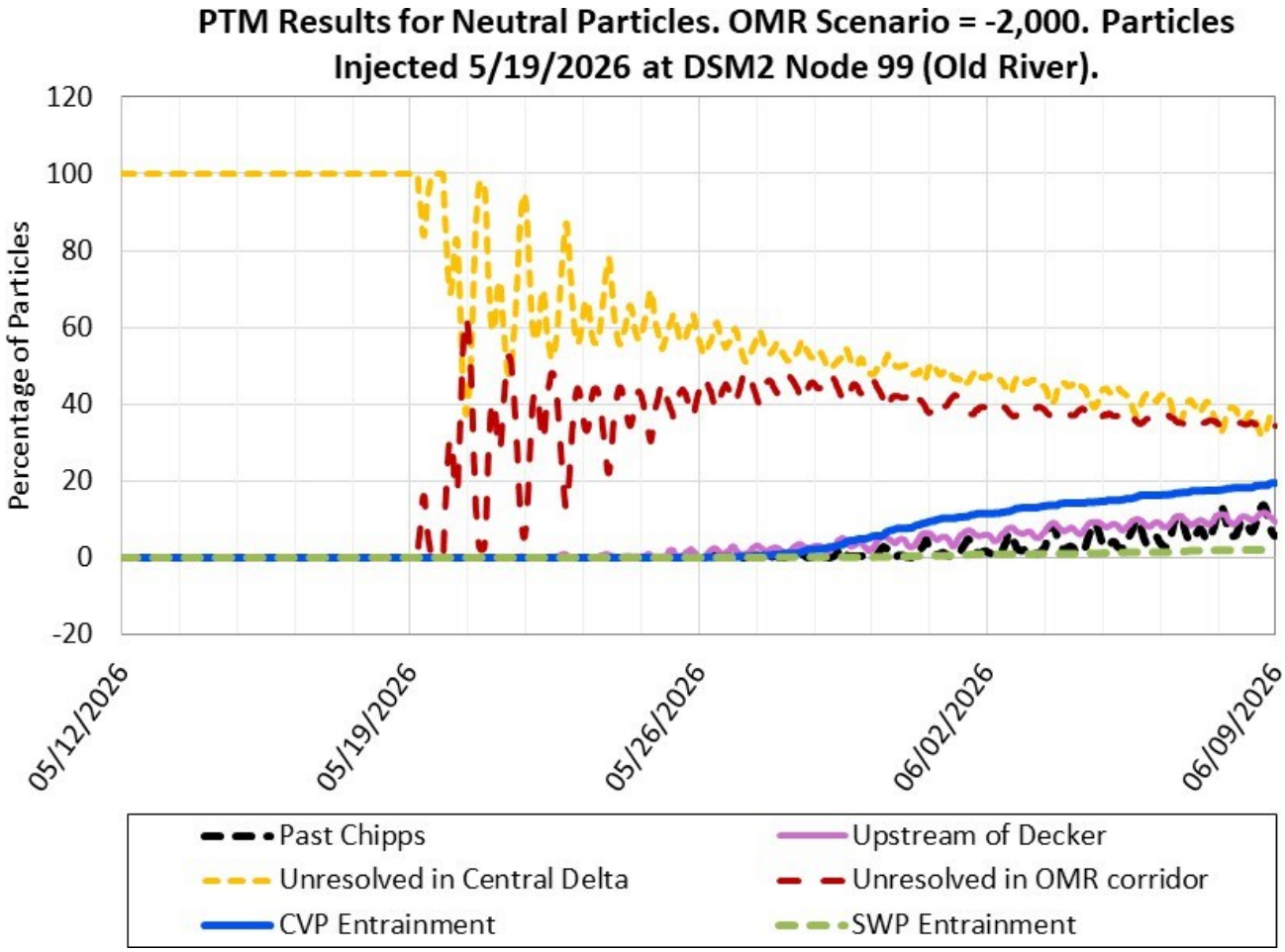


Figure 30: PTM Results for Neutral Particles at Old River, OMR Scenario -2,000

Figure 30 is a line graph showing the percentage of neutral particles over time from May 12 to June 9, 2026, injected on May 19, 2026 at DSM2 Node 99 (Old River). Six flux locations are represented by different colored dashed lines, with Unresolved in Central Delta (yellow), Unresolved in OMR Corridor (red), and CVP Entrainment (blue) showing the most notable particle percentages across the evaluation period. The proportion of particles unresolved in the Central Delta declines from 100 percent following injection to approximately 35 percent by the end of the evaluation period, while the proportion unresolved in the OMR Corridor increases rapidly and remains near 40 percent for much of the simulation. CVP entrainment remains low initially but increases steadily through late May and early June, reaching approximately 20 percent by the end of the evaluation period. Particle passage past Chipps Island and movement upstream of Decker increase gradually but remain below 15 percent, while SWP entrainment remains minimal throughout the evaluation period.

ECO-PTM (Ecological Particle Tracking Model)

ECO-PTM Results Evaluation Period: 05/19/2026 – 06/09/2026

Particles Injected: 05/19/2026

Injection Location: Sacramento River at Freeport

Table 12. Salmon Particle Route Ratio After 3 Weeks Ending 06/08/2026

OMR Flow Bin (cfs)	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	0.09	0.07	0.84	0.69	0.21
-3,500	0.09	0.07	0.84	0.68	0.22
-2,000	0.09	0.06	0.84	0.68	0.22

Note: 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).

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

Table 13. Salmon Particle Route-Specific Survival After 3 Weeks Ending 06/08/2026

OMR Flow Bin (cfs)	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	37%	52%	44%	21%	37%
-3,500	33%	50%	42%	28%	37%
-2,000	36%	57%	46%	27%	39%

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

Longfin Smelt Larval Population and PTM Analysis

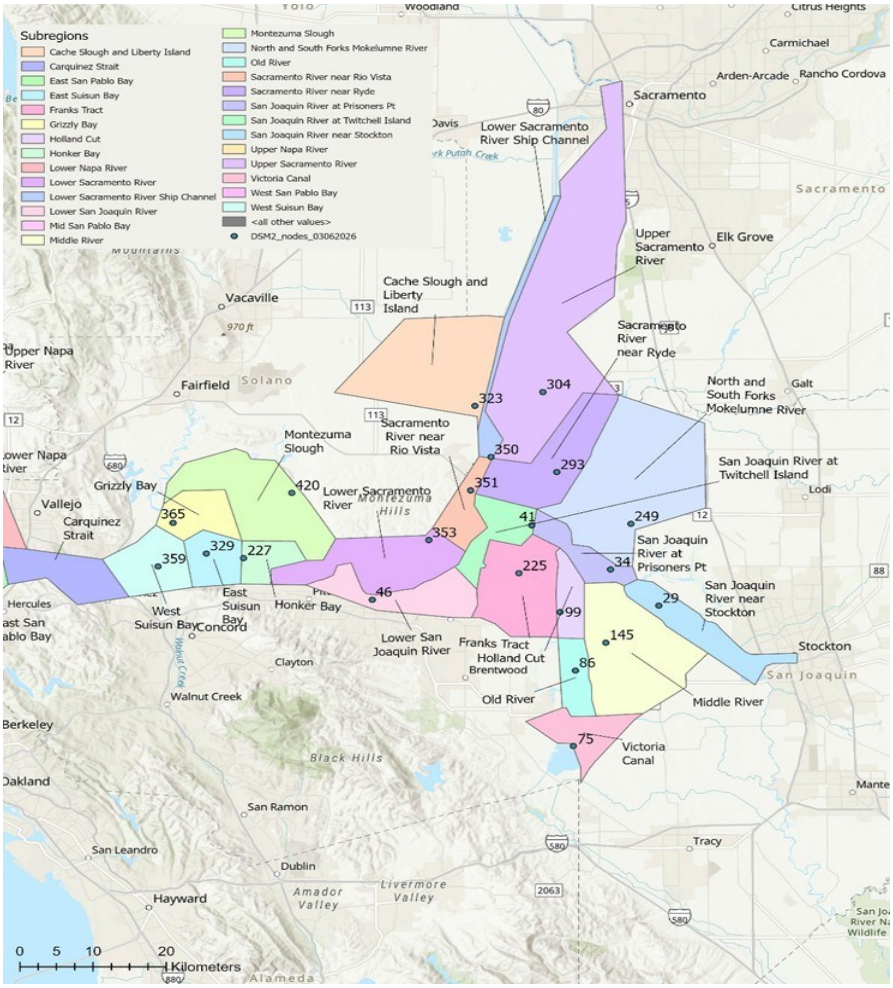
PTM Results Evaluation Period: 05/19/2026 – 06/09/2026

Particles Injected: 05/19/2026

PTM Injection Location: node(s) within each Delta Region identified in map below

PTM Analysis Method: LFS larva abundance is estimated in each Enhanced Delta Smelt Monitoring (EDSM) program subregion. Cumulative particle flux into CVP and SWP facilities is represented in PTM by one injection location per subregion (Figure 33). LFS larva

entrainment is estimated by multiplying the LFS subregion abundance by cumulative particle flux into CVP and SWP facilities from the corresponding subregion injection point. LFS entrainment from each subregion is added together and reported at the LFS Region scale (Figure 34).



Note: No DSM2 nodes are west of the West Suisun Bay subregion, so the furthest west node in the DSM2 domain is used to represent particle entrainment for all subregions west of West Suisun Bay.

Figure 33. Map of Delta Showing Longfin Smelt Subregions and DSM2 Nodes

Figure 33 is a map of the Sacramento–San Joaquin Delta showing the subregions used in the longfin smelt analysis and the locations of DSM2 nodes used for particle tracking model simulations. Colored polygons delineate the Delta subregions, including Cache Slough and Liberty Island, Upper and Lower Sacramento River regions, San Joaquin River regions, Suisun Bay, Suisun Marsh, and other Delta channels. Black points and labels identify DSM2 nodes used as particle injection locations, including Chipps Island (465), Jersey Point (469), Cache Slough Confluence (350), Old River (99), and additional nodes distributed throughout the Delta. The figure provides the spatial framework used to evaluate particle movement and route-specific outcomes across the Delta system.

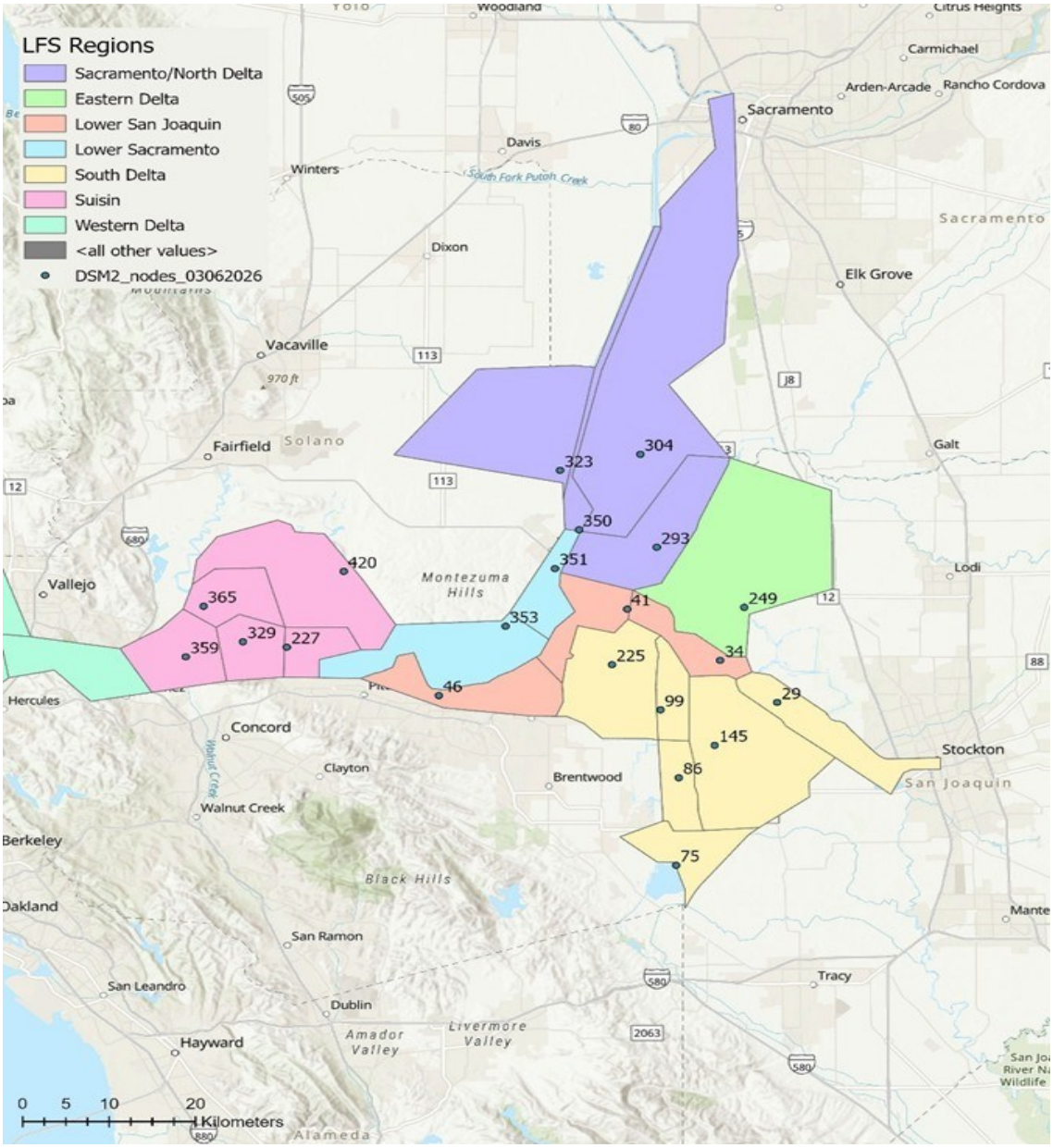


Figure 34. Map of Delta Showing Longfin Smelt Regions and DSM2 Nodes

Figure 34 is a map of the Sacramento–San Joaquin Delta showing the longfin smelt regions used in the particle tracking analysis and the locations of associated DSM2 nodes. Colored polygons delineate seven analysis regions: Sacramento/North Delta, Eastern Delta, Lower Sacramento, Lower San Joaquin, South Delta, Suisun, and Western Delta. Black points and labels identify DSM2 nodes used as particle injection locations and tracking reference points throughout the Delta, including nodes located in Suisun Bay, the Sacramento River corridor, Cache Slough, the San Joaquin River system, and the South Delta. The figure provides the regional framework used to evaluate particle movement, routing, and entrainment patterns for longfin smelt simulations across the Delta.

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. As of 04/21/2026, all SLS survey catch data has been processed (Table 14). CDFW has transitioned from the SLS to the 20-mm survey to collect distribution data for post larval-juvenile Longfin Smelt. As of 05/12/2026, processing of the 20mm Survey 1 data is at 51% complete, heavily biased to the eastern and southern Delta. Due to the lack of processed 20mm data from any of the more westerly regions, any proportional entrainment estimates would be strongly biased upward, and SLS Survey 6 data is used to estimate proportional entrainment risk for this assessment.

Table 14. Percent of Smelt Larva Survey Sample Results Processed as of 04/21/2026

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%	100%
6	3/9/2026	100%	100%	100%	100%	100%	100%	100%

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
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

OMR (cfs)	Combined Exports (cfs)	Region Metric	West	Suisun	Sacra-mento/ North Delta	Lower San Joaquin	Lower Sacra-mento	South Delta	East	Total (#)	Total (%)
N/A	N/A	LFS Larva Abundance (Survey 6: 3/9/2026)	117,633,687	145,677,478	304,865	4,078,739	3,695,676	0	0	271,390,445	N/A
-6,500	N/A	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	4,809	PTM Entrained (%)	0.0	0.0	0.0	<0.1	0.0	0.0	0.0	N/A	N/A
-3,500	4,107	PTM Entrained (%)	0.0	0.0	0.0	<0.1	0.0	0.0	0.0	N/A	N/A
-2,000	2,404	PTM Entrained (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	N/A
-6,500	N/A	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	4,809	LFS Larva Entrained (#)	0	0	0	650	0	0	0	650	<0.1%
-3,500	4,107	LFS Larva Entrained (#)	0	0	0	859	0	0	0	859	<0.1%
-2,000	2,404	LFS Larva Entrained (#)	0	0	0	0	0	0	0	0	0.0%

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

Table 17. LFS Entrainment Estimate using PTM with Surface Oriented Particles: Week 2

OMR (cfs)	Combined Exports (cfs)	Region Metric	West	Suisun	Sacra-mento/ North Delta	Lower San Joaquin	Lower Sacra-mento	South Delta	East	Total (#)	Total (%)
N/A	N/A	LFS Larva Abundance (Survey 6: 3/9/2026)	117,633,687	145,677,478	304,865	4,078,739	3,695,676	0	0	271,390,445	N/A
-6,500	N/A	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	4,809	PTM Entrained (%)	0.0	0.0	0.3	3.1	0.2	0.0	0.0	N/A	N/A
-3,500	4,107	PTM Entrained (%)	0.0	0.0	0.1	2.2	0.2	0.0	0.0	N/A	N/A
-2,000	2,404	PTM Entrained (%)	0.0	0.0	0.0	0.2	0.0	0.0	0.0	N/A	N/A
-6,500	N/A	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	4,809	LFS Larva Entrained (#)	0	0	915	126,808	7,391	0	0	135,113	<0.1%
-3,500	4,107	LFS Larva Entrained (#)	0	0	305	87,850	9,006	0	0	97,161	<0.1%
-2,000	2,404	LFS Larva Entrained (#)	0	0	0	8,001	0	0	0	8,001	<0.1%

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

Table 18. LFS Entrainment Estimate using PTM with Surface Oriented Particles: Week 3

OMR (cfs)	Combined Exports (cfs)	Region Metric	West	Suisun	Sacra-mento/ North Delta	Lower San Joaquin	Lower Sacra-mento	South Delta	East	Total (#)	Total (%)
N/A	N/A	LFS Larva Abundance (Survey 6: 3/9/2026)	117,633,687	145,677,478	304,865	4,078,739	3,695,676	0	0	271,390,445	N/A
-6,500	N/A	PTM Entrained (%)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	4,809	PTM Entrained (%)	0	0	1.3	8.2	0.8	0	0	N/A	N/A
-3,500	4,107	PTM Entrained (%)	0	0	1.2	6.3	0.4	0	0	N/A	N/A
-2,000	2,404	PTM Entrained (%)	0	0	0	1.5	0	0	0	N/A	N/A
-6,500	N/A	LFS Larva Entrained (#)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-5,000	4,809	LFS Larva Entrained (#)	0	0	3,963	335,402	31,181	0	0	370,545	0.10%
-3,500	4,107	LFS Larva Entrained (#)	0	0	3,658	256,981	14,721	0	0	275,361	0.10%
-2,000	2,404	LFS Larva Entrained (#)	0	0	0	59,745	0	0	0	59,745	<0.1%

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

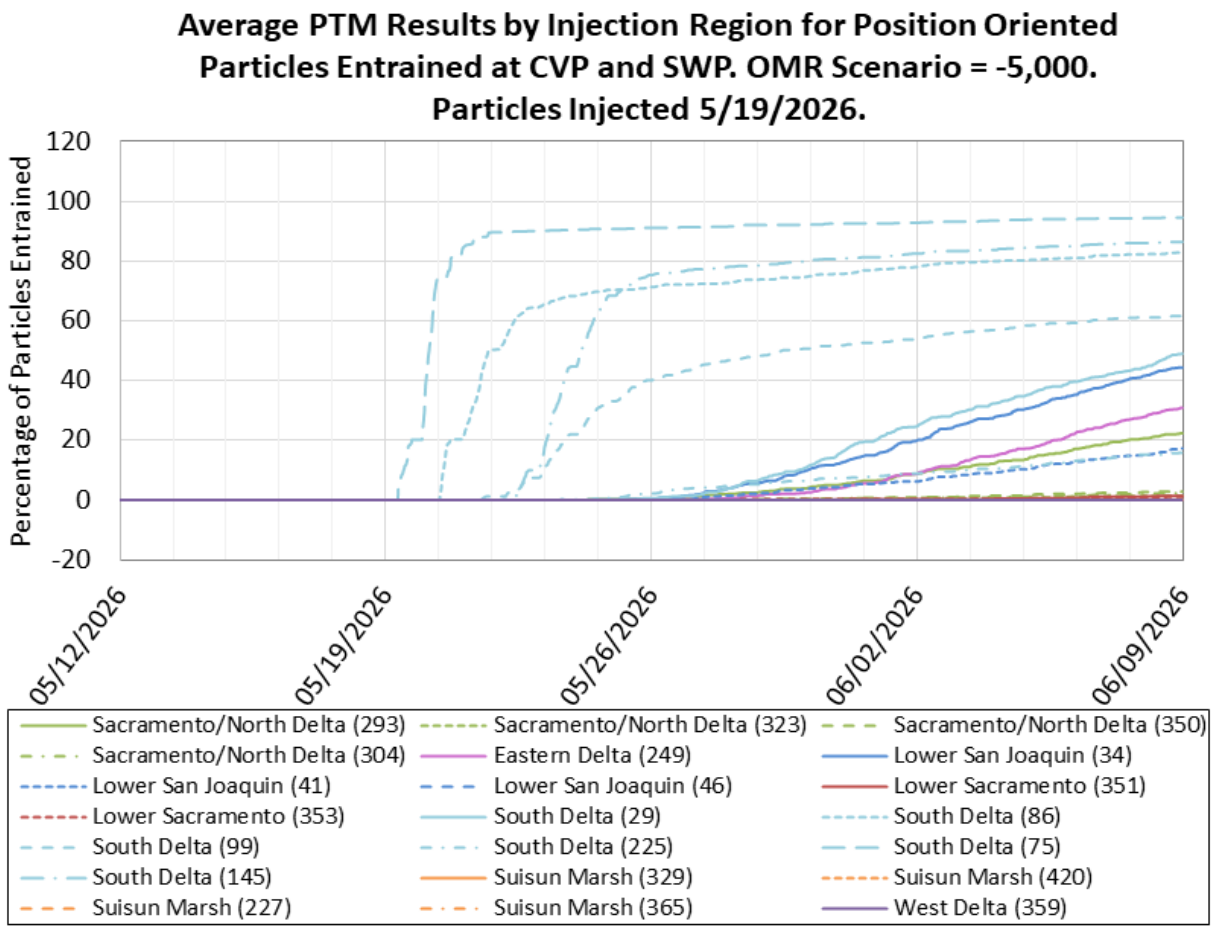


Figure 35: Average PTM Results by Injection Region for Position-Oriented Particles Entrained at CVP and SWP Under the OMR -5,000 Scenario

Figure 35 is a line graph showing the percentage of position-oriented particles entrained at the Central Valley Project (CVP) and State Water Project (SWP) facilities over time from May 12 to June 9, 2026, for particles injected on May 19, 2026 at DSM2 nodes representing seven longfin smelt regions. Results vary substantially by injection region, with particles originating in the South Delta exhibiting the highest entrainment rates, reaching approximately 80 to 95 percent by the end of the evaluation period depending on injection location. Particles originating in the Lower San Joaquin, Eastern Delta, and Sacramento/North Delta regions show moderate entrainment, generally ranging from approximately 15 to 50 percent by June 9. In contrast, particles originating in the Lower Sacramento, Suisun Marsh, and West Delta regions exhibit minimal entrainment throughout the simulation period. These results indicate that particle origin within the Delta strongly influences the likelihood of export facility entrainment under the OMR -5,000 scenario.

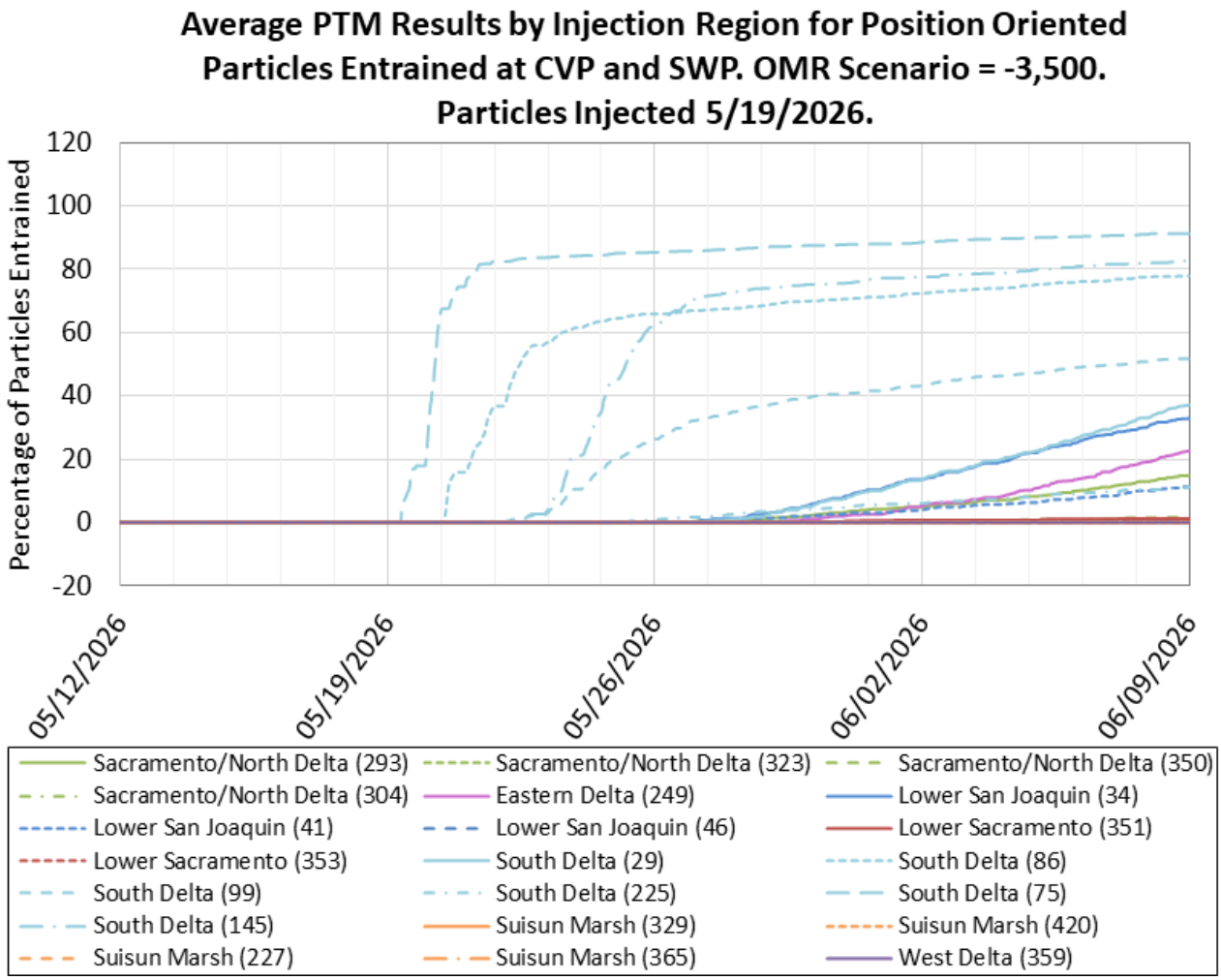


Figure 36: Average PTM Results by Injection Region for Position-Oriented Particles Entrained at CVP and SWP Under the OMR -3,500 Scenario

Figure 36 is a line graph showing the percentage of position-oriented particles entrained at the Central Valley Project (CVP) and State Water Project (SWP) facilities over time from May 12 to June 9, 2026, for particles injected on May 19, 2026 at DSM2 nodes representing seven longfin smelt regions. Similar to the OMR -5,000 scenario, particles originating in the South Delta exhibit the highest entrainment rates, with several South Delta injection locations reaching approximately 75 to 90 percent entrainment by the end of the evaluation period. Particles originating in the Lower San Joaquin, Eastern Delta, and Sacramento/North Delta regions show moderate entrainment, generally remaining below 40 percent by June 9. Particles originating in the Lower Sacramento, Suisun Marsh, and West Delta regions exhibit little to no entrainment throughout the simulation period. These results demonstrate that entrainment remains strongly influenced by injection region, with South Delta-origin particles contributing the greatest proportion of entrained particles under the OMR -3,500 scenario.

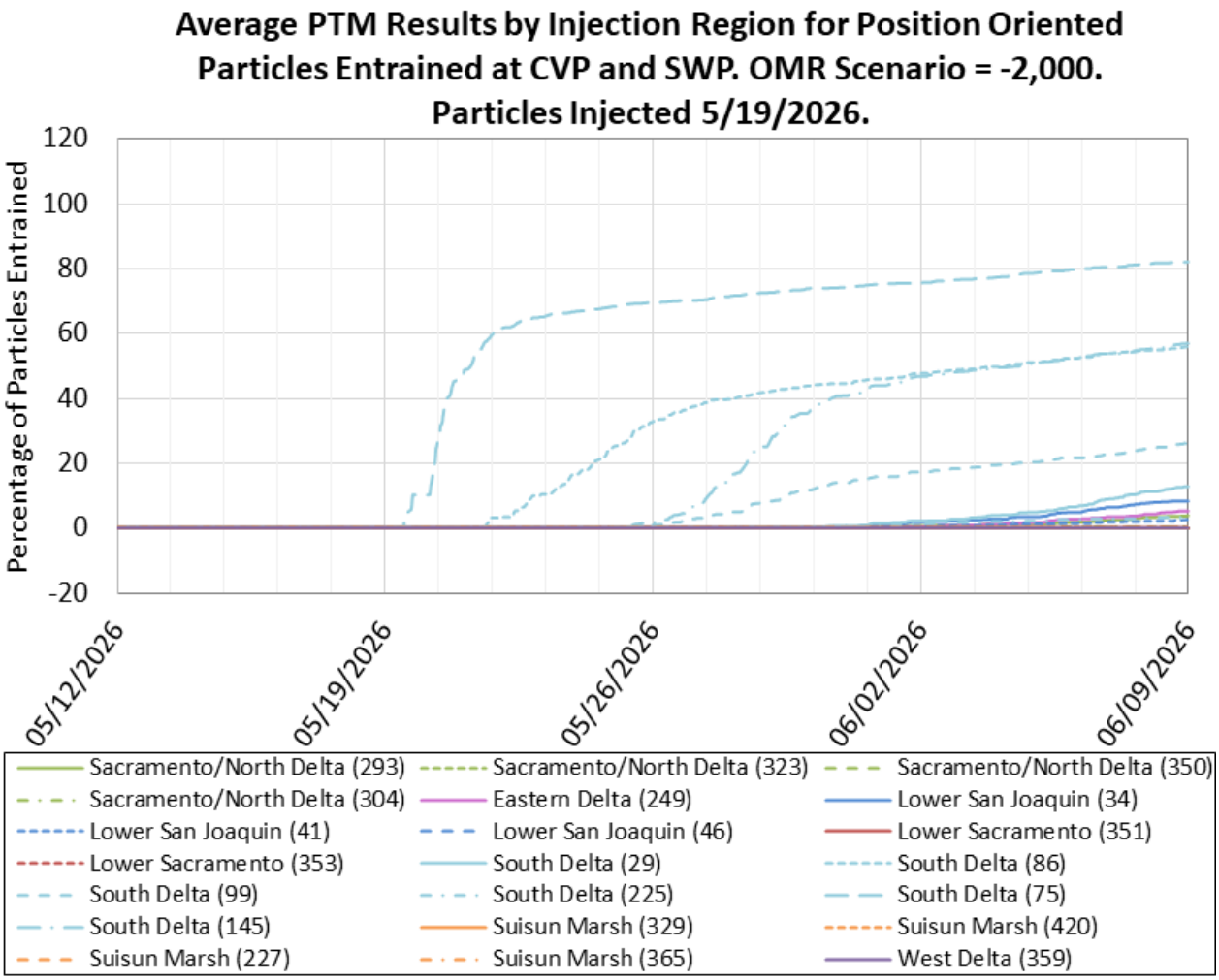


Figure 37: Average PTM Results by Injection Region for Position-Oriented Particles Entrained at CVP and SWP Under the OMR -2,000 Scenario

Figure 37 is a line graph showing the percentage of position-oriented particles entrained at the Central Valley Project (CVP) and State Water Project (SWP) facilities over time from May 12 to June 9, 2026, for particles injected on May 19, 2026 at DSM2 nodes representing seven longfin smelt regions. Under the OMR -2,000 scenario, entrainment is concentrated among particles originating in the South Delta, with several South Delta injection locations reaching approximately 25 to 80 percent entrainment by the end of the evaluation period. Particles originating in the Lower San Joaquin, Eastern Delta, and Sacramento/North Delta regions exhibit relatively low entrainment, generally remaining below 15 percent. Particles originating in the Lower Sacramento, Suisun Marsh, and West Delta regions show little to no entrainment throughout the simulation period. Compared to the more negative OMR scenarios, overall entrainment is reduced, although South Delta-origin particles continue to account for the highest entrainment rates.